

MONEY AND CIVILIZATION:

OR, A HISTORY OF THE MONETARY LAWS AND SYSTEMS

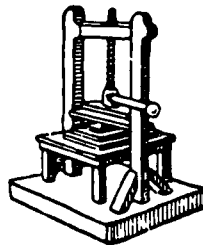
OF VARIOUS STATES SINCE THE DARK AGES,

AND THEIR INFLUENCE UPON

CIVILIZATION.

BY

ALEXANDER DEL MAR



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INTRODUCTION.

IT is now nearly thirty years since the author became imbued with the conviction that the great writers on the civilization of Europe had left out of account one of the principal influences which has contributed to hasten or retard the progress of society. Race, climate, natural resources, religions, laws, customs, and other circumstances had been accorded their due weight. Money only was slighted: Money which is essentially a social institution; Money, whose operation upon society one of these same writers likened to the circulation of blood in the human body; Money, without which another of them declared that organized society was inconceivable. Montesquieu, Hume, Alison, and Bastiat did indeed treat the subject; but neither of them accorded to it the importance it deserved.

In looking back upon his resolution to supply this omission the author is amazed at his own temerity. It can only be said that he had no suspicion of the difficulties which lay before him. He was indeed conscious that the way was a long one, but of its dangers and pitfalls he had no warning. His preparation consisted of a course of study in political economy and several years' practice as a public writer in elucidating the principles of that "science." That he was not without some success in mastering these principles and satisfying his readers, is proved by the undiminished popularity of the journals entrusted to his management. The effect upon himself was, however, of quite a different kind. The more he studied, the less he believed; and in the end he became a confirmed sceptic.

The orthodox principles of political economy—at least so far as money is concerned, and upon these stand nearly all the rest—are discordant and confused; the terminology is hypothetical and misleading; the conclusions are not reflected, as they should be if correct, in the practical operations of merchants and financiers.

The discordance alluded to has made but little progress towards harmony since the “science” was formulated. In every other department of thought the past century has witnessed an astonishing progress—in political economy it has witnessed almost none: and the most eminent and practical men of the day differ concerning its elementary principles as much as the same class of men did a hundred years ago. For example, the French Coinage Committee of 1790 headed by Desrotours having defined money as “portions of precious metals to which the State gave form weight, stamp, and denomination,” Mirabeau, observed that “The writer of this definition lacks learning. In former times there were moneys of copper, pasteboard, and paper from the bark of trees, while to-day in some countries shells are used as money. The true definition of money is in the Roman Law, and especially in Aristotle, one of the profoundest teachers of the human race. After these authorities it is not worth while to invent a new definition in order to introduce another error into the world.” During the debates of the International Monetary Conference of 1881, M. Pirmez, a Belgian delegate and formerly Minister of the Interior, said that “Money is merchandise weighed and verified by the State. Its value varies with the supply and demand for gold and silver.” . . . “On the contrary,” exclaimed Signor Seismit Doda and Count Rusconi, the Italian delegates and both ex-Ministers of State, “Money implies numbers, and the value of its integers varies with the numbers of them.”

It was clearly useless for the author to proceed in the face of such radical differences of opinion, differences which emanated from logicians and were repeated by the most

illustrious men of affairs, lawyers, jurists and statesmen. Before the influence of money upon civilization could be established to the satisfaction of thinkers, it was necessary to attempt to reconcile them concerning the nature and functions of money.

From the eminent dialectical abilities of those who had previously treated the subject—Adam Smith, Ricardo, Bastiat, McCulloch, Mill, &c.—it was evidently not reasoning, but fact that was wanted to throw light upon the subject, some hidden truth of nature or some forgotten law of man, the disclosure of which was necessary to explain and harmonize divergent opinions.

Several years more were spent by the author in the endeavour to discern these missing factors, but without success. Turning with disappointment from the subject of money, he sought an explanation of the vicissitudes of civilization in the development of natural resources. To this period belong his *Essays on the Resources of Egypt, Spain, Prussia, &c.* In two years' time he had completed and published either in pamphlets or magazine articles the industrial history of twenty countries, tracing it from the earliest times to the present. The result was unsatisfactory. There was evident correspondence between civilization and natural resources; but it was imperfect. The development of these resources was sometimes but not always accompanied by social advancement. The influence of nature is to encourage improvement. That mankind had not always improved was therefore no fault of nature: the cause must be sought in some neglected institution of man. It must be money, and yet the author's researches had failed to sustain this conjecture.

Baffled at all points, he suddenly abandoned his long and fruitless labours, locked up his "Notes" upon the relation of money to civilization, and reluctantly went back to the profession for which he had been originally educated—that of civil and mining engineering. It was while practising this profession that he made a discovery which induced him

to resume the problem from the solution of which its insuperable difficulties had previously deterred him. He discovered that even in California, the richest of all gold countries, gold was produced on the average at a loss; and that in Nevada, the richest of silver countries, silver was produced on the average at a loss. As these conclusions are opposed to the fundamental principles of political economy, he took elaborate pains to verify them. The results of this investigation will be found in his "History of the Precious Metals," particularly in the chapters on California and Australia. Satisfied at length that he had not been deceived, he extended his observations to other gold and silver regions, and came to the same conclusion with regard to the current cost therein of winning the precious metals. There could be no doubt about the fact that these metals were circulating throughout the world as coins at a value in commodities and services far beneath the current cost of their production.¹

Once fully convinced of this singular and hitherto unknown truth, the author next sought for the causes of it, and these appeared in the following circumstances:—

Owing to their imperishable nature, and to their use as money, the precious metals are not consumed and replenished each year like most other commodities, but the quantity of them on hand, so long as the sources of supply are not cut off by war, or the absolute failure of the mines,

¹ In a recent number of the "London Chamber of Commerce Journal" there appears a Minute on the cost of producing gold and silver, based upon some instances picked out from the wretched materials in Burchard's report of 1835. This composition, after being reprinted, was extensively circulated throughout the city of London. It is scarcely necessary to remark that by pursuing a similar method, based upon other instances from the same source, any desired rate of cost may be deduced. The cost of producing gold and silver is not to be derived from one year's experience of certain selected mines; it is the average cost of the total production from all the mines during a reasonably long period of time; but this is evidently not what the writer of the composition alluded to desired to ascertain.

tends continually to augment, and the purchasing power or value of each particle or portion of them to diminish. By itself this last was no new fact. It was well known to the economists. But in connection with the discovery which the author had made, it assumed a new significance and greater importance. The economists, who admitted the tendency of coins to fall in value, conjectured (for this was only conjecture) that this tendency was counterbalanced by the gradual closing of all except the richer mines. Such, however, is not the fact. Gold and silver mines are not closed when they cease to be profitable; on the contrary, they are kept open and worked much beyond the limits of profit; and when abandoned by one adventurer they are taken up at intervals and reworked by others. Few productive mines of gold or silver, however unprofitable they proved to be, have ever failed to be reopened again and again until they were quite exhausted. This is due to the uneven character and uncertainty of ore deposits, an uncertainty so great that it is impossible for the geologist or miner, however skilful he may be, to positively foretell the metallic contents of any mining ground. Hence the failure of a mine in the hands of one adventurer rarely deters another. The great treasure which all have sought for and none have yet found may be locked up in the very next foot of rock. Many surprising instances of this sort have actually occurred to reward the adventurer with immense wealth and to buoy up others with the expectation of being equally fortunate. This is what carries on a really unprofitable industry from one age to another, and what has reopened in the nineteenth century many of the abandoned mines of the Spaniards in Mexico, of the Romans in Italy, of the Greeks in the Peloponnesus, of the Arabians in Sofala, and of the ancient Hindus in Mysore.

The reader will at once perceive that if the value of coins did not in point of fact conform to the cost of producing the materials of which they were made, which cannot be the case if the latter were produced at a loss, then their value must

have been due to some other cause; and this the author hoped to ascertain. Assured that, so far as it went, his discovery stood upon solid grounds, he no longer hesitated to resume his literary labours, although they now took a more comprehensive form. There was no history of the precious metals extant, except the antiquated though valuable one of Mr. William Jacob; there was no history of money; there was no collection of monetary experience; there was no science of money formulated from this experience. Without such materials it was impossible to go ahead, and to the collation of these he accordingly addressed himself at once.

In the course of a few years he produced his "History of the Precious Metals," a work whose favourable reception by the public induced him to publish successively the "History of Money in Ancient States" and the "Science of Money." The present work is a continuation of the "History of Money," and traces the laws and institutions of money and their relation to societary growth in some of the principal States which grew up from the ruins of the Roman Empire.

In the "Science of Money" the author showed by numerous arguments and references to history that money did not and could not consist of any less number of coins or notes than the whole number, their nature being such that they could not be used nor could their value be fixed without reference to one another: in other words, that the unit of money was all money, and therefore that its value depended upon its volume. He also showed that the function of money was to definitely measure value; and not merely present and local value, but, to some extent, also past and prospective value and value generally: that therefore money was related to equity, or to the maintenance of equitable relations between capitalists and labourers: that, like other measures, the most necessary and essential characteristic of money was Specific Limitation: in other words, that to measure with precision and with justice, the

whole sum of money must be fixed at some more or less constant ratio to the volume of exchanges; and that equity demanded that this sum and the regulations that governed it, should be determined, as the Roman people are believed to have determined it, *ex senatus consulto*.

During the preparation of the present work a further discovery of fact was made, namely, that although the present cost of producing the precious metals exceeded their value, such has not always been the case. During more than one period in European history the level of prices has fallen low enough to render gold and silver mining on the average a profitable industry.

Previous to the introduction of paper notes for money the history of prices was one of irregular periodical rises, between which were long intervals of gradual falls, the falls being due to the ~~cumulative~~ stocks and therefore ~~diminishing~~ value of coins of the precious metals, and the rises to new and systematic resorts to mining.

At long and adventitious intervals, like those great tidal waves which increase the disturbance of an always disturbed ocean, occurred those "openings" of placer countries—Spain, Gaul, Africa, Spanish America, Brazil, California, Australia—each of which caused a prodigious rise of prices and threw society into new forms.

The introduction of paper money added another cause to the cumulative nature of coins which tended to render mining for the precious metals more and more unprofitable. Montesquieu was the first writer who clearly perceived that the gold and silver of Spanish America had entered into the exchanges of Europe at a value much beneath the cost of producing those metals under economical conditions. He thus alluded to the subject in 1748: "The companies and banks established in various countries have maintained the under-valuation of gold and silver as equivalents for property; for, by new devices (paper notes) they have so greatly magnified the size of the measure of value, that gold and silver (coins), now exercising only part of the office of

such measure, have become less valuable than before." Owing to the fact that, except in France, where, however, their career had been brief, paper notes did not come into general use until the first quarter of the present century, this valuable observation escaped the economists of the last century, and no use was made of it. Its importance can best be measured by means of an illustration.

Of all the money now circulating in Europe and America one-half consists of paper notes. If these notes were suddenly demonetized or destroyed, it is evident that in consequence of the increased work which each coin would have to perform, its value or purchasing power would be greatly enhanced and prices would fall. On the other hand, to the extent that paper notes are added to the circulation prices will rise and coins will purchase less and less of commodities and services. This is precisely what has happened during the present century. At the beginning of it, paper notes probably constituted less than one-fifth of the circulation of the European World. In 1829, they constituted one-fourth; in 1848, before the gold discoveries, nearly one-third; in 1876, two-fifths, and at the present time they constitute nearly one-half. Paper has thus augmented the volume of money and raised the cost of mining more than improvements in mining methods and machinery have lowered it; and it cannot be doubted that this agency has hitherto rendered and may again render mining more and more unprofitable.

Thus it appears that the under-valuation of the precious metals which exists at the present time and which has existed at intervals in the past, is due to three principal circumstances: 1. The cumulative nature of the stock on hand and the tendency of mining to increase it by venturing beyond the limits of profit. 2. The unexpected discoveries of new placers, from which vast quantities of gold have been obtained suddenly and, substantially, without the employment of capital. 3. Paper notes. Military conquest, slavery, the credit system, and other causes have produced similar

effects upon a smaller scale. In short, the purchasing power of the precious metals is susceptible of being depressed, below the cost of reproducing them, by any circumstances that tend to suddenly or greatly augment the volume of money, whenever the same is composed wholly or partly of such metals.

Owing to the under-valuation of the precious metals thus brought about from time to time, a large proportion of the total product of those metals is consumed in the arts, in which form the equivalent received for them is much greater at such periods than if they are turned into coins. Between the years 1675 and 1700 the proportion of the world's product consumed in the arts, or otherwise lost to the circulation of the world, was about 50 per cent.; in 1776, 74; 1808, 71; 1828, 78; 1838, 82; 1850, 76; 1860, 72; 1870, 70; and 1876, 71 per cent.¹

According to very respectable authority a quantity equal to more than all the gold and about one-half of the silver produced from the mines in 1885 was consumed in the arts, or otherwise lost to the circulation of the world.²

The author had thus discovered and demonstrated several important facts relating to money; it remained to inquire what causes had hitherto contributed to obscure the true nature and function of money, and its influence upon civilization, what differences of education had brought about the divergent opinions of Bishop Berkeley and Adam Smith, of Desrotours and Mirabeau, &c.

Prominent among these causes he found the Coinage Act of 1666, which the Puritans had borrowed from the Dutch and bequeathed to the modern school of political economy. In the present Work the mischievous operation of this Act has been brought into relief, not without the hope that this may lead to its repeal. Previous to the passage of this Act money was a comparatively simple

¹ "Hist. Precious Metals," p. 185.

² See the elaborate calculations in the "New York Financial and Mining Record" for June 26, 1886.

subject, readily understood and as readily susceptible to regulation. The operation of the Act has rendered the subject so complex that it can now be grasped only after mastering over seventy separate studies, a list of which appears in the Synoptical Index at the close of the present volume. This complexity not only increases the difficulty of acquiring and imparting a thorough knowledge of the subject—it exposes one of the most important institutions of State to the danger of mischievous alteration by designing persons and blunderers, a danger to which more than one nation has recently been exposed.

From the evidences of fact which history presented, and the conclusions which reason afforded, it appeared at length that the value of coins, so long as they remain coins, is in inverse ratio to the whole sum of money in use when reduced to like denominations ; while the value of the metals of which the coins may be made depends upon the stock on hand, supply and demand for the arts, mining discoveries, conquests, slavery, taxation, general progress in the mechanical arts, the growth of commerce, the use of paper notes, the extension of the credit system, and upon fashions, caprice, and numerous other circumstances.

As there are practically no means of preventing the owners of coins from reducing them to metal, and as under existing laws this metal may be re-coined at pleasure, it followed that the value of the coins was regulated by two different sets of considerations, wholly opposed to one another, one relating to number, and the other to material. Hence the radical differences of opinion on the subject. It was the old story of the two knights and the gold and silver shield : both were wrong and both were right.

These conclusions having been reached, the author was better prepared to pursue his original design of tracing the correspondence between Money and Civilization. If the execution of this Work appears faulty, if he seems to have devoted too little study to the history of national progress, and too much to that of moneys, it should be borne in mind

that the former has been very thoroughly traced by other writers, while the latter is as yet unknown. Some indulgence is also claimed on the score of fatigue. The task before him was of a nature that rendered it impracticable to divide the work: it had all to be done by one person. Like all pioneers, he has had to surmount very great difficulties, to discover a number of obscure facts connected with mining, and to reason out obscure principles relating to the nature and functions of money. When one has been engaged for thirty years upon such a piece of work he is apt to become indifferent to the secondary questions of proportion or style. The author's aim was to get at the facts and principles, to prove them, and briefly show their relation to the general body of our knowledge; leaving rhetoric and harmony to those who might follow him. If he has succeeded thus far, his most sanguine hopes will be realized.

The co-relation of money and civilization which has been traced in the present work is not confined to the stimulus and paralysis occasioned respectively by increasing and diminishing measures of value. As shown in the "Science of Money," it extends to the MODE OF VALUATION which, originating in barter, becomes more and more refined as civilization progresses. Exchanges in the savage state have regard only for the present and local value of the objects exchanged; those in the civilized state hold in mind (1) their past or customary value, (2) the present value of like things or of substitutes, and (3) their future, prospective, or speculative value, as well as (4) the value of the same or similar things elsewhere.

Nor does the co-relation end here; it also relates to the FORMS OF MONEY AND SOCIETY: in other words, it is structural as well as functional. With the development of society from the rudimentary to the highly organized condition, from the simple to the complex, from the homogeneous to the heterogeneous form, so has money developed from slaves and cattle to corn; from corn to metals; from metals, which are not susceptible of limitation, to coins, which

are; and from a limited number of coins to a limited number of symbols of any material. These co-relations between money and civilization hold good as well in periods of decay as of growth: so that when we shall have acquired a sufficient degree of intimacy with the subject, it will become as possible for us to reason out from its monetary system the entire structure of any given society or State, as it was for Cuvier to trace from a single bone the form and functions of an unknown animal.

2, CIRCUS PLACE, E.C., LONDON.

August 9th, 1886.

This work will be followed by "Money and Progress, or a History of Money in Great Britain, Germany, and America, and its influence upon the progress of those States."

BIBLIOGRAPHY.

The following list of books is to be read in connection with the lists published in the author's previous works on the Precious Metals and Money.

- ALINGEN** : De Origine et Inventoribus Pecuniæ et Numismatum. Hermano Ulrico Alingen (Lubecicensi), Jenæ, 1715. 4to.
- ALISON** : England in 1815 and 1845; or a Sufficient and a Contracted currency, by Sir Archibald Alison. London, 1845. 8vo.
- AL-MAKRIZI** : *Historia Mønetæ Arabicæ*. Translated from the Arabic by Prof. Tychsen. Rostøck, 1797. 8vo.
- ANDERSON** : *History of Commerce*. London, 1790. 6 vols., 8vo.
- ANONYMOUS** : *The Gold Coinage Controversy*. London (Bank of England), 1870.
- ARMITAGE** : *History of Brazil*, by John Armitage. London, 1836. 2 vols., 8vo.
- BADINEL** : *The Trade in Slaves from Africa*, by James Badinel. London, 1842. 8vo.
- BAYERI** : *Regiomontani de Numis Romanis in Agro Prussico, &c.* Theophili Sigefridi. Lipsiæ, 1722. 4to.
- BEAUCHAMP** : *Histoire du Brésil*, par Alphonse de Beauchamp. Paris, 1815. 3 vols., 8vo.
- BENAVEN** : *Caissier Italien, ou l'Art de connoître toutes les Monnoies d'Italie ainsi que celles de tous les états et princes de l'Europe, avec tables de poids, mesures, &c.* Par Jean Michel Benaven. Paris, 1787. Fol. This is simply a Cambist, but a good one for its time.
- BERGERON** : *Voyages en Asie par Benjamin de Tudele, J. du Plan-Carpin, N. Ascelin, G. de Rubruquis, Marc Paul, Haiton, &c., par Pierre Bergeron*. La Haye, 1735. 4to.
- BERKELEY** : *Money, being extracts from Bishop Berkeley's "Querist,"* by James Harvey. Liverpool, 1872. 8vo.
- BLACK** : *Young Japan*, by John R. Black. London, 1881. 8vo.
- BLANC** : (*See LE BLANC*).
- BLANQUI** : *History of Political Economy*, by Jerome A. Blanqui, Eng. trans. New York, 1880. 8vo.
- BODIN** : *Discours sur le Rehaussement et Diminution des Monnoyes*, par Jean Bodin (John Bodinus). Paris, 1578. 8vo. Also another edition, Lyons, 1593. 8vo.
- BOISAED** : *Traité des Monoys*, par Jean Boisard. Paris, 1714. 12mo.
- BORNITI** : *De Nummus*, by Jacobi Borniti. Hanoviæ, 1608. 4to.
- BOTERO** : *A Treatise concerning the Causes of the Magnificence and Greatness of Cities*, by Giovanni Botero. Translated into English by Robert Paterson. London, 1606. 8vo.
- *Relations of the most Famous Kingdoms and Commonwealths throughout the World*, by John Botero. Translated into English by R. I. London, 1630.
- BOURDEILLES** : (*See BRANTÔME*).

- BOURGOANNE**: (*See* **BOURGOING**).
- BOURGOING**: *Travels in Spain*, by Jean François de Bourgoing. London, 1789. 3 vols., 8vo.
- BOUTEROUÉ**: *Recherches Curieuses des Monnoyes de France, depuis le commencement de la Monarchie*, par Claude Bouteroué. Paris, 1666. Fol. Contains a minute description of the earliest coins of France.
- BRANTÔME**: *Cœuvres complètes de Pierre de Bourdeilles, Seigneur de Brantôme*. Paris, 1864. 8vo.
- BRUCKNER**: (*See* **BRUECKNER**).
- BRUECKNER**: *Finanzgeschichtliche Studien. Kupfergeld-Krisen, von Alexander Brueckner*. St. Petersburg, 1867. 8vo.
- *Ivan, or Isaac Possoschkow*. Leipzig, 1878. 8vo.
- BUCKLE**: *Posthumous Works of Henry Thomas Buckle*. London, 1872. 3 vols., 8vo.
- BUDÉ**: *De Asse et Partibus ejus*, by Guillaume Budé. This distinguished juriconsult was born at Paris 1467, died 1540. His works were printed at Basle, 1557. 4 vols., fol.
- BUDELIOUS** or **BUDELIO**: *De Monetis et Re Nummaria*, by Renero Budelio. Cologne, 1591. 4to.
- [This work contains treatises on Coins, Monetary Laws, Prices, &c., by the following authors: Renero Budelio of Anjou; Francisco Aretio, or Accolta, of Arezzo; John Aquila, probably a German; Albert Brunus, of Asti; John Bodinus, (Jean Boden), a Frenchman¹; Franciscus Curtius, of Milan or Pavia; Diaz Covarrúvias of Leon; John Cæphalus (Capet?) of Ferrara; Nicolaus Everardus of Mechlin; Henning Göden, of Bautzen; Martin Garrati or Garatis; Henry Hornmann of Frankfort; Elbertus Leoninus of Louvain; Baron Malestroict, a Frenchman; Jacob Menochius, works printed at Geneva, Cologne, and Venice; Joachim Mynsinger, a Swiss or German; Charles Molinæus, or Du Moulin, a Frenchman; Bilibald Pirckeyner, of Nuremberg; John Reynaud, of Avignon; Antonio Rubæus; Ludovicus Romanus, possibly Levi, of Rome; and Marianus Socinus and Bartholomeus Socinus, probably Frenchmen.]
- BUNGÉ**: *Essay on the Currency and Banks of Russia*, by N. Bungé, of the Imperial University of St. Vladimir, printed in the "Journal des Economistes," Nov. 15, 1874.
- BURGON**: *Life and Times of Sir Thomas Gresham*, by John William Burgon. London, 1839. 2 vols. 8vo.
- BURTON**: *Wanderings in West Africa*, by Capt. R. F. Burton. London, 1862. 8vo.
- *Gold Mines of Midian*. London, 1878. 8vo.
- BYRNE**: *Cosas de España*. Illustrative of Spain and the Spaniards as they are, by Mrs. Wm. Pitt Byrne. London and New York, 1866. 8vo.
- C.**: *Monetary System* (an argument in favour of issuing 3 per cent. Treasury Notes inter-convertible with Consols) by J. M. C. London, 1837. 8vo. pamphlet.
- CALONNE**: *Requête au Roi* (1787), by Charles Alexandre de Calonne. London (Paris?), 1807. [This work is printed on several kinds of paper, and has neither title, date, nor imprint. It commences "Sire, celui qui," &c., and contains full details of the recoinage of 1785].
- *Abridgement of Calonne's "Requête au Roi."* Translated into English by W. Walter. London, 1787. 8vo. [The details of the recoinage of 1785 are omitted].
- *Extracts from Calonne's "Requête au Roi."* Translated into English by S. Dana Horton, and included in the Report of the "International

¹ This treatise of John Bodinus is an extract from his work "De Republica," cap. 3. lib. 6., on the Degradation of Coins.

- Monetary Conference" of 1878. Washington, 1879. [These extracts are on pp. 254-67 and contain some details of the recoinage of 1785.]
- CALONNE : De l'Etat de la France, by C. A. de Calonne: London, 1790. 4to.
- CAMDEN; Annals of England, &c., by Wm. Camden, Eng. Trans. London, 1635. Folio.
- CAMERON : Across Africa. New York, 1877. 8vo.
- CAMPANA : Riduzione delle Monete Antiche al Valor delle Moderna. Cesare Campana. Venetia, 1591. 4to.
- CANCERIN : "Weltreichthum," a German work by Count Georg von Cancrin, Russian Minister of Finances after 1823, in which he argues against retiring the assignats, and advises merely that their sum shall be fixed.
- *Economie der menschlichen Gesellschaften*, by Count Georg von Cancrin. Stuttgart, 1845. 8vo. This work mentions the premium on Russian paper.
- CARON : Japan. (*See* MANLEY.)
- CASIRI : Bibliotheca Arabico-Hispana Escorialensis, by Michael Casiri. Madrid, 1760-70. 2 vols., fol. [See ii. 173, for statement that 20 dirhems went to the dinar.]
- CESPEDES : Historia de D. Felipe IV.
- CHEVALIER : Des mines d'Argent et d'Or du Nouveau Monde. Par Michel Chevalier. "Revue des Deux Mondes," nouv. sér., xvi. 980-1035. Paris, 1846.
- On the probable fall of the value of Gold, &c., by Michel Chevalier. Translated from the French with preface by R. Cobden. Manchester, 1859. 8vo.
- CHEVALIER, M. : The New Depreciation of Silver. Translated from the *Revue des Deux Mondes* for August, 1876.
- CORRAZZARIUS : Tractatus de Augmento Monetæ, by Jo. Bapt. Corrazzarius. Romæ, 1641. 4to.
- *Concordia Generalis Doctorum, ad Regulam solutionum, pro qualibet variatione Monetarum, &c.* Romæ, 1642. 4to.
- COVARRÚVIAS. (*See* BUDELIUS.)
- COVARRÚBIO. (*See* COVARRÚVIAS.)
- COXE : Travels in Russia &c., by Bishop Coxe. London, 1792. 5 vols., 8vo.
- CRAIG : The Decimal system, by Dr. B. F. Craig. New York, 1867. 12mo.
- CROWE : History of France, by E. E. Crowe. London, 1830. 3 vols., 8vo.
- CUESTA : Cartilla Practica sobre Elaboro de las Minas y reconocimiento y beneficio de los Metales, por D. Juan Berdegal de la Cuesta, antiquo minero en Nueva España. Burdeos, 1838. 8vo.
- DAHLMANN : Geschichte von Dänemark, by F. C. Dahlmann. Hamburg, 1843. 3 vols., 8vo.
- DAHLMANN : Refutation, &c., and Scheme to Improve the Currency through the aid of Paper, by T. Dahlmann. London, 1839. Pamphlet.
- DAIRE : Economistes-financiers du xviii^e siècle, par Eugène Daire. Paris, 1843. 8vo.
- DARU : Histoire de Venise, par Pierre A. N. Bruno, Count Daru. Paris, 1853. 9 vols., 8vo.
- DAVILA : Vida y Hechos del rey Felipe III.
- DE BOURGOASNE : (*See* BURGOING.)
- DE CLERCQ, P. H. : Les Finances de Russie, Amsterdam, 1886, 8vo.
- DE LAURIÈRE : Ordonnances des Roys de France de la Troisième Race, recueillies par ordre chronologique, avec des renvoys des unes aux autres, des sommaires, des observations sur le texte, y cinq Tables : 1. des Pâques, 2. des Ordonnances par ordre de date, 3. des Matières, 4. des Noms des Personnes, 5. des Noms des Lieux. Par M. De Laurière. Paris, 1723. 21 vols., folio. (*See* PARDESSUS.)

- DE SAULX : Mémoires par Gaspard de Saulx, seigneur de Tavannes, 1509-73, edited by C. B. Petitot and others. Paris, 1821-9. 3 vols., (vols. 23, 24, and 25 of Petitot's collection). 8vo.
- DE SAULX : Mémoires de plusieurs choses advenues en France, &c., par Guillaume de Saulx, 1553-1633, edited by C. B. Petitot and others. Paris, 1821-9. 1 vol. (vol. 35 of Petitot's collection). 8vo.
- DE SACY : Treatise on Mahometan coins, by Baron Sylvestre de Sacy, based upon the researches of M. Fræhn of St. Petersburg, "Journal Asiatique," Paris, 1882, vol. i.
- DESMARETS : Mémoire sur l'administration des Finances, depuis le 20 Février, 1708, jusqu'au 1^{re} Septembre, 1715. Par Nicholas Desmarets. Paris. Reprint, 1789. 8vo.
- DE THOU : A Compleat History of Europe, by Jacques Auguste de Thou (the Elder). Trans. into Eng. London, 1705, &c. 8vo.
- History of his Own Time by Monsieur (Jacques Auguste) de Thou (the Elder). Trans. into Eng. together with the castrated passages. London, 1729-30. 2 vols., folio.
- DILLAYE : The Money and the Finances of the French Revolution of 1789, by Stephen D. Dillaye. Phila., 1877. 8vo.
- D'IVERNOIS : Etat des Finances Françaises, par Sir Francis D'Ivernois. London, 1796. 8vo.
- A cursory view of the Assignats, &c., by Sir Francis D'Ivernois, Trans. into English. London, 1795. 8vo.
- DRAPER : The Intellectual Development of Europe, by John W. Draper. Bohn's Ed.
- DUBOIS : (*See* JANCIGNY).
- DUBY : Treatise on the Money coined by the Peers, Bishops, Abbots, &c., of France, by Peter A. T. Duby. Paris, 1790. Works in 3 vols., 4to. (vols. 2 and 3).
- DU TOT : Political Reflections upon the Finances and Commerce of France, by M. Du Tot. Trans. into Eng. London, 1739. 8vo.
- DU PUYNODE : De la Monnaie, du Crédit et de l'Impôt, par Michel Gustave Partouneau Du Puynode. Paris, 1853. 2 vols., 8vo.
- ECKFELDT AND DU BOIS : Manual of Coins, by Eckfeldt and Du Bois. Philadelphia, 1842.
- EGINHARD : Life of the Emperor Karl the Great. Eng. trans. by William Glaister. London, 1877. 8vo.
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- ENQUÊTE sur les Principes et les Faits généraux qui régissent la Circulation Monétaire et Fiduciare. Paris, 1867. 2 vols., 4to.
- ESCRICHE : Diccionario Razonado de Legislacion y Jurisprudencia, por D. Joaquin Escriche. Paris, 1869.
- FAUCHER : Recherches sur l'Or et l'Argent. Par Leon Faucher, Paris, 1843.
- FAWCETT : Gold and Debt, by W. Fawcett. Chicago, 1877.
- FORD : Handbook of Spain, by Richard Ford. London, 1855. 2 vols., 12mo.
- FRÆHN : Mahomedan Coins, "Journal Asiatique," vol. i. Paris, 1822.
- FRÆHN : Beitrage zur Mahomedanischen Münzkunde aus St. Petersburg, &c., by Christian Martin Fræhn. Berlin, 1818. 4to.
- GALE : Natural Laws and Principles of Circulation, by S. Gale. London, 1786. 8vo.
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- GAUDIN : Second Rapport du Ministre des Finances aux Conseils de la République sur les Monnaies. Paris. An. XI.
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- Gold-oder Silberwährung, ein Vorschlag zur Lösung der Valutafrage. Wein, 1877.
- Währungspolitik und Münzstatistik. Berlin, 1884. 8vo.
- HAWKS : Francis L. Narrative of the American Expedition to China and Japan under Com. Perry. Washington, 1856. 4to.
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- KARAMZIN : Hist. of Russia, by Nickolai Mikhailovich Karamzin. Tooke and Ségur. Bohn's Edit.
- KELLY : History of Russia, by Walter R. Kelly. London, 1855. 2 vols. 8vo.
- KELLY : Cambist, by Patrick Kelly, LL. D., Astronomer, &c. London, 1811. 2 vols. 4to.
- KLAPROTH : Nouveau Journal Asiatique, published by the Société Asiatique, and edited by Heinrich Julius von Klaproth. Paris, 1822. 8vo.
- Sur l'Origine du Papier-Monnaie, printed in the First Volume of the "Journal Asiatique," published by the Société Asiatique, Paris, 1822. 8vo. The same essay is published in "Mémoires relatifs à l'Asie," Paris, 1824, 3 vols. 8vo. vol. 1. p. 375, and an English trans. in "Histoire de Kachmir," by M. H. Wilson, and in Klaproth's "Mélanges Asiatiques."
- Origin of Paper Money, an Essay, printed in English and bound in Klaproth's "Mélanges Asiatiques." The Essay is printed by Treüttel and Wurtz, Soho Square, London, 1823. 8vo.
- Mémoires relatifs à l'Asie. Paris, 1824-8. 3 vols. 8vo.

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 into Eng. London, 1870. 8vo.
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 New York, 1855. 3 vols. 8vo.
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 LE BLANC : Traité historique des Monnays de France, depuis le commence-
 ment de la Monarchie jusqu'en l'année 1689, par François Le Blanc.
 Amsterdam, 1692. 4to.
 ——— Dissertation historique sur quelques Monnays de Charlemagne, de
 Louis le Débonnaire, de Lothaire, et de leurs Successeurs, trappés dans
 Rome. Amst., 1692. 4to.
 LEBER : Essai sur l'Appreciation de la Fortune Privée au Moyen Age, par
 M. C. Leber. 2nd ed. Paris, 1847. 8vo., pp. 340.
 LEBER—SALGUES—COHEN : Collection, &c., relatif à l'Histoire de France, par
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 5 vols., 8vo.
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 8vo., pp. 334.
 MALMESBURY : Chronicles of William of Malmesbury. (See WILLIAM.)
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 London, 1663.
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 noies, et Mémoire sur la Constitution Monétaire. Paris, 1790.
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 "Autores Españoles," tom. 21. 1849, &c. 8vo.
 MONETA : Informe sobre Moneta. Madrid, 1861.
 MONETAIRE : Rapport de la Commission chargée d'étudier la Question Moné-
 taire. Févr. 22, 1858. Documents relatifs à la Question Monétaire. 4to.
 Paris, 1858.

- MONETAIRE**: Rapport de la Commission chargée d'étudier la Question de l'Étalon Monétaire. Paris, 1867. (See ENQUÊTE and MONETARY.)
- Report of the Royal Commission on International Coinage. London, 1868. Fol.
- MONETARY COMMISSIONS**: Report of the Royal Commission on the Depreciation of Silver. London, 1876. Fol.
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- Proceedings of the International Monetary Conference at Paris, 1881, an English translation of the foregoing. Cincinnati, 1881. 8vo.
- MONNOIES**: Premier Rapport du Comité des Monnoies à l'Assemblée Nationale. Paris. Imp. de la Rép. 1790.
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- POOLE: Catalogue of Oriental Coins in the British Museum, by S. L. Poole. London, 1880. 8vo.
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- La Question Monétaire. Paris, 1874. 12mo.
- ROMA. De la Monnaie. C. Morato Roma. Lisbonne, 1861. 8vo.
- ROWE: Speech against Brass Money, by Sir Thomas Rowe. London, 1642. Fol. (*See* ROE.)
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- RRUSSELL: History of Modern Europe, by Dr. Russell. London, 1810. 7v. 8v.
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- Same as to reign of Don Enrique IV. Madrid, 1805. 4to.
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- VERHANDLUNGEN der Special-Commission für Berathung der Münzfrage vom 10 bis 14 April 1867. Unter dem Vorsitze des Freihern von Hock. Wien, 1867.
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- *Geschichte des deutschen Strafrechts*. Halle, 1842.
- WILLIAM of Malmesbury's *Gesta Regum Anglorum*. London, 1840. 2 vols., 8v.
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- ZANETTI: *Dell' Origine e della Antichita della Moneta Viniziana*. G. Zanetti. Venezia, 1750. 8vo., pp. 56.

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ERRATA.

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xi	16 For "cumulative" read "dwindling;" and for "diminishing" read "increasing."
1	2 For "countries" read "states."
6	33 For "Trevain" read "Tavannes."
24	6 For "but" read "only."
27	5 For "20" read "19."
29	31 Strike out "authorities cited in."
49	7 For "Saxon race" read "Saxons."
49	20 For "medium" read "media."
51	1 For "5412" read "5665.2."
51	9 Strike out "and some of."
58	12 Before "all" insert "nearly."
65	32 For "1299" read "1399."
70	14 For "12" read "11½."
70	24 For "merged" read "ceased."
76	8 For "origin" read "adoption."
86	9 For "silver" read "Charlemagne."
104	last For "coined" read "exchanged."
107	21 After "were" insert "afterwards."
112	12 For "lawfully" read "arbitrarily."
123	12 For "moneys" read "coins."
123	16 For "moneys" read "coins."
131	27 For "this" read "the following;" and for "1665" read "1666."
131	28 Before "design" insert "alleged."
172	6 After "that" insert "one."
176	29 For "no" read "few."
176	30 For "only" read "chiefly."
243	last Add, "For further details consult Mirabeau's 'De la Caisse d'escompte,' Paris, 1785."
394	6 After "silver" insert "coins."
396	last For "coinages" read "weights."

A HISTORY OF MONEY IN MODERN COUNTRIES.

CHAPTER I.

THE DARK AGES OF EUROPE.

European progress not continuous—Retgression after the fall of Rome—Destruction of literature—Breaking down of the law—Degradation of weights and measures—The lost arts—The Dark Ages—Disintegration of society—Disuse of money—Feudal system—Services employed in place of money—Corn—Cattle—Slaves—Rise of Mahomet—Re-opening of commerce with the Orient—Re-discovery of the lost arts—Resuscitation of society—The Renaissance—Position of money—Stationary condition of Europe—New and powerful impetus to progress imparted by the discovery and plunder of America—Review of the Dark Ages—Its histories of prices unreliable—Its supposed systems of ingot coins shown to have had no existence.

IT has commonly been assumed by historians that, whatever may have been the case with other civilizations, the development of European society has always been continuous, an assumption that has done much to corrupt the truth of history and obscure the valuable experience which it would otherwise have conveyed. Polybius long since observed that the various phenomena of growth, maturity, and decay, pertained as well to communities as to persons,¹ and scientific research has determined that this observation fits as well the development of European civilization as any

¹ Polyb., book vi., ex. iii., ch. ii. See also Voltaire, "General History," i. i. 54.

other. National pride, religious zeal, and other passions may yet continue to deny that Europe has ever retrograded in the march of progress; but the evidences of this fact are now too numerous and overwhelming to be longer gainsaid.

After the fall of Roman liberty, the empire split into two, and afterwards into many fragments, each of which became a separate kingdom; these kingdoms subsequently became divided into numerous countships or dukedoms, and the latter into still more numerous realms. Every institution which was composed of a plurality of men or things fell to pieces in a similar way. The senate perished; the tablets of the law were obliterated; the tribunals of justice disappeared; books were either consigned to the flames or their lessons erased to make room for idle monkish legends;¹ schools were destroyed; posts and inns were discontinued;² banks,³ collegii, guilds, and other corporations vanished; life, fire, and marine insurance became disused; the census fell into oblivion; even the organization of armies ceased, and counts and kings decided their quarrels by single combat. Everything of a joint owner-

¹ The whole of the "Institutes of Gaius," frequently referred to in the present work, besides numerous other works or fragments, have been rescued from monkish palimpsests. Rome, however, has not been the only empire whose literature was sacrificed to fanaticism. The priests destroyed that of Nineveh, Assyria, and Libya. Herodotus, i. 107. The Emperor Che-hoang-te, B.C. 245, destroyed that of China. "Hist. Money in Ancient Countries," p. 24. The Mahomedan priests destroyed that of Hindostan. Taylor's "Hist. India." The books, historical charts, and quipos of the Aztecs and Peruvians were destroyed by the Spanish priests, and forgeries substituted in their places. Lord Kingsborough's "Works."

² Polybius mentions hotels in the mining regions of Gaulish Italy, which were conducted on what is now known as "the American plan," *i.e.*, where board, lodging, and all other items were included in a single charge.

³ Banks were established in Greece several centuries before the Christian era, and we have even the records of the rates of interest which they paid upon deposits of money. Boeckh, "Polit. Econ. Athen.," p. 182, and elsewhere.

ship, as a public road, an aqueduct, or a water-ditch—everything of a composite structure, from a sailing-ship to a piece of paper—every art which depended upon the association of labour, from the representation of a drama down to the blowing of glass, was lost.

The same course of disintegration attended the history of institutions, of ideas, of thoughts. The world, the commonwealth, the republic, the nation, the social state, the people, public opinion, commerce, money, credit,—all these were conceptions of the mind and societary regulations known to the Greeks and Romans in their widest sense.¹ In the Dark Ages they had shrunk to the smallest limits or were extinguished altogether. The world dwindled to the compass of Southern and Western Europe; the commonwealth was the duke's courtyard; and as for the social state, commerce and money, these institutions had either become quite obsolete or only lingered in a dying condition.

It was at this period, when every one of its constituent parts was on the point of dissolution, that the social structure of Europe suddenly revived. Mahomet arose in Arabia; the route to the Orient was re-opened; the restorative of commerce was offered to a continent wherein manufactures had quite decayed and agriculture was on the verge of extinction; and organized society, at first in Italy, afterwards in Spain and elsewhere, began to evolve itself anew out of the moribund and disintegrating elements known to us as Feudalism. Then followed the Crusades, the reorganization of armies, of states, and of legal tribunals; the re-institution of money; the re-discovery of old truths and inventions, such as the sphericity of the earth, sailing-

¹ The sphericity of the earth had been proved by Thales, B.C. 636; Parmenides of Elis taught it B.C. 503; Eratosthenes computed the circumference of the earth at 252,000 stadia, and Hipparchus at 277,000 stadia; Strabo alludes to its sphericity as a well-known fact; and Pliny says: "I do not suppose that the land is actually wanting nor that the earth has not the form of a globe, but that on each side the uninhabitable parts have not yet been discovered."

ships, glass and paper, and the introduction of new ones, such as gunpowder and printing.¹

The influences which brought about the Renaissance of Europe were, however, not always of a general and permanent character. The civilization of the Arabians was confined substantially to Spain and some of the islands; except on its northern coasts their sway in Africa was of a predatory and gold-hunting character; the Eastern trade which the Italian republics purchased or wrested from them was remote, hazardous, and frequently exposed to interruption; the commerce of Europe, which fell to the Easterlings, Norsemen, and Italians, was confined to the coasts and rivers of that continent; whilst incessant wars, both religious and dynastic, almost everywhere obstructed the pursuit of agriculture and forbade the growth of manufactures.

It was therefore not until the discovery of America had added the plunder of a new continent to the, as yet, meagre resources of Europe, that its civilization began that more rapid march which, though temporarily hastened by the events of the sixteenth, and afterwards retarded by those of the eighteenth century, may be said, on the whole, to have distinguished it ever since.

¹ In A.D. 813-33 Almamon, caliph of Bagdad, caused a degree of the meridian to be measured on the earth. Voltaire, "General History," i. 32. Draper's "Intellect. Dev. of Europe," ii. 41.

In 1093-1154 Ben Mohamed Edrisi presented to Roger II. of Sicily a silver *globe* representing the earth. Voltaire, ii. vi.

Oloubeg, or Oloug-beig, successor to Tamerlane, who died in 1406, made a measurement of the earth. Voltaire, i. 32, ii. 45.

A planisphere or map of the world showing the Cape of Good Hope was delineated in the Convent of Murano, at Venice, in 1459, thirty-seven years before Vasco de Gama's voyage. A facsimile of this work is now in the British Museum. See Gibbon's Essay, and Dean Vincent's Notes on the Meridional Line in Gibbon's "Essays," pp. 499 511, 4to. edition.

Toscanelli, in a letter to Columbus, dated June 25, 1474, discussed the prospects of getting gold, etc., by sailing west to Zipangu (Japan). Sir Arthur Helps' "Spanish Conquest," i. 89; and "App. Encyc.," v. 516. Gunpowder, felted paper, and printing, were brought from the East by the Arabs. Draper's "Intellectual Development of Europe," i. 408.

As money is a societary institution, and one of the widest extent and most general operation, it follows from the foregoing view of society during the Dark Ages that during that period money could have had no existence; and such was indeed the fact. Without tribunals of justice, without laws, without association of labour, without commerce, without even organized society, money is not only useless, it is almost inconceivable.

By the fourth century of our era money had fallen to the degraded position of *ponderata*, when it was customary to assay and weigh each piece. Before the seventh century, when those events took place which led to the Renaissance, the weights themselves had been so frequently degraded that it was no longer possible to make a specific bargain for money. There was no law to define the weight of a pound or ounce, and no power to enforce the law if one existed. Under these circumstances money became extinct. Nor was it the only institution that perished: all institutions had perished. There was no government except the sword; there was no law; there were no certain weights or measures. Exchanges were made in kind, or for slaves or bags of corn which men could count to one another, but chiefly in kind, holding the thing to be sold in one hand and the purchased commodity in the other.

In the dwindling Byzantine Empire, where civil law still prevailed and money yet lingered, the circulation consisted chiefly of bronze and silver coins, the few and oft-paraded gold bezants of the numismatists belonging chiefly to a subsequent era. The bronze coins were from the wrecks of the old Roman monetary systems, and they passed at some rude approximation to the value of the copper metal they contained. In France, money, after becoming extinct, made its reappearance under the Merovingian dynasty, and towards the beginning of the seventh century the French system was adopted in England; but in both countries most payments, and in many parts of Europe all payments, between the fifth and seventh centuries, were made either

with personal services, provisions, domestic animals, or slaves. In some countries this condition of affairs lasted until the twelfth or thirteenth century.

“The tenants of knights’ fees answered to their lords by military services; and the tenants of socage lands and desmesnes (in great measure) by work and provisions. . . . The rents of fermes due to the king were wont to be rendered in provisions and necessaries for his household. . . . The revenue of the crown was answered or paid . . . sometimes in palfries, destriers, chascurs, leveriers, hawks and falcons, and in things of other kinds.”¹

Rents were commonly paid in corn, and some remains of this practice have survived in the obscurer parts of Europe to the present time.²

Henry, in his “History of Britain,” thus alluded to what in the Dark Ages was called living money:—“This consisted of slaves and cattle of all kinds, which had a value set upon them by law, at which they passed current in the payment of debts and the purchase of commodities of all kinds, and supplied the deficiency of money properly so called. . . . Thus, for example, when a person owed

¹ Madox, “Hist. Exchequer,” i. 272-3, where numerous instances of these transactions are given, relating chiefly to the reigns of Stephen, Henry II., John, and Henry III.

² Hodgskin’s “Travels in North Germany.” See also Adam Smith, i. 34, where it is stated that the rents of the English College-lands, in the eighteenth year of Queen Elizabeth (1575), were made payable one-third in corn. I am not so sure that this last instance is a survival from the feudal ages. There was plenty of money in Elizabeth’s time, so much, indeed, that landlords might have endeavoured to protect themselves against the effects of a rise in prices by stipulating for corn rents instead of silver. In France, at about the same period, the Marquis Trevain actually proposed to abjure the use of the precious metals for money, and adopt instead coins of iron, his reason being that the silver from America was becoming too plentiful. The French Constitution of 1795 (Art. 173) fixed the salaries of the revolutionary legislators in wheat. In 1850, when the gold of California threatened the rich with high prices, it was proposed by Cobden to stipulate that rents should be payable in corn. See Cobden’s translation of Chevalier’s “Fall of Gold,” p. 6.

another a certain sum of money, which he had not a sufficient quantity of coin to pay, he supplied that deficiency, by giving a certain number of slaves, horses, cows or sheep, at the rate set upon them by law, when they passed for money to make up the sum. All kinds of mulcts imposed by the State, or penances by the Church, might have been paid either in dead or living money, as was most convenient, with this single exception, that the Church, designing to discourage slavery, refused to accept slaves as money in the payment of penances. . . . In those parts of Britain where coins were very scarce, almost all debts were paid, and purchases made, with living money. This was so much the case both in Scotland and Wales that it is much doubted if any coins were struck in those countries in the Saxon period." The price of a man was the same as that of a hawk or a greyhound.¹

When, after this condition of profound misery, European civilization commenced to revive, and money, among other institutions of the past, began to evolve itself anew out of the fading gloom of the Dark Ages, it appears to have been reinstated in the same tentative manner that it fell. The order of falling was from numerata to moneta, from moneta to ponderata, and from ponderata—until the weights themselves were degraded and exchange was conducted by means of services and commodities—to barter. The order of revival was much the same. It began with the fixation of weights,² and money was weighed ad scalam, and assayed or tried by combustion.³ Following this came pieces or sums with

¹ Henry's "Hist. Britain," iv. 243. In his journey across Africa, in 1875, Lieutenant Cameron states that, in one of the interior kingdoms, slaves were preferred to cowrie shells for money, because while the latter were lying idle the former could be set to work. Cameron's "Across Africa," New York, 1877, p. 267.

² Weights and measures were first fixed, after the Dark Ages, by Charlemagne.

³ The payments of this character, which were made into the English Exchequer ad scalam, with one-fortieth excess of metal exacted at each payment, "to make good the weight," were of a period several cen-

the names of weights—to wit, pounds, shillings, and pennies, dennies, or denarii, which passed by tale,¹ and which, although they never contained the weights of metal indicated by their names, afforded by means of these names a ready conception of their relative proportions and value.²

The history of weights and measures is involved in great obscurity. What we know is, that the Roman libra, like other weights and measures of antiquity, was of such and such ponderosity; that this ponderosity gradually became lessened, until all confidence was lost in the stability of the weight, and its use was abandoned; that other and newer weights took its place; that, like their predecessors, these weights became also in time degraded; that upon the revival of commerce, these degraded weights, some of them attenuated survivals of the classical ages, others of more recent birth and reduction, were rescued from further degradation by being fixed in the law; and that, at about the beginning of the present century, when the precise determination and permanent fixation of weights and measures became a matter of international concern, and engaged the attention of philosophers and statesmen, the weights weighed so and so much. What we do not know is the details of their fall and subsequent rise. Through-

turies later, and were evidently of clipped or foreign coins." Madox's "Hist. Exchequer." i. 274-5; Jacob's "Hist. Prec. Met.," pp. 173-4.

¹ It is noticeable that the two periods of the most numerous degradations, debasements, and falsifications of coins were those which preceded and followed the Dark Ages. During the former one, governments had lost their virtue and efficacy, and during the latter they had not yet regained them. Firm and enlightened governments always avoid tampering with money. To governments which have fallen into decay and contempt, it is impossible; there is nothing left to tamper with, not even the weights. Degradations and debasements are therefore possible only in governments which have not yet attained the former condition, or else to those which, having attained it, have since decayed.

² The subject of "ingot coins" is discussed elsewhere in this work. See also "Hist. Money, Ancient," p. 202.

out the present work the Roman libra is assumed to have always weighed 5,250 English grains, but in point of fact it probably weighed more during the Commonwealth, and fell to this, or about this, weight during the Empire. To what weight it fell during the Dark Ages cannot now be determined, but at or about the beginning of the present century it weighed as follows in the localities mentioned:—

Number of English or Troy grains in the Libra used for weighing gold and silver, in the year 1820, in the following localities. (From Kelly's "Cambist"):—

Florence and Leghorn	5240	Genoa	4891½
Rome	5234	Malta	4886⅙
Naples	4950		

The libra of Bologna for the precious metals weighed 6,174 grains, but this was probably of Etruscan origin, and not connected with the Roman system.¹

Among the merchandise or *avoirdupois* ² libras in use throughout Italy in 1820, a few exceeded the ancient Roman libra, whilst by far the greater number fell short of it. Those which exceeded it were—Turin, 5,692; Bologna, 5,586; and Ferrara, 5,338 English grains; whilst those which only equalled or fell short of it were—Padua, 5,250; Florence and Leghorn, 5,240; Rome, 5,234; Lucca, 5,213; Verona, 5,134; Ancona, 5,093.9; Reggio, 5,092; Cremona, 5,060; Milan, 5,044; Parma, 5,038; Bergamo, 5,035; Modena, 4,931.5; Sicily, 4,900; Genoa, 4,891.5; Mantua, 4,871; Nice, 4,809; Venice (*peso sottile*), 4,650; and Ravenna, 4,623 English grains. All these libras are evidently derived from that of ancient Rome. It is noticeable that those which exceed it belong to towns situated near the gold-producing regions of Italy,³ a fact

¹ Bologna (Bononia) in the Etruscan era was the headquarters of a gold-mining industry.

² From "*averia*," the ancient name for chattels.

³ Consult the author's "*Rape of the Earth*," chapters on the rivers Po and Tiber.

which implies that their excess may have arisen from circumstances similar to those which suggested a recourse to corn rents during the silver era of Elizabeth and the gold era of Cobden—the demand of capitalists for a more than equitable compensation in products. Those which fall short of it probably fell to lower weights during the Dark Ages, and rose again during the more prosperous and progressive era of the Renaissance.

The “old commercial” pound formerly used in Amsterdam, Hamburg, and Paris, and used in England for the assize of bread until 1815, and in Scotland for general purposes until recently, contained 7,600 grains. Its origin is obscure. The present avoirdupois pound of 7,000 grains is apparently descended from it.¹ The Anglo-Saxon pound, sometimes called the “moneyer’s pound,” at others the “Pound Tower,”² contained 5,400 grains, and was used in the English mints previous to 1526 (18th Henry VIII.). In that year Henry issued his second coinage,³ and the pieces were weighed by the Troy or Troyes pound of 5,760 grains, and this has continued to be used for weighing the precious metals in England ever since.⁴

The origin of the mark and the period when it first came to be used as a weight for the precious metals have not been satisfactorily determined. If conjecture be admissible where proof is wanting, the mark may be attributed to Venice and to the period which had witnessed the revival of European commerce with the Orient, say during the seventh

¹ McCulloch’s “Com. Dic.,” p. 1392. Bishop Cumberland deduces the avoirdupois pound from the Greek mina. Kelly’s “Cambist,” ii. 260.

² Harris, on “Coins,” p. 50, says the Anglo-Saxon pound was introduced into England by William the Conqueror. On this subject generally, see chapter on France herein.

³ Tooke’s “Hist. Prices,” vi. 470; Henfrey’s “English Coins,” p. 173.

⁴ Bishop Cumberland (in Kelly’s “Cambist,” ii. 260) and Queipo (“Systèmes Métriques,” etc., ii. 234) deduce the Troy pound from the *ratel* or *roll* of Egypt. The latter says it was brought into Europe by the Jews with the Arabs.

century. Moreover, the mark, as it would seem, is the degenerate descendant of the Roman libra in Venice. The mark was never used for weighing merchandise, but only for the precious metals. Except in Venice, the name of whose patron saint it bears, the mark was not used in Italy until after it had made its way from Venice through Germany to Scandinavia and England, probably for the reason that the old name libra retained too strong a hold upon the customs of the Peninsula to be supplanted by the mark. But Venice in her earliest days was a refuge for outcasts, and customs or ordinances that were still respected elsewhere in Italy were likely to be of little force here. From the outset of her career she was independent of the Roman government, and as she was growing whilst the rest of Italy was decaying, she continued to remain independent, not only of that government, but also of the social and political influences that contributed to maintain many of its laws with more or less efficacy even after the fall of the Empire. Venice had a commerce, a political, and a monetary system of her own, and it is not strange that she should wish to adopt a new name for a weight which had become degraded almost beyond recognition. It will be observed that during the feudal ages the mark was chiefly employed in those places with which Venice had established commercial relations. The mark probably weighed originally over 4,000 grains, but as the Dark Ages wore on it partook of the general degradation of weights, and fell in Venice to $3,681\frac{1}{2}$ grains, where it remained fixed. In Germany generally it fell from about $3,681\frac{1}{2}$ to 3,608 grains, and at this weight made its way to Denmark and England during the ninth century.¹ In Cologne it

¹ The mark is mentioned in the treaty between Guthrum and Alfred, about A.D. 886. It is possibly this circumstance that led Humphreys (ii. 428) and Sir John Lubbock (Essay on Money in "Nineteenth Century Magazine" for November, 1879) to regard it as of Danish origin. The "mark of Cologne, also current in our country," is mentioned in a treaty between Venice and the Crusaders, dated 1201. Hazlitt, iv. 398.

weighed 3,608 grains, and at this weight it was fixed by the edict of the Emperor Charles V. in 1524, who declared it the standard of weight for the precious metals throughout his German Empire. Charles was at the same time King of Spain, and the mark, after some further degradation (it fell to $3,557\frac{1}{2}$ grains in Valencia, and to $3,550\frac{1}{2}$ grains in Castile, &c.), was fixed in that country generally at $3,550\frac{1}{2}$ grains, and at this weight found its way to America, where it was used to measure and coin the vast metallic productions of the newly-found continent.

The following table, all of which, except the Anglo-Saxon mark, is compiled from data in Kelly's "Cambist," shows the weight of the mark in the countries named at or about the beginning of the present century:—

Number of English Grains in the MARK used for Weighing the Precious Metals.

Vienna	4333	Anglo-Saxon England	3600
Prague	3916	Valencia	3557.5
Bern	3810.3	Castile, Burgos, and else- where in Spain and	
Holland	3798	Spanish America	3550.5
Turin	3795.7	Portugal	3541.5
Genoa	3785	Madeira	3538.7
France	3777.5	Reval	3326
Venice	3681.5	Stockholm	3250
Nuremberg	3670	Riga	3226
Augsburg	3643	Breslau	3158
Denmark	3633	Warsaw	3113
Milan	3627	Cracow	3069
Zurich	3616.9	Konigsberg	3023.5
Munich	3609.8	Wilna	3006
Prussia	3609		
Cologne, Hamburg, Hano- ver, Berlin, and old Germany generally	3608		

Although, as previously explained, the increase of a commercial weight in a decaying age may be accounted for, such does not appear to be the case with a weight used exclusively for the precious metals. Assuming, therefore, that the mark always diminished in weight, and that at one

time it weighed over 4,000 grains, the origin given to it either by Henry ("Hist. Brit.") or Queipo must be discarded as unsatisfactory. The former deduces it from the Greek mina—which has been estimated by various authors from Christain, 5,189, to Paucton, 6,900 grains—and Queipo from the Egyptian half-rotl of 3,585 to 3,618 grains.¹ If not descended from the Roman libra, the mark must be regarded as a new creation which arose during the Dark Ages.

The period of the introduction of this weight into the several countries of the world indicates the origin and spread of those influences which brought about the Renaissance, and afterwards the halcyon ages of Europe. Beginning in the Dark Ages, possibly in the trade with Alexandria, the mark found its way to Venice, where its first certain appearance occurred during the ninth century. From that time it rapidly grew into use in the numerous transactions of the newly-reopened trade with the Orient. In the same century it began to be employed as far north as Saxony and England. Towards the thirteenth or fourteenth centuries, the impetus of the Renaissance was lost, and European civilization again came to a halt until Columbus found his way to America and De Gama to the Indies, when a new march of progress began, new streams of commerce burst forth, and new agencies were employed to utilize them. The mark and its multiple, the Saxon pound, or mark-and-a-half, was abandoned in England, which at first had no interest in the new gold and silver discoveries, and adopted by Spain and Portugal, which had every interest in them. From Spain the mark finally made its way to the mines of America, and there it is chiefly employed to-day.

¹ One hundred mithkals made one rotl, weighing 466 to 489 grains, equal to 7190.38 to 7236.67 grains. One-half of this equalled 3585.19 to 3618.33 grains, which Queipo regards as the half-rotl and origin of the mark. Like the Troy pound, he believes it to have been brought into Europe by the Jewish traders during the Dark Ages. Queipo, ii. 234.

The gradual failure of the stock and supplies of the precious metals between the fall of Rome and the Renaissance operated as a practical limit to the number of coins actually minted in given countries, and as there was little or no commercial intercourse between these countries, or between these and others, this practical limit of number prevented the coins from sinking to their bullion value. Their conversion into modern coins upon the basis of the relative quantities and value of the bullion contained in each, and their use as a measure of relative prices, is therefore erroneous and misleading.

Laws prohibiting the export of the precious metals or coins made from them were common to all countries during the Dark and Mediæval Ages; and these laws, by creating an artificial and temporary superfluity of metal in a few of the strongest or richest countries, caused a corresponding scarcity in the others, and raised the purchasing power or value of their coins, until a change of the commercial current or a degradation of the coinage in the last-named countries lowered the value of their coins once more.¹

These considerations, particularly the first one, vitiate, in a very considerable degree, the comparative tables of prices, so laboriously prepared by St. Maur, Fleetwood, Smith, Young, Tooke, Rogers, and others.²

Very little copper was produced during the Dark Ages, this metal requiring more metallurgical skill and greater division and co-operation of labour than were then attainable.³ Many silver mines were reopened by Charlemagne about the beginning of the ninth century.⁴ Gold was always to be obtained by washing the Tiber, the Po, the

¹ On restrictions upon the export of the precious metals consult Jacob's "Hist. Prec. Metals," p. 204, and McCulloch's "Polit. Econ.," p. 28.

² See Jacob, p. 171-2, on some of the difficulties presented by these tables.

³ "Hist. Money, Ancient," p. 324.

⁴ "Hist. Prec. Met.," chap. v.

Rhine, the Rhone, the Garonne, and the numerous auriferous streams of Spain and Portugal.¹

As to the right of coinage, it had fallen from the hands of the senate to the emperors, from the latter to the "barbarian" kings, and thence to innumerable feudal lords, both lay and ecclesiastic. As commerce developed and Europe revived, this right had in some instances been sold by the feudatories to the municipalities who had purchased their liberties from them.² In most cases, however, the feudatories still exercised it, but with the advent of the Renaissance and the organization of feuds into kingdoms, it passed to the latter, and became vested in the crown as a royal prerogative.

This review of the civilization, moneys, and weights of the Dark Ages would be incomplete without some further reference to what is known as ingot coins, or coins designed to have the same value whether coined or melted down.

To persons who entertained the shallow belief that money coined from the precious metals conformed in value to the economical cost of the materials of which it was composed, it has ever been a favourite pursuit to deduce from the obscure annals of the feudal period some system of money founded upon this imaginary principle, and to advocate the adoption of a similar system at the present time; but, to say nothing of the folly of copying from the institutions of an ignorant age, it can be safely affirmed that no such systems ever existed during that era, and that whenever tried, in modern times, they almost immediately failed. In a previous work³ I showed that, contrary to the belief of these theorists, the coin or sum of

¹ See the author's "Rape of the Earth."

² In such municipalities the right of coinage was usually vested in a company of freemen, known as the Mint House Company, or simply the House Company. Very commonly the office was held by the Corporation (guild) of Goldsmiths.

³ "History of Money, Ancient," p. 202.

coins constituting the livre of France never contained a livre weight of silver, nor the pound sterling of England a pound weight of that metal; and, in addition to what I have there written on the subject, it may be remarked that if even the value of gold and silver in coins did conform to the cost of mining those metals—which is not the fact—this value would be altered by the law of legal tender; in other words, by the simple turning of the bullion into money. Besides this influence of law, which is common to all countries and all ages, the precious metals have been subjected to other influences, many of them peculiar to the Dark and Mediæval Ages, some of them surviving to the present day, any one of which would occasion a difference between the value of uncoined and coined bullion. These influences are seignorage, moneyage,¹ restrictions upon coinage, restriction or taxes upon the importation or exportation of the precious metals,² restrictions or taxes upon mining, or upon the implements or means of mining, restrictions or taxes upon consumption in the arts, unavoidable variation in the weight or fineness of coins of same denomination,³ variation between the proportional weight and fineness of coins and their multiples, maximum laws, and others.

It must be quite evident that where any such regulations prevail, the value of a given weight of metal existing in the form of bullion from a mine, or plate from stock on hand, or coins, must differ; that no amount of argument

¹ Moneyage was a tax levied triennially as recompense for the king "not to alter or debase the coin, which he was entitled to do by his prerogative." Sinclair's "Hist. Br. Rev.," ed. 1803, i. 43.

² McCulloch, "Polit. Econ.," p. 27.

³ "It is doubtful whether the groats of Edward I. were current coins, as all that are known vary very greatly in weight." Henfrey's "English Coins," ed. 1885, p. 141. See also, on the imaginary *As libralis* of Rome, my "History of Money, Ancient," p. 222. The old Spanish and Mexican silver dollars contained from $2\frac{1}{2}$ to 5 per cent. in value of gold, which the mints were unable to extract. *Ibid.* p. 44.

will induce any sane person to accept a piece of metal for circulating money, nor no declaration of weight and fineness degrade a piece of circulating money to the powerless and immobile condition of bullion. Cost what it may to produce, when bullion receives the legal stamp of money, its value rises or falls to that proportion which its arithmetical value as a numerator bears to the whole volume of money as a denominator, and no device of sophistry can alter this law of nature.¹

¹ The experimental systems of ingot money tried in recent years have invariably failed. Under the law of September 26, 1847, Holland coined certain gold ingots of a uniform weight and fineness, both of which particulars were inscribed upon the pieces (guillaumes d'or), which, nevertheless, were not made legal tenders, as they were expected to circulate upon their metallic merits. The result was that people would not accept them. During 1851 and 1853, about 1,500 guillaumes were coined. Afterwards their fabrication was dropped. There was no demand for them.

Under the Act of February 12, 1873, the United States coined certain silver ingots known as trade dollars, and containing 420 grains of standard silver nine-tenths fine, these particulars being inscribed upon the pieces. They were made legal tenders for five dollars. Notwithstanding this privilege, which conferred upon them powers that no purely ingot coins can ever command, they circulated so sluggishly that they were divested of the legal tender function by the Act of July 22, 1876, when their circulation entirely ceased. They will now only be found in the brokers' shops. Those who had received them made haste to sell them at a discount of 5 to 10 per cent. Meanwhile the standard dollar of $412\frac{1}{2}$ grains standard, of full legal tender, and the fractional dollar of $385\frac{3}{8}$ grains standard, and of legal tender for five dollars, circulated without impediment. These coins were and are money; the trade dollars, except for a brief period, were only ingots of metal.

CHAPTER II.

THE ARABIANS.—REVIVAL OF COMMERCE.

Rise of Mahomet—Overthrow of the Roman Empire in Arabia—Conquests of the Arabians eastward to India, and westward to the Atlantic—Reopening of the Suez Canal and sea route to India—The Oriental trade now flows through Venice and Alexandria—Its nature and profits—Its influence upon Europe—Arabian spoils of gold and silver—Money of the Arabians—Extraordinary ratio of value between gold and silver—Reasons for its adoption—Scarcity of the coining metals—Glass coins.

WHILST the civilization of the Roman Empire was being slowly resolved into its original elements, and its diminishing populations sank into barbarism and seemed to be threatened at no distant era with entire extinction, events were occurring in Asia which were destined to eventually reverse this tendency of affairs and turn the decay of Europe into a condition of growth.

In Arabia, near the coasts of the Red Sea—in the Hedjaz, as it is now called—the Romans had long mined for gold, their method, the usual one, having been to reduce the natives to slavery, and force them into the exterminating labour of their own mines. In the days of Pliny, silver from Europe and gold from Arabia were shipped to India and China to the aggregate value of one hundred million of sesterces, whatever that might have been.¹

¹ “Minimâque computatione millies centena millia sestertiûm annis omnibus, India et Seres, peninsulaque illa (Arabia) imperio nostro adimunt. Tanto nobis deliciæ et feminæ constant.” “Hist. Nat.,”

These toilers in the desert, these victims to Roman cupidity and misgovernment, were not savages. They were essentially a trading people, probably descendants of those ancient Phœnicians whose venturesome barques had often voyaged to distant India for spices, and perhaps rounded the mysterious Cape of Good Hope in quest of gold.¹ The Bedouin had not become a vagrant by choice, but necessity; and when opportunity served, he showed himself capable not only of equalling such a state of civilization as that to which Europe had now fallen, but of excelling and going far beyond it. To such a race, the slavery of the mines must have been as galling as it afterwards proved to the proud Mexicans whom Cortes subjected to a similar servitude.² From the midst of this enslaved population there arose during the seventh century a deliverer, who, armed with an "inspired" work, and proclaiming himself the prophet of God, led his countrymen not only to overthrow the Roman Empire in Arabia, but also to effect the conquest of all the surrounding countries, and the establishment of a new empire whose banners, though shorn of their ancient glory, still wave over many of the lands upon which he planted them.

The flight from Mecca, or the Hegira, occurred in 622. In 633-9 the whole of Syria was subdued; in 637 Jerusalem was taken; in 638 Aleppo and Antioch fell; in 638-9 Egypt was conquered; in 637-51 Persia was overrun; in the interval between 647 and 689 every organized state of Africa, westward, to Carthage, was reduced; in 692-8 Carthage was occupied; between 698 and 709 the remainder

lib. xii. cap. 18. Pliny in another place (lib. vi. cap. 23) computes it at half this sum, viz., quingenties H. S. for India, exclusive of Arabia, from which it is to be inferred that the remainder or an equal sum in gold was shipped from Arabia. If the sesterces here mentioned were 100 to the gold aureus ("Hist. Money, Ancient," p. 306), fifty millions would equal \$2,585,000, or about £500,000 in coins of the present day—no great sum.

¹ "Rape of the Earth," chapter on "The Zambesi."

² He forced the nobles, even the king's relatives, into the mines.

of Northern Africa, including Mauritania, to the Atlantic was subdued, and in 711 the Arabians entered Spain; so that within a century from the beginning of Mahomet's conquering career their power was firmly established over a territory which stretched uninterruptedly from India to the Western Ocean.¹

During the Roman domination, the trade with the Orient had been conducted, at first by the Persian Gulf, and afterwards by the Isthmus of Suez, through a canal which was cut some time during the reign either of Trajan or Hadrian. With the decay of the empire this canal was allowed to become filled with drifting sand, and what little remained of the Oriental trade sought the precarious and expensive overland route by Palmyra and Samarcand, or the still more precarious route viâ the Euxine and Caspian Seas and Tartary. This remnant of trade centred at Byzantium.

Such was the enterprise and commercial spirit of the new masters who had arisen to lead and instruct the world that in the same year in which they conquered Egypt they commenced the work of clearing out the long-neglected Suez Canal. This was in 639, under the Caliph Omar. The work seems to have been completed within a comparatively brief time, for we hear soon afterwards of the reopening of the old Roman route to the Orient viâ Alexandria, Suez, Berenice, and Muscat. This being an all-sea route, offered immense advantages over any other. It not only greatly reduced the cost, it augmented the facilities of carriage.²

The Oriental trade now centred at Alexandria, and at first was monopolized entirely by the Arabians; but as these traders had no connections in Europe, the inhabitants of which regarded with horror any traffic with heretics, it was confined entirely to exchanges with the Arabian dominions in Asia Minor and Africa. Towards the close of the

¹ Gibbon's "Decline and Fall," chap. li.

² "Rape of the Earth," chapter on "The Nile."

seventh century, the Venetians so far conquered their aversion to the Mahomedans as to purchase Indian products in the markets of Alexandria, and, these being carried to Venice, reopened to Europe that great channel of international commerce whose beneficial influences soon communicated themselves from profit to wealth and from wealth to social advancement.

Everywhere throughout the Continent were now seen signs of an awakening. Men began to move; isolated communities drew closer to one another, and merged into larger and stronger organizations; kingdoms appeared where formerly only existed a multitude of warring feuds and benefices; roads were built, canals were planned,¹ and once more a promise of life, instead of the shadow of death, was extended over the populations of Europe.

The exports from the West consisted, for the most part, of woollens, linens, glass vessels, wine, and the precious metals, chiefly silver. There was none of that exchange of European silver for Indian gold which afterwards arose; the adoption by the far-seeing Arabians of an Oriental ratio of value between the two metals (see farther on) had prevented this. From India the exports were chiefly cottons, spices (mainly pepper), silk, precious stones, sugar, ivory and tortoise shell.²

Not only were the immediate profits of this trade enormous, often amounting to several times the original cost of the merchandise exchanged, it introduced new inventions, or recalled old ones which Roman tyranny and slavery and the misery and ignorance of the Dark Ages had consigned to oblivion.

Turning now from the influence upon Europe of the

¹ Charlemagne planned a canal to connect one of the German rivers with the Baltic.

² "Hist. Money, Ancient," p. 85. Charlemagne chided his courtiers for wearing Indian silks. Alfred the Great of England possessed goods which had been imported from India. Eginhardt's "Life of Karl the Great;" William of Malmesbury, "Chron.," lib. ii.

Arabian revolt and conquests, to their especial connection with money, it is to be remarked that the avidity of the Arabians for spoil was no less conspicuous than that of other conquering races. Every country that fell beneath their arms was made to yield up its slender hoards of the precious metals, and toward these exactions not only the jewels of the living, but the ornaments of the dead, were forced to be contributed.¹

At the outset of their national career the Arabians employed for money chiefly copper coins of their own design, but founded on the Byzantine type and system. The gold coins employed were those of the Byzantine Empire and the silver ones of the Sassanian kings of Persia, whose empire they had overthrown at the battles of Kadisin and Nevahend. Between 675 and 685 an ephemeral attempt was made to introduce a distinctively Mahomedan coinage of the precious metals, four samples of which are still preserved in the great Paris collection. In 691 or 692 the Caliph Abd-el-Melik inaugurated the regular Moslem coinage, which thereafter was issued from all the mints of the empire. This consisted of gold dinars weighing 65 grains, .979 fine, and silver dirhems of 43 grains, .960 to .970 fine, one of the former being valued at ten of the latter, a ratio of say 1 to 6.52.² The copper coins were overvalued. The adoption of a ratio between gold and silver so greatly at variance with that which prevailed in the empire from which they had obtained their principal plunder of gold, and to which they were indebted for their earliest coins, implies either a desire to make their coining metals go as far as possible, or else a wonderfully exact knowledge of the conditions of trade in the Orient. According to the Theodosian Code of 438 the precious metals were coined at Rome and Byzantium at the proportionate value of one

¹ The Arabs opened all the tombs and pyramids of Egypt to rob them. Burton's "Gold Mines of Midian." The Spaniards afterwards did the same in America.

² "Coins and Medals," ed. by S. L. Poole, pp. 164-67.

gold to 14.40 silver. By adopting the relation of 1 : 6.52 the Arabians were enabled to coin more than twice as many dirhems out of their stock of silver than if they had adhered to the ratio of the empire. In the fifth century the ratio in India was 1 : 5 to 6 ; in the fifteenth it was 1 : 6 to 8. The Arabian ratio of 1 : 6½ in the seventh century was therefore probably an exact reflex of the Indian ratio at that period.¹

The following observations upon the Mahommedan conquest of India are nearly equally applicable to their earlier history: "After every conquest, after every expedition for spoil, there was a melting down of jewellery and ornaments and a fresh coinage of gold and silver multipliers; but the spasmodic supplies of metal thus converted from the arts into coins was more than counterbalanced by the cessation of mining during the prevalence of hostilities, and no addition can be discerned to the quantity of gold and silver in circulation. The bulk of the exchanges continued to be made in copper coins and in cowries, which latter were used as dividers for copper coins."²

Until the Arabians conquered Spain, and obtained possession of some of the gold and silver mines of that country, their monetary history implies scarcity of these metals.³ In 711, and perhaps earlier, they employed glass coins for money. These were of a dark green colour and weighed about 61 grains each—the type, Byzantine. The inscrip-

¹ The Arabians seized a favourable opportunity to adopt this innovation in the ratio. There was no western country, at the time, whose product and coinages were important enough to establish a different ratio, whilst this one harmonized with that which appears to have prevailed in the Orient at that time.

² "Hist. Money, Ancient," p. 93. A broken cowrie was found in the ruins of the mining furnaces of Wady Aynúnah. Burton's "Gold Mines of Midian," p. 145.

³ The gold mines of the Bisharee desert in Egypt were worked by the Arabs in 951 and 989. Wilkinson's "Egypt," New York ed. 1854, ii. 238. It is not known that they worked them previous to these dates; probably not.

tion in Cufic, as read by Mr. Poole, is as follows:—"By command of the Imám, el Mahdi b'illah el Múminin." Captain Burton describes them as being similar to those still made at Hebron; whilst Mr. Edward T. Rogers, in the "Numismatic Chronicle," holds that they were neither made at Hebron nor in Syria, where but a few have been found, but in Egypt. The earliest date was A.H. 96, or A.D. 715. El Mahdi is supposed to be one of the Fatimeh caliphs, an opinion derived from the style of the inscription.¹

Further consideration of Arabian moneys is to be found in those chapters of the present work which are devoted to Spain and Turkey.²

¹ Burton's "Gold Mines of Midian," pp. 308-9. These glass coins antedated by only a few years the manufacture of felted paper at Mecca. They were probably better suited to an illiterate population than paper notes would have been.

² The Arabian or Mahomedan moneys of India are described at length in a previous work.

CHAPTER III.

VENICE.

Origin and early history of the Venetians—Commodity moneys—Reopening of the Oriental trade by the Arabs—Rapid rise of Venice—Earliest coinages—The type and ratio Byzantine—Reasons therefor—Silver pennies—Seignorage—Re-invention of sailing-ships—The Crusades—Leather money at the siege of Tyre—Financial difficulties—Origin of the funding system—Mistaken by theoretical writers for a bank—Diminished rate of commercial progress—Low rates of interest—Gold coinage—Contraction of the currency—Continued growth of political power—This suddenly checked by De Gama's voyage around the Cape—Prediction of Americus Vespucci—Downfall of Venice—Origin of the bank in 1587—Its failure in 1600—Again in 1717—Lastly in 1797—Currency introduced by Napoleon—Absorption of Venice into the kingdom of Italy.

THE history of Venice commences with the reopening of the Suez route to India; it ends with the discovery of that by the Cape. The conquest of Egypt by the Caliph Omar marks the birth of the republic; the memorable voyage of Vasco de Gama proved its death-blow. Not but that there was a Venice both before and after these events, only that before them Venice passed through an uneventful infancy, and after them suffered an uneventful decline.

There was a people called the Veneti,¹ who several years before the Christian era possessed a dominion which comprised thirty-five cities, foremost among them being Aquileia, which Polybius asserts stood in the midst of an auriferous

¹ The Veneti have been ascribed to a Scandinavian origin, a suspicion that, could it be verified, might establish the Danish origin of the mark. Consult Hazlitt, i. 5, and authorities cited.

region.¹ It has been alleged, though I know not on what other authority than conjecture, that the ancient Veneti numbered one million five hundred thousand souls.² In the Augustan age Venetia and Istria combined to form the tenth region; under Constantine they formed the seventeenth province, of Rome.

In A.D. 452 the Huns, under Attila, entered Venetia, laid waste its territories, and put its inhabitants to the sword. A few hundred of them³ escaped to the islands which arose out of the lagoons of the Adriatic shore, and there laid the foundations of the future republic of Venice. The chief occupation of these islanders was fishing and the manufacture of salt, with which indispensable commodity they drove an active and profitable trade, at first with the adjacent coasts, and in the process of time even with distant countries.⁴ In their earlier history this substance was even used as a sort of money.⁵

Their form of government was successively a polyarchy, a monarchy, a tribuneship, and in 697 a republic, governed by a duke or doge, who reigned nominally as a vassal, first of the Gothic, and afterwards of the Byzantine emperors, but really at the pleasure of the principal families of the Venetian islands.⁶

The tribute due from the Venetians to the Gothic court was payable in wine, oil, and honey, a circumstance that bespeaks scarcity of money in the infant republic. Even so late as the beginning of the eighth century the Vene-

¹ Strabo, iv, vi, 12. In my "Hist. Money, Ancient," p. 288 note, I have given reasons for supposing that this assertion of Polybius, quoted by Strabo, was a mistake, and that it possibly related to Aquil, 44 miles south-east of Turin.

² Hazlitt's "History of Venice," London, 1858, i. 1.

³ Hazlitt, i. 3. On p. 7 he says a few hundred families.

⁴ In the seventh century the Venetians supplied salt to Dalmatia, Croatia, Pannonia, and so on as far north as Germany.

⁵ Gibbon's "Decline and Fall," London, 1854, i. 243.

⁶ In 523 Cassiodorus reminded the Venetian tribunes not to neglect their annual tribute to the royal palace at Ravenna. Hazlitt, i. 17.

tians supported their state by a tithe which was payable wholly or partly in the same rude way.¹ Until the early part of the ninth century, when it appears to have struck a silver coinage of its own,² the principal money of Venice consisted of Carolingian pennies (contents about 20 grains of fine silver each), thirty of which were reckoned to the silver ducat.³ In the ninth century there were silver coins called the mark, the lira picciola (half a mark) and the lira grande, the latter (probably of the same weight, but made of gold) worth eleven times as much as the former; a fact and inference that suggest the coining ratio of value between the two precious metals. The golden solidus of this date is also mentioned as circulating in Venice.⁴ It was coined at Byzantium, at the rate of 96 to the Roman libra, contained 54.7 grains, and, like the silver ducat, was valued at 30 Frankish pennies.⁵

It is natural to suppose that the overwhelming importance of its Oriental trade, to which the opening of the Suez route by the Arabians had imparted so great and sudden an impulse, would have had a marked influence upon the type and denominations of the silver coins of Venice and the ratio of value which that state adopted between them and the gold coins of Byzantium. That it did not do so is chiefly owing to the foresight of the Arabians, who by

¹ Hazlitt, i. 45. ² Ibid. i. 77. After 829 the coins bore the legend: "San Marcus, Venecia."

³ Zanetti says the earliest Venetian coins were of a Mæsiæ type. There are none such in Br. Mus. Coll. The numerical relations of the danari and ducat is given variously in Hazlitt, i. 78, 104, and ii. 47. From the last-mentioned passage it would seem that the lira weighed about 4,800 grains. Was this the origin of the modern peso sottile?

⁴ In a will dated A.D. 825, quoted in Hazlitt, i. 349. For weight of solidus, see "Hist. Money, Ancient," p. 319.

⁵ The assertion of Henry and Yeats, that before the Crusades the besant was only worth 12 silver pennies, appears to be founded in error; the equivalent was 30 pennies. The lira picciola, whose weight I have been unable to obtain, was often degraded. In 1284 the gold ducat was valued at 2, in 1400 at $4\frac{1}{2}$, in 1450 at $6\frac{1}{2}$, and, some centuries later, at 22 lire piccioli. Hazlitt, iv. 320.

adopting the Oriental ratio in their own coinages at once monopolized the profits to be derived from exchange and repelled the western nations from attempting to share them by assimilating their coinages to those of the East. Moreover, the earliest moneys of Venice were derived from Rome, and of those which circulated within her possessions at the time of the Caliph Omar, the gold ones were exclusively Byzantine, in which system the ratio of value between the metals was 12 or 14 to 1. Finally—although this consideration applies to a somewhat later date—to have adopted the Oriental ratio would have deprived Venice of those profits upon the surreptitious manufacture of Arabian dirhems (which there is every reason to believe was at this period extensively carried on in Padua), and to have surrendered this advantage to the Germans or French. Some of these silver dirhems appear to have found their way into use in the northern countries of Europe,¹ a circumstance that would hardly have occurred had they been purchased at the Arabian ratio, and one that confirms the suspicion of their illicit origin. It is probably more for these reasons than because Venice rendered a nominal homage to the Byzantine empire, that the type and ratio of value in the moneys she employed followed the Byzantine rather than the Arabian system. As for the weight of the silver coins, the dirhem was but a trifle heavier than two pennies, and but little difficulty could have been experienced in the monetary exchanges between the two nations.

It is in this trade between Venice and Alexandria that, for the first time since the classical ages, we hear of ships with sails; and this invention, which a few centuries later was to lead to such extraordinary results, must be regarded as one of the many lost arts whose re-discovery coincides in point of time with the reopening of the isthmus route to the Orient.²

¹ Poole, "Essays on Coins," p. 85.

² Hazlitt, i. 77, mentions the sails of the Venetian ship which brought the remains of St. Mark from Alexandria to Venice. Modern works of

In 921 Venice received from Hugo, King of Italy, and afterwards from his successor Rudolph, a promise that in future Venetian money should enjoy free currency throughout the peninsula.¹ This is a provision that bespeaks a seignorage upon the coins, which at this date, it will be remembered, consisted of silver and copper only. In 1085, in a treaty with the Byzantine court, and at intervals for nearly two centuries afterwards, we read of *perperi*, each *perpero* being apparently equal to four silver ducats.²

At the siege of Tyre, A.D. 1122, occurred the first issue of bank or promissory notes by the Venetian authorities. The Doge Michieli, who conducted the siege in person, found it necessary, in order to satisfy the clamour of his troops for pay, to issue certain leather money, struck by his private order, and stamped with the arms of his own family. "The issue of the new coins was, however, accompanied by a declaration and a promise that, on the return of the fleet to Venice, they should be redeemed at once at their full nominal value; a promise which, we further hear, was discharged with scrupulous exactitude."³ The knowledge of this device was probably imparted to the doge by his French allies in the siege, and they had become familiar with it from a similar issue of leather money which had been made by Philip I. of France.⁴ Paper was scarce and flimsy, indeed it was hardly known at that date, and there was no more convenient material for a promissory note than leather or parchment.

One of the consequences that followed from the part which the Venetians took in the Crusades and the success

reference erroneously ascribe this re-invention to the twelfth century. Consult the authorities cited in Appendix on "The Lost Arts."

¹ Hazlitt, i. 131. A similar stipulation was extorted from Byzantium in the charter of 1205. Ibid. ii. 190.

² Ibid. i. 242; ii. 165, 212. But see also ii. 259.

³ Ibid. i. 287, citing Sanudo, Morosini, Giustiniani, and Salvete.

⁴ Humphrey's "Manual of Coins," p. 532. See also plated dirhems of the Urtuki Turkomans of Palestine, in "Hist. Money, Ancient," p. 155.

that attended the arms of the allies, was the relinquishment of the formers' connection with the Arabian merchants at Alexandria, and the removal of their now extensive Oriental trade to Antioch and Tyre, whence it made its way overland to the Persian Gulf. Venice could now afford to kick down the ladder by which she had climbed, and during the following centuries her chronicles contain little beyond the epithets of pagan and infidel for that great power through whose establishment she had risen from the obscure role of selling fish and salt to that of dictating terms of existence to the proud empire of Byzantium.¹

In 1160 the Doge Michieli, embarrassed by the pecuniary difficulties in which the state was involved, borrowed in its name from several opulent merchants of Venice one hundred and fifty thousand marks of silver,² himself being one of the subscribers to the loan. The latter was secured by a bond and mortgage on the Rialto and all the dues arising from it during eleven years; but it bore no interest.³

In 1173 the public treasury being nearly empty, and the anticipated income from customs and other taxes insufficient to defray the expenses of the state, the Doge Ziani had recourse to a forced loan amounting to one per cent. upon the aggregate property of every household. This loan was promised to be repaid by the state in more prosperous times, and meanwhile was to bear interest at the rate of four per cent. per annum, payable half-yearly. In default of suitable paper upon which to print and distribute the evidences of its indebtedness, the state entered upon its books an account of the sum due to each person who had been assessed, together with the accretions of interest from time

¹ "Hist. Money, Ancient," p. 91.

² The mark was defined in a contract between the Venetians and the leaders of the fifth crusade, A.D. 1201, as a "measure of Cologne." Hazlitt, ii. 65. It probably weighed, both in Venice and Cologne, 3,681½ grains, the same weight that it continued to maintain in Venice, but from which it afterwards fell in Cologne to 3,608 grains. It is presumed to have been coined into six ducats, or 180 silver pennies.

³ Hazlitt, ii. 20. Sanudo gives the full text of the bond.

to time. The three commissioners whose duty it was to levy and collect this loan and keep its accounts were called *Camerlenghi del Commune*, or Public Chamberlains; the bureau in which the business was transacted was called the *Camera degli Imprestidi*, or Chamber of Imposts. It soon became a custom for one citizen to sell his credits or claims upon the state to another, and these transfers were facilitated by the Chamber of Imposts, which, upon the duly authenticated order of the seller, transferred his claims, or any portion of them, to the buyer. These transactions were of precisely the same nature as are now the buying and selling of government consols or annuities upon the Stock Exchange, and they had precisely the same effect upon the volume of money and upon the prices of commodities and services—that is to say, none whatever, or so little as to be entirely incalculable and inappreciable.

Yet theoretical writers, and, following them, the compilers of works of reference, commonly allude to these transactions under the head of banking, and to the Venetian Chamber of Imposts as the Bank of Venice.¹ It is true that four hundred years afterwards the Chamber of Imposts did become a bank, for at that date (1587) it began to receive gold and silver bullion and uncurrent coins on deposit, which it credited or returned to the depositor in current Venetian money; but in the meanwhile banks had been founded elsewhere, and Venice does not, therefore, deserve the credit of having re-invented or introduced these institutions.²

Far more important in its influence upon the welfare of

¹ Mr. McLeod and Sir John Lubbock ("Nineteenth Century" magazine, November, 1879) have both pointed out this mistake.

² A bank of deposit existed in Byzantium several centuries before the Christian era. "Hist. Money, Ancient," p. 166. In A.D. 960 a bank of deposit was established in China. Ibid. p. 26. About the year 1200 a bank of deposit was established in Damascus. Colwell's "Ways and Means of Payment." In 1345 a bank of some sort was founded in Geneva, and in 1401 a bank of deposit was established in Barcelona.

the state than such a bank as these writers have imagined the Chamber of Imposts to have been, was the funding system¹ it inaugurated, and the practice of forcibly contracting the measure of value to which it gave rise. Had the Chamber of Imposts been indeed a bank, its beneficial influence upon the state would have ceased soon after its establishment; because, having once relieved the necessities of the treasury, it would afterwards have become merely an instrument to render the currency an uncertain and inequitable measure of value. Bad as this agency would have been, the actual influence of the funding system—as will be seen further on—was infinitely worse.

In spite of a war indemnity of 1,500 pounds weight of gold which in 1175 the republic received from the Emperor Manuel Comnenus,² its treasury became so much depleted through continual wars, that in 1187 it was obliged to obtain a new loan, this time a voluntary one, of 16,360 lire of silver, which was secured to be paid in twelve years by a mortgage on the produce of the salt works and on the annual rental of 400 lire piccioli due from the house of Morosini.³ In 1204 the republic acquired, as its share of the sack of Constantinople, spoil to the value of 900,000 marks of silver, but a small part of which probably consisted of coins or bullion.⁴ Accordingly, we find that in 1207 a subscription was opened for a new loan on the security of the customs revenues.⁵ In 1268, owing to the severity of the taxes occasioned by frequent wars with Genoa, particularly the corn duties, a bread riot occurred in Venice, and though the republic was in great financial distress, the obnoxious imposts were repealed.⁶ And in

¹ A similar funding system and method of negotiating the debt was inaugurated in Florence in 1304. The loan bore interest at 5 per cent. per annum.

² Hazlitt, ii. 28. On p. 94 he says it was 1,500,000 marks of silver, and that only 1,300,000 marks of this sum had been paid up to the year 1203. If the first of these sums and that in the text were of equivalent value, it bespeaks a ratio of $7\frac{1}{2}$ to $7\frac{2}{7}$ silver to 1 gold.

³ Hazlitt, ii. 47. ⁴ Ibid. ii. 165. ⁵ Ibid. ii. 198. ⁶ Ibid. ii. 353.

1285, in order to relieve the distress caused by inundations from the extraordinary tides of the Adriatic, another loan was contracted, this time at "30 danari per cent. interest."¹

At this period, though neither the political power nor commercial progress of Venice showed any signs of decline, the latter had long proceeded at a constantly diminishing rate. Competition in the Oriental trade on the part of Genoa and some of the lesser Italian cities had greatly reduced the once extravagant profits of this commerce—a fact clearly indicated by the low rates of interest at which the state was able to borrow money. Deprived of the accustomed lucrative investments for their capital, the merchants of Venice turned their attention to those schemes of finance which in times of high profits in trade are never heard of, but which at periods of low profits invariably make their appearance in commercial states.²

During the progress of the public debt, the fundholders, all of whom belonged to what was recognized as the aristocratic party, perceived it to be their advantage to secure for themselves the payment of the interest due to them from the state in better money than that in which the loans were raised. Forming, as they did, a body of wealthy and influential citizens united by a common interest, no difficulty was experienced in the attainment of this object. The current money of the time consisted chiefly of silver and gold coins, the former of danari or pennies, the latter of solidi or besants, both of them legal tenders to an unlimited amount. It only became necessary to limit the legal functions of one of these coins in order to bring about, certainly a temporary, perhaps a permanent, contraction of the currency.

¹ Hazlitt, ii. 461. This appears to mean 30 pennies per 100 sequins, or one per cent.

² In 1212 a charter was conferred upon Candia, in which appears a provision that all advantages which might arise from the discovery of gold or silver mines within the Venetian frontier were to be transferred without reserve to that state. Hazlitt, ii. 206. The monopoly of gold and silver mines is rarely a resource of prosperous states.

Accordingly, in the year 1276,¹ a gold ducat, zecchin or sequin,² was coined at Venice, at the rate of 66 to the mark of fine gold, equal to 55.8 Troy grains each.³ The significance of the new coin is due, not to its slight enhancement of weight over the besant, but to the fact that thereafter all payments, including the interest on the public debt, were required to be made in them; and we hear no more of large sums in silver coins. The accounts of the republic were henceforth expressed in ducats or sequins.

Up to this time, indeed until De Gama opened the way to India by the Cape, the republic had continually risen in power, if not in opulence. When the Indian route viâ the Persian Gulf was blocked by the hostility or exactions of the Arabian emirs, Venice had found means to reopen and control that by way of the Euxine and Caspian seas. Its fleets of merchant vessels were the most numerous, its navy was the most powerful in the world. It not only traded with Alexandria, with the maritime towns of Syria, with Constantinople and with the vast Oriental world that lay beyond these portals, it prosecuted an active commerce with the entire coasts of Greece, with the rich islands of the Archipelago and with the coasts of the Adriatic, many of whose seaports were mere fiefs of her powerful dogate. The Crusades had brought to her additional wealth and great opportunities. She had repeatedly transported the pilgrims to the Holy Land, and been well paid for her services; ⁴ and, finally, she had diverted one of these

¹ Anderson's "Hist. Com.," i. 310.

² Zeccha is the Arabian name for mint-house, from zekkeh or zikkah, a die or stamp. "The privilege of sikkeh, i.e., of coinage, was among the first things Mahommedan kings thought about, on ascending the throne." Poole's "Essays on Coins," p. 162. See also "Hist. Money, Ancient," p. 88. Humphreys erroneously derives this term from the gold staters of ancient Cyzicus or Cyzicenes.

³ The earliest sequin in the Br. Mus. Coll. is of the Doge Dandolo, 1279-89, and weighs 54.5 grains; the next earliest is of the Doge Gradenigo, 1289-1310, and weighs 55.8 grains.

⁴ The usual price of a passage from Venice to Port Jaffa and return was 50 ducats, about £25. Hazlitt, i. 355.

expeditions and employed it for the reduction of Constantinople, receiving as her share of the conquest one half of the spoil derived from the conquered city, together with the Morea, Thessaly, Servia, and many islands and cities; so that, upon the conclusion of the war, her admiral combined the important, if somewhat grotesque, titles of Doge of Venice, Dalmatia and Croatia, Despot of Roumania, and Lord of Three-fourths of the Roman Empire.¹

In 1423, the doge, Tomaso Mocenigo, said to the senators who surrounded his deathbed: "I leave the country in peace and prosperity. Our merchants have a capital of ten million gold ducats in use, upon which they make an annual profit of four millions. I have reduced the public debt by four million ducats. We have 45 galleys and 300 other ships of war, 3,000 merchant vessels, employing 42,000 sailors and mechanics, 1,000 gentlemen with incomes varying from 700 to 4,000 ducats each, 6 admirals fit to command a large fleet, and 100 other officers able to manœuvre large squadrons, besides many statesmen, jurists, and other great men."

In the midst of this apparent prosperity a totally unexpected event occasioned the downfall of Venice. In 1497 De Gama successfully doubled the Cape of Good Hope, made his way to Calcutta, and returned home to Lisbon with the astounding news of his own success. Two years later Cabral sailed from the Tagus for Calcutta with thirteen ships, discovered Brazil on his way out, and met Amerigo Vespucci at the Cape de Verde Islands on his way home. In a letter to Lorenzo Pietro de Medici, dated June 4th, 1501, Amerigo clearly discerns the importance of the new discoveries: "You will soon hear great news from Portugal. The king has gained a rich and most important channel of commerce. Now will the spices go from Portugal to Alexandria and Italy, instead of, as heretofore, from Alexandria and Italy to Portugal. So goes the

¹ Hazlitt, i. 174.

world!"¹ Vespucci was right. The star of Venice was eclipsed. Hereafter her trade and the wealth of her citizens were to decline, her revenues were to diminish, the difficulty of raising new fleets and maintaining new armies was to increase. Already in 1463-79 she had lost Eubœa, Lemnos, and part of the Morea; in 1499 the Turks had ravaged the Venetian territory as far as the Tagliamento, and taken from her Lepanto and several other islands of the Archipelago; and although she afterwards succeeded in recovering some of these places, her wealth was destroyed, her population reduced, and her power irretrievably shaken. She survived two centuries longer. During nearly the whole of this time she was engaged in wars with the Turks, who succeeded in wresting from her the remainder of her Greek possessions. After this, only the shadow of a state remained. A large portion of the nobility were reduced to poverty; the finances were exhausted and disordered; all national spirit was fled; and what little remained of public property became the object of embezzlement to her oligarchical families.

It was stated on a previous page that in 1587 the Camera degli Imprestidi had indeed become a bank by receiving bullion and money on deposit. The worn and clipped condition of the money thus deposited was such that the credits of the bank were usually worth a premium of 20 and sometimes 30 per cent. over current coins. In 1600 the bank failed, and its credits fell to a discount of 16 per cent. below par (i.e., in the current worn coins), an actual fall of about 40 per cent.² In 1717 the bank failed a second time, and in 1797, upon the invasion of the French, it went down for ever. The actual discontinuance of the institution did not occur, however, until 1808.³ At this date the

¹ "Hist. Prec. Met.," p. 193.

² At this period counterfeit coins made their appearance in Venice. Colwell, pp. 106-9.

³ Colwell, "Ways and Means of Payment," p. 301; Kelly's "Cambist," p. 347.

peasant women of Afghanistan were wearing the gold sequins of Venice in strings around their heads.¹ There were none in Venice; for no sooner had the French turned the city over to the Austrians than the latter condemned it to the use of base silver coins and copper tokens. These, together with the heterogeneous foreign coins in circulation, produced great confusion, and it was felt to be a relief when Napoleon introduced a uniform currency. With the events of 1814, this advantage was also lost, and Venice obliged to put up with billon and potin again, until the establishment of Italian unity brought her once more within the domain of comparatively good money.²

¹ Embassy of Lord Mountstuart Elphinstone to Cabul in 1808. Fawcett's "Gold and Debt," p. 92 n.

² Colwell; Kelly. In looking back upon the history of Venice, one cannot help reflecting what a different destiny would have awaited both Europe and America had the Venetians maintained good terms with the Saracens and kept open the Suez route to India; but this is equal to wondering why, in an age of bigotry, Christianity did not tolerate Mahomedanism. In 1425 there were two different kinds of silver ducats in use: the "current," or trade ducat, of which there were about twenty coined to the mark of standard silver, and the government ducat, used "in the affairs of the administration." This practice implies two ratios between silver and gold; one for the trade with Germany, the other for that with the Orient. Hazlitt, iv. 319.

In addition to what is quoted in the text, the Doge Mocenigo stated that Venice annually coined 1,000,000 gold ducats, 200,000 silver ducats, and 800,000 minor pieces, of which 500,000 ducats went to Syria, 100,000 to the Terra-Ferma, 100,000 to England, and 100,000 to other places; the remainder being used at home. *Ibid.* iv. 33.

CHAPTER IV.

GENOA.

The rise and fall of Genoa—Its importance lost upon the opening of the Cape route to the Orient—Its monetary system—Coins—Funding system—Bank of St. George—Circulation of acceptances—Influence of the unprogressive condition of Europe—This condition partly shared by Venice and Genoa through the operation of coins and coin prices.

THE history of Genoa from the remote period of its foundation until the year A.D. 1021, when its inhabitants expelled the Saracens from Corsica, Caprera, and Sardinia, retaining the two former islands as their own, is of little interest in this connection.

From 1021 this state, notwithstanding numerous and expensive wars with Pisa and Venice, steadily increased in power until about 1453, when, having reached the zenith of its prosperity, it showed signs of decay. These four centuries of growth are recalled by a few dates: 1146, Minorca conquered; 1147, Almeria (in Spain), with great booty; 1148, Tortosa (Spain); 1150 to 1200, Monaco, Nice, Monperat, Marseilles, and nearly the entire coast of Provence; 1261, Smyrna and the Black Sea; and 1282, Elba and Pisa, the latter a rival commercial power, whose capital the Genoese entirely destroyed in 1290. In 1299 Genoa obtained the Crimea; 1300 to 1350 was marked by party feuds; 1350, Genoa became subject to Milan, and again became independent; 1377, last war with Venice; 1381, termination of this war, after which Genoa enjoyed the blessings of peace and a rapid renewal of progress.

This period of not altogether unchecked prosperity cor-

responds with the growth of credit in Genoa and the establishment of its funding system. The period of decay which followed will be found in like manner to correspond with the failure of credit and the perversion of this system to the interests of an oligarchical class.

In 1453 Genoa received the first blow to its prosperity by the fall of Constantinople and the consequent loss by it and acquisition to the Turks of the Black Sea and Oriental trades. But this was only the prelude to a more serious blow which De Gama inflicted upon it by opening the way to India around the Cape, and to that final blow dealt by its own countryman, Columbus, shortly after the period of whose great discovery the trade and importance of Genoa became reduced. In 1512 Francis I. invaded Genoa, and, though it was again placed upon an independent footing by Doria in 1528, it had by this time lost all its possessions except Corsica, and was in a decaying condition.

In 1730 Genoa lost Corsica; in 1746 occurred the Austrian invasion and the failure of its Chamber of Loans, which, like that of Venice, had meanwhile become a bank;¹ in 1797 this bank was plundered by the French, and in 1800 it suspended coin payments. Genoa then became the petty republic of Liguria; in 1805 it was merged into the French Empire; in 1815 it was given to Sardinia, and finally, in 1865, it became part of the kingdom of Italy.

Reverting to its monetary system, which so closely resembled that of Venice as not to call for a separate description, the year 1302 found the revenues of Genoa pledged to an association of fundholders, to whom was granted the privilege of representing and transferring their claims by means of credits inscribed in books similar to those of Venice.²

In 1407 the company of public creditors was organized

¹ Kelly's "Cambist."

² There were private banks and bankers in Genoa previous to this date. Their business consisted of the custody, exchange, and loaning of moneys. Colwell, p. 315.

into a banking institution called the House of St. George. The bank credits were not divided into convenient sums, and could only be transferred in presence of witnesses and with many formalities. They, therefore, only dispensed with the use of coins to a very small degree.

In 1537 was conferred upon this bank the extraordinary concession that no taxes should be imposed by the state which should affect those already hypothecated to the bank, without the latter's consent.

In 1673 the diversity and bad condition of the coins which flowed into Genoa became so annoying that the bills of exchange accepted at the bank and based on deposits of bullion began to circulate by endorsement.

Since the middle of the fifteenth century, Genoa had gradually become reduced from a state having considerable landed possessions to a mere trading city, and its monetary system had insensibly lost its importance. However, from 1673 to 1797, coins and bank acceptances continued to circulate together.

Almost the sole basis of the prosperity of this republic, as with that of Venice, was commerce, and as commerce compelled them to retain coins for their moneys, so coins in turn compelled them to restrict their sources of prosperity to the limits of commerce, or else oblige them through the medium of prices to share to some extent the general industrial tendency of the rest of Europe, which, until the discovery of America, was always downward. They possessed but little territory and no agriculture, nor could they have acquired additional productive resources with such increase of territory as was open to them. The utilization of territory not merely colonial, and therefore of remote and ephemeral worth, waits upon increase of population,¹ and this, at a period of surrounding causes and tendencies of decrease, upon unique or exceptional advantages. With

¹ Said the Venetian Doge Ziani in 1225: "We have a state, yet we have no territory; and without territory how can we hope to see our population increase?" Hazlitt, ii. 230

a monetary system that harmonized with and reflected these retrogressive tendencies such exceptional advantages were unattainable.

And so, together with the general current of the affairs of Europe at the period of the rise and zenith of these republics, they passed after their fall like comets of a dark firmament into the impenetrable gloom that surrounded them, or faded into that era of a general Europe which began shortly after the discovery of America.

CHAPTER V.

THE EASTERLINGS.

Origin of the Easterlings—Cattle and corn money—The penny copied from the degraded Roman denarius—The Saxons or Easterlings reopen the abandoned silver mines of the Romans, and issue a new and abundant coinage of pennies—These known as easterlings, or sterlings—They formed the basis of Charlemagne's monetary system—His conquest of the mines of Saxony—Reasons why these mines were not worked by the Saxons immediately after the fall of the Roman power.

SO little is known concerning the early government and polity of this people that it would scarcely warrant allusion to here were it not that the name of their coinages is retained to the present day in those of the British Empire. The Easterlings, Eastmen, Ostermanni, or Ostrogoths, a race remotely of Asiatic origin, first made their appearance in Sweden about B.C. 70. At a later period these colonists appear to have been supplanted by another tribe of similar origin, who drove the first settlers into Denmark, whence the latter spread themselves east and west along the southern coasts of the Baltic and southward up the German rivers to the mountains of Switzerland. Here, coming in contact with the Roman armies, they were reduced to a condition of vassalage or slavery, the essential condition of which was the working of the auriferous sands in the valleys and beds of the rivers and the gold and silver veins in the mountains, the product being sent to Rome. When the resources of the empire became so exhausted that it encouraged the Ostrogoths, now the Saxons, to throw off its hateful yoke, their possessions appear to have extended as far west as the Rhine and as far south

as Bohemia.¹ Their principal occupation was pasturage and agriculture; they also monopolized the trade of the Baltic coasts and German rivers, and had recently become the principal miners of Northern and Central Europe.

Their earliest money in Europe was of cattle and corn.² Roman money came into use with the Roman occupation. Afterwards it consisted of coins, the product of their native mines and mints; but coined under Roman authority. After their revolt against Rome, the Saxons continued to strike coins of the Roman type and denominations, now, however, under the authority of their native rulers. These coins were of irregular sizes and, in large payments, were probably weighed. Under the reign of Athalaric and other Ostrogothic kings in Italy, 526-553, coinages were issued of base silver and of copper.³ Shortly after this period, the Saxons appear to have adopted the denarius or penny as their integer of coinage, at the weight of about 20 grains, .925 fine: Upon the fall of the Roman domination, they had fallen heirs to their own silver mines,⁴ and it was the

¹ In the eighth century the boundaries of Saxony were from Hamburg to Moravia, and from the Mainz to the Baltic. Voltaire, "Gen. Hist.," I. i. 43.

² Tacitus, "German.," v. Feoh, the Saxon word for cow, now preserved in the monetary term fee, proves this. The Oriental origin of the Saxons, and the similarity of their penal code to those of Asiatic countries, where the gravest crimes are punished with fines of money, proves that they were far from being ignorant of its use; but after their migration to Europe their social condition must have been too rude and their exchanges too infrequent to have involved the use of coins or other symbolic money.

³ Poole's "Coins and Medals."

⁴ When the Romans overran Germany they found that the inhabitants possessed but little of the precious metals, and this chiefly gold, "for who has been a miner in those regions?" asks Tacitus. From their inability to extract silver from its ores, they valued that metal above gold, which was easily washed out of the river sands. In the time of Tacitus, and near the frontiers, they had learnt the worth of both of these metals, and used money, preferring the pure coins of the Republic to the debased ones of the Empire. In the time of Claudius, one Curtius Rufus, the son of a gladiator, opened a silver mine near

relative importance of their product, combined with the purity and uniformity of its coinage and the trading activity of its new owners, that gave to their Easterling pennies a currency throughout Northern Europe which was refused to the debased and doubtful coinages of the empire.

If reliance can be placed upon the alleged date of the reopening of the mines of Chemnitz and Kremnitz, it seems to coincide with that of the first appearance of a Saxon coinage in England,¹ and this may have been simultaneous, or nearly so, with that of the sterling pennies in Saxony.²

These pennies were made legal tender by Pepin the Short in 755,³ and afterwards formed the basis of the monetary system adopted by Charlemagne, and perhaps it was not unmindful of the importance of affording his kingdom a permanent source of supply for the materials of a coinage that he waged a long and pitiless war against the Saxons, the termination of which, in 805, left him in possession of their coveted mines,⁴ and saw them effaced from the roll of nations.⁵

In the endeavour to account for the tremendous lowering

Marburg in Hesse, and others elsewhere in Germany, and put the soldiers and, under them, the natives, at work upon them. Consult Tacitus, "German," v., and "Annals," xi. 20. The Romans also worked silver mines at Wieslock, near Heidelberg; near Halzappe and Ems; at Blissenbuck, near Engelskirchen, and elsewhere in North Germany. Dr. Adolf Gurlt, in "Metallurgical Review," Oct., 1877. They also opened the silver mines of Rothausberg in Bohemia. Geo. Agricola says that the mines of Chemnitz and Kremnitz were opened in the sixth century, and Ferber says by Saxon miners. Jacob's "Hist. Prec. Met.," 53 and 133. They also reopened the mines of Rothausberg, A.D. 719. Ibid. 137.

¹ Henfrey's "English Coins," ed. 1885, p. viii.

² Joseph Harris, in his "Essay on Coins," i. 54 n., derives the name sterling from the Netherlanders or Easterlings, who coined money in England.

³ "Coins and Medals," edited by S. L. Poole, London, 1885.

⁴ Gold and silver were prominent objects of his searches. Jacob's "Hist. Prec. Met.," p. 141.

⁵ The political kingdom of Saxony, erected in 1807, had little more in common with ancient Saxony than the name.

of prices and diminution of the metallic stock and product which characterize the Dark Ages, Mr. William Jacob, and after him numerous historians, have attributed these results to the revolts of "barbarians," and the disorganization of mining labour which these revolts occasioned. In this attribution the position of money and prices and the system of working the mines which the Romans pursued, appear to be entirely overlooked. A similar mistake was made by Mr. Ward when he visited Mexico after the revolution. The consequence of Mr. Ward's erroneous inference was the loss of several million pounds sterling of British capital invested in the Mexican mines during the years 1825-28,¹ and several other millions which have been or are being invested at the present time.

The consequences of Mr. Jacob's error have been far more important. They have prevented the world from making any progress in determining the obscure influence of the precious metals upon prices. As the position of mining and money and prices in the latter days of the Roman and Spanish American empires was very much the same, it will assist the reader to obtain a clearer view of the former by comparing it with the more familiar circumstances of the latter.

In both of these empires a high level of prices, at first promoted by the fruits of conquest, had afterwards been maintained by those of slavery. The Romans under Cæsar had ravished Gaul of its auriferous hoards until, pending the establishment of adequate coining facilities in Rome, the bullion was sold in that city for three-fourths of its value in coins. After such facilities were established, prices in Rome, even when measured in gold coins, rose to an unprecedented height. The Spaniards under Columbus, Vasco Nuñez, Cortes, Alvarado, Pizarro, and others, ravished America in a similar manner, and occasioned a similar rise of prices in Europe. When Cæsar's campaigns had exhausted

¹ McCulloch, "Com. Dic.," art. "Mining Bubbles."

Gaul of its rude accumulations of metal, the level of prices in Rome was temporarily maintained by means of the overvalued copper sesterces of Augustus, and afterwards by forcing the Gauls into their own mines and compelling them to work them for gold. When the conquistadores had stolen every metallic implement or ornament which the Americans possessed, they forced the latter to bring them so many grains of gold per day, by threatening them with torture and agonizing death. After both hoards and placers of gold were exhausted, the Romans, impelled by a myriad interests to maintain the false level of prices which their conquests had promoted, were fain to mine for silver. This not only involved the slavery of the natives, it required the aid of metallurgical art, the assistance of large capitals, and the adoption of economical systems of engineering and administration. The course of affairs which followed in Spain and Mexico was so similar to this that it needs no further description. Notwithstanding the assistance of slavery, capital, and art, the Roman mines ceased to pay and were abandoned, prices (though temporarily stayed by the emission of overvalued copper coins) steadily fell, the condition of the populace at home became unbearable, social wars followed, the provinces revolted and gained their independence, and eventually the empire itself went to pieces. Similar events are to be traced in the history of the Spaniards. Neither slavery, capital, nor metallurgical art could cope with a level of prices the tendency of which—from the indestructible character of the precious metals and the monstrous institution of gratuitous and unlimited coinage—was continually to rise,¹ and during

¹ Such was the case during the Roman and Spanish-American eras, because at both of those periods the supplies of the precious metals were augmented by military conquests, and the demand for them in the arts was comparatively limited. At the present time these circumstances are reversed; the arts are capable of absorbing the entire current supplies, and conquest yields but few fruits of this character. The tendency of prices, if expressed exclusively in coins of the precious metals, would be now, in the long run, always downward.

the eighteenth century prices fell so rapidly that banks of issue were eagerly established wherever political conditions and the disposition of the ruling classes rendered them possible. This resource, at that period of a more or less ephemeral character, having failed, the descent of prices became more rapid than ever, and in the latter portion of the century greatly facilitated, if it did not directly lead to, the social wars in British North America, France, Spain, and other countries. The disturbances in Spain were the signal for an uprising in Mexico, and in the course of a few years—from 1810 to 1824—the natives gained their independence, and mining slavery was abolished. Had the revolted provinces been as contiguous to Spain as Gaul and Saxony were to Rome, it can scarcely be doubted that the Spanish Empire would have met the same fate as the Roman.

Between the date of the Ostrogothic revolt against Roman ascendancy and the sanguinary reduction of the Saxons by Charlemagne, there elapsed some three centuries of time, during which the Saxons appear to have been at liberty to work their mines for their own profit, had there been any profit in them. But there was not. The Saxons needed little silver for their own use, and owing to the continued emission of overvalued copper coins and the continuance of high prices in the Roman cities,¹ silver failed to purchase enough of Roman commodities to make it worth while to extract more than a small amount of it from its ores for the purposes of trade. Such was, and is still, the case in Mexico. But a few mines, and these only when “in bonanza,”² pay to work at the present level of prices—a level originally fixed by the fruits of the Spanish con-

¹ Consult “Hist. Money, Ancient,” pp. 318, 321, 330.

² Silver ores are not found in continuous veins, streaks, or leads, but usually in “bolsas,” “pockets,” “chimneys,” and “bodies,” to which the vein, streak, or lead is merely the guide, though often a disappointing or fallacious one. Hence, between two pockets of ore there may supervene 500, 1,000, or 2,000 feet of barren rock, and with no certainty that the second body exists at all. While the extraction of the pocket is going on, the mine is said to be “in bonanza.”

quest of America, and afterwards maintained by the emission of overvalued gold coins¹ and paper notes²—the other mines and all mines at barren levels being reserved for sale to credulous foreign capitalists or for manipulation by swindling promoters.

From these circumstances it will appear that the closure of the Roman mines in Germany was due neither to the revolts of the Saxons nor any disorganization of free labour, but to a level of prices which even slavery could not cope with, and which to free labour was quite insuperable. If the Saxons were not too barbarous to work their silver mines as slaves to the Romans, they were surely competent to work them as freemen when they acquired possession of them. The proof of this competency lies in the fact that at a subsequent period they produced silver and minted silver coins before the cruel and ambitious eyes of Charlemagne fell upon their fair dominion. That they did not work them until the influence of Rome had passed away was simply because, until that event happened, the level of prices was too high to render mining for the precious metals, except in rare instances, a profitable pursuit.

¹ At the time of the discovery of America the legal value of gold in Germany, then the leading mining and coining country, was $10\frac{1}{2}$ times that of silver; in France it was the same; in Spain it was $10\frac{2}{3}$, and in England $11\frac{1}{2}$ times. After the discovery, Spain became the leading mining and coining nation, and as during the first half century gold was the principal, almost the only metal she produced, its legal value was rapidly advanced to $13\frac{2}{3}$ times. The opening of Potosi in 1545 changed the interest of Spain to silver, but the inheritance of Portugal by Philip II. in 1581, and the opening of the Brazilian placers in 1573, again changed it to gold, and the value of the latter was again enhanced by legislation, this time to 16 times that of silver. This is what is meant by the overvaluation of gold. See chapter on "Spain."

² The first great issue of European paper notes took place in France, 1720; the next in the British American Colonies and England; after which large paper issues became common to all European countries.

CHAPTER VI.

CHARLEMAGNE.

Gold and silver the prominent object of Charlemagne's conquests—His system of money—Silver deniers or pennies charged with a seignorage and coined by the crown—Monopolization of the mines—Maximum—Spoils of conquest and mine slavery—Extermination of the Saxon race.

“GOLD and silver were prominent objects of Charlemagne's searches.” It was a necessity of his position; a necessary consequence of his desire to conserve the Roman Empire and the scale of prices and social relations which still lingered in its ruined train. These objects, too, it may be presumed, were at the bottom of his relentless war against the Saxons, a war which subjected them for the second time to the condition of mine slavery. To one who has personally witnessed that callousness to suffering to which the search for great treasures gives rise in the human breast, history wears a different aspect than to the mere student who views it through the distorted medium of religious passion, patriotism, or rhetoric.¹ It is far more real. Heroes, however distantly removed by lapse of time, are resolved into ordinary beings animated by the same motives, swayed by the same passions, and prone to employ the same cruelties, deceptions, and subterfuges as other men. There was no lack of pious intent in the declara-

¹ “The true cause of the Saxon wars, which were in some degree *defensive* on the part of the Franks,” says Michelet (a Frank), “was the ancient antipathy of the two tribes, enhanced by the growing tendency to civilized habit among the latter;” and this is what passes by the name of history! “Hist. de France,” ii. 39.

tions and official reports of the monsters who overthrew the Mexican and Peruvian empires, and cast their inhabitants to the bloodhounds or forced them into darksome mines ; nor was there any in the professions of Charlemagne, who, in the name of Heaven, drove the Saxons into the silver mines and thus doomed them to extermination.¹

It was a necessity of the position which Charlemagne had assumed, to conserve the existing level of prices in his patched-up empire ; it was necessary to this conservation that silver should be procured upon the cheap basis of slavery ; and from these circumstances all the rest followed. The immediate effect of the Saxon conquest, apart from the terrible fate to which it consigned the vanquished, was beyond all doubt beneficial. The vastly increased production of the mines which it promoted stayed the further fall of prices and the impending dissolution of that civilization to which the Roman system of laws had given rise ; its ultimate effect was nil. Like most of the institutions of Charlemagne's reign, only the shadow of his monetary system survived him.²

The Carolingian system only differed from that established by the Saxons in the seventh century, and adopted by Pepin the Short in the eighth, in the respect that it consisted of a large and increasing supply of silver pennies, which were recruited from the spoils of conquest³ and the fruits of slavery. The coins were also minted with more

¹ The mines of Kremnitz, Chemnitz, and Rothausberg, besides numerous others, were opened during his reign. See Chapter VIII.

² Voltaire, "General Hist.," i. 57, says that "for centuries money continued on the footing upon which Charlemagne had placed it ;" but the illustrious author has here used too comprehensive an expression. The pennies remained, but the system to which they belonged went to pieces.

³ "In this war (789-796) the whole nobility of the Avars perished, and the glory of their nation was destroyed. All their riches and treasures, which they had long been accumulating, were carried away. . . . So much gold and silver was found in the palace, and such a quantity of valuable spoil was taken in battle, as exceeds belief." Eginhardt's "Life of Charlemagne."

skill than before. Nominally, the Saxon pound of 5,412 grains Troy was divided into 20 sols, and the sol into 12 deniers; a system of division which Rome gave also to Italy, Spain, and England, in which latter country it still remains. In reality, there was no coined pound, nor coined sol; while the coined denier only weighed 19 grains.¹ The fineness of the coins was usually .925. The mines were a government monopoly; the coinage was a royal prerogative, and some of the coins were struck in the royal palace;² they were issued upon a seignorage; and there was a maximum price set upon every article of consumption.³

To assert, as some writers have done, that this was an "intrinsic" system of money, or one in which the coins were of the same value whether as coins or bullion, is to set up a pretension which has but slight foundation either in fact or reason.

¹ This is the weight of an excellent specimen of this coinage in the Br. Mus. Coll. In the same collection there is a denier of Louis le Debonnair (814-40), weight 22.8 grains, and another of the same reign, weight 25.2 grains, fineness not known. Neither of these, either if pure or .925 fine, agree with the theoretical 1-240th of a Saxon pound.

² "App. Cyc.," iv. 738.

³ See the Capitulary *De Villis* in Blanqui, "Polit. Econ.," ch. xii.

CHAPTER VII.

MILAN.

Rise of Milan—Upon the revival of Oriental commerce, Milan becomes the principal mart between Venice and Germany—Siege of the city by Frederick II.—His employment of leather money—After his retirement from the siege the city issues paper notes—Both of these issues redeemed in coins.

MILAN, after many vicissitudes, was incorporated into the empire of Charlemagne A.D. 744, and at once became the principal channel of commercial intercourse between Venice and Northern Europe. From Milan the merchandise was forwarded to Como, and thence by the lakes, the valley of the Ticino, and across the Alps to Germany. This merchandise was paid for chiefly with silver from the Saxon mines. Something of the nature and extent of the trade may be gleaned from the account laid before the Grand Council of Venice by the Doge Mocenigo in 1421. "Every year," said he, "there comes to us from the Milanese one million six hundred thousand ducats." In return, there were sent to the Milanese 9,000 pieces of cloth worth 900,000 ducats, besides pepper, cinnamon, ginger, sugar, drugs, and other commodities.¹

Upon the division of the Carlovingian empire, and during the tenth century, Milan became a fief of Germany. In 1042 the inhabitants rose against the imperial rule, and drove out the nobles; in 1067 the irrigation system of the Milanese plains, which had originated with the mining ditches of the Salassi, and had been greatly extended and

¹ Hazlitt, iv. 28.

improved by the Romans, was now still further extended and improved. In 1164 its independence and prosperity were temporarily destroyed by Frederick I., who razed the city to its foundations, and strewed salt upon its site. Quickly recovering from this blow, it again declared itself free in 1176. In the following year the Navillio Grande, at that time the largest canal in Europe, was continued to the city, to which it furnished not only a means of transportation, but also an economical water power. In 1204 the nobles, who had found their way back, were again expelled, and feudalism was extinguished; in 1216 woollen manufactories were established; in 1220 the canal of the Muzza was constructed; and in 1221—while the Sultan of Egypt was driving out the Crusaders by opening the sluices of the Nile, Frederick was in Naples building up and embellishing that city, and the Pope was beseeching him to remember the vow he had made on his coronation day, and go to the relief of the imperilled army of Christ—the Milanese formed a league with the other Lombardian cities, and once more defied the imperial power. The war which these transactions threatened was averted through the intercession of the Pope, and Frederick was induced to depart for Egypt. During his absence the Milanese broke the conditions of the peace, and Frederick returned in 1235 to bring the rebellious city to terms. Having despatched his other affairs, he marched upon Milan in 1237, and after the battle of Cortenuova, where he defeated the allies, he laid siege to the city.

Here it was that the device of leather money, which Philip of France and the Doge Michieli of Venice had employed, was again brought into use.¹ The emperor's finances were greatly reduced; a rich city lay before him,

¹ See Moran on "Money," p. 7. Anderson, in his "History of Commerce," says that Frederick employed leather money at the siege of Parma, and other writers say that he employed it at the siege of Faventia. Malespini, "Hist. Fior.," 130, and Villani, "Hist. Fior.," vi. 21. He probably used it on all these occasions.

whose spoil he expected would soon be divided among his soldiers; and here was a means of anticipating its appropriation and expenditure, whose practicability he had doubtless learnt from some old veteran of the former crusade. So far as it served to pay his soldiers, this money answered every expectation that had been formed of it; but it did not facilitate any division of spoil, for Milan was not taken. More than this. Scarcely had Frederick withdrawn his baffled forces from the walls of the city than it hastened to put into use for its own advantage the very device, partly through whose aid the emperor had expected to reduce it to submission.

In 1240 the Milanese, whose trade had been interrupted by the war, and had not yet resumed its accustomed flow, made an issue, not of leather, but of paper notes, which Arthur Young has termed "the origin of all paper money that has since passed in Europe."¹ These paper notes appear to have been employed until the resumption of its trade with Germany enabled the city to retire them and substitute silver coins in their place. This, it should be stated, had already been done by Frederick in respect of his leather notes.²

During the circulation of the Milanese paper currency, the commerce of the city recovered so rapidly, and the receipts of bullion from Germany became so great, that in 1260, Milan, now the capital of the Lombardian republic, found it necessary, in order to comply with the requirements of its merchants, to put more than a hundred mints in operation.³

¹ "Travels in France, Spain, and Italy," by Arthur Young, London, 1792, ii. 173.

² Anderson's "Hist. Com."

³ Blanqui, p. 207.

CHAPTER VIII.

THE RENAISSANCE.

The Renaissance was chiefly limited to Southern Europe—Its general characteristics—Monetary systems of the period—Mining—Taxes on mining—Quantity of money—Principal coins—Prerogative of coinage—Seignorage—Leather moneys—Funding systems—Banks—Degradations and debasements of coins—Counterfeits—Ratio—Prices—Maximum—Laws prohibiting commerce in the precious metals—The Hanseatic League.

STRICTLY speaking, the Renaissance was confined to Arabia, Moorish Spain, Venice, Florence, Pisa, Genoa, and the cities of Lombardy. Its era extended from the ninth to the thirteenth centuries; but in a broad sense the Renaissance—that is to say, the influence of the revival of the Oriental trade—was felt throughout all Europe, and its era may with propriety be assigned to a century earlier and a century later, or from the eighth to the fourteenth centuries inclusive.

The general characteristics of the age are not well expressed in its name. With it the decay of Europe ceased, but it was not born over again; for this decay did not turn immediately to growth. The Renaissance was a period of but little general progress. Progress there was, indeed, in Southern Europe, but retrogression still maintained its ground in the northern states; so that, upon the whole, the period was a stationary one.

The monetary systems of the age—with the few exceptions presently to be noticed—consisted of silver, gold, and copper coins of fixed weights and purity, all of which were unlimited legal tenders, and the number of which was unlimited and unknown. The silver and gold coins of the

various Christian states were of nearly uniform weights and fineness, and circulated with more or less freedom in all of them ; so that at this period, more than at any subsequent one, there existed in Europe that international measure of value which in modern times shallow theorists have clamoured for and ignorant legislators aimed to establish. The value of money was not much above the cost of its production ; that is to say, its value was very high and prices were very low compared either with the Augustan period or the present time. What little literature existed upon the subject of money derived its inspiration, as does ours of to-day, from the condition of affairs a thousand or more years before. The Renascent writers based their systems upon the facts of the Augustan period, just as we now base ours upon those of the Dark Ages.

These monetary systems will now be described briefly under the several heads of mining, the quinto or taxes upon mining, the quantity of money in use, the principal coins employed, the prerogative of coinage, seignorage, leather moneys, funding systems, banks, degradations and debase-ments of coins, counterfeit coins, ratio of value between silver and gold, prices, maximum, and prohibitory laws affecting the precious metals.

The Mines.—Unable to account in any other way for the great fall of prices that occurred during the Dark Ages, and which he has assumed continued throughout the Renaissance, but which was really arrested during that period, Mr. Jacob has imagined that the gold and silver mines of Europe were abandoned on account of the irruptions of barbarians. It has already been shown that such was not the case during the Dark Ages ; it will now be shown that it was not so during the Renaissance.

Of the coining metals, the principal supplies were—first, of copper ; second, of silver ; and, third, of gold.¹ Passing

¹ The proportionate production of silver and gold has always been purely adventitious, and it had nothing to do with their relative value, either at that time or any other. This is shown elsewhere in the present work.

over the subject of the copper mines as being unessential to the purposes of this work, silver was produced chiefly in Germany. The following mining districts¹ and mines are known to have been either opened or kept open during this period: Freiberg (opened twelfth century), Marienberg, Annaberg, Schneeberg (from 1320 to 1350 it produced 100,000 lbs. of silver per annum), Johann-Georgenstadt, Joachimstal, Rothausberg, Wiestock in Baden, Valley of the La in Nassau, Blissenbruck and other mines in the valleys of the Sieg and Agga, Rammelsberg (opened tenth century), Andreasberg, Clausthal in the Hartz, Kitzbüchel and Röhrerbüchel in the Tyrol, the Kaurzim district and the Adelbert mine of the Przi Bram district of Bohemia. In Hungary there were the districts of Kremnitz (sixth century), Chemnitz (seventh century), Neusohl (thirteenth century), and Schmölinitz, Felsobanya (Roman), Nagybanya, and Abrudbanya—the mines of the last three districts yielding gold as well as silver—the Orsova (Banat), the districts of the Farebajer mountains, Salzburg (silver), and Altenburg (gold and silver), and the Shellgadin mine, or “Throne of Plutus.” In France the Romans opened silver mines in the Alps in the district of L’Argentière, and these were reopened in the twelfth century; there are others, such as La Gardette and Allamont in the Isère district, the date of whose opening is uncertain. In the French Pyrenees other silver mines were opened. In Spain the Arabs reopened all the Roman mines; in Jaen alone, near Linares, they sunk five hundred shafts within the area of a square league;² and amongst the names that have come down to us from this period are the silver mines of Constantina near Cazalla, Zalamea in Andalusia, and Guadalcanal, the latter being still worked. Silver mines were also worked by the Pisans in Sardinia, 1283, and

¹ The districts in the Erzgebirge range alone comprised 900 veins of silver ores.

² Murphy, “Hist. Mahommedan Empire in Spain,” London, 1816, p. 266.

others were opened in their own countries by the inhabitants of Britain and Wales.

Gold was produced chiefly in the Iberian peninsula. The Romans had worked vast placer deposits in Asturias, Galicia, and Leon, which the high level of prices had compelled them to abandon. When, after the course of centuries, this high level had subsided, the Spaniards opened the same mines and worked them profitably. The author has visited these mines, and is able to say that the deposits are far from being exhausted even yet; but the level which prices attained after the discovery of America has since forbidden their profitable reopening.¹ All these mines "tail" into the river Minho or its affluents. The Moors washed the auriferous sands of the Guadalquivir, Darro, Douro, and Tagus, and worked vein mines at Lares and elsewhere.²

Next in importance to the Peninsula were the auriferous valleys of the Danube and the gold-producing districts of Thrace, Illyria, and Servia, which in the early part of this period were all subject to the Byzantine Empire. In the thirteenth century, Illyria and Servia (Mœsia) fell to the dominion of Venice. These mining districts had all been opened by the Romans, and worked until the high level of prices rendered them unprofitable. When prices fell they were reopened by the Greeks. After the Byzantine gold mines came those of Germany, Bohemia, and Hungary. The rivers Elbe (A.D. 719) and Rhine (still worked at intervals) were both washed for gold; the Rothausberg mine (Roman) was reopened in the eighth century, and, among other places, new gold mines were opened at Zell in the Tyrol, and at Vörrspatak in Transylvania. The following silver districts or mines also yielded gold: Kremnitz, Chemnitz, Kaurzim, Przibram, Nagybanya, Abrudbanya, Farebajer mountains, Salzburg, and Altenburg.

¹ Attempts of this sort were made during the last part of the eighteenth century (see Cuesa's "Cartilla Practica," Bordeaux. 1838), and also quite recently, but they all failed.

² Cuesa, "Cartilla Practica."

Next in importance were the gold mines opened by the Arabians in Egypt, the Hedjaz, and Mauritania.¹ After this the trade with India and the Mozambique Channel produced the most gold. Of inferior importance was the gold product of France—washings of the Rhone and Gironde, and small quartz leads in the Alps—Britain (Carmarthenshire), and of Italy, the latter consisting of washings in the Tuscan Maremma, and some small gold veins in the hills of Piedmont and in the Bolognese Apennines.² Gold was not obtained from the West Coast of Africa south of Mauritania until 1442.³

The number and importance of these mines quite invalidate Mr. Jacob's theory. So far were they from being abandoned on account of the barbarians, the latter themselves worked many of them during the Dark Ages, and all of them were worked during the Renaissance. So far were they from being exhausted, that many of them continued productive until the easily gained produce of America rendered them unprofitable, while others, as Freiberg, Clausthal, and Rammelsberg, are being worked at the present time. The period of their abandonment was not during the Dark Ages or the Renaissance, but immediately after the breaking up of the Roman government and its imperial monetary and slave systems, the former of which maintained the high level of prices which conquest and rapine had inaugurated centuries before, and the latter of which conserved that level until the wretchedness and mortality it occasioned excited the provinces to revolt.

¹ The Egyptian mines reopened by the Arabs are fully described in "Hist. Money, Ancient," pp. 131-142, and in "Rape of the Earth," and those of the Hedjaz in Capt. Burton's work. See also Lacroix's "Middle Ages," p. 174.

² "Rape of the Earth," chapter on "The Tiber."

³ It was brought in by the Portuguese navigator Gonsales Baldeza, and a mining company was immediately formed to go after more. The principal members of this company were the navigators Lanzarote and Gillianez and Prince Henry of Portugal. "Wanderings in West Africa," by Capt. R. F. Burton.

During the last portion of the Roman era these mines were a lottery in which there were many blanks and but few prizes. Prudent men, men of reputation and credit, avoided any further connection with them than dealing in their products,¹ only intriguants and adventurers, men who had nothing to lose and everything to gain, like Curtius Rufus,² would touch them.

The state had relinquished the monopoly of the silver mines about the time of Julius Cæsar; it had given up the copper mines in the time of Nero; it had retired from gold mining some time during the third or fourth centuries.³ It had found that these industries, even when assisted by slavery, had gradually become less and less profitable and more and more difficult, and it gradually abandoned them to private parties, who, although they added cruelty and torture to slavery, could not make mining pay.

And here with advantage it may be remarked that the production of any valuable raw material out of which money is permitted to be made *ad libitum* must of necessity become at some time or other unprofitable, because every atom of it obtained from nature is sooner or later added to a stock which is itself the measure of the value of the remainder. The greater the stock of this material—say gold or silver—the less will each pound of it newly extracted from the earth purchase of other commodities. A time must, therefore, come when the mere cost of subsistence—for even slaves must be provided with food—and of supplies for the mines, will overcome the value of the product, and the system, and with it money and government and civilization, must come to an end. To the comprehensive mind metallic money seems like one of those machines designed by illiterate mechanics for perpetual motion; it

¹ There were stamp mills, ore buyers, and bullion dealers in Rome.

² Tacitus, "Annals," book xi. § 20, 21.

³ Probably the last gold mines which the Romans worked were those of Thrace and the Hedjaz, in the sixth century.

carries with it its own negation, and though it may go for a long time without showing any signs of failure, in point of fact it has begun to fail from the very instant when it was first set in motion.

After the revolt of the Roman provinces and the establishment of a new but vastly lowered scale of prices, those very mines which the Roman government had found itself obliged to abandon to individuals, and which these individuals had found to be unprofitable, were sought after by the governments of the Dark Ages. Charlemagne monopolized those of Germany and France; the Moorish caliphs of Spain and the sultans of Egypt seized upon the mines of those countries; and the Venetian government worked those of Illyria, Servia, &c., and the Islands. In their eagerness to control these sources of wealth, gold and silver were regarded as royal metals,¹ and their production a royal prerogative. In the course of time, and as prices rose and mining became unprofitable, governments gave up these delusive sources of revenue, and at the present time no government possessing strength and credit will have anything to do with them. Even individuals are becoming shy of them, and they have fallen to the care of sharpers, adventurers, and dupes.

Quinto.—During eras of low prices, when gold and silver mines are profitable to work, if governments deem it expedient to lease or farm out such mines, as they have often done, the share of the produce reserved for themselves has usually been from one-half to a fifth. As time went on, and this proportion became excessive, it was reduced to a tenth, a twentieth, a fortieth, a fiftieth, and finally to nothing. The proportion of a fifth was that reserved by the Spanish and Portuguese governments during the most produc-

¹ In a recent decision of Judge McArthur of the Supreme Court of Oregon, in the United States, it was laid down that "the mines of the precious metals belong to the eminent domain of the political sovereignty as well under the laws of Spain as by the common law of England and public law of the United States."

tive period of the American mines, and the name which they gave it, the quinto, appears to be a convenient term for this species of exaction, no matter what its proportion may have been. But few details under this head and belonging to the Dark and Renascent Ages have found their way into literature. From 1147 to 1550 the King of Portugal exacted one-half of their produce from the "artessilleros," or gold "panners" of the Tagus.¹ The royal share of the Spanish mines, originally one-fourth, had fallen, at the period when America was discovered, to one-fifth, and this was the reason for the adoption of this proportion for the American mines. Before the death of Columbus it was noticed that the agriculturists of Hispaniola grew rich, while the miners remained poor.² To remedy this, the miners were permitted to enslave the natives, and at once myriads of human lives were immolated in the effort to render the mining of gold profitable in the face of its falling value. Nevertheless, the quinto was maintained up to the seventeenth century, when it was reduced to 10 and afterwards to 5 per cent. Until recently the Mexican government imposed an export—substantially equivalent to a production—tax, on the precious metals of 2 per cent. ad valorem. This, however, has been repealed, and mining in that country is now nominally free. In Brazil the Portuguese government levied one-fifth from 1573 to 1714, when it gave rise to great dissatisfaction and much evasion. It was then lowered to 10 per cent.; in 1720 it was again raised to 20 per cent., and this time led to open insurrection. It was then supplanted by a capitation tax arranged to yield about 10 per cent. At a later date this was again altered to a 20 per cent. production tax, but by this time the mines were abandoned and the tax yielded nothing. At the present time the taxes on production, direct and indirect, do not exceed 2 per cent.

Quantity of Money in use.—I consider it quite imprac-

¹ "Hist. Prec. Met.," p. 37.

² Ibid. p. 60.

ticable to ascertain what quantity of money was in use during this period, and regard all attempts of the sort, including that of Mr. Jacob, as having completely failed. They do not rest upon facts, but theories, many of which have since been upset. Their use can only lead to error. The only estimate I have met with concerning the period under review, except the hypothetical ones of Mr. Jacob; is that given by Cuesa on the authority of D. Diego Tuy, and gives the circulation of Spain in 1264 at six thousand six hundred millions of reales de vellon, equal to three hundred and thirty million duros!¹

The principal coins employed during the Renaissance were of silver, and among them the most noticeable were the Arabian dirhems, containing 45 grains of fine metal (these did not circulate in the Christian states), the Venetian solidus of 30 grains, and the Venetian, French, German and English pennies of 20 grains.² A great part of the circulation, however, consisted of old Roman denarii, either of the period when they had fallen to the weight of about 20 grains, or else altered by clipping, sweating, or punching to that standard of weight.³ Next in importance to the silver coins were the copper ones, and least of all the gold ones. Of these latter those best known and most highly esteemed were the Arabian dinar, containing 66 grains of fine gold; the Greek besant of 55 grains; the Venetian sequin of 56 grains; the Florentine florin (coined in 1252) of about 56 grains fine, or 64 to the Cologne mark; the German imperial augustal, coined by Frederick II. after 1252, and weighing "half an ounce;" the French agnels of the reign of St. Louis; the English rial of nearly 120 (119 $\frac{3}{4}$), and the angel or angel noble of nearly 40 (39.792)

¹ Cuesa, "Cartilla Practica."

² No shilling was coined in England until after the discovery of America.

³ The author saw coins of this description circulating in Spain in 1847, and Sir John Lubbock avers that even at the present time they are occasionally to be met with in England. "Nineteenth Century Review," November, 1879.

grains, coined by Edward IV. Nearly equivalent in weight to the Venetian sequins were the Rhenish guilders, coined 66 to the mark and $22\frac{1}{2}$ to 23 carats fine. Those coined under Philip the Bald after 1360 were known as Philipschilden, from the shield they bore. The name appears in various languages as schild d'or, scuto, escudo, écu-d'or, &c. The Flemish rials, equal to one and a quarter Florentines, say 70 grains, fine, were also in some esteem. The bulk of the circulation, however, consisted of silver pennies of about 20 grains, of copper coins of various sizes, and gold pieces—either besants, sequins, florins, or guilders—containing about 56 grains of fine metal.

Coinage during the Renaissance was without exception done by the reigning power, whether king, duke, baron, or bishop. The monstrous right to coin money without limit or expense which at one time belonged to the Roman gentes, and which since the era of the Mercantile system has been again conferred upon the private holders of bullion, was then unknown.

Seignorage was always exacted, and commonly varied from 5 to $7\frac{1}{2}$ per cent. As a rule the silver pennies of Venice, Germany, France, England, &c., were .925 fine, and the difference between this and fine bullion, or $7\frac{1}{2}$ per cent., constituted the seignorage exacted by the government mints.

Leather moneys were frequently employed during the Renaissance. Allusion having already been made to those of Philip I., 1060-1108, the Doge Michieli, 1122, and Frederick II., 1237, it will only be necessary to mention those of Edward Longshanks and Charles the Wise. According to Ruding's "Annals of the Coinage" (i. 192), an anonymous author says that Edward I. of England stamped leather money, which he used when building the castles of Carnarvon, Beaumaris, and Conway. Edward I. was crowned in 1274 and died in 1307. Conway was founded in 1283, Carnarvon in 1285, and Beaumaris in 1293. In 1285 Edward had a branch exchequer at Carnarvon Castle.

This would seem to have been the year of its completion. In the transactions of the exchequer recorded by Madox the sums of money mentioned are in marks, pounds, solidi, and denarii (pence), but nothing is said of their having been made of leather;¹ nevertheless, such may have been the case. There are other evidences to support this view. The Jews commenced to be persecuted in 1262, in which year the barons despoiled them and slew 700 of them in London. In 1278 they were again despoiled, and 280 more slain. A great scarcity of money ensued. The rate of interest rose to 50 per cent.,² and even to 70 per cent. In 1288 the rate was 40 per cent. It was after this period, and before the Statute of Jewry, 1290, by which the Jews were entirely expelled from the kingdom, that Edward built the castles of Conway and Carnarvon, and must also have commenced that of Beaumaris. In 1280 the king greatly degraded the silver groats, the first instance of either degradation or debasement of the coinage since the accession of the Norman line. This is probably the period of the leather pieces. As a more available source of revenue, Edward afterwards robbed and expelled 16,000 Jews, by which he made "a mighty mass of money."

When King John of France was taken prisoner to England (1356), and his ransom fixed at 3,000,000 gold crowns, the French, then under the regency of Charles the Wise, found it so difficult to raise one-fifth of this sum—the first instalment—that they had to sell to the Jews the privilege of returning to France and living and trading therein. The payment of this money to England so greatly intensified the prevailing scarcity, that when he became John's successor Charles had to issue leather money to pay his way.³ The high prices of commodities in 1299 appear to show that this leather money was issued in no niggard numbers, and that it enjoyed a wide circulation.⁴

¹ Madox, ii. 4, and notes. ² Hume's "Hist. of Eng.," chap. xii.

³ Jacob's "Hist. Prec. Met.," p. 178.

⁴ Irving, in his "Conquest of Granada," chap. xxvi., describes the

The funding systems of Venice and Genoa have been already described. A similar one was established in Florence in 1344; the loan bore interest at 5 per cent. per annum, and was transferable in the same manner as in Venice and Genoa. In the year following the establishment of this system great distress was experienced in Florence on account of the failure of Edward III. of England to repay the 700,000 gold crowns which had been lent to him by that city.¹

Banks have always been regarded by writers on political economy as evidences of progress in a state. Whatever may be the case at the present time, the original establishment of banks in Europe was due to social decay or paralysis rather than to progress. Their single function was to substitute credits in good coins for deposits of worn, clipped, counterfeit, or uncurrent ones; and they were nowhere established until the decay or misfortunes of the state and the inferior character or bad condition of its coins rendered it unsafe or troublesome for the merchants to accept them. The first of these institutions was the Bank of Barcelona, established either in 1349 or 1401.² During the fourteenth century the old coins of Aragon became much worn and clipped, and new ones were frequently issued of a degraded character,³ so that it became exceedingly difficult to determine their respective values. In a great commercial city like Barcelona this became an unbearable nuisance, which led to the establishment of the bank. Up to that period the coins of Venice, Genoa, and Florence had been kept in good

paper moneys used by the "Count de Tendilla" at the siege of Alhama in 1434, and states that he afterwards redeemed them with gold and silver.

¹ "Universal History" (Modern), vol. xxxiii. pp. 151-2.

² The earlier date is given by Fawcett, "Gold and Debt," p. 38 n.; the later one is that which appears in the usual works of reference. This bank was an exact copy of one established in Byzantium during a declining period about two centuries before the Christian era. See "Hist. Money, Ancient," p. 166.

³ Consult chapter on "Spain" herein.

condition, and no bank was needed in those cities. The change of the Venetian Chamber of Imposts to a bank did not take place till 1587, when Venice was in her decline.

Degradations and debasements of coins occurred during the Renaissance chiefly in France, Germany, and England, and as these will be treated of elsewhere in the present work, little need be said on the subject in this place, except that modern writers have commonly misapprehended and exaggerated the extent and character of these lowerings of the coinage, the motives that led to them, and the effects which followed from them.

The progressive nations of the Renaissance were the Arabians, the Italians, and the Moors of Spain. The coins of these nations were neither degraded nor debased. The Arabian dirhem contained 45 grains of silver from the first coinage to the fourteenth century, a period of over 600 years; the Venetian sequin contained 56 grains of gold from the first coinage to the last, a period of 500 years; the Moorish standard coins, which will be found treated at length in the chapter on Spain, also remained unaltered for many centuries. In a word, the lowerings of coins during this period took place among the stationary or unprogressive nations, and this rule will be found to hold good as to all ages of the world. The unprogressive nations at that time were England, France, and Germany.

With regard to the lowerings of money among these nations, they were chiefly due to the difficulty experienced in securing supplies of the coining metals, not that the general supply was inadequate to maintain the low level of prices which then prevailed, but that commerce was slow and precarious, and the nations who produced the coining metals, or possessed the means to obtain command of them, held to their monopoly as long as possible.

Voltaire, with a justness and discrimination that raise him far above the ordinary historian, says of this period: "Each lord struck his own coin, and some altered the purity and weight at will, creating a lasting prejudice

against themselves for a transitory advantage. The crowned heads were indeed obliged by the necessity of the times to set these fated examples. I have already observed that the gold of one part of Europe, and especially of France, had been absorbed into Asia and Africa through the unfortunate crusades. European monarchs were therefore obliged, as new wants incessantly pressed upon them, to increase the numerical power of their coins.”¹

The division of the Roman Empire into East and West, and the removal of the court to Byzantium, had such an effect upon the ratio of value between gold and silver in Europe as to render many changes of coinage necessary. The commercial interests of the empire, once extended throughout all Europe, gradually dwindled to its Oriental and local Asiatic trade. Through this influence the disparity of value between gold and silver partly disappeared, until from a coining ratio of 14 in the time of Theodosius, and 10 in that of Heraclius, we see the Arabs adopt one of 6.52 in coins obviously copied after the Byzantine type. Owing to the neglect of numismatists, the history of the ratio between the fifth and twelfth centuries is almost a blank; but it is very evident, from the adoption of 11 to 1 in Venice during the ninth century, and of 9 to 1 in England and France during the twelfth, that not only Arabia, but also the western nations, were greatly affected by the close connection between Byzantium and the Orient.

As to the lowerings of coins which were effected repeatedly and at short intervals of time, as those under Philip le Bel of France, or which were effected surreptitiously and without notice to the community,² they were simply expedients of a rude and dishonest finance, and there is no justification for them whatever.

Counterfeiting coins was perhaps no more common a crime during the Renaissance than it is now, but it was attended with more injurious effects and attracted greater

¹ Voltaire's "History of Europe," iii. 16.

² Ibid. 17.

attention. The city of Luxemburg, or Lushburg, seems to have been a chief place for manufacturing base coins; that is, if we can judge from a petition of the Commons in the Parliament held at Westminster in 1344, which states "that many merchants and others carried the good money out of the kingdom, and brought in its room false money called 'lusshebournes,' which were worth only eight shillings in the pound, or less; by which means those who took them at a lower price to utter again were suddenly, wrongfully, and beyond measure enriched; while those who were unable to distinguish the said money were cheated and impoverished, and the whole realm was fraudulently filled with these base coins."¹

These and other adulterated coins were distinguished as pollards, crocards, schaldings, brabants, eagles, leonines, sleepings, and by various other uncouth names. They were made for the most part of a white metal resembling silver, and compounded of silver, copper, and sulphur, the silver not forming more than one-fifth of the weight.²

Padua also became celebrated as a place of manufacture for base and counterfeit coins; so much so, that the name Paduan was commonly applied to them. Among these were counterfeits of old and rare coins for the numismatic cabinets of the Renaissance.³

Counterfeiting, clipping, filing, and other tamperings with coins sometimes attained such dimensions that the genuine emissions from the mints had to be called in and recoined, meanwhile exposing the country in which the recoinage took place to great inconvenience and danger. The frequent changes of sovereignty that distinguished this period had a similar influence in promoting recoinages and superinducing the mischief which followed them.⁴

¹ Jacob's "Hist. Prec. Met.," p. 202.

² Ibid. 204.

³ "App. Cyc.," xii. 445.

⁴ Consult Colwell, p. 106 n., where several remarkable instances are given of recoinages induced merely by a change of rulers, and the desire to impress their images upon the coins of their realms.

The ratio between silver and gold during the Renaissance has not received that attention from numismatists which its importance deserves. From what little appears in their works it would seem that from the early history of the Arabian states it was fixed at $6\frac{1}{2}$ for 1, which probably agreed with the ratio in that great Oriental world with which the Arabians had always been connected, and which they now had reopened to the West. At a later period, the tenth century, and upon the assumption that ten dirhems still went to the dinar, this ratio was changed to 6 for 1, and still later to 8 and 10 for 1. In Venice (though this is merely an implication) it seems to have been fixed at 11 for 1, which more nearly agrees with the Romano-German ratio of 12 attributed to the Edictum Pistense. In England, during the twelfth century, and perhaps owing to more direct commercial communication with the East,¹ and afterwards to the Crusades, the ratio was assumed to be 9 for 1; in the thirteenth century it was at first fixed at 9.6, but afterwards changed to 12.5. In Christian Spain, during the reign of Henry IV. (1454-74), Saez says it was fixed at 7 to 8 for 1. It was evident that there were two lines of ratios: one proceeding from Indio-Arabic, the other from Romano-German origin, and that this conflict of ratios—which only merged when America was discovered, and a great coinage of the precious metals occurred in Spain—gave rise to many of those otherwise inexplicable lowerings of coins, now of one metal and now of the other, which characterize this period.

With regard to prices during the Renaissance, nothing is gained by pursuing the laborious works that have been published on this subject. The failure of the stock of the precious metals to increase in Europe previous to the discovery of America operated as a practical limit to the number of coins actually minted in each country; and as there was but little commercial intercourse between these

¹ Arabian gold coins circulated in England in the eighth century. Humphrey's "Manual," ii. 414.

countries, this practical limit of number rendered the coins scarce, and prevented them from sinking to their bullion value. Their conversion into modern coins upon the basis of the relative quantities of bullion contained in each, and their use in tables of comparative prices, is therefore erroneous and misleading.¹

Laws prohibiting the export of the precious metals, or coins made from them, were common to all countries during the Mediæval Ages; and these laws, by creating an artificial and temporary superfluity of metal in a few of the strongest or richest countries, caused a corresponding scarcity in the others, and raised the purchasing power or value of their coins, until a change of the commercial current or a degradation of the coinage in the last-named countries lowered the value of these coins once more.²

Maximum laws, or laws setting a maximum price upon wheat, bread, meat, and sometimes every article of subsistence, were common in many countries during this period. This consideration still further invalidates the comparative tables of prices so laboriously prepared by Smith, Young, Tooke, Rogers, and others.³

Besides the Oriental and Levantine trades—which were shared mainly between the Arabians, Greeks, and Italians—the Hanseatic League, established during the thirteenth century, and composed of some eighty cities of the Baltic and interior Germany, conducted a lucrative commerce

¹ A distinguished author who has adopted this method has advanced the preposterous notion that in England, until the coinage reform under Elizabeth, payments of money were made by weight instead of tale! The degradations and debasements by the crown, the clippings, sweatings, and falsifications by individuals, and the complaints against lushbournes, then, it seems, were all moonshine. Consult Prof. J. E. Thorold Rogers' "History of Agriculture and Prices in England," vols. iii. and iv.

² On restrictions upon the export of the precious metals consult Jacob, 204, and McCulloch, "Polit. Econ.," 28.

³ Hallam and Jacob have both commented upon the difficulties presented by such tables.

with Russia as far east as Novgorod, and one of them—Bruges—extended its commercial relations to Italy, and thus connected the commerce of the Mediterranean and the Orient with that of the Northern Seas.¹

¹ Blanqui, p. 154, alleges that the first marine assurance company since those of the ancients was established at Bruges in 1310, but in fact the Venetians had re-established marine insurance centuries previously.

CHAPTER IX.

THE DISCOVERY OF AMERICA.

The Dark Ages and Renaissance compared—Temporary nature of the benefits conferred by the latter—Europe relapses into a stationary condition—Tremendous stimulus afforded by the Plunder of America.

THE revival of commerce with the Orient had terminated the Dark Ages and arrested the decaying tendency of European civilization. There its influence ended. There was nothing within the pale of that civilization which had previously exhibited any tendency toward growth or any capacity to excite growth. For centuries everything had been steadily shrinking, dwindling, retrograding. The one thing that had brought vitality to this dying world was the renewal of commerce with another world. But the distant and difficult character of this commerce rendered it a resource of too limited a character to afford permanent relief to the moribund tendencies of Europe, and had no new extrinsic resource been found to prolong and extend the wholesome influences of the Oriental trade, it is much to be feared that the Renaissance would have in time relapsed into an age as dark as any of those from which it had emerged.

As for intrinsic and fundamental resources, such as agriculture, fisheries, manufactures, and domestic commerce, Europe had not found it possible to develop a single one since the Augustan age. Then it was that the monetary system which Rome had adopted under the Scipios, and had extended to all Europe under Cæsar, had reached its greatest extension and begun to

shrink. From that period prices had steadily declined, and with the decline of prices the clockwork of societary life had gradually ceased to go. No more gold or silver was to be got by conquest, because there were no more countries to conquer. No more was to be wrung from slavery, because the high prices occasioned by numerous previous acquisitions of those metals had come to make it cost more to subsist a slave than was the value of the metal he was able to produce. The end had come. The Roman societary machine had run down, and when this was perceived, all Europe sprang to its feet, asserted its freedom, threw off the hateful yoke of the empire, and poured its "barbarous" bands into Italy to seek revenge from Rome, to suppress every mark of its dominion, and to destroy what it could not suppress.

By the time that the destruction of the empire was completed, prices had fallen—not, indeed, quite down to the basis of the value of gold and silver when produced by free labour, because there was yet left some accumulation of these metals from the Roman period, but to something near that basis. With no accumulation of the precious metals left to influence prices, wheat, for example, would have fallen to a still lower abyss of price than it did; but at this juncture, and under the milder system of feudal serfdom which the Dark Ages had substituted for Roman slavery, mining was again resumed.

It is a peculiarity of monetized metals that when they are produced upon or near an economical basis, only sufficient of them will be sought for to make good their loss by attrition, accident, or demand for the arts. This fact has been admitted by Adam Smith and his followers, but the reason for it has been ignored, and the reason is more significant than the fact. This reason is, that the metal produced beyond those requirements is added to the stock of money, and this falls in value as it increases in volume. Hence all new metal is produced at a continually increasing loss. Under such circumstances—that is to say, produc-

tion upon or from an economical basis—there will neither be a fall or rise of prices, and all those various societary relations which would develop under a steady rise of prices will remain fixed and stationary. Such, to a great extent, was the condition of affairs during the Renaissance.

On the other hand, when the monetized metals are to be gained by conquest or slavery, and therefore at less than their economical or free-labour cost, every effort is made to acquire as much as possible of them and to speedily turn them into money, because the sooner they are coined the more they will fetch in exchange. This stimulated acquisition and rapid coinage is sure to result in a rise of prices in direct proportion as the new increment bears to the previous stock of the metals, and this rise of prices will, in turn, promote commercial activity, stimulate productiveness, and increase that differentiation of the social functions which is known as growth or progress. Such were the effects of the Discovery of America.

In a previous work and at some length the author has told the story of this great event, the landing of the adventurers, the search for gold in Hispaniola, the reduction of the natives to slavery, their extermination in the mines, the advance of the adventurers to Darien, Mexico, Yucatan, Honduras, Guatemala, Panama, and Peru, the conquest and plunder of those countries and the enslavement and destruction of their inhabitants, together with an account of the vast quantities of gold and silver thus obtained from time to time, and of the manner in which it found its way to Spain and the rest of Europe. Nothing further need, therefore, be said under these heads. While as to the prodigious effects of the Plunder of America upon prices, commerce, production, and civilization in Europe, this is left to be alluded to while describing the monetary system of the various countries which, through the influence of this event, changed their previous condition of decay to one of progress, and sprang in the course of a few centuries from poverty to opulence, and from obscurity to greatness.

CHAPTER X.

SPAIN.

Earliest extant moneys—Phocian coins—Carthaginian—Barcidian—Roman—Phœnician—Celt-Iberian—Macuquinas—Revolt of the mining slaves—The Visigothic Empire and moneys—Arabian—The mines worked for the first time by free labour—The dinar—The dirhem—Ratio $6\frac{1}{2}$ to 1—Christian states of Spain—The Moors—Moorish sequin—History of the Maravedi—Money of Aragon—Origin of £, s, and d—Bank of Barcelona—History of the Real—Discovery of America—Moneys and weights of Spain at that period—Misused accounts of the American product of precious metals—Poverty of Spain—Heavy seignorage on gold and silver—Overvalued copper moneys—Immense wealth of Spanish grandees in plate—This class opposed to a rise of prices—Eighteenth century—Improvement of money—History of the coinage ratio—History of the Dollar—The funding system—Vales reales—Bank of San Carlos—San Fernando—Santa Isabella—Bank of Spain—Suspension of coin payments, 1874—Intricacies of Spanish monetary systems—Quantity of money in Spain at various periods—The country always poor in gold and silver coins—Predominancy of overvalued moneys—Absence of monetary ideas—Ignorance of monetary principles—Mining system—Existing monetary system—Its defects—Future of Spain.

THE earliest identified coins of Spain now extant are fractions of the Phocæic silver drachm weighing 54 grains. Their date is assigned to about the year 354 B.C., and they were struck at Emporiæ on the north-east coast. The next earliest were struck at the same place and are of Carthaginian type. They are of silver and weigh about 78 grains each. Similar coins were also struck at Rhoda, Ebusus, and Gades (Cadiz); their date is assigned to about the year 269 B.C. Both of these issues of coins ceased after the Roman conquest, 206 B.C. The last series of the

silver coins of ancient Spain are drachms of 59 grains and multiples, these weights corresponding with Phœnician standards. The coins were struck by the Barcides, who at that period controlled the silver mines. At the same time Carthage was employing a debased money of billon.

When the Romans subdued the country, they permitted the natives to strike coins similar to those which had hitherto passed, but the issues were made subject to the new authority. These coins were used for payment to the army, and, as they were of a familiar type, passed readily among the inhabitants. Those of *Hispania Citerior*, including *Numantia*, *Carthago Nova*, &c., were of silver; whilst *Hispania Ulterior*, including *Corduba*, *Carteia*, *Emerita*, *Ebora*, &c., was restricted to copper.¹ Upon the fall of *Numantia*, 133 B.C., all coinage was prohibited in the *Citerior*, except the coppers of *Emporiæ* and *Sagantum*.²

Beside these coins there are others of uncertain origin and date whose era has not been fixed by the numismatists, but as the legends upon them read from right to left with the vowels suppressed, they are evidently of an Oriental type and were probable issued by the Phœnicians, or rather by those Celt-Iberians who sprung from the Phœnician, Greek, and Carthaginian settlements on the coast or near the mines.³ Contemporaneous with the drachms above mentioned, the Carthaginians struck other coins both of copper and silver, chiefly in *Murcia* and *Boetica*, where some of the latter are still to be found in circulation.⁴

At the period of the conquest of Spain the monetary system of Rome consisted of overvalued silver and copper coins. By the year 170 B.C. these coins—from excessive issues—had fallen to or near their bullion value, and at

¹ Between *Cadiz* and *Tarragona* there were upwards of a hundred mints. Ford's "Spain," ii. 721.

² D. Jacobo Zobel de Zangróniz, "Estudio historico de la Moneda Antigua Española," &c. Madrid, 1879.

³ Humphrey's "Coin Manual."

⁴ Ford's "Spain," ii. 721.

that rate the copper ones were bought in by the government and shipped to Spain and other provinces where they were re-issued at an overvaluation.¹ When they fell in Spain, as they did in time, to their bullion value, they were supplanted by new issues, among which were the bronze sesterces of Augustus, Tiberius, and Caligula.

Hence, from the Roman conquest to the fall of Numantia the money of Spain consisted of Romano-Iberian silver coins and copper tokens ; and from the fall of Numantia to the reign of Caligula, of overvalued coppers continually falling to their bullion level and as often supplanted by new ones, also overvalued. After the reign of Caligula no further attempts seem to have been made to introduce overvalued money, and the system of Spain probably became similar to that of Rome.

Near the mines bars of silver bullion passed for money as well as coins.² The distinction between these bars, "argentum infectum," and the coins, "bigati," always appears in the accounts of the remittances of silver to Rome. The generic phrase for silver money coined in Spain was "argentum oscense,"³ a term supposed by some writers to refer to the particular mint of Osca, but Florez ("Medallas," ii. 520) justly points out the impossibility of one place fabricating such a quantity of coins as were remitted under this name, and suggests that the true origin of "oscensis" is Oscan, meaning Spanish, the word being a

¹ Several European governments pursued a similar policy in their American Colonies during the seventeenth and eighteenth centuries.

² This bullion had its weight and fineness stamped upon it. Strabo, iii. 233. Bars of this character passed for money in the mines of Brazil ("Hist. Precious Metals," pp. 119), and in those of California, where they still pass ; but in all these countries there was coined money besides, and the bars of bullion were only used upon rare occasions and in localities remote from the centres of trade. Their value was measured by the coins in use. Similar bars still pass for money in the mining districts of Spain, where they are called "macuquinas." Ford's "Spain," ii. 722. It suggests "macutes."

³ Livy, xxxiv. 46 ; xl. 43, et passim.

corruption of Euscara, the national name, whence the still existing term, Basque.

In the year A.D. 467 the Roman mining slaves, who had frequently, though unsuccessfully, revolted before, joined the army of Visigoths, who had invaded Spain, and in the course of a few years destroyed the last vestige of Roman power in the Peninsula.

Although Amalric, 511-36, was invested by the Eastern emperors with the right to coin gold¹—perhaps an empty compliment—the Visigoths of Spain appear to have closed their mines of gold and silver and forbidden the use of those metals for money.² The first coins of gold were issued by Liuva I., 567-72, and consisted of trientes or thirds of the Byzantine solidus, the first gold coins of Western Europe after the fall of the Roman Empire, and before the conquest of Spain by the Saracens.³ Their principal coins were, however, of copper.⁴ Their reason for closing the mines was doubtless due to the antipathy which the natives, their allies, entertained towards them on account of the cruelty and hardship that their working had imposed.⁵ The Arabians entered Spain in 711, and in the course of a few years the entire Peninsula, except a few strongholds in the remote regions of the Pyrenean and Cantabrian mountains, owned their sway. Out of these regions, however, there grew up in the ninth century the small but rich and strong kingdoms of Navarre and Leon (Asturias). It is in the latter that the most extensive and easily worked gold

¹ Humphrey's "Manual," 531.

² Depping's "Mines of Spain," ii. 117. Schmidt's "Civil Law of Spain and Mexico," New Orleans, 1851, p. 91, says that the Visigothic code of laws makes no mention of mines.

³ "Humphrey's Manual," 515-517.

⁴ Florez, "Medallas," cited in Ford, ii. 722.

⁵ The Araucanians of Chili, after having been enslaved by the Spaniards and forced into the mines, recovered their liberty by force of arms in 1630, and have since lived secluded from the world, hating the name of Spaniard and forbidding the slightest reference to their gold and silver mines. "Hist. Precious Metals," pp. 347.

placers of Spain are situated, covering several hundred miles square of the country, and it seems to have been a fatal mistake on the part of the Arabians to have left these ready means of recuperation in the hands of their enemies. In the same century also—A.D. 864—Catalonia freed itself from Saracenic rule, and as this province embraced the great commercial city of Barcelona, the Spaniards now possessed three very essential elements of success in their coming struggle with the Arabians. These were abundance of easily found gold, a commercial channel through which to employ it to advantage, and eager allies in their French neighbours.

Until 755 Arabian Spain was governed by Emirs, who derived their authority from the court at Damascus. Upon the overthrow of the Ommiade house, Abderahman, one of that family, escaped to Spain, where his countrymen acknowledged him as their sovereign, and although, out of respect for the Caliph of Bagdad, neither he nor his immediate successors took any other title, yet they became essentially independent sovereigns. The seat of government was at Cordova, which in the course of a few years became the richest, most learned, and most brilliant city in the world. The lands of Spain were reduced to a thorough state of cultivation; fruits, vegetables, cereals, and commercial plants were introduced from Asia; irrigation was extended from the foothills to the lowlands (huertas); an infinite number of manufactures and other industries were established; the gold, silver, copper and lead, iron and quicksilver mines of Andalusia, Jaen, and other districts were reopened¹ and worked by free labourers; an immense trade with the Levant was maintained from Barcelona and other ports which employed more than a thousand ships, and whilst Northern “Europe was about in the same

¹ Ten years after the conquest of Spain a map of that country was presented to the Caliph, showing, among other things, the mineral productions of the country. Gibbon's “Rome,” chap. li., from Cardonne's “Hist. Africa and Spain,” i. 116.

condition that Caffraria is now, enlightened Moors like Abul Cassem were writing treatises on the principles of trade and commerce.”¹

The annual revenues of Abderahman I. are stated to have amounted to 10,000 ounces of gold, 10,000 pounds of silver, 10,000 mules, 1,000 suits of armour, 1,000 helmets, and 1,000 lances. Those of Abderahman III. are stated to have been still greater, or equal to 27,500,000 dollars per annum. In the year 938 he sent as a present to the caliph 400 pounds of pure gold, the value of 420,000 sequins in silver bars, 30 pieces of embroidered cloth of gold, 48 horse-cloths of gold and silk, and other articles of still greater value, but not connected with the history of money. Cordova, the capital, was celebrated for its silversmiths' and filagree work, both in gold and silver. Everything bespeaks an energetic exploitation of the mines and a vast product of gold and silver.

It is greatly to be deplored that the monetary systems of this most brilliant country and period are quite unknown. Besides cataloguing its principal coins, little has been done by the numismatists. Volume after volume is filled with a wearisome repetition of dinars and dirhems, all bearing the same inscription, “There is but one God and Mahomet is his prophet;” while no effort has been made to ascertain what were the laws of money, the names of any other coins but these two, the tale relations between them, the legal ratio of value adopted from time to time between gold, silver, and copper, the laws of legal tender and seignorage, the quantity of money in circulation, &c. These have been entirely ignored. In short, numismatic literature teaches us less to-day about the monetary system of a people who, up to less than four centuries ago, led the van of European civilization, than it does about that of the most obscure state of antiquity. It is simply a mass of meaningless pedantry.

So far as can be gleaned from the scant materials at

¹ Draper's “Intellectual Development of Europe,” Bohn's ed., ii. 44.

hand, the monetary system of Arabian Spain consisted of gold, silver, and copper coins, the integer and the tale relations of which are undetermined. Even as to the familiar dinar and dirhem, their relative value is uncertain. At first, as in Arabia, there were ten dirhems to the dinar; but afterwards there are said to have been eighteen and even twenty. The earlier dinars which circulated in Spain had Latin inscriptions upon them, evidently with a view to familiarize the inhabitants with the new coinage. They were struck in Asia, and contained about 65 grains of fine gold. At the same time the dirhems contained about 41 grains of fine silver. If they passed at the tale relation of 10 for 1, the legal ratio of value fixed between silver and gold was $6\frac{1}{3}$ for 1. These weights were unchanged after the coins were struck in Spain, but what changes occurred in the tale relation is not known. The dirhems of the Omniade dynasty were not altered until the reign of Abderahman III. (A.H. 331-358), when the fineness was suddenly dropped to .301. In the following reign, that of Al Hakim II., it was suddenly raised to .778, and in the reigns of Hescham II. and Soleiman it was maintained at .728 and .730.

By this time the Christian states of Spain, aided by foreign mercenaries,¹ had sensibly encroached upon the Arabian dominion. Navarre, having in 970 acquired Castile by marriage, had since become annexed to it by the sword; in 1035 Arragon threw off its allegiance and joined the Christian confederacy, which now embraced all the north and east of Spain, and was soon (A.D. 1095) to embrace Portugal.²

It is at this juncture that Soleiman's successor, Edris-al-

¹ At the siege of Toledo (A.D. 1084) the Spaniards were assisted by Raymond, Count of Toulouse, two of the Burgundian princes royal, and other princes and knights from Italy, together with their followers. It was not so much Christian Spain as all Christendom that arrayed itself against the Saracens.

² This was effected with the assistance of an army of Crusaders who had chanced to enter the Tagus. Russell's "Hist. Europe," ii. 379

Aly (A.H. 400-438), lowered the fineness of the dirhem to .371, and it can only be in relation to these political events, the changes which they occasioned in the channels of trade, and the monetary systems of the Christian states of Spain, that the significance of the act can be understood.

To avert the conquest which threatened them, the Saracens called to their aid the Moors of Africa, who, having repelled the Christians, seized the dominions they came to protect, and placed upon the throne of Cordova (A.D. 1094) Yusef, the first king of the Almoravide dynasty.

Up to this period the dinar had been maintained at 65 grains. A new gold piece was now coined which contained about $55\frac{1}{2}$ grains of gold, the same as the Venetian sequin or Constantinople bezant, and was probably intended to exchange equally with those coins. Under the dynasty of the Almoravides, which continued until A.D. 1144—when it was succeeded by that of the Almohades—the weight of the dinar was at first $64\frac{3}{4}$ grains; later it weighed $61\frac{3}{4}$ grains, and in the twelfth century from $60\frac{1}{4}$ to $61\frac{3}{4}$ grains fine. The fineness at first was .950, and was gradually lowered to .916. Many odd weights occur in the coinages, but as we do not know the history of the pieces, the weights have as yet but little significance. Some of them may have been especially designed for the payment of tribute, of which an instance is adduced hereinafter.

The monetary history of the Saracens in Spain was similar to that of the Romans in Europe generally. They first conquered and plundered the country, rapidly coining the precious metals thus obtained, and promoting a high level of prices which, for a time, was sustained by means of a rapid and energetic working of the mines. Then followed that age of industrial and scientific activity which invariably accompanies rising prices. When the mines ceased to pay—an event that came about much sooner with the Saracens than with the Romans, because the former were forbidden by their religion to enslave any but “infidels”—the supplies of the precious metals fell off, the level of prices began

to fall, commerce became depressed, industry gradually ceased, immense numbers of people were thrown out of employment and reduced to beggary, the rich became relatively richer, the poor relatively poorer, the central government lost power, hundreds of wealthy proprietors, rendered arrogant by their wealth, claimed political powers which it would formerly have cost them their lives to assert, the kingdom became divided into numberless feuds governed by warring sheikhs, and in this condition it fell an easy prey to the united forces of the Spaniards, who, not disdaining either to employ slavery in the mines, or to purchase foreign aid with the treasure thus obtained, were thriving upon the very same resource whose failure under a system of free labour had undermined the prosperity of the Saracens.

During the period 1233-48 Cordova, Toledo, Seville, and many other important places in Saracenic Spain, were captured by the Spaniards under Ferdinand III., and the dynasty of the Almohades of Cordova came to an untimely end. Henceforth the kingdom of Granada was all that remained to that enterprising and brilliant race who but a short time before were masters of almost the entire Peninsula.

Among the Arabian and Moorish names of coins minted in Spain were the following. Gold: dinar, maravedi, almohade, and sequin, or new dinar. Silver: dirhem and millare, the latter a square coin. The nisab of silver (a money of account) equalled 200 dirhems. Copper: fal, follis or feloos.¹

Among the Spanish names of coins minted while the Saracens occupied Spain were the gold marcus, marabotini, and maravedi, and the silver and billon maravedis, besides the numerous other ones mentioned in other parts of this chapter.

The most interesting of these coins is the maravedi,

¹ For etymology of this term, see "Hist. Money, Ancient," p. 335.

about which much has been written and but little understood. The maravedi, as its name indicates, was nothing more or less than the gold dinar of the *Almoravide* dynasty, and was so called by the Christians in order to distinguish it from the slightly heavier dinars of the Ommiades.¹ At the beginning of the twelfth century, therefore, the Almoravide dinar or maravedi contained about $61\frac{1}{2}$ grains of fine gold,² and although this was reduced in occasional coinages to 53 grains,³ the general gross weight of the piece was about 4 grams, or $61\frac{3}{4}$ grains, and the fineness about .950.⁴ So far as the Moors are concerned the maravedis were not degraded; the few and unimportant changes which the coins underwent in their hands being attributable to the necessity of making them conform to those changes in the ratio of value between the precious metals which the exigencies of Arabia and its fluctuating command of the Oriental trade induced the latter country to make.

I am aware of no other Moorish name for the maravedi except the dinar. There appears to have also been a Moorish gold coin called the marabotini; but whether this name was given to it by the Moors or Christians, or what it weighed, has not been determined. I suspect it was the Christian name for the dinar of full weight, to distinguish

¹ The term maravedi appears to have afterwards become a generic name for money in Christian Spain. "Diccionario Razonado de Legislacion y Jurisprudencia," por D. Joachin Escriche, Paris, 1869, art. "Maravedi." The Arabic name for money was markush, hence marcus. Was this, possibly, the origin of the Venetian mark?

² Mr. Secretary Ingham in his "Report on the Finances of the United States," May 4, 1830, and the "Encyc. Brit.," following Le Blanc, say that the maravedi in 1220, during the reign of James I. of Arragon, weighed 84 grains, while Mr. Moran, in his work on "Money," p. 14, says it weighed 370 grains. See also "Report of the International Monetary Commission of 1878," p. 560.

³ Queipo, ii. 397. These may have been new dinars or sequins, coined to a lower valuation of silver than the old dinars.

⁴ They were so pure as to be easily bent between the fingers. Ford's "Spain," in which is given an account of the coins in the Royal Library of Madrid.

it from the dinar which they—the Christians—had degraded, and which was known as the maravedi.¹

The original basis of the monetary system of Christian Spain was that of the Latin Empire, when the gold aureus and silver denarius each contained about 20 grains, and one passed for twelve times as much as the other. There was also a silver solidus (coin or money of account) of about 240 grains, twenty of which went to the degraded libra of silver. The Spanish equivalents for these terms were libra, sueldo, and dinero, or £, s, and d, terms that continued in use in Aragon until a very recent date, when they were superseded by those of the metrical system. In 1820, according to one authority, the dinero in Aragon was the sixteenth instead of the twelfth of a sueldo;² but in 1855 another authority gives it at one-twelfth.³

Without entering into the bewildering complexity of the Christian system previous to the reign of James I. of Aragon, it may be stated broadly that it then followed something like the following scale of equivalents:—

First scale of equivalents—thirteenth century.

Name of coin.	Contents in fine metal—grains.	Legal value in other coins.
Dinero, ⁴ silver	20	
Dineral or solidus, silver	240	12 dineros.
Sueldo, gold	20	12 dineros.
Maravedi, gold	14	8 $\frac{4}{10}$ dineros.

It will be observed that the maravedi, reduced to one-fourth of the Moorish sequin, here makes its appearance as

¹ Salvá states that in the reign of James I. of Aragon, which commenced A.D. 1213, the indemnity paid by the Moors was in marabotini, each of 10 maravedises of gold or 7 sueldos (solidi). "Diccionario Castellano," por Salvá, Madrid, 1854.

² Kelly's "Cambist."

³ Townsend's "Spain," i. 157.

⁴ "When the kingdoms of Aragon and Navarre were founded, coins were issued by the sovereigns of those states closely resembling the silver pennies of the rest of Europe at that period." Humphrey's "Manual," ii. 518.

a Christian coin. The dineral, according to Salvá, was the twelfth of a mark. It was probably alloyed with copper to the extent of a fifth, and its gross weight was about 300 grains. Three systems of weight find expression in the above scale—the Roman libra, the Venetian mark, and the Arabian dinar.

With regard to the history of the Christian maravedi in its descent from the Moorish coin of about 56 grains, fine, to one of 14 grains, nothing positive has fallen beneath the author's observation. This reduction was probably effected by means of a comparatively few steps. Having fallen to 14 grains of gold, and therefore to too small a piece for convenience, it was next made of silver,¹ and in this guise went through a course of degradation and debasement as rapid as before. At a later period—still in the early part of the thirteenth century—we have the following scale of equivalents:—

Second scale of equivalents—thirteenth century.

6 Meajas of copper = 1 Dinero of billon = 1 Maravedi of billon.

This was the "old" maravedi (*vieja*), containing about 26 grains of fine silver. There was also a new maravedi coined in 1236, containing about 13 or 14 grains of fine silver. These at first passed at the same value as the old ones, but afterwards they fell to about one-half.

At a later period the old maravedi was raised to ten dineros, and the scale of equivalents was as follows:—

Third scale of equivalents—fourteenth century.

1 Old Maravedi of billon, containing about 26 grains of fine silver = 2 Blancas or new maravedis of billon; or 6 Cornados of billon;² or 10 Dineros of copper; or 60 Meajas of copper.

After this the dinero does not seem to have been coined.

¹ I think I have read somewhere (probably in Salvá or Escriche) that in the reign of Alfonso the Wise the gold maravedi was reduced to about 10 grains before it was made of silver.

² The cornado was a billon coin of Sancho IV. of Castile (A.D. 1284-95), and continued in circulation down to the reign of Ferdinand and Isabella. Salvá.

The name, however, was adopted for money generally, and in this sense is used in Spain at the present day. At a later period (during the fourteenth century) there appears to have been a *suelto* of silver containing 20 grains of fine metal, about the same as the original *dinero*.

Leaving behind us the often-changed and perplexing scales of equivalents in the earlier Spanish monetary systems, it will be instructive to follow the gradual decline of the *maravedi*. For this purpose I have adopted the tables of Escriche as a basis of calculation. That author states that a mark of silver (*marco de Colonia*),¹—11 *dineros*,² 4 *granos* (.930½) fine,—was coined at various times into the number of *maravedis* shown in the following table.

Number of maravedis coined from a mark weight of silver .930½ fine, and contents in fine silver of each maravedi.

Date of accession.	Monarch.	No. of Maravedis to the mark.	Contents of fine silver—grains.
1312	Alfonso X.	130	25.85
1324	Alfonso XI.	125	26.86
1368	Enrique II.	200	16.79
1379	Juan I.	250	13.43
1390	Enrique III.	500	6.71
1406	Juan II.	1000	3.35
1454	Enrique IV.	2250	1.49
1474	Ferd. and Isab.	2210	1.52
1550	Charles V.	—	1.07½ ³
1808	Ferdinand VII.	5440	.62
1868	Prov. Govt.	—	.49⅙ ⁴

¹ Alfonso XI., 1312-50, ordained that the weights of gold, silver, and billon should be expressed in the Cologne mark of 8 ounces, and of other metals in Troy weight. The mark of Cologne contained 3,608 grains. The mark of Castile, commonly alluded to by Spanish writers as the "*marco de Colonia*," contained only 3,550½ grains. The table in the text is based on the former weight.

² The *dinero* was used, like the English (Arabian) *carat*, to denote the degree of fineness, 12 *dineros* denoting pure gold or silver. There were 24 *granos* to the *dinero*.

³ This figure is obtained by induction. In Covarrubio's time, about 1550, 80 silver *maravedis* went for one gold one of 10 grains. If the ratio was 10.75 to 1 for all Spain, the weight given in the table follows.

⁴ The Figuerola law of 1868 makes the silver *peso* contain 347 grains, and 700 *maravedis* of copper to the *peso*.

From this table it appears that during the reign of Ferdinand and Isabella there were 2,210 maravedis coined out of a mark of silver $.930\frac{1}{2}$ fine, or $3,357\frac{1}{4}$ grains of fine silver. Therefore each maravedi contained about 1.52 grains of fine silver. Thirty-four of these maravedis went to the real; hence each real contained 51.68 grains, or, to be more precise, 51.65 grains, which is equal to 65 reals to the mark.¹ Salvá says that in the reign of Ferdinand and Isabella there were 66, and afterwards 67 reals coined out of the mark of standard silver, and that the latter was 11 dineros, 10 granos, or $.9514$ fine. This would give 51.23 grains of fine silver to the real—the figure I have deemed proper to adopt for the real of this period. It is probable that the weights and fineness of the coins were changed more than once during this reign, and that all of the authors mentioned are correct. I have been particular in defining the maravedi and real, because it was in these moneys that all the earlier transactions relating to America were conducted.

The popular names given to the maravedi differed from time to time. The "Alfonsines" were those coined by Alfonso the Wise, 1252-84. The "Viejas," or old ones, at one time meant those of Ferdinand IV., 1295-1312; the same term was afterwards used for those coined previous to Ferdinand and Isabella, 1474-1504. The "Nuevas" meant the new ones. The "Buenas," or "Maravedises de Buena," meant those (of billon) which contained the most silver. The "Blancas," or whities, were those which showed the least copper. The "Cobreños," or "Usuales," were those which showed the most copper. The "Burgales," or "Burgaleses," were coined at Burgos for "interior commerce."

It was this confused state of the moneys of Spain which had led to the establishment of the Bank of Barcelona in 1401. In 1390 the treasury of Henry III. was empty, and to raise means he had debased the coinage, which, by a

¹ Washington Irving's "Columbus."

resolution of the Cortes, it was determined to restore to a better footing.¹ The establishment of the bank, however, acted as a palliative of the evil, and reform was postponed indefinitely.

The ratio of value between silver and gold in Aragon was 12 to 1, which was near the rate fixed in Venice, where the ratio of the thirteenth century was 11 to 1, and afterwards 12. This last was generally the ratio of the maritime cities of Italy. At the same time, that is to say in the fifteenth century, it was 7 or 8 to 1 in Arabia, and probably the same in Moorish Spain. It was also the same in Castile during the reign of Henry IV., 1454-74.² These vastly different ratios in various parts of the same country—12 to 1 in Aragon, and 7 or 8 to 1 in Castile and Granada—gave rise to frequent alterations in the coinages of the Spanish states. When it was foreseen that in the course of a few years the sovereignty of these states would be united in the persons of Ferdinand and Isabella, the conflicting ratios were reconciled by the adoption, in 1475, of a compromise ratio of 10.985 to 1. The ratio in England in 1464 was 10.33 to 1, and from 1465 to 1482, inclusive, it was 11.16 to 1. In Germany, from 1455 to 1494, it was $10\frac{1}{2}$ to 1.³ It was this country (Germany) that, during the interregnum between the decline of the Saracenic power in the Levant and its subversion in Spain and the arrival of the first important supplies of the precious metals from America, controlled the ratio of value in Europe; because it was Germany that produced and coined the greatest quantity of these metals. The Arabian Empire had shrunk once more into the silent deserts of Cush, the Venetian Empire was in its decline, and that of Spain in America had not yet arisen.

I have not been able to satisfactorily determine the

¹ Gibbon's "Rome," iii. 469.

² Saez, "Hist. Spain," ii. 208, says that during this reign it was 7 or 8 to 1.

³ "Hist. Prec. Met.," pp. 240-3.

origin of the real, which during the fifteenth century began to supersede the maravedi as the integer of money in Spain, but I suspect from the analogous coin "reis" of Portugal, that it is Moorish. However this may be, there was a Flemish rial of gold in the thirteenth century,¹ an English rial of gold (weighing 120 grains .9948 fine) coined by Edward IV. in 1465, and a French reau, also of gold, in the fifteenth century. But there is a wide difference between a gold coin heavier than a modern "sovereign" and a silver one but little heavier than a sixpenny piece, such as the Spanish real was at the period under review. Whatever its origin was, Escriche informs us that at various dates (not given) it was coined at the following rate out of the mark of silver, 11 dineros, 10 granos or .9514 fine, that is to say, the mark containing $3608 \times .9514 = 3432.65$ grains fine. Why he has deduced the real from marks of *finer* silver than its fraction the maravedi is not explained.

Number of reals struck from a mark of silver .9514 fine, and the resulting number of grains of fine silver in each real.

No. of reals.	Grains each.	No. of reals.	Grains each.
$64\frac{1}{2}$. . .	53.22	67^2 . . .	51.23
65^2 . . .	52.80	$68\frac{2}{3}$. . .	50.00
66 . . .	52.00		

The marriage of Ferdinand and Isabella in 1469, and the death of Henry IV. in 1474, united all Christian Spain under one crown, and a last and successful attempt was made to expel the Moors from the Peninsula. From the same causes that had previously rent the kingdom of Cordova, that of Granada was now in a like condition of

¹ In 1409 the Flemish rial was reduced from the equivalent of 14*d.* to $4\frac{1}{2}$ *d.* sterling. Davies' "Hist. Holland," i. 308-10. He omits to define the contents of the sterling penny meant.

² Irving says that in the reign of Ferdinand and Isabella the number of reals coined out of a mark of standard silver was 65; Salvá says at first 66, afterwards 67.

anarchy and confusion, and when Al-Zagal, a Moorish lord who styled himself King of Almeria, betrayed his race by delivering up that fertile and populous province to the Christians, the Moorish domination of Spain came virtually to an end. Malaga had fallen in 1487, Baça was reduced in 1489, then followed the defection of Al-Zagal, and finally in 1492 Granada capitulated upon honourable conditions, and the Mahomedan Empire in Spain was extinguished.

By a singular coincidence this same year gave to Christian Spain dominion over an entirely new world. The discovery and conquest of America, and the circumstances, motives, objects, behaviour, and fate of the conquerors, have been fully described in a previous work; it only remains to notice the marks which these circumstances and transactions left upon the monetary system of Spain.

At the period of the discovery of America the weights and coins of Spain were as follows:—

Table of Weights—1492.

Silver weights.	Spanish silver granos.	Troy grains.
1 Tomine	12	9.39583 $\frac{1}{2}$
1 Ochava (5 tomines)	72	56.375
1 Onza (8 ochavas)	576	451.000
1 Marco (8 onzas)	4608 ¹	3608.000 ²
Gold weights.	Spanish gold granos.	Troy grains.
1 Tomine	12	9.02
1 Castellano (8 tomines)	96	72.16
1 Marco (50 castellanos)	4800 ³	3608.00

It will be observed that the mark for weighing gold was divided into a different number of “granos” than that for weighing silver; consequently the granos were unlike, the silver grano being slightly heavier than the gold one.

¹ Saez (1796), p. xii.

² As fixed by Charles V. in 1524. Afterwards the mark of Castile was lowered to 3550 $\frac{1}{2}$ grains Troy.

³ Saez, p. xiii.

Table of Coins—1492.

Coins.	Legal equivalents.	Fine metal, Troy grains.
Maravedi (billion)	Integer of account	1.52
Real de plata (silver)	34 maravedis	51.23 ¹
Ducat (gold)	388 „	56.40
Castellano, or “dobra de la vanda” (gold)	490 „	72.16
Cuento (money of account)	100 castellanos	7216.00

There are several coins of this period the contents of which are uncertain. The golden peso, or peso of gold, is frequently mentioned in the accounts of the American Conquest. Prescott² says it was a piece of gold worth about eleven silver dollars; Mackenna³ says it was equivalent to the castellano; while Helps⁴ regards it as having been worth no more than a silver peso grueso, or eight reals de plata. The pistole is said by some writers⁵ to have been equal to two castellanos; while Sir Isaac Newton gives its contents at 104 grains fine.⁶ The dobla appears to have been a double ducat. There was also a “golden real,” which I imagine was only another name for the ducat.

At a later date there was the peso sencillo, or soft dollar of 304½ grains of fine silver. The peso ensayado was that quantity of uncoined bullion which was requisite to make a dollar. The escudo was a silver crown, piastre, or hard dollar of about 387 grains of fine silver.

Fénélon states that in September, 1574, certain Germans, Dutch, and Frenchmen in England forged a million crowns of the coins of France, Spain, and Flanders, and that this was done with the connivance of some of Elizabeth's ministers.⁷

¹ I have adopted this as the most likely figure of the several ones deducible from a comparison of Salvá, Escriche, and Irving. The extreme variation is from 51.23 to 52.80 grains.

² “Conquest of Mexico,” i. 320.

³ “Libro de Oro,” p. 52.

⁴ “Conquerors of America,” iii. 427.

⁶ Putnam's Ency. of Dates, p. 22.

⁶ Report of 1717.

⁷ Buckle's “Posthumous Works,” citing Fénélon, vi. 241-2.

It is essential to remark in this place that much mischief has been occasioned by regarding the estimates of the production of the precious metals in Spanish America, which were prepared in the early part of the present century by the illustrious Von Humboldt, as synonymous with the quantities of those metals which were imported and coined in Spain. Assuming Von Humboldt's estimates to be correct—although in truth I regard them as much in excess of the fact—it can be shown that after the opening of the seventeenth century a very large proportion of the product was not sent to Spain at all, or that, if sent to, it failed to reach, that country.¹

1. A constantly increasing proportion of the product was retained in Spanish America for use in the arts, for coinage into money, and for illicit traffic with European traders other than Spanish. The mission churches were loaded with plate; courtyards were paved with silver bricks for bishops and legates to walk upon; horses were shod with silver; private houses possessed enormous hoards of plate, which remained in America until the Revolution of 1810, &c.

2. During the three centuries preceding the Spanish American Revolution about £200,000 a year of silver was shipped from Acapulco to the Philippine Islands, whence it was conveyed to China and India. This item alone amounts to £60,000,000.

3. A very considerable proportion of the entire product—especially after the repartimiento system was well esta-

¹ Up to about the time when Gomarra wrote (1552) there is no dispute about the American product. It consisted of plunder and the skimmings of the placer mines in Hispaniola, and did not exceed £30,000,000, chiefly gold. Said Gomarra: "Within sixty years the Spaniards have discovered, conquered, and plundered America, and the quantity of gold and silver they have secured cannot be described; it exceeds sixty millions" (ducats). "Hist.," p. 89. Von Humboldt's estimate agrees with this one; but after this date the accounts of the precious metals produced in America cannot be verified by the much smaller sums received in Spain.

blished, and the silver mines had become prolific—was either captured by hostile cruisers, which hovered near the coasts and plundered the mining towns and seaports, or by the numberless privateers, buccaneers, and pirates, who infested the high seas and waylaid the Spanish plate-ships on their way homeward. The *haberia*, or convoy rate, indicates that this was no less than five per cent., and it may have been twenty.

4. Much was diverted to other countries by treachery, and still more lost absolutely by fire and shipwreck.

5. In the fragmentary accounts which have come down to us of the sums of "treasure" received into Spain and Portugal from the "Indies," treasure commonly includes pearls, diamonds, and other exceedingly valuable merchandise, and the "Indies" embrace Asia as well as America.

6. The precious metals after being imported into Spain were subject to a seignorage when coined. To avoid this charge they were often surreptitiously conveyed out of the country to France, England, and other countries, or rudely fashioned into plate, of which some of the Spanish grandees possessed vast stores.

For these reasons the quantity of the precious metals received in Spain was far less than that which is assumed to have been produced in America; of the diminished quantity so received in Spain but a portion was converted into coins, and of these a considerable number found their way to other countries to pay for those necessaries and luxuries of life, the indigenous production of which had been neglected by the Spaniards for the more alluring products of slave labour in America.¹ If the proportion of the precious metals to population be regarded, it can be shown that within little more than a century after the con-

¹ Something of what appears to be the neglect of agriculture and manufactures in Spain was due to a policy which it was now too late to change—namely, the expulsion of the Saracens and Jews. The Spaniards were essentially miners and knew little of those handicrafts which the heretics were now carrying to other countries.

quest of America Spain possessed less gold and silver money than either England or France.¹ In those countries prices had risen five or six times, whilst in Spain they had only risen three, and she felt herself obliged, by the disparity which this inequality occasioned in the prices of her exports to her imports, to resort to the wretched shift of raising the value of money by royal proclamation.

Says Ranke, "The fact seems incredible, yet it rests on the positive evidence of a trustworthy source—Gonsales Davila—that in the year 1595, which must have furnished the collective product of some three years, thirty-five millions of scudi in gold and silver crossed the bar of San Lucar,² and that of all this treasure not a real remained in Castile in the year 1596."³

Such was the poverty of the royal treasury and the scarcity of silver coins as compared with other European countries, that in 1603 the value of the billon and copper coins then in circulation was doubled. Says Ranke,⁴ "In the year 1603 two members of the royal council of finances and the council of Castile proposed an alteration in the value of the coinage. So intense was the embarrassment of the state that this extravagant measure was caught at 'as a suggestion from heaven.' The value of copper

¹ Table showing the quantity or sum of money estimated to have been in circulation in the several countries named at or near the beginning of the seventeenth century. The "piastre" used in the table contained about 387 grains of fine silver.

Year.	Country.	Piastres.	Population.	Authority.	Piastres per cap.
1619	Spain	50,000,000	13,000,000	Moncada	$3\frac{1}{4}$
1599	France	109,000,000	16,000,000	Montveran	$6\frac{3}{4}$
1625	England	27,500,000	4,700,000	D'Avenant	$5\frac{3}{4}$

² San Lucar de Bonanza was the single port which the plate ships from America were at that time permitted to enter.

³ "The Ottoman and Spanish Empires in the Sixteenth and Seventeenth Centuries," by Leopold Ranke, translated from the German by W. R. Kelly, London, 1843, p. 96, citing Davila's "Vida y Hechos del Rey Felipe III.," p. 35, the latter written about 1610 to 1620; also Cespede's "Historia de Don Felipe IV.," i. 583.

⁴ "Ottoman and Spanish Empires," pp. 97-98.

was raised from two to four, just as though Castile were a commercial state intact, and complete within itself. We may imagine what profit was reckoned on, when 6,320,440 ducats' worth of copper were coined at this rate. . . . Silver soon became so scarce that a premium of 40 per cent. was paid for it at court, and the common people were no longer able to pay in silver the two reals which the cruzado bull cost. On the other hand, it was computed that there were 128,000,000 ducats' worth of copper in Castile. What a state of things! Every year the fleet brought in ten, eleven, twelve millions of silver, and there was not one silver real in the whole country. . . . All the gold and silver left by a Chilian bishop who died in Spain were seized, and when the Papal Camera laid claim to the spoil, it was promised in copper instead."

In the reign of Philip IV., 1621-55, the billon and copper coins were assigned a still higher value. We are informed that this valuation was "nearly equal to that of silver." It is alleged that Philip adopted this device "that he might free himself from the claims of the creditors of state."¹

While this degraded and disordered condition of the currency was due primarily to poverty and misgovernment, yet it can scarcely be doubted that if even the country had been richer and wiser the result would have been the same, so long as it continued to exact an inordinate seignorage upon the coinage of metals which had already paid a 20 per cent. tax on production, a 5 per cent. convoy duty, and many other onerous charges. The resort to a further degradation of money was not owing so much to the scarcity of gold and silver in Spain—although the quan-

¹ The only allusions I have met with to this episode of Spanish monetary history are to be found in Locke on "Money," ed. 1870, p. 295; Miller's "Phil. of History," Bohn's ed., iii. 164; and Harris on "Coins," ii. 122, who quotes Rice Vaughan's work published in 1675, where both this debasement and the counterfeiting to which it gave rise are vaguely mentioned.

tities of these metals in that country have been much over-rated—as to the fact that its proprietors were discouraged from turning it into coins. Spain was not so poor in metals as in money.

This is evinced by the quantity of plate held by the Dukes of Albuquerque, Alva, Medina-Celi, and others.

“Madame d’Aunoy, who wrote in the reign of Philip IV., states that the Duke of Albuquerque possessed fourteen hundred dozen dinner plates, fifty great salvers, and seven hundred dishes of exceedingly massive silver; while the Duke of Alva, who was rather poorly supplied as things then stood, had six hundred dozen plates and eight hundred dishes; and the Duc de Saint Simon (who wrote during the early part of the eighteenth century) mentions that the palace of the Duke of Albuquerque was furnished with suites of splendid furniture, of which the framework, instead of being of wood, was of massive silver, yet in the midst of all this sterile and now bygone opulence the currency of the country was of bronze (billon?). These same nobles received the rentals of their estates in great ox-carts laden with maravedis, and after quarter-day their households were employed, en masse, for a week or two in counting the loads of copper received, and storing it in baskets in the cellars of their palaces, to be paid out as occasion required to their numerous retinue, or for the daily needs of their establishments.”¹

The Spanish crown, although extremely anxious to force American silver into the mint, did everything to keep it out. It fixed a higher valuation upon silver as compared with gold than any of the surrounding states; but this gave silver no greater command over commodities, and therefore offered no inducement to the rich and powerful lords who controlled its supplies to send it to the mint. It forbade the

¹ “Rep. U. S. Mon. Com., 1876,” i. 488. See also “Memoires de la Cour d’Espagne sous le regne de Charles II.” (1678-82), par le Marquis de Villars, London, 1861, p. 7.

exportation of the precious metals under pain of death;¹ at the same time it refused to coin them for less than 5 per cent. seignorage, besides subjecting them to other exactions. It forgot that it was not the interest of the wealthy classes to promote a rise of prices. They had seen enough of that in England, where the consequences had been a renunciation of the Catholic faith, the execution of the king, and the establishment of a Puritan commonwealth. What the Spanish grandees wanted was not rising prices, but falling ones, and so, instead of sending their bullion to the mint, they continued to pile it up in their vaults, awaiting the inevitable hour when, from increased scarcity, each ounce of it when coined into money would purchase twice as much of commodities as before.

Mr. Townsend, a writer whose opinion on most matters is entitled to weight, strangely misapprehends the effect of money upon prices, when he argues that the laws which forbade the exportation of the precious metals from Spain had the effect of so enhancing the prices of commodities and labour, that the country could not sell to, and could only buy from other countries; that in this way her manufactures were ruined; and that, notwithstanding the prohibition against exporting gold and silver, these metals eventually found their way out of the country, until it became entirely divested of them, and "was overwhelmed with base (counterfeit?) copper money, poured into it from surrounding countries."²

¹ "Hist. Prec. Metals," pp. 193, 352; Locke on "Money," ed. 1870, p. 268; Robertson's "Charles V.," and Townsend's "Spain," i. 319; ii. 197, 387. During the seventeenth century bullion was permitted to be exported upon paying a duty of 5 or 6 per cent.; during the eighteenth century this was lowered to 3 per cent.; in 1768 it was raised to 4 per cent., and in 1784 it was made free. The prohibition applied to coins so late as 1855; but it had long ceased to be effective. At the present time argentiferous ores containing more than 463 grains (about \$1.25) of silver to the ton pay export duty. "U. S. Consular Reports," August, 1884, p. 754.

² Townsend's "Spain," ii. 387.

Metals, whether precious or otherwise, have nothing whatever to do with enhancing the prices of commodities ; only money can do that, because prices are expressed in money, and not in metals. If the prohibition against exporting the precious metals was so ineffectual that the country became entirely divested of them, how could these metals have enhanced prices, even had they been money, or free to be coined gratuitously into money, which they were not ? The contrary was the fact. Although Spain commanded large supplies of the precious metals, she was so badly governed that these metals found their way to other countries, where the rise of prices was much more rapid than in Spain, and had something more solid to rest upon than the schemes of a needy ministry or the promises of a faithless king. It was not a rise of prices that injured Spain, but the lack of it. Compared with what was happening at the same time in other countries, the rise of prices in Spain was a fall, and while the rise in other countries was based upon gold and silver coins, in Spain it had no better foundation than maravedis and coppers which had been debased, overvalued, and issued, not within limits, nor subject to the regulation of a wise and strong government, but according to the caprice of a bigot, a tyrant, and a spendthrift.

During the reign of Charles II. the monetary systems of Spain lost some of that complexity which had distinguished them before. But a small part of the circulation now consisted of billon and copper coins, among the former of which the maravedi and real de vellon, or rial of billon, were the most commonly employed. The old real, now degraded to about $48\frac{1}{2}$ grains of silver, but not debased, was known as the real de plata, or silver real, and eight of these went to the piece-of-eight, or Seville dollar, or Escudo de plata. Among the gold pieces were the ducat, pistole, half doblon, and doblon. The quantity of money was unknown and unknowable, although it is estimated to have equalled about forty millions of hard dollars. The coinage

was unlimited, but not gratuitous. Anybody could have his bullion converted into coin without limit upon applying to the royal mints and paying the seignorage and other charges. These, however, were very onerous.

Spain.—Table of money equivalents in 1717.

Gold coins.	Hard dollars.	Silver coins. ¹	Hard dollars.
Doblon	16.00	Hard dollar, or Escudo .	1.00
Half	8.00	Pillar pistareen, or $\frac{1}{4}$.	.25
Pistole (32 reales de plata)	4.00	Shield ,, or $\frac{1}{5}$.	.20
Half	2.00	Real de plata, or $\frac{1}{8}$.	.12 $\frac{1}{2}$
Durillo	1.00		

It will be convenient in this place to notice the changes which have been made from first to last in the coinage ratio between gold and silver in Spain.

Coinage ratio of silver to gold in Spain from the earliest times to the present.

Period. A.D.	Coinage ratio.	Remarks.
1213-76 .	12.0	. In the reign of James I. of Aragon 10 gold maravedis, say 140 grains, were equal to 7 silver sueldos, say 1,680 grains—a ratio of 1 to 12. Salvá.
1454-74 .	7.5	. Saez confines this to Castile and Leon, reign of Henry IV.
1454-74 .	7.5	. Probable ratio in the Moorish kingdom of Granada.
15th cent. .	12.0	. Aragon.
1475 .	10.985	. Castile and Leon. Isabella was married to Ferdinand in 1469.
1480 .	11.555	. All Christian Spain. Ferdinand and Isabella.
1483 .	11.675	. All Christian Spain. Ferdinand and Isabella.
1497 .	10.755	. All Spain. Edict of Medina.
1499-1502 .	10.755	. Expulsion of the Moors.
1545 .	10.755	. Bullion receipts hitherto chiefly gold.

¹ The larger silver coins were worth from 0 to 6 per cent. premium over gold, according as the arrival of plate ships and the surreptitious export of silver took place—a proof that the Spanish mints no longer coined the bulk of the world's product of the precious metals.

Coinage ratio of silver to gold in Spain from the earliest times to the present—continued.

Period. A.D.	Coinage ratio.	Remarks.
1546 .	13.333 .	Potosi opened. Bullion receipts now chiefly silver.
1580 .	13.333 .	Portugal united to Spain, 1580 to 1640.
1611 .	13.333 .	A million of Moors expelled.
1641 .	14.00 .	Increasing proportion of silver in bullion receipts. For this ratio, consult Locke on "Money," and Moran on "Money," p. 44.
1650 .	15.00 .	Mr. White's Report to Congress, p. 72.
1690 .	16.00 .	Newton's Report on Coins, 1717.
1717 .	16.00 .	Ibid.
1730 .	16.00	Report of the International Coinage Commission of 1878, published by the Government of the United States at Washington, 1879.
17— .	14.244	
1775 .	15.536	
1779 .	15.875	
1786 .	16.38	
1821 .	{ 15.85 } .	Kelly's "Cambist," ii. 147. Computed from two different coinages.
	{ 16.00 }	
1821-64 .	16.00	
June 26, 1864 .	15.476 .	Official decree.
Oct. 19, 1868 .	15.5 .	Official decree.

NOTE.—In 1555 the kingdom of the Netherlands was inherited by Philip II. of Spain, and it remained subject to the laws of that country until it achieved its independence. In 1580 Portugal also fell to the Spanish crown, and remained subject to it until 1640.

Spain got in America, from 1493 to 1640, about 875 tons of gold and 45,720 tons of silver, whilst Portugal got in Japan, from 1545 to 1624, about 250 tons of gold and 500 tons of silver, together 1,125 tons of gold and 46,200 tons of silver, or about forty-one times as much silver as gold. Of such of this metal as reached Europe and was converted into money, a large proportion passed, in the first instance, through the mints of Spain; and had the ratio been governed by the relative production instead of the law, the market value of silver would have been 41 instead of $13\frac{1}{2}$ to 1 gold, which was the case.

From 1640 to 1690 the Spaniards got about 355 tons of gold and 24,720 tons of silver, or nearly seventy times as

much silver as gold; yet they coined it at the ratios of 14 and 15 silver to 1 gold. It is to be noted here that the last-mentioned Spanish ratio, that of 1650, was the origin of the English ratio of 1717, of the British East Indian ratio from 1774 to 1793, and of the United States ratio from 1792 to 1834.

During this period—1640 to 1690—the Portuguese ceased to obtain gold from Japan, because they were ejected from that country in 1624. However, in 1573, the gold placers of Brazil had been discovered by Sebastião Fernandes Tourinho, and though the Portuguese settlements on the coast were attacked and destroyed both by the English and Dutch, the Portuguese made good their footing in 1654, and by the year 1670 the gold mines had become noticeably productive. From this year to 1688 the product, which was entirely of gold, has been estimated by some authors at one and a half million dollars a year, and by others as high as twelve and a half million dollars a year.¹ Whatever it was, it was great enough to encourage the Portuguese to change their mint ratio on the 4th of August, 1688, to 16 for 1.

Such was the influence of the Portuguese law, and the vast coinages of the Portuguese mints, that, two years after the enactment of the law, Spain felt obliged to alter her ratio to conform to it, and although in 1775 she raised her silver for a brief period to $15\frac{1}{2}$, she again returned to the 16 in 1786, and maintained it until a recent date.

Her casual change to $15\frac{1}{2}$ in 1775 was the origin of the French laws of 1785 and 1803. From 1726 to 1785 the mint ratio in France had been $14\frac{1}{2}$, but when the Spanish ratio was changed to $15\frac{1}{2}$ in 1775, the market price of silver fell to 15.08 in Paris, and Calonne, who is the authority for this statement, advised the king to recognize the fact by altering the law and recoining the gold money of the kingdom at $15\frac{1}{2}$. In other words, he reduced the weight of the

¹ Mawe's "Hist. Brazil," p. 182.

gold louis d'ors about 7 per cent., and left the silver coins untouched. The ratio thus fixed was re-enacted by the National Assembly in 1803, and remains unaltered to this day.

During the prevalence of these historical ratios the world has witnessed the most startling changes in the relative production of gold and silver—at one time the exploration of Biscaina, Sombrerete, Valenciana, Cerro de Pasco, Candelaria, Batopilas, and numerous other gigantic silver lodes, at another the opening of Siberia, California, Australia, and other immense gold-fields, and finally the phenomenal career and exhaustion of the Comstock and other great dore or electrum lodes—yet the legal ratios of value between gold and silver always remained constant, that is to say, 16 in Mexico, Peru, Portugal, Spain, and America, and $15\frac{1}{2}$ in France, Germany, and other states, until the Franco-Prussian war of 1870, when Prussia, having to receive an immense war indemnity from France in gold, suddenly demonetized silver, and threw her great accumulations of that metal upon the world. Had France and the United States not also closed their mints to silver, even this action of Prussia would apparently have had no effect upon its value; but France, out of hatred for her victorious enemy, unwisely refused to coin its rejected silver, and this proceeding was rendered effective by the clandestine alteration of the mint statutes of the United States.

From these circumstances it would seem that the relative quantities produced of silver and gold do not fix their relative value. Nor, as has already been most convincingly shown in a previous work, does their relative cost of production fix it. What, then, does fix it? Simply the law of the nation or nations who coin the greatest quantity of them. In short, the conditions under which the precious metals are produced have nothing whatever to do with their relative value in the markets; this results entirely from the legal ratios at which they were and are being coined and the quantities coined under such legal ratios.

The successive integers of money in Spain were the *dinero*, *maravedi*, and *real*, but the best known and most important coin which passed through its mints was the *dollar*, a brief account of whose history will doubtless prove interesting in this place.

The history of the *dollar* divides itself into three parts : first, the name *dollar* ; second, the thing *dollar* ; third, the sign *dollar*.

I. The name *dollar* is from the Gaelic language. *Dol* means a valley, *ard* a hill ; hence *dollard*, a valley shut in by hills. There is a place of this description in Scotland near Clackmannan, which is actually called *Dollar*. There is also a town called *Dolar* in Granada.¹ The German words *thal* and *thaler* (pronounced *taaler*) are from Gaelic originals. *Thal* means a vale or valley ; *thaler* a valleyer, or one who belongs to a valley. From the same source we have in English *dell* and *dale*, both meaning a valley.

In 1484 the German (now the Austrian) government coined certain large pieces of silver, called crowns, of which there were eight to the mark weight. Each piece consequently weighed 451 grains Troy. I have not been able to determine their fineness, and therefore cannot say how much fine silver they contained, probably about 400 grains. So far as I am informed, these coins were the first of the size and weight of those afterwards known as pieces-of-eight, piastres, dollars, &c.

In 1517 Count Schlick, a feudal lord of Bohemia, coined certain broad pieces of silver at a mint in Joachim's Thal, or Joachim's Valley, in Bohemia. From the name of the moneyer, these pieces were known as Schlickenthalers, and from the locality of their coinage, as Joachimsthalers, afterwards abbreviated to thalers.

Their gross weight was a Saxon ounce (one-twelfth of a Saxon pound, or one-eighth of a mark), equal to 451 grains Troy. I have seen several of these coins, but have not

¹ Byrne's "Spain," i. xix.

assayed them. In the table furnished below they are assumed to be eleven-twelfths, or $.916\frac{2}{3}$, fine. The preference which seems to have been shown for the Schlick thaler over the Austrian crown leads to the inference that the thaler contained less alloy, and therefore more silver than the crown. The silver from which the thalers were coined appears to have been obtained from an ancient mine in Joachim's Thal.

From their well-known weight these pieces readily circulated in Bohemia and the Low Countries, where they were known variously as thalers, dallers, daalders, &c. They were imitated in the Dutch coinage of the period, and these Dutch dallers were afterwards debased. On the debased Dutch coins was the effigy of a lion, and from this fact they came to be known as "lion" dollars. These found their way in time to Constantinople, where they became known as aslani.

At a certain period in the descent of the French livre of silver, from over 5,000 grains in the time of Charlemagne, to a fraction over 67 grains at the time of the French Revolution, it happened that the three-livre pieces or ecus or crowns weighed the same as the Bohemian thalers. Hence they passed in foreign commerce at the same value and went by each other's names. The thalers were called crowns, and the crowns thalers. This, however, did not occur until the seventeenth century.

In the same manner the name of the Italian silver money of account, called the piastre, became at one period interchangeable with the coin dollar, and conferred its name upon it. Hence the Bohemian and Dutch dollars were called in Italy, and afterwards in Spain, piastres. And the Turks having adopted the debased Dutch dollar (lion dollar) as their integer of account, called it the piastre, after the superior dollar of the Italians. The Turks then went on and debased the coin still more, until after many debasements it now contains less than ten grains of fine silver, or less than one-fortieth part of the contents of the

original thaler from which it sprang. So much for the name; now for the thing, dollar.

II. The thing dollar, that is to say, the piece of to-day which we call a dollar, is a multiple of the Spanish real.

Charles V., it will be remembered, was not only the King of Spain, but also the Emperor of Germany, and Lord of Burgundy, the Netherlands, Bohemia, many parts of Italy, the whole of America, and several other countries. It was he who was on the Spanish throne when Count Schlick's broad pieces obtained so ready a currency in the northern parts. Observing, from this example, how widely a coin will circulate when its weight and fineness are constant, and desirous to have a coin which would readily pass in all the countries of his widespread dominion, he ordered eight reals of silver to be coined into one piece, which therefore contained about 400 grains of fine silver, about the same as Count Schlick's thalers, which after the year 1526 probably ceased to be issued, as no later ones have been found. In allusion to the design of the pillars and scroll upon them, these pieces of Charles V. were called in Spain colonatas, and in reference to the number of reals they contained *pieças de a ocho*. They were known in the northern parts as dollars, because they weighed nearly the same as, and had supplanted the dollars of Bohemia and Holland, both of which countries now belonged to the crown of Spain. In some parts of Spain and in Italy these coins were known as *piastras*, in allusion their broad and comparatively thin proportions; *emplastrum* in Latin, *piastra* in Spanish, and *plaster* in English, all meaning thin. In England and the North American colonies of the next century, they were known as *pieces-of-eight* and *pillar pieces*. In allusion to the fact that they were first coined at the mint of Seville, they were called *Seville pieces*. In allusion to their weight, they were also called *onzas de plata*, for they weighed, in silver and copper combined, but little less than a Spanish ounce.

Kelly (ii. 5 and i. 316) says that the pieces of eight were known in Aragon as libras (pounds), and were divided into twenty sueldos (shillings), or 240 dineros (pence).

Hence we have as the earlier synonyms, thalers, dollars, piastres, shields, escudos, broad-pieces, colonatas, pieces-of-eight, Seville pieces, pillar pieces, onzas de plata, and libras; besides the previously mentioned daalders, aslani, ecus, crowns, &c. In after times these pieces were to have yet other names, such as grouches, or grúshes (Turkish), gordos (Spanish for thick), gourdes (East Indies), tallaros and taleries,¹ milled pieces, Spanish milled dollars, &c.

During the latter part of the seventeenth century the crown of Spain ordered a new dollar to be coined. In this coin the weight was reduced to $304\frac{1}{2}$ grains of fine silver, and as these pieces according to law would pay a debt of a dollar as readily as the heavier pieces, the latter gradually found their way to other countries; among them to North America, where they and their fractions formed the principal circulating coins up to 1857. Before they disappeared from circulation in Spain they were called, by way of distinction, duros, or hard pieces, in allusion to the softer metal or baser alloy that eked out the gross weight of the others, which were called sencillos, or "softs."

The origin of the term peso (weight), as applied to the silver dollar, probably refers to the greater "weight" of silver in the old dollars.

Both of these terms, duro and peso fuerte, have since been applied to the lighter dollar; peso being now its legal name in Spain, to which country it has recently been restored, and in some Spanish-American countries.

I am now able to follow the Bohemian and Spanish dollar with precision. The following table shows the net contents in fine silver of this coin from its earliest inception to the present time.

¹ Neckar, "Finances of France," Eng. trans., iii. 74, ed. 1785.

Grains of fine silver in the Bohemian and Spanish (now the American) silver dollar.

Year.	Grains.	Authority.
1517	407.00	Schlick dollar in good condition. Gross weight 444 grains.
1526	400.00	Charles V. Piece-of-eight. Gross weight 436.98 gr.
1641	400.57	Date of change of ratio in Spain from $13\frac{1}{3}$ to 14.
1645	386.87	Out of a Castilian mark of standard silver were now coined eight and a half piastres instead of eight as formerly.
1691	386.02	Seville piece. John Locke.
1704	388.50	Postlethwayt's Dic., art. "Currency," and Bronson on "Currency," p. 18 n. Gross weight 420 gr.
1707	386.87	Piece in the author's cabinet.
1717	386.75	Sir Isaac Newton's Report, Sept. 21, 1717.
1728	383.20	Piece in the author's cabinet.
1730	382.90	Kelly's "Cambist," i. 319. Gross weight 417.7 gr.
1761	377.00	Alexander Hamilton's Report on "Coins," 1790.
1772	377.25	Upton's "Money in Politics."
1772	374.87	Kelly's "Cambist," i. 320. Legal weight.
1785	375.64	Proposed dollar of Continental Congress or American Confederation. Upton. None coined.
1785	374.87	Thomas Jefferson's Report on "Coins." Legal weight of Spanish dollar.
1787	368.00	Spanish dollars actually circulating in North America when the United States Government was founded. Weighed and assayed by Hamilton in 1791. Average contents of fine silver $371\frac{1}{4}$ grains. This weight was adopted for the American dollar.
1788	371.00	
1789	371.50	
1790	370.00	
1792	371.25	First United States dollar actually coined.
1868	371.25	Dollars of Spain and the United States.
1886	371.25	Current dollar of the United States since 1792.
1886	349.17	Current peso of Spain since 1868 ("Figuerola law.")

The earliest dollar which was known by that name and from which we are enabled to trace the existing coin, is Schlick's thaler of 1517. This piece contained, say 407 grains of fine silver. The dollar of Spain was lowered to 349.17 grains by the Figuerola law of 1868, and reduced to a coin of limited tender, while that of the United States contains still $371\frac{1}{4}$ grains of fine silver, and remains a full legal tender. Thus, throughout nearly four centuries,

this coin has fallen in weight only nine per cent., affording in this respect a striking contrast with other well-known and still extant pieces.

During the earlier portion of the seventeenth century, the current silver coins of England, from long wear and tear, deficient police supervision and the practices of clipping, sweating, &c., had become very defective and light weighted. Such as made their way into the American colonies were the worst of all. To remedy the loss and friction thus occasioned, and to utilize the supplies of bullion furnished by the buccaneers, who disposed of a great portion of their plunder in Boston, a private mint under colonial permission was started near that city about the year 1654. The principal coins fabricated there, and known as "Pine-tree" shillings, were made of the same weight as the current (clipped) shillings from London, but as, unlike the latter, they were of uniform weight, they were soon preferred to, and eventually supplanted them. As the coinage of money was a royal prerogative, the fabrication of these colonial coins was interdicted. This was done in 1686. At the same time a royal order forbade the exportation of any coins from England. These measures left the colonies without the means of obtaining any new supplies either of colonial or English coins.

To supply this deficiency a proclamation of Queen Anne in 1704 gave currency in the colonies to the Spanish dollar and its fractions, which henceforth became lawful current money in British America. By the same proclamation the dollar was rated at six "Pine-tree" shillings; so that one who had contracted a debt in such shillings could now pay it with dollars. Indeed, it became customary to call the latter six-shilling pieces.

On July 6, 1785, the Spanish dollar was adopted by the Continental Congress as its integer of moneys and accounts. At this date the law of Spain required that the coin should contain $374\frac{7}{8}$ grains of fine silver, but in point of fact the actual contents of the newest and best dollars circulating in

America, as ascertained after numerous experiments by Jefferson in 1785 and Hamilton in 1790 was $371\frac{1}{4}$ grains. Accordingly, when in 1791 Hamilton submitted his report to the government of the United States on the subject of a mint and coinage, he recommended it to coin dollars containing exactly the same quantity of fine silver as was in the Spanish dollars then in circulation, and in which the debts of the republic had been contracted. This was accordingly done, and from that day (i.e. from 1792) to the present the quantity of silver in the dollar of the United States has never been changed. It has always been, and is still, exactly $371\frac{1}{4}$ grains.

III. The sign dollar. When Charles V. coined the piece-of-eight, the two pillars of Hercules were placed upon it, and a scroll forming an S, with the words *Plus ultra*. The pillars and scroll form a \$, and this soon came to be used as a sign to denote the piece-of-eight, afterwards the dollar. It is still used in Portugal and Brazil to denote the milreis. This latter was a silver coin formerly of the same weight as the Spanish dollar. In Portugal it now contains less than seven-eighths, and in Brazil only seven-sixteenths, of a dollar.

There is a curious coincidence between the sign dollar and the Roman sign for sums of money. The latter was IIS or HS, alleged to be a contraction of *duo et semis*, because the sesterce or nummus was at one time equal to two and a half ases.

It is now time to return to the history of money in Spain.

When in 1746 Ferdinand VI. ascended the throne his first care was to ascertain the extent of his responsibility for the debts contracted by his royal predecessors. It has suited the interests of moneylenders and the bias of those complaisant authors who have arranged themselves on their side, to treat this proceeding of Ferdinand's as though it were of a dishonest character.¹ On the other hand, those

¹ Townsend's "Spain," i. 195; ii. 189.

monarchs who, like William III. of England (1689-1702), and Charles III. of Spain (1759-88), accepted and adopted the responsibility of the crown debt without regard to its origin, have been lauded beyond measure.¹ Now that this policy has involved the four hundred million inhabitants of Europe and America in a funded debt of some five thousand million pounds, the interest upon which has become the perpetual patrimony of a comparatively few fundholders, it may perhaps be worth while for the publicists of the present time to consider the opinions of the eminent men consulted by Ferdinand the Wise, and who decided that the king could not lawfully impose a debt upon his successor, and therefore, by analogy, that a government is not justified in saddling a funded obligation upon posterity.

If it be urged that a state of war or the safety of the nation may render necessary a recourse to loans, the reply is, that borrowing money does not necessarily mean to borrow upon a rate of interest exceeding the average earnings of capital, or upon other terms of profit or advantage to the lender than such as equity requires; and equity should also take into consideration that the lender's possessions may have been entirely swept away by the same calamity that rendered the loan necessary. Upon the principle that other property may lawfully be seized by government for public purposes, provided an equitable compensation is made, so ought money to be available when the urgency is so great that more deliberate measures are futile. The whole purpose and object of government is subverted when any policy is adopted which tends to build up, as the funding

¹ Macaulay, in his "Hist. of England," writes the following eulogium upon the policy of William III.: "This principle (of paying the crown debt) was urged upon William by the proud and subtle Spanish Jews who accompanied him from Holland in the capacity of financial advisers. These men taught that principle, which for a century and a half has influenced the fortunes of all Europe, and which proclaimed that under every form and phase of circumstance, in the darkest hour of gloom, as in the proudest moment of success, the faith of the government toward the public creditor should be inviolably preserved."

system unquestionably has built up, a class of persons whose fortunes, earned by a stroke of the pen, raise them far above the general condition of society. It arises from the mistake of regarding money as a private possession, instead of a public institution; and this, again, from the fact that money, since the Dark Ages, has been made of material that is indeed a private possession, over which the public has only a limited and remote control.

During the reign of Ferdinand VI. the annual revenues of Spain were about 360 and the expenditures about 332 million reales de vellon,¹ and upon his death he left 840 million reales de vellon in the treasury.²

The following table shows the average annual revenue and expenditure of the Spanish monarchy from the reign of Philip III. to that of Ferdinand VII. Sums in millions of reales de vellon:—

Regnal period.	Monarch.	Revenue.	Expend.
1598-1621	Philip III.	97	132
1621-1665	Philip IV.	401	183
1665-1700	Charles II.	88	192
1700-1745	Philip V.	42	—
1745-1754	Ferdinand VI.	361	332
1759-1788	Charles III.	638	865
1788-1808	Charles IV.	551	2730
1814-1820	Ferdinand VII. (first restoration)	390	714
1820-1823	Constitutional Government	533	659
1823-1833	Ferdinand (second restoration)	450	430

In 1737, probably to remedy the worn condition of the billon coinage, a greater number of such pieces was required to be exchanged for standard silver coins. For the peso grueso, escudo de plata, or hard dollar, the equivalent in billon money used to be eighteen reals and twenty-eight maravedis de vellon; it was now changed to twenty reals, each of thirty-four maravedis de vellon. The enemies of Spain called this a raising of the silver coins; it was, in

¹ Macgregor, ii. 1020.

² From Raynal, cited in Townsend, ii. 195, who says 160 million French livres.

reality, merely a recognition of the fact that the billon ones had been lowered.

In 1772, in order to get rid of an annoying superabundance of debased quartos,¹ it was ordered by that government that all the old billon money should be retired, and other coins of 8, 4, 2, and 1 maravedis should be fabricated to supplant them. The nominal value of this coinage was six million reales de vellon, or one million two hundred thousand hard dollars. At about the same time (1782), the total coin circulation of the country was estimated at eighty million hard dollars, or about eight dollars per capita of population, besides twenty-eight million dollars in paper notes.

In 1775, a slight alteration was made in the ratio, and another in 1779. These changes appear to have been made with the view to harmonize the gold and silver moneys of Spain with those of other countries. The power to make the ratio arbitrarily no longer remained with this country, the principal coinages of the precious metals being now conducted in England and France. Not being able to control the ratio, it was necessary for Spain to conform to that one which greater coining nations had chosen to adopt.

During the reign of Charles III., that is to say, about the years 1780 to 1783,² the government being pressed for means, borrowed nine million piastres, or hard dollars, chiefly from the French merchants in Madrid, and issued exchequer bills therefor, which bore interest at the rate of 4 per cent. per annum. The issue consisted of 1,500 notes of 600 piastres each.

As the necessities of the state increased with the progress of the war, new bills to the amount of 5,000,000 piastres

¹ In Catalonia there were four maravedis to a quarto; how many in Castile does not appear from any of the authorities consulted.

² Townsend's "Spain," ii. 190; De Bourgoanne, i. 392-5. Jacob ("Prec. Met.," p. 393) says that in Spain the currency has been invariably metallic; and Kelly ("Cambist," i. 323) says that the vales reales, or royal bonds, were first issued in the year 1800; but it appears that both of these last-named authors were mistaken.

were issued in the month of February, 1781;¹ in short, in the following year, others were issued to the amount of 14,799,900 piastres. At the time the first bills were issued, the king engaged to withdraw a part of them annually from circulation, probably through the proposed agency of the Bank of San Carlos, and in the month of June, 1785, he withdrew bills to the amount of 1,200,000 piastres. . . . Nevertheless, a few weeks later, other bills were issued. Altogether, the government avowed the emission of 28,799,900 dollars at three several periods during the war, and professed to have withdrawn 1,200,000 dollars.

The Bank of San Carlos was founded in 1781. Its promoter was M. Cabarrus, one of the French merchants from whom the government had borrowed money for the war. Its patron, to whom it owed its prosperity, was Count Florida Blanca. It started with a capital stock of 15,000,000 piastres, divided into 150,000 shares of 2000 reales de vellon, or 100 piastres each, with liberty to add annually 3,000 shares for 30 years, "in order that there might not be one citizen of the Spanish Empire excluded from this beneficial enterprise."

It was to enjoy no exclusive privileges nor monopolies; but this provision was soon infracted. In November, 1783, it obtained the exclusive privilege of exporting the precious metals;² "collecting from the merchants four per cent. for the use of government, and three for the bank." This probably means that the bank kept three out of four per cent. collected. Another privilege it enjoyed was that of conducting the remittances of the government to its ministers, consuls, naval officers, and other public servants in

¹ At this period they appear to have fallen to a discount of 20 to 24 per cent. Consult Townsend's "Spain," i. 195-6; ii. 191, 202-3, 396; and De Bourgoanne, i. 397-8.

² "In less enlightened times the Spanish monarchy" . . . had subjected such exportation "to a duty of three per cent., which in 1768 was augmented to four per cent." De Bourgoanne, i. 414-18. In 1784, the bank exported 20 million piastres; in 1785, nearly 22 million.

foreign countries, upon all of which it received a commission of one per cent.; also the privilege of purchasing all supplies.¹

In addition to this, it took part in the operations of the new Philippine Company, and the monopolies enjoyed by that association. Finally, it was entrusted with the important privilege of issuing its own notes as circulating money.

Notwithstanding these advantages, the Spanish public had no confidence in the bank, and but for subscriptions from France and Switzerland the capital stock would not have been made up. By the time this was accomplished the bank was in possession of several of the privileges mentioned, and the rage for shares evinced itself in the premium of 200 per cent. which they commanded, the market price being 600 reales de vellon. At this point a panic ensued, and the whole fabric stood in danger of dissolution, when the bank resorted to certain singular measures to preserve its credit.

First, it bought up some of its own shares. Second, and most strangely, it lent money at 4 per cent. on others of these shares, agreeing at the same time to pay the borrowers whatever dividend the shares might earn during the period of their hypothecation. Third, it appears to have guaranteed a dividend of 7 per cent. or more, and to have actually paid 9 per cent. during this time.

These measures soon restored confidence, and the shares having risen again, the managers at their fourth general meeting resolved not to advance more than 25 per cent. upon their nominal value.

In effect, the government notes, or vales reales, of 1780-83, were exchanged for the monopolies represented by the shares of the Bank of San Carlos, and by these means they were brought to par. "When I left Spain at the end of 1786 they were sought after and advantageously negotiated."²

¹ Townsend's "Spain," ii. 197-206. ² De Bourgoanne, i. 400.

During the latter portion of the troubled reign of Charles IV., 1788-1808, probably in 1800, the emission of vales reales was increased. On the 18th of March, 1808, it was announced that at the time of the invasion of the French armies the emission of vales reales which had been made during the reigns of Charles III. and IV., and were then outstanding, amounted to 1,889,867,152 reales de vellon, or about \$94,493,357. In 1818 they amounted to 1,771,462,000 reales de vellon. In 1820 they circulated at a "depreciated and fluctuating value."¹

Meanwhile the notes of the Bank of San Carlos continued to circulate at par, principally, however, in the city of Madrid. In the reign of Ferdinand VII. this institution was destined to terminate its career. On July 9, 1829, Ferdinand created the Bank of San Fernando, transferred to it the several advantages enjoyed by the Bank of San Carlos, and thus caused the failure of the latter.²

In the reign of Isabella the Bank of Santa Isabella was founded, with the design of supplanting the San Fernando in the same manner that the latter had supplanted the San Carlos; but the San Fernando had planted itself too firmly, and the utmost gained by the new object of royal favour was a compromise, by virtue of which the two banks merged, and by their combined operations caused the failure of several private institutions.³ It is this united Bank of San Fernando and Santa Isabella that furnished the basis for the present Bank of Spain.

The Bank of Spain, like its predecessors, is modelled after the institution established in Paris by John Law; it enjoys exclusive privileges and monopolies. Whether it still retains those already mentioned in connection with the Bank of San Carlos I have not been able to ascertain.

¹ Macgregor, ii. 102; Kelly, i. 323.

² Ford's "Spain," ii. 735.

³ Said J. R. McCulloch, writing in 1840: "The trade of a banker, as it is understood in Great Britain, is unknown in Spain." "Gazetteer," art. "Spain."

Some of these are, however, of little value at the present time.

Its chief advantage is, that it discharges "all the money transactions of the state, both as paymaster and collector."¹ Eighty-seven per cent. of its capital is thus employed, and in return for this favour (as the government regards it) it is permitted to violate its charter with impunity.² The government appoints the governor of the bank, leaving the election of the directors to the shareholders.

The central establishment is at Madrid, with nineteen branches in the provinces. The notes issued by the bank are a legal tender to and from the government, but not between private parties.³ Nominally the bank pays these notes in coins on presentation; really it has suspended specie payments since 1874, at which time it altered the wording of its notes, omitting all reference to coin in its promise to pay; "so that a man laying down a 100-franc (peseta) note on the table of the bank, receives now in exchange simply two 50-franc notes." The smallest note is of 50 pesetas or francs. They are of local circulation; "that is, a Madrid note will not be redeemed at Malaga, and vice versa." This redemption is, however, merely nominal, and when insisted upon is conducted with peseta and half-peseta pieces, and is thus rendered distressingly slow and discouraging.

The shares originally issued at 100 stood in 1878 at 230, and yield dividends of 25 per cent. per annum. The circulation on 30th November, 1875, was 94,055,700 pesetas in Madrid, and 47,884,850 pesetas in the provinces; together 141,940,550 pesetas, or about 28,388,110 dollars. The legal reserve is 25 per cent., or about 35,000,000 pesetas on the circulation of 1875; whereas at the time it held 100,000,000 pesetas in "old coin and bullion." No other paper money was in circulation in 1875, at which date the provincial notes circulated at par, whilst the Madrid notes

¹ Corr. London "Times," 1878.

² Ibid.

³ "Rep. U. S. Mon. Com.," 1876, i. 510.

stood at $1\frac{1}{2}$ to 2 per cent. discount in silver, and $2\frac{1}{4}$ to 3 per cent. discount in gold.¹

Besides the Bank of Spain, an institution called "El Fomento," established to facilitate the construction of new roads and canals, and another called "El Progreso," a sort of savings bank, were mentioned by Ford, in 1855, as being in successful operation.

Says De Bourgoanne: "For three centuries past the court of Spain has been careful not to change the standard of its money. It was no doubt aware that infidelities, or even variations of this kind must create uncertainty and distrust in the operations of commerce, which draws from the Spanish possessions the greatest part of the moneys necessary to settle its balances."

Nothing could be more untrue. Three centuries ago the Spanish integer of money was the maravedi; it was afterwards the real; and the standard of both of these coins has been so often changed, that now it requires a mathematician to recognize them. More than this, Spain has had several integers of money at the same time, and to-day, as the author can testify from personal experience, the coins which pass in one province are often unknown or refused in another. The following account of the money of Catalonia, given by Townsend in 1787, will afford some idea of the perplexities of a provincial monetary system, some remains of which are still extant:—

"In Catalonia, as in France, with which this province was formerly connected, accounts are kept in livres, sols, and deniers; twelve deniers make a sol, and twenty sols a livre. Thus far, all is plain and easy, but when we are to reckon by the money of this province, nominal and real, nothing can be more perplexing. If we reckon the peso or current dollar at three shillings sterling, the hard dollar will be four, the current pistole twelve, and the pistole of gold fifteen. But for greater perspicuity I shall reduce them

¹ "Rep. U. S. Mon. Com.," 1876, i. 488; and Corr. London "Times."

to a table, reminding the reader that in proportion as the exchange varies, additions or subtractions must be made.

Copper Coins of Barcelona.

1. Maravedi, of which 4 make a quarto, 18 a sol: 2. Half quarto of 2 maravedis; 3. Quarto of 4 maravedis, worth two-sevenths of a penny sterling; 4. Double quarto, worth four-sevenths of a penny.

Silver Coins.

Denomination.	Value in Quartos.	Value in Sols. Deniers.	Value Stg. s.	d.
Quarter Pistreen	$8\frac{1}{2}$	1 10 $\frac{1}{2}$		$2\frac{2}{3}\frac{3}{8}$
Half Pistreen	17	3 9		$4\frac{2}{2}\frac{3}{8}$
Pistreen	34	7 6		$9\frac{9}{14}$
Quarter Pillar Pistreen	$10\frac{1}{2}$	2 4		3
Half Pillar Pistreen	21	4 8		6
Pillar Pistreen	42	9 4	1	0
Double Pistreen	68	15 0	1	$7\frac{2}{7}$
Peso Duro, Hard Dollar	170	37 6	4	$0\frac{3}{14}$

Gold Coins.

Denomination.	Liv.	sol.	den.	£	s.	d.
Durillo worth 5 pistreens	1	19	10		4	$3\frac{3}{14}$
Half Doblón, new 10 „	3	15	0		8	$0\frac{3}{7}$
Doblón, ditto 20 „	7	10	0		16	$0\frac{6}{7}$
Double Doblón 40 „	15	0	0	1	12	$1\frac{2}{7}$
Doblón de a Ocho 80 „	30	0	0	3	4	$3\frac{2}{7}$
Half Doblón, old 10 & 3d ^s .	3	15	3		8	$0\frac{1}{4}$
Doblón, ditto 20 & 6d ^s .	7	10	6		16	$1\frac{1}{2}$
Double Doblón, ditto. 40 1 1	15	1	0	4	12	3
Doblón de a Ocho, ditto 80 2 6	30	2	0	3	4	6

The Pistreen is reckoned at 4 reals de vellon of $8\frac{1}{2}$ quartos each all over Spain, except in Catalonia, where 4 reals vellon are valued at only 7 sols $5\frac{1}{4}$ deniers. Pistreens brought from Spain into Catalonia gain $\frac{5}{8}$ of one per cent.

The livres, sols, and deniers are only an imaginary money; yet everything is reckoned in them. For example, a real ardite is 2 sols; a current peso 28 sols; and a ducat 28 sols, 7 deniers, and $\frac{4}{17}$ of a denier! A current pistole is 4 dollars and 112 livres; an old pistole 5 dollars and 140 livres, &c. Eight deniers are equal to 3 quartos of the rest of Spain. To cap the climax of intricacies, the mark

weight is one-sixth heavier than that of Castile." (Townsend's "Spain.")

With regard to the quantity of money circulating in Spain; only the vaguest conjectures can be formed; and although the author has succeeded in bringing together a number of authorities, the results of many years of reading, he has but little confidence in their correctness. He has frequently and recently travelled in many parts of Spain, and has found but very little money in the hands of the people, much of it being copper, and scarcely any gold. The bank notes have only a local circulation.

Of these estimates, the only ones to which I can accord any worth are those of 1602 and 1782. The estimate of 1869 was communicated by the Spanish Government to the United States Monetary Commission of 1876, and will be found in their Report, vol. i. p. 509. Of the 130,000,000 dollars of gold, included in the table, the main portion may safely be thrown out altogether. There was little or no gold circulating in 1869, nor is there any more now. The estimate of 1884, which is evidently copied from that of 1869, is equally wide of the truth. The total circulation of the country, coins and paper, may amount, at present, to 10 or 11 dollars per capita of population, but not more. (See table on page 122.)

The present monetary system was devised for the Spanish Government by the promoters of the Latin Monetary Union of 1867. Its principal characteristics are—1. All payments shall ultimately be discharged in a definite weight of gold. 2. The production of gold from native mines; its importation, either coined or uncoined, from foreign countries; its conversion from bullion to coins; its re-conversion from coins to bullion; its use in the arts; its exportation to foreign countries; and, generally speaking, its monopolization, sequestration, and destruction, as well as its use as money, shall be left entirely in the hands of the banking classes, and the prerogatives of the crown shall be limited to the fabrication of coins at the option and upon

Table showing approximately the quantity of money circulating in Spain at various dates, chiefly from contemporaneous authors. Equivalents employed: 1 piastre equals 5 pesetas of silver, or 20 reales de vellon; $2\frac{1}{2}$ piastres equal 1 ducat. Sums all reduced to millions of piastres.

Year.	Gold.	Silver.	Billon and Copper	Total Coin.	Paper.	Total Coin & Paper.	Authority.
1264	—	—	—	330	none	330	D. Diego Tuy, in Cuesta, p. 108.
1602	?	?	16	—	none	—	Ranke, "Ottoman and Spanish Empires."
1603	?	?	32	—	none	—	Ibid. Value of such coin doubled. Silver coin 40% prem.
1619	—	50	—	50	none	50	Moncada. "And as much more silver in plate."
1719	—	40	—	40	none	40	Anderson. "Hist.Com.," iii. 314.
1724	—	50	—	50	none	50	Ustariz. "And as much more silver in plate."
1782	—	—	—	80	20	100	Musquiz for coin; Townsend for paper.
1788	—	—	—	—	—	—	Paper worth 1 to $1\frac{1}{2}$ % more than coin. Rau, "Archiv.," ii. 161.
1808	none	none	—	—	95	95	Paper below coin. Kelly, i. 323.
1814	—	—	—	80	?	—	Storch.
1818	—	—	—	?	89	—	
1830	—	—	—	345	?	—	Barrego von Rotherkamp, 330, says 1725 million francs. He may mean reales de vellon.
1869	130	40	30	200	?	—	Master of the Mints of Spain. Excess. ve.
1876	—	30	—	?	31	—	Rep. U. S. Mon. Com., 1876, i. App. 488. Bank notes 2% disct. Ibid. 510.
1884	130	70	—	200	70	270	U. S. Mint. Report, 1884. Excessive.

demand of the bankers, and at the expense of the public. 3. As gold coins of less than about 20 grains would be inconvenient to handle, money to represent small sums shall be coined of silver, nickel, or copper; but these shall only be issued to a small extent; they shall have a limited "course," or legal tender between private parties, but shall be

receivable by the government without limit, thus making them practically redeemable by the government in gold coins.¹ 4. As it may be to the interest of the banking classes to inflate or contract the currency more suddenly than could be done by means of coins, they shall control the emission of paper money by making it payable in the metal which they are legally empowered to monopolize. 5. The government shall divest itself of any possible means of ascertaining the quantity of money in circulation, and the dimensions of the measure of value shall only be known to the banking classes.

The following is a list of the principal moneys now circulating in Spain. Besides these, there are numerous copper coins of old mintages, but they are gradually disappearing.

Principal moneys now circulating in Spain; contents of gold and silver coins in English grains of fine metal; and legal value of coins in reales de vellon.

GOLD COINS.

Coinage and issue unlimited; legal tender unlimited.

	Denominations.	Grains.	Reales.
Onza	As coined previous to 1848 . . .	370.00	320
Doblon		92.50	80
Escudo		46.75	40
Escudito		23.12	20
Centon, or new doblon, Isabella II.	. . .	116.00	100
Piezas de dos duros previous to 1868	. . .	46.40	40
Pieza de un duro (un peso), previous to 1868	. . .	23.20	20
Pieza de 100 pesetas (viente pesos), 1868	. . .	448.05	400
Pieza de 5 pesetas (un peso), 1868	. . .	22.40	20

There are also pieces of 10, 20, and 50 pesetas, of proportional weight

¹ This degraded posture of the only money whose fabrication the government has not entirely yielded up to the bankers is thus complacently alluded to by Mr. Adee, the American chargé d'affaires at Madrid: "Spain gives another proof of her vitality in joining the ranks of the far richer nations of Europe, who hold that a silver piece, whatever its intrinsic worth, is merely a promise, on the part of the government whose stamp it bears, to pay on demand the amount of gold due on its face!" "Rep. U. S. Mon. Com.," 1876, i. 486.

and value to the last. All of the above coins, previous to 1868, are now worth a premium of 2 to 5 per cent., and none are in circulation.

SILVER COINS.

Coinage limited to production of native metal; issue practically limited by legal tender limitation; legal tender of peso between individuals limited to 30 pesos; legal tender of pesetas and its multiples or fractions between individuals limited to 50 pesetas. Legal tender to government without limit.

Denominations.	Grains.	Reales.	
Old peso fuerte, or duro	} Few or none in circulation	{	370.00 . 20
Old medio, or escudo			185.00 . 10
Old peseta columnaria			92.50 . 5
Peso fuerte, or duro, 1868			347.24 . 20
Peseta, 1868			64.43 . 4
Medio peseta, or 50 centimos			32.21 . 2
Twenty centimo piece			12.88 . $\frac{4}{5}$

PAPER NOTES.

These consist exclusively of the notes of the Bank of Spain and its branches. They circulate chiefly in the cities of their issue, the bulk of them in Madrid. They are legal tender without limit to the government, but not between private parties. They are nominally redeemable in gold, but in fact the bank suspended coin payments in 1874, and in 1876 its notes were at a discount of 2 to 3 per cent. in new coins. The bank thus controls the government, instead of the government the bank.

COPPER COINS.

Legal tender between individuals limited to one peso, or five pesetas; legal tender to government unlimited.

Old copper coins.		New copper coins.	
Denominations.	Number to one real.	Denominations.	Number to one real.
Quarto	$4\frac{3}{8}$	10-centimos	$2\frac{1}{2}$
Ochavo	$8\frac{3}{4}$	5-centimos	5
Ochavita (two maravedis)	$17\frac{1}{2}$	2-centimos	$12\frac{1}{2}$
Maravedi	35	1-centimo	25

Theoretically, the mines of Spain are a royal patrimony,¹ such theory being a necessary corollary of, and having sprung from, the ancient royal prerogative and monopoly of coinage. But as, since the introduction of bank paper-money, this prerogative has been surrendered to the system

¹ Johnson's "Civil Law of Spain," London, 1825, p. 101.

of unlimited and gratuitous coinage, the plan of dealing with the mines has been entirely changed, but is still open to grave objection. Formerly, the defect of the system consisted in impelling the crown to work the gold and silver mines after the rise of prices had ceased to render them profitable; now, its defect consists in permitting any unscrupulous adventurer to wash the gravel hills of the Peninsula into its river bottoms, and thus continue that work of physical devastation which has already made so sinister a mark upon the face of the country.¹

The gold and silver mines of Spain were closed by the Visigoths and reopened by the Moors, whose works were continued by the Spaniards. During the reign either of Ferdinand,² Charles,³ or Philip III.,⁴ the mines were closed by royal proclamation, with the object, as stated by some writers, of forcing the workmen into the richer mines of America.

Before the discovery of America the tax on production was one-half of the gross produce, the same as in Portugal. During the government of Ovando, who succeeded Columbus, in Hispaniola, this tax seems to have been lowered to one-third.⁵ Nevertheless, it was still so severe as to reduce the miners to poverty. When the mint was established in Mexico, 1535, the tax was lowered to one-fifth, and was thenceforth known as the Quinto. It was again lowered in Mexico, 1725, and in Peru, 1736, to one-tenth, and afterwards to one-twentieth, and still later, with reference to the production of gold, to three per cent.⁶

¹ That tremendous engine of destruction, the California "giant," has already commenced its fell work upon the gravels of the river Sil. For an account of the damage in Spain done by the ancients, consult Pliny's "Natural History," and the author's "Rape of the Earth," chapter on "The Minho." ² Sismondi's "Underground."

³ Roscher, i. 410, gives 1535 for the date of the law.

⁴ A recent Spanish mining prospectus gives for the date 1604.

⁵ Roscher, i. 412, n. 1.

⁶ Ibid. The details of the Spanish Quinto given on p. 62 of the present work should be corrected to agree with the text in this place.

The rise of prices which followed the opening of the American mines occurred earlier in Spain than in the other countries of Europe, but did not proceed so far. These phenomena are noticed elsewhere in the present work.

The mining system of Spain based upon the imperial Roman law became greatly developed during the productive eras of Mexico and Peru. Its main peculiarities consist of the emphyeutical nature of the miner's tenure and his right to follow his vein under whomsoever's land it may lie. These characteristics have been thoughtlessly adopted in the mining laws of the United States, and should be abolished.

These laws, like those which relate to money, belong to unprogressive eras, and fit the present circumstances of Spain but little better than they do America. During the past five-and-twenty years Spain has so thoroughly destroyed the power of feudalism and ecclesiasticism that to continue upon her ancient lines of government is becoming every day more impracticable. Several million acres of additional land have been brought under cultivation, several million people have learned to read, and several thousand miles of railways have been constructed. These are works of progress that cannot be undone. Spain is like a once inert mass suddenly hurled into the illimitable orbit of action; she must henceforth go on for ever.¹

¹ "Resources, Productive and Social Condition of Spain," by Alex. Del Mar, Philadelphia, 1875.

CHAPTER XI.

PORTUGAL.

The Rei the basis of the Portuguese monetary systems—Its Moorish origin—Gold from Africa—Results of Columbus', De Gama's, and Cabral's voyages—Portugal secedes from Spain, and suddenly becomes a leading power—She obtains the hegemony of the ratio and fixes it at 16—This was done to enhance the value of the more plentiful metal—Success of the measure—Establishment of free coinage in England—Its relation to Portuguese affairs—Exhaustion of the Brazilian mines—Decline of Portugal—She loses command of the ratio and overvalues her silver coins—Illicit importation of foreign coins—Counterfeits—Bank notes—These soon become inconvertible and unlimited—The last degradation: "lei"—Opening of the nineteenth century—Act of 1854, establishing gold coins as the only unlimited money—This merely nominal; "lei" continuing to be the actual money—Coinage laws—Ratios—Current moneys—Circulation—Review.

THE rei, which is still used as the integer of accounts in Portugal, was called by John Locke an imaginary money; but this is a mistake. The rei was a silver coin of the Saracens, and ever since the Saracenic occupation of Portugal it has been an actual, not an imaginary, money of that country. It is no longer coined of silver, nor was it in Locke's time, because it had previously been so much degraded and debased that to make it of silver would have been to render it inconveniently small. Its multiple, the milreis, however, was an actual coin in Locke's time, and is in existence to-day.

The original rei has been computed as having been equal to about $51\frac{1}{2}$ grains of fine silver;¹ but I know of no Sara-

¹ Fawcett, "Gold and Debt," p. 61.

centic silver coin of this weight, except the dirhem, the contents of which were commonly about 45 grains. However this may be, the rei in 1688 only contained half a grain (.5153 gr.) of silver, or almost exactly one-hundredth part of its alleged ancient contents.

The period between the Moorish occupation of the Peninsula and the discovery of America has been already traversed pretty fully in a previous chapter. Some details, however, remain to be mentioned. After the conquest of Lisbon and the retirement of the Moors from the valley of the Tagus in 1147, the sands of this river were worked for gold by the Christians, and with such results as bespeak the prevalence of very low prices.¹ During the twelfth and thirteenth centuries, the principal, almost the only coins of Portugal were of billon and copper. During the fourteenth century, her navigators crept down the coast of Africa and obtained small quantities of gold dust from the natives.

As narrated in a previous chapter, a gold-mining company was organized in Portugal in 1442, when Gonsales Baldeza returned from his second voyage. Cadamosto, the Venetian who visited Timbuctoo in 1454, says that the gold coinages of Portugal, Spain, and Italy in the fourteenth and fifteenth centuries were entirely supplied from Africa.²

At the period of the discovery of America Portugal must have become possessed of a sufficient quantity of gold to enable her, had her general condition been prosperous, to establish a sound system of money for those times. But such was not the case, and her coinages are distinguished by the same characteristics of frequent degradations and debasements that mark those of Spain. The discovery of America and the memorable voyage of De Gama gave new life to Portugal. All at once she became a great maritime

¹ A full account of this industry will be found in my "Hist. Prec. Met.," p. 36.

² Alfred G. Lock on "Gold," London, 1882, p. 37.

power. The gold of South Africa,¹ of the East Indies,² of Japan,³ and presently of Brazil,⁴ came pouring into her lap, and after she seceded from Spain in the seventeenth century, this little kingdom of some three millions of inhabitants became one of the leading nations of the world. At the beginning of the century the ratio of value between the precious metals in the coinages of Spain was $13\frac{1}{3}$ for 1, and owing to the fact that Spain was then the principal coining nation of the world, she was able to determine the ratio for all other nations. In other words, $13\frac{1}{3}$ had become the "market" rate in the commercial world, because it had previously been made the legal rate in the foremost coining country of the time. This position it was soon for Portugal to assume. The Spaniards had found no great placer countries in New Spain; the Portuguese found one in Brazil; and as gold in placers is much more easily obtained, and a greater number of people can be worked together upon it at once than upon mines of silver, a vast supply of the more precious metal soon made its way to Portugal. Flushed with this great and sudden wealth, and confident that in a contest between rapidly producing gold placers and slowly producing silver mines the influence of the

¹ In April, 1569, a company with a large capital was formed at Lisbon to work the gold mines of South Africa, north-west of Delagoa Bay, and it sent out an expedition under Francisco de Barreto, consisting of three ships, 1,000 men, and an ample supply of horses, camels, and provisions. This expedition arrived safely at its place of destination. In the course of five years not a single member of it survived. A Californian miner, who visited the scene of this disaster in 1885, informed the author that the Portuguese must have been anticipated by some older race of gold miners, for he saw both their works and other and more ancient ones near them. For details, see the author's "Rape of the Earth," chapter on "The Zambesi."

² Albuquerque captured a million crusados' worth of gold and silver in Malacca. "Hist. Prec. Met.," p. 336.

³ The Portuguese got £60,000,000 worth of gold and silver from Japan between 1545 and 1624. Ibid. 134.

⁴ From first to last the Portuguese got £180,000,000 in gold from Brazil. Ibid. 124.

former would prevail, Portugal in 1688 determined upon the bold stroke of coining its gold at 1 to 16 of silver, and thus compelling those Spaniards who preferred the more precious metal to pay nearly 15 per cent. more for it than the value they had fixed upon in their own coinages. Such was the force of this measure, that two years later the Spaniards were fain to adopt the Portuguese ratio, and thus relinquish one-seventh of the exchange value of the metal which now formed the main portion of their American product.

This example is only one of many which history affords to prove that the ratio between the metals is not at all influenced by their relative production, but altogether by law—not the law of weak nations, but the law of strong ones. It will be found that whenever the ratio was changed by such nations, they enhanced the value, not of the scarcer, but of the more plentiful metal; in other words, of that metal over the production or coinage of which they themselves possessed the control.

The Decree of 1688, after levying a seignorage of $6\frac{2}{3}$ per cent. on gold and 5 per cent. on silver deposited in the mints for coinage, fixed the relation of value between the gold and silver in the new coins at 1 to 16. The actual ratio in the coins was 1 to 16.1, the Lisbon Chamber of Commerce says it was 16,¹ and Sir Isaac Newton 15.7 to 15.9.² Some uncertainty is due to the fact that the cambists assume the standard silver to have been 10 dinhios and 19 graös or 899.302 fine, and the standard gold eleven-twelfths or 916.67 fine, whilst the Lisbon Chamber of Commerce speaks of the standard silver coins of 1688 as 11 dinhios (twelfths) or 916.67 fine, the same as the gold coins, and an assay of the gold moidore of 1689 by Messrs. Eckfeldt and Du Bois, of the Philadelphia Mint,

¹ See their communication to the U. S. Mon. Com. of 1876, Rep., vol. i. p. 469.

² See also Kelly's "Cambist," ed. 1821, part i. p. 211.

shows the latter to have been but 908 fine, adding that the same coin was previously 916.67 fine.¹

Whatever circumstances or motives induced the Decree of 1688, it certainly valued gold in relation to silver much higher than in the laws of any contemporaneous nation, and kept it there until 1747.

Although Portugal had nominally thrown off the Spanish yoke in 1640, the war with Spain lasted until 1665,² and indeed amicable relations were not fully restored between the two countries until 1737. This long and almost internecine conflict greatly weakened the resources of the state, and rendered her too poor to retain any considerable portion of the gold from Brazil. Consequently, although overvalued in the coinage, and forbidden under severe penalties from being exported, the most of this metal flowed to other countries.

In some of those countries—as, for example, England—the gold coins of Portugal were rendered current by law, and formed an important part of all the coined money in circulation.³

When her Brazilian gold mines showed signs of exhaustion Portugal raised the value of her silver coins. In 1747 she reduced the weights of her silver coins by striking 7.5 instead of 6.3 milreis, as theretofore, out of a mark of standard silver. This measure, by narrowing the coinage ratio from

¹ Eckfeldt and Du Bois on "Coins," p. 101.

² It was in this year (1665) that that monstrosity, the "free coinage" law, was enacted in England. Its design was to divert the Brazilian gold from Spain to England. Charles II. of England was married to the Infanta of Portugal, and England and Spain had been at war between 1588-1604 and 1624-29.

³ Raynal, in his "History of the East and West Indies," says that at about the middle of the last century two British men-of-war visited Lisbon every week to carry out that precious metal which the laws of Portugal forbade to be exported by merchantmen. The Methuen Treaty of 1703 greatly facilitated this policy. The number of Portuguese gold coins carried to England was so great, that moidores, jaos, and half-jaos of gold became an important part of the current money of England and the British West Indies.

16 to $13\frac{1}{3}$,¹ appears to have been merely a financial resource, one common to many nations in that age. The crown issued new and lighter crusados, which it declared full legal tenders, and offered to exchange them for old ones, at a premium for the latter, but a premium which amounted to less than the real difference in their value when melted. The first consequence of this measure was the export of the old silver crusados, and to such an extent did this proceed that, in 1756, according to the Abbé Raynal, Portugal, but recently one of the richest countries in Europe in respect of gold and silver, did not possess over three or four million dollars in coins of those metals.²

This apparent dearth of specie is, however, to be explained by means of another and far more serious result of the Decree of 1747—the encouragement which it afforded to counterfeiting and to illicit importations of foreign coins.

That such was its actual consequence is proved by two circumstances: 1st, the character of the contraband trade across the Rio de la Plata; and 2nd, the comparatively small amount of silver which was coined in the royal mints of Portugal.

1. Beauchamp, in relating the history of Brazil during the last half of the eighteenth century, avers that the profits of the illicit traffic across the Rio de la Plata—of which trade “the principal branch consisted of exchanging gold for silver coins,” the latter being of foreign make—amounted to nearly a million of francs a year.³

¹ Dr. Kelly's “Cambist,” ii. 147, says that the Decree of 1747 fixed the “relative value of gold and silver” at 1 to 13.56, while the coins assayed but 1 to 13.33. The distinguished metrologist was right about the assay, but he appears to have been wrong about the Decree, an official copy of which will be found in the Rep. U. S. Mon. Com., i. 433.

² Cited in “Hist. Prec. Met.,” p. 217. It should, however, be remembered that this estimate does not include counterfeit or foreign-made silver coins, of which large numbers circulated in Portugal; moreover, that it was the year after the great earthquake, by which much treasure may have been engulfed.

³ “Histoire du Bresil,” par M. Beauchamp, tom. iii. p. 502; Eckfeldt and Du Bois on “Coins,” p. 167.

2. The coinages of silver in the royal mint, from 1752 until the suspension of specie payments in 1797, for use in the kingdom of Portugal, only amounted to 3,815,000 milreis, and for use in Brazil, 665,000 milreis; total, 4,480,000 milreis; whilst during the same period the coinages of gold amounted to 28,879,150 milreis, nominally for use in Portugal, really for export, and 527,600 milreis for use in Brazil; total, 29,406,750 milreis.¹

The details of the coinages of the Brazilian mints by years are not attainable; but so far as the data go, the evidence is to the same effect. From 1694 to 1703 the coinages of silver amounted to 1,530,030 milreis, and of gold to 722,822 milreis. From 1703 to 1833 the coinages of silver amounted to 16,460,866 milreis, and of gold to 216,257,629 milreis.² From 1834 to 1848, inclusive, no statistics are attainable. From 1849 to 1863, inclusive, (the new coinage,) the coinages of silver amounted to 12,742,278, and of gold to 38,686,550 milreis.³ A demand for legitimate silver coins so small as that evidenced by these statistics adds weight to the statement made by Beauchamp and confirmed by the researches of Eckfeldt and Du Bois. It is evident either that foreign coins largely made up the circulation, or that the silver coinage was largely counterfeited.⁴

The ministers of the crown were either so indifferent to this state of affairs, or so pushed for resources, that instead of removing the principal inducement to the commission of counterfeiting by widening the legal ratio to conform more nearly to that of the principal coining nation of the time, they actually narrowed it still further in 1797 by advising

¹ The Lisbon Chamber of Commerce mentions two mints in connection with the decree of 1688; but after 1747 there probably existed but one—that of Lisbon.

² "The Empire of Brazil," Rio de Janeiro, 1877, pp. 402-3.

³ Scully's "Brazil," p. 144.

⁴ Spanish dollars counter-stamped with the arms of Portugal were ordered to pass in Brazil for 960 reis each. Armitage, ii. 54.

8,317 reis to be coined out of a mark of silver, instead of 7,500 as before. The royal signature had not been affixed to this measure more than a year when, in 1798, it was repealed, and the provisions of 1747 were re-enacted.

By this time, however, the kingdom had become so greatly reduced and the circulation so depleted that no change in the ratio of the precious metals could have afforded any material aid to the crown. It was too poor to be able to retain either gold or silver in the circulation, and the devices of a desperate ministry had to be directed to some other and more promising field. In the vicious finance of the last century, France had set an example which other nations were not slow to follow. After several violent changes of the ratio, from each of which France made some wretched profit, that kingdom, in 1719, had had recourse to an inconvertible, not a numerary, paper system, commonly known as Law's Bank. In 1792, the Revolutionary Assembly followed the example of the crown and emitted an unlimited mass of easily-counterfeited assignats. In July, 1797,¹ Portugal followed in the same direction, and took the last step that completed the degradation of her monetary system; she commenced the emission of a bank paper money which eventually became both inconvertible and unlimited.

The system had but a single feature in common with a true numerary—the worthlessness of the material of which the symbols were made. The amount of the emission in this case was neither limited nor specified; nor were the notes secured, by mechanical excellence, against counterfeiting. “The government issued a large amount (of this paper) in notes of 1,200 to 20,000 reis each, bearing interest; and made it legal in all transactions to pay half in specie and half in paper. This was called ‘lei,’ or ‘lawful money.’ The interest on these (the paper notes) was paid for a few years, but eventually was withheld, and the paper

¹ Macgregor's "Statistics," ii. 1151.

fell by successive stages until it reached to 35 per cent. below par,"¹ meaning below the value of silver coins of similar denominations.

The basis of the reis, when the paper system was first adopted, was silver, a Portuguese mark of which, or 354½ grains Troy, .895 fine, was coined into 7½ milreis under the law of 1747. This made the silver milreis to consist of 461 grains of standard, or 422.6 grains of pure silver, equal to about 1.138 American silver dollars.

Upon the withdrawal of the royal family and the court to Brazil, in 1808, the "lei" system appears to have been transplanted to that colony.

On the 21st of October, 1809, a national bank was established at Rio de Janeiro, and it issued paper notes, which it loaned to the government.² So rapidly was this paper put into circulation that before the year 1810 it was seen in the remote districts where the gold mines were situated.³

When Dom João left Brazil for Portugal in 1821, his courtiers demanded gold and silver coins from the bank for the notes they held. So great and sudden a demand as this movement occasioned, compelled the bank to suspend the nominal payments in coins which it had previously maintained; and it offered in lieu thereof the following singular composition: For each note of 100 milreis, 75 per cent. in small notes, 15 per cent. in silver coins, and 10 per cent. in coppers. For notes smaller than 100 milreis each, no redemption whatever was offered.⁴

A similar composition was already being accomplished with reference to the paper notes of Portugal. By the year 1819 gold had entirely disappeared from the circulation of the country.⁵ In February, 1820, the notes were at a dis-

¹ Eckfeldt and Du Bois, p. 101.

² Armitage's "Hist. of Brazil," vol. i. pp. 13-45.

³ Beauchamp, iii. 499.

⁴ The Bank of Portugal was reorganized in 1822, and with the peculiar privilege of being a "preferred creditor" in all cases. McCulloch's "Com. Dic.," art. "Lisbon." ⁵ Beauchamp, iii. 513.

count of 22 per cent. compared with silver coins of the standard of 1747 and 1798. Legal payments consisted as before of one-half paper notes, the other silver coins.¹

As the character of legal payments in Portugal has been greatly misunderstood, it will be well to fortify the position herein taken by other evidence than Dr. Kelly's. Says Macgregor: "Bills of exchange are paid in 'lei,' as are all other articles, if no agreement is made to pay in metal. 'Lei' is one-half specie and the other paper currency."

The course of exchange, however, is conclusive on this point. From 1811 to 1854, the par of exchange between Lisbon and London was about 53 pence sterling for 1 milrei.³ This sum in pence contains 26.1 grains of gold, .916 $\frac{2}{3}$ fine. The standard of fineness in the gold coins of England and Portugal being the same, it follows that the milrei of gold should have contained exactly the same weight as 53 pence sterling, or 26.1 grains, whereas, in point of fact, the milrei of that period contained 34.58 grains of standard gold. At .513,642 grains of standard gold to the penny sterling, the par of exchange with the milrei of 34.58 grains standard would have been 67.32*d.* sterling, instead of 53*d.* as quoted by Dr. Kelly.

It is therefore evident that the rate of exchange was not based upon the gold coins of Portugal, and a similar calculation in respect to silver proves that it was not based upon her silver coins. There can be no doubt of the fact that it was based upon "lei."

At the periods referred to in the works of Dr. Kelly and Mr. Macgregor, to wit, about the year 1820, lei consisted one-half of irredeemable paper and one-half of silver coins; but this does not appear to have always been its composition. In 1811 the crown had commenced to issue a series of highly overvalued bronze and copper coins, and

¹ Kelly's "Cambist," ii. 73.

² "Statistics," ii. 1151.

³ Kelly's "Cambist," ii. 72, says explicitly that it was 53*d.* in February, 1820.

these, until they were recalled in 1835, appeared to have formed some portion of the lei or legal tender.¹ Eckfeldt and Du Bois state that legal payments consisted of one-half paper, one-third silver, and one-sixth copper,² and so late as December, 1876, the Mint Master of Portugal states that "there is a custom that one-third of a payment may be made in copper, but this is not so by any law."³ In a communication from Lisbon in 1882, the author was informed that the custom of paying one-third in copper still prevailed.

From 1822 to 1847 such reductions were made in the gold coins of Portugal, and such were made the legal relations of the silver coins to them,⁴ as to lead to the export of the latter.⁵ This was attempted to be stopped by levying an export tax upon the coins amounting to from 100 to 1,000 reis per mark; but, as might have been expected, this measure did not meet with success.⁶ By the law of July 29, 1854, the weight of the silver coins was reduced, and the exportation of silver was discouraged.

The Act of 1854, after regulating the coinage of certain new pieces, legalizing the English sovereign at $4\frac{1}{2}$ milreis, and limiting the legal tender of silver coins to 5 milreis, made the following provision:—

"Article 10. At the end of three months, as regards the Bank of Portugal, and four months as regards the Commercial Bank of Oporto, bank notes shall only represent gold coins, and shall only be payable in such coins. This regulation shall not affect what may now be the custom in reference to notes for copper payments." The last clause alludes to the custom of employing coppers for one-third of all legal payments.

¹ These coins were so clumsily made that they were readily counterfeited, and this was practised to such an extent as to render their retirement necessary. Rep. U. S. Mon. Com., p. 477.

² Eckfeldt and Du Bois, p. 100.

³ Report U. S. Mon. Com., i. 433.

⁴ See tables further on in this chapter.

⁵ Lisbon Chamber of Commerce, in Rep. U. S. Mon. Com., i. 473.

⁶ Ibid.

From the tenor of this legislation it might be supposed that in 1854 Portugal resumed "specie payments" in gold; but such is not the fact. The limitation of the tender of silver coins to 5 milreis was postponed from time to time up to June 30, 1876,¹ and may have been postponed again since that date. So that up to 1876, and perhaps to the present time, the old silver corōas and their parts (Act of April 24, 1835), the new crusados and their parts (Act of August 7, 1747), the old 100 reis and 50 reis pieces, as well as certain foreign silver coins, all remain as full legal tenders as ever.²

The details of the Portuguese coinage laws during the present century are therefore unimportant. The real money of the country has consisted of paper notes, the main part of which were and are still irredeemable, together with British gold sovereigns, Portuguese silver coins, and a great mass of coppers.³ The lei system has been continued with certain modifications to the present time.

In 1797 the discount upon the notes compared with specie was from 1 to 2 per cent. From this point it gradually increased to from 15 to 20 per cent. During the invasion of the French in 1807 it increased to 50 per cent.⁴ In 1820 it stood at 22 per cent.⁵ Between that date and 1850 it fluctuated between 15 and 30 per cent.⁶

The notes of the Bank of Portugal are a legal tender to an unlimited amount to and from the government, except for payments on account of the National Debt. They are not legal tender between private parties. On the 31st of December, 1875, the circulation of the bank amounted to 4,771,587 milreis, and on the 31st of October, 1876, to 3,296,750 milreis.⁷

¹ Lisbon Chamber of Commerce, in Rep. U. S. Mon. Com. i. 472.

² Ibid. p. 438.

³ The author, while visiting the Bank of Portugal in 1882, observed near the paying teller's department a large room stored to the ceiling with bags of copper coins. ⁴ Macgregor's "Statistics," ii. 1151.

⁵ Kelly's "Cambist," ii. 72. ⁶ Macgregor, ii. 1151.

⁷ Lisbon Chamber of Commerce, in Rep. U. S. Mon. Com., i. 447.

In addition to these notes, others are issued by private banks "organized under the general principles which, according to the law of 22nd of June, 1867, regulated the formation and existence of banking corporations." Of these establishments, there is one in Lisbon, and there are five in Oporto and three in the provinces. Their combined note circulation on 31st of October, 1876, was 138,004 milreis; so that the total paper circulation of Portugal on the last-named day was 3,434,754 milreis. In 1883 it was about 6,000,000 milreis.

The Lisbon Chamber of Commerce was of the opinion that Portugal in 1876 possessed 56 to 60 millions milreis in gold coins—chiefly British sovereigns—and 10 millions in silver coins. The only basis for this opinion which it offered was that the gold coinage since 1854 had amounted to $4\frac{1}{4}$ millions, that the imports of gold from 1843 to 1873 inclusive amounted to 12 millions, and that the exports from 1856 to 1869 amounted to 5 millions. With all respect for the source of this opinion, it is submitted that its basis is altogether too fragmentary and misleading. I think it would be far safer to estimate the gold circulation of Portugal in 1876 at one-third the amount estimated, and the entire circulation at about 33 million milreis. At the present time it may amount to 36 millions.¹

In addition to these features of the monetary system of Portugal, it is to be remarked that special contract laws are in force, and that British sovereigns have been full legal tenders since 1812; indeed, that the little gold now used in Portugal consists exclusively of these pieces, and that these, together with Portuguese paper notes under the conditions already mentioned, and Portuguese silver coins up to a limited sum of reis, are co-ordinate legal tenders.²

¹ The Director of the United States Mint (Rep. 1884) estimates it at 30 gold, 10 silver, and 6 paper, including the Azores and Madeira. It would be safer to say 17 gold, 10 silver, 6 paper, and 3 copper—total, 36 million milreis.

² Report of the Lisbon Chamber of Commerce.

Looking back upon the money of Portugal, it may be stated briefly that it has always consisted of a fluctuating and unknown number of reis of a varying composition and value. The original rei seems to have been identical with the Arabian dirhem of 45 grains of fine silver, roughly equal to that contained in a modern sixpence sterling. By the year 1688 this had fallen through repeated reductions to one-hundredth of its ancient contents, and it became necessary to reckon by milreis, or a thousand reis, instead of single ones. If coined according to law, a milreis piece in 1688 contained 515.3 grains of fine silver; and this has been gradually reduced until now the law only requires 360.7 grains. It seems, however, that the Portuguese mint has not obeyed the law. Assays prove that the silver coins of Portugal are nearly one per cent. baser than they should be. The following table affords the details of all coinages since 1688.

1. *Number of milreis coined out of a Portuguese mark of standard silver*; 2. *Number of standard grains Troy in each milreis*; 3. *Legal standard of silver*; 4. *Number of fine grains legally in each milreis*; 5. *Actual (assay) standard of Portuguese silver coins*; and 6. *Number of fine grains actually in each milreis. The mark contains 4608 graöds, or 3541½ grains Troy.*

Year.	1.	2.	3.	4.	5.	6.
1688	6\$300	562.14	.916 $\frac{2}{3}$	515.3	.9080	510.4
1722	6\$300	562.14	.916 $\frac{2}{3}$	515.3	.8980	504.8
1747	7\$500	472.20	.916 $\frac{2}{3}$	432.8	.8950	422.6
1797	8\$317	425.81	.8993	382.9	.8950	381.1
1798	7\$500	472.20	.8993	424.6	.8950	422.6
1802	7\$500	472.20	.8993	424.6	.8970	418.8
1808	7\$635 ¹	463.85	.8993	417.0	.8993	417.0
1811	7\$500	472.20	.8993	424.6	.8993	424.6
1822	7\$500	472.20	.916 $\frac{2}{3}$	432.8	.9080	428.8
1834	7\$500	472.20	.916 $\frac{2}{3}$	432.8	.9080	428.8
1835	7\$500 ²	472.20	.916 $\frac{2}{3}$	432.8	.9080	428.8
1838	7\$750	456.97	.916 $\frac{2}{3}$	418.8	.9080	415.0
1847	7\$750	456.97	.916 $\frac{2}{3}$	418.8	.9080	415.0
1854	9\$000	393.50	.916 $\frac{2}{3}$	360.7	?	?

¹ Mint accounts and Kelly, i. 211.

² The mint decree says 7\$750; the mint accounts say 7\$500.

The actual decline of the milreis has therefore been from 510.4 to about 357 grains fine, its contents at the present time. The assays employed in framing the above table will be found recorded in Kelly, Eckfeldt, and Du Bois. The principal coin assayed was the crusado. This coin has been the silver one most commonly used in Portugal since 1747; and from 1752 to 1871 its coinage formed three-fourths of the entire coinage of silver. Up to the year 1722 the crusado was counted as 400 reis; afterwards as 480 reis. From 1752 to 1851 inclusive there were coined 60,259,687 new crusados out of 4,058,372 marks of standard silver, which, at an average of .908 fine, would give $216\frac{1}{2}$ grains fine for the average crusado. Kelly, however, only accords it $206\frac{1}{8}$ grains fine, while the coins tested at the London mint in 1812 yielded only $198\frac{1}{2}$ grains, and those at the Philadelphia mint in 1842 only $202\frac{1}{2}$ grains fine.

The fineness of Portuguese gold coins has not been questioned, and it may therefore be assumed that they were all coined upon the standard provided by law, viz., $.916\frac{2}{3}$ fine. Upon this assumption the following table shows as follows:—

1. Number of milreis coined out of a Portuguese mark of standard gold;
2. Number of standard grains Troy in each milreis; 3. Number of fine grains of gold in each milreis; 4. Ratio of value between gold and silver deduced from the third column of this table and the last column of the preceding one; and 5. The coining ratio of the principal coining nation of each period given.

Year.	1.	2.	3.	4. ¹	5.
1688 .	102\$400 .	34.58 .	31.78 .	16.0 .	16.0
1722 .	102\$400 .	34.58 .	31.78 .	15.9 .	15.9
1747 .	102\$400 .	34.58 .	31.78 .	13.3 .	15.2
1797 .	102\$400 .	34.58 .	31.78 .	12.0 .	15.5
1798 .	102\$400 .	34.58 .	31.78 .	13.3 .	15.5

¹ The ratios given by the Lisbon Chamber of Commerce, and deduced from the law, are, for the years given in the table, 16, 16, 13.5, 13.5, 13.5, 13.5, 13.5, 16, 16, 15.5, 15.5, 16.5, and 14.4. Those in the table are derived from the assays of the coins.

Table—continued.

Year.	1.	2.	3.	4.	5.
1802 .	102\$400 .	34.58 .	31.78 .	13.2 .	15.5
1808 .	102\$400 .	34.58 .	31.78 .	13.2 .	15.5
1811 .	102\$400 .	34.58 .	31.78 .	13.3 .	15.5
1822 .	120\$000 .	29.51 .	27.05 .	15.9 .	15.5
1834 .	120\$000 .	29.51 .	27.05 .	15.9 .	15.5
1835 .	120\$000 .	29.51 .	27.05 .	15.9 .	15.5
1838 .	120\$000 .	29.51 .	27.05 .	15.3 .	15.5
1847 .	128\$000 .	27.67 .	25.36 .	16.4 .	15.5
1854 .	129\$000 .	27.37 .	25.09 .	14.2 .	15.5

From this table it will be seen that Portugal made the ratio in 1688 and 1722, and that the rest of the world had to follow her. In 1747 England enjoyed the hegemony of the ratio, and fixed it at 15.2, whereupon Portugal overvalued her silver coins, and permitted her gold to flow out in exchange for silver. From 1797 to 1854 the hegemony of the ratio was held by France, who fixed it at $15\frac{1}{2}$. In 1822 Portugal reduced the legal weight of her gold milreis and restored the ratio to 15.9, at which rate (because the United States and Spanish America were now coining at 16) both gold and silver coins circulated in Portugal. In 1838 she reduced her silver coins, and thus made a slight and unimportant change in the ratio. In 1847 she reduced her gold coins, and widened the ratio to 16.4, making her silver coins worth a premium. Finally, in 1854, she reduced both gold and silver coins, making a ratio of 14.2, but at the same time monopolizing the coinage, and limiting the legal tender of silver coins, in this respect submissively following that same England for whom two centuries before she had proudly led the way.

It will, however, be borne in mind that the "lei" in Portugal was from 1797 half coins and half paper (Kelly), from 1822 half paper, one-third silver, and one-sixth copper (Eckfeldt and Du Bois), and since 1835 one-third copper.¹

Under the present system gold is coined illimitably for

¹ The Act of July 29, 1854, art. 10, alludes to this custom.

individuals at 1\$000 per kilo; the coinage of silver and copper is monopolized by the government;¹ gold coins are unlimited legal tenders; silver coins are limited to 5\$000 in any one payment;² there is no import duty on gold; the import duty on silver is 1\$000 per mark (Law of January 30, 1851).

The following table gives the denominations of the principal gold and silver coins now or recently circulating in Portugal, their contents in Troy grains of fine metal, and their legal value in reis:—

Denominations.	Contents grains.	Value in reis.
<i>Gold Coins.</i>		
British sovereigns	113.0 . . .	4\$500
Corõas (crowns) and fractions, 1854	250.9 . . .	10\$000
Pecas (old), demonetized in 1854	—	8\$000
Corõas, 1851	—	5\$000
Corõas, 1835	135.26 . . .	5\$000
<i>Silver Coins.</i>		
Five Testoons, 1854	180.0 . . .	\$500
One Testoon	36.0 . . .	\$100

The Roman practice of placing a higher nominal value upon its coins when they circulated in the provinces than at home, a practice which some modern critics have totally denied the existence of,³ was continued by both Spain and Portugal, and will be more fully described in the monetary systems of their American colonies.

¹ And the amount fixed by the Cortes. Act of July 29, 1854, art. 12. This reminds one of the old Roman "Senatus Consulto."

² Act of July 29, 1854. This act extended to "obligations contracted before the publication of this law, even in cases defining payment in gold or silver."

³ I allude to the pedantic lucubrations on this subject which recently appeared in the columns of a London literary journal and which only prove that critics may know a good deal about Medieval Latin, without the slightest knowledge of money.

CHAPTER XII.

BRAZIL.

Brazilian paper money—Its stable value—The history of money begins with the placers of 1573—Gold-dust money—Gold bars—Their inconvenience—Exchanged for coins at great sacrifice—Exactions of the crown—Quinto, seignorage, ratio, and overvaluation—Counterfeit coins—Decline of the placer—Notes of Bank of Portugal—Flight of the royal family to Brazil—Establishment of the Bank of Brazil—Restamped Spanish dollars—Illicit importation—Emission of overvalued coppers—Suspension of the bank in 1821—Independence of Brazil—New monetary system of inconvertible notes—Par of exchange—Weights of Brazilian coins—Monetary statistics—Rate of exchange on London—Stability of the milreis—They rise above par—Resumption of the bank—Suspension of 1864—Summary of the present system of money—Counterfeits.

“**W**HAT is a milreis?” triumphantly asks the British consul at Rio Janeiro, as though “no one can give a precise reply.”¹ On the other hand, he is quite confident that he knows what a pound sterling is, and if asked, replies that it is a piece of gold weighing so many grains. Well, the milreis is a piece of paper weighing so many grains. If it be the value of a milreis that the consul imagines to be so inscrutable, the reply is still more satisfactory—a milreis forms nearly exactly one two-hundred-millionth part of the Brazilian national measure of value. This proportion has been the same for ten or more years past, and unless the government changes the existing laws on the subject, of which there is little probability, it will so remain

¹ Mr. Lennon-Hunt in H.B.M. Consular Reports for 1875.

for many years to come. On the other hand, the value of a pound sterling is fluctuating and uncertain; it was far less ten years ago than it is to-day, and ten years hence may be far greater than it is now. A pound sterling forms no definite part of the British measure of value, because the whole number of pounds which constitute that measure is fluctuating, indefinite, and unknowable.

The money of Brazil being a fixed sum, a definite number, the variations of value between it and English money, which are ignorantly assumed to be due to the instability of paper milreis, are in fact due to the instability of English gold pounds. The pounds vary in number, and therefore vary in value; the milreis, in both respects, remain unchanged.¹

The history of money in Brazil commences with the discovery of the gold placers in 1573. At that period a few Portuguese silver coins circulated in Rio, and these were often chopped into halves and quarters to make change. When the gold dust first came down from Minas Geraes, it was put up into little bags and employed as a rude sort of money wherewith to purchase supplies for the miners. In 1595-1605 occurred the great discoveries at Ouro Preto, the "rush" from Rio, San Paulo, and other settlements on the coast, and the contentions between the Paulistas and the others with reference to mining and ditch rights, &c. Before these were settled the news of the discoveries had flown to Portugal, and occasioned another "rush" of adventurers, who, upon their arrival at the mines, established their own claims with the knife, and then went to work like honest men to take out the gold which others had dis-

¹ It is herein assumed, for the sake of brevity, that the money of Brazil consists of exactly and invariably two hundred million milreis. As will be seen further on, it consisted in 1883 of one hundred and ninety-three millions, and during the preceding ten years, or rather such of them as are included in the table, it varied between one hundred and eighty-nine and one hundred and ninety-five millions. It could readily be fixed at the round figure assumed in the text, and practically without at all disturbing the present condition of affairs.

covered. As the natives were shy, and, unlike the Mexicans and Peruvians, had plenty of "back country" to retreat into, the miners at once sent to Africa for slaves. At that period, the cost of these gold-washing "machines" landed in Rio could hardly have exceeded £5. When "peace" ensued between the contending miners, and gold-washing was continued upon a more systematic plan, the price of negroes advanced. Before the end of the seventeenth century a large portion of the gold fields of Minas Geraes were under well-constructed ditch-lines. At this period the price of negroes was about £3 each on the coast of Africa, and in Rio Janeiro from £13 to £16. Then occurred the placer finds in San Paulo and Goyaz (1694), and Matto Grosso (1718), and a rise in the price of negroes, so that in 1705 they were worth £15 each on the coast of Africa and about £50 in Rio.¹ At this period the slaves were taking out between three and four ounces of gold per day per man, so that the industry paid very well.²

The first *casas de fundição*, or smelting houses, where the gold dust was melted, refined, and cast into bars, appear to have been established in 1694. After the royal quinto was deducted, these bars were stamped with the royal device, the date of their fabrication, their weight, fineness, and mint value in Portuguese gold coins.

Besides the quinto on the production, the crown levied a seignorage of $6\frac{2}{3}$ per cent. on the coinage of gold. To evade as much as possible the payment of so heavy an exaction, the colonists, though at some inconvenience to themselves, employed the gold bars as money whenever the magnitude or peculiarity of their transactions permitted. Unwilling to lose its "rightful dues" of seignorage, the crown now forbade the use of dust or bullion as money in any case, but of course such an interdict was difficult to enforce. However, as a matter of fact, most of the bullion

¹ D'Avenant's Works, v. 190, 233, 276, 324.

² "Hist. Prec. Met.," pp. 117-18.

went to the mint and submitted to the seignorage. But this was not enough for the crown, which, to extort an additional profit, had recourse to a new expedient. As this was probably similar to the one employed nearly twenty centuries before by the Romans in Spain, it is worthy of a detailed description. The expedient was to value its silver and copper coins higher in Brazil than at home.

Bars of gold bullion made a very inconvenient sort of money. Their value could only be definitely expressed with reference to coined or other money. If they had been regarded merely as pieces of merchandise, a separate bargain would have had to be made in respect of each piece, and in the conclusion arrived at very great allowances would have had to be made for such changes of value as each piece may prove to have undergone, unknown to the buyer, since the last bargain of like nature took place. But nothing of this sort occurred. It was well known how many "crusados" each bar contained, and as well known how much each crusado would buy either in Rio or Lisbon. The inconvenience of using the bars arose from their great and uneven weights. It was seldom that a bar weighed less than several ounces, and as it was necessary to keep each miner's lot of gold distinct from the other lots deposited at the casa de fundição (the same practice is pursued in all mints to-day), it followed that the bars were of uneven weights, and therefore worth uneven sums of money. For example, the smallest bar probably had stamped upon it a certificate of somewhat the following character: "This bar of gold weighs 7 onzas, 7 octavas, and 71 graös.¹ Its fineness is 10 dinhieros, 19 graös." Its value, after the payment of seignorage, was 100\$190. Such a piece as this, of uneven weight and requiring an intricate calculation to determine its value in money, could not have been used as money except in rare instances, and the miners must have been

¹ 72 graös = 1 octava; 8 octavas = 1 onza; 8 onzas = 1 marco. The marco was equal to 3,541½ grains Troy, or .61489 Troy pounds, or 229.5 metric grams.

willing to submit to any reasonable exaction of seignorage, rather than sell their bars, as they would have had to do, to the bullion brokers.

Even then their difficulties were only half removed. By submitting to a tax of 20 per cent. on production and $6\frac{2}{3}$ per cent. on mintage, equal to about 25 per cent. on production, they could exchange refined gold dust for coins containing an equal weight of fine metal; but these coins were too large for the ordinary transactions of life. What they wanted were minor coins, say of silver and copper, "to make change with." The crown being fully aware of this requirement, took advantage of it by requiring the miners to pay more gold than before for a given value of silver coins. This system was commenced by Dom Pedro II. some time between 1690 and 1700. All the small coins—even the smaller gold ones—were valued higher in the colonies. Thus the gold piece of 3\$800 in Portugal was ordered to, and did, pass for 4\$000 in Brazil; the pataca of silver, valued at 0\$240 in Portugal, went for 0\$320 in Brazil; and the vintem of copper, worth 0\$010 in Portugal, was valued at double as much in Brazil.¹ The idea of the crown was that if the producers of gold wanted small change, they must pay for it. Instances have since occurred in California and Australia, where there were no despotic governments to coerce them, in which the miners voluntarily paid for silver coins, in gold dust, twice, four times (and, in one case, sixteen times), their mint value.² Such is the difference between the usefulness of bullion and money.

Having in this way sold its silver and copper coins at as high a rate as practicable to the miners in Brazil, the crown of Portugal turned around and sold its gold at an enhanced

¹ Dom João VI., April 18, 1809, reaffirmed this same measure, and as the currency was then wholly of copper, it completely changed the milreis of Brazil, which henceforth became worth only one-half that of Portugal—a relation that was respected in the subsequent gold and silver coinages of the Brazilian Empire. Armitage, "Hist. Brazil," ed. 1836, ii. 54.

² "Hist. Prec. Met.," pp. 221 n., 320-21.

rate to the merchants of Europe. This it did by raising the ratio between gold and silver to 16, which but a few years before had been but $13\frac{1}{2}$. The aggregate profits on these various operations amounted to no less than 70 per cent. on the entire product of gold. Thus, supposing a miner produced 100 pounds weight of gold, the quinto would have left him but 80, and the seignorage but $74\frac{2}{3}$ pounds in gold coins. Upon exchanging this gold—as eventually would have had to be done—for small coins, he would lose one-half of its European purchasing power, leaving him with coins that, even if not overvalued in Portugal, would only purchase as much in that country as $37\frac{1}{2}$ pounds of gold bullion would have purchased. But by altering the ratio from $13\frac{1}{2}$ to 16 the crown had recently enhanced the value of all gold 20 per cent., so that supposing the miner's venture to have been made on the basis of the previous ratio, the silver coins, even in Portugal, were overvalued to this degree. On the whole, then, the miner ultimately received the equivalent of scarcely more than 30 pounds of gold for the 100 which in many cases he had committed all sorts of crimes to obtain; the crown got the rest.

Neither the Spaniards nor Portuguese ever worked gold quartz in America until quite recently. What gold could not be got by slave labour, quickly and for nothing, they never even searched for. When Sir Walter Raleigh, who had obtained some specimens of very rich quartz in "Guiana," showed them to certain Spaniards at Caraccas, they regarded them with apathy. They called this rich quartz the "mother of gold," meaning the mother of free gold, which of course it is; but its only value to them was that it indicated where free gold could be found. Raleigh himself in his "gold-mining" expeditions had no mining tools, and therefore, although he must have seen the "croppings" of one of the richest quartz mines that has ever been discovered (the "Callao"), he passed them over as worthless.¹

¹ "Mavor's Voyages," ii. 78-9.

In the same way, Ponce de Leon, although he undoubtedly visited the gold quartz deposits of the Alleghany range—because relics of his ill-starred expedition have been found upon them—never made any attempt to work them. His objects—like those of all the early adventurers—were, first, plunder; second, placer gold by slave labour; third and lastly, placer gold by free labour. But when it came to this, “all the gilt-edge was off.” The conquerors of America did not peril their lives and souls merely to establish competitive industries in the savage solitudes they had reached; what they sought for—and they distinctly and repeatedly avowed it—was prizes, great treasures, sudden and enormous wealth. Therefore, to base a monetary theory, as some have done, upon the hypothesis that the gold which these adventurers obtained was worth no more than the value of their labour as mechanics, is to build up a monstrous absurdity. It is written all over the placer fields of Spanish and Portuguese America that when mining ceased to pay by slave labour, it was abandoned altogether. Free mining was never even attempted, except as a last desperate and temporary resort, and only in placers—never in quartz. In the province of Minas Geraes, on several affluents of the Rio Verde, near the once important but now decayed cities of Campanha and San Gonsalo, the author has seen placer workings, “catas,” as extensive as any in California or Australia, where tens of thousands of slaves must have been worked; but although there are rich quartz lodes quite close to them, the latter have never been touched. Whether the placers were abandoned on account of the enhanced cost of slaves and supplies occasioned by the great and general rise of prices during the sixteenth and seventeenth centuries, or the anti-slavery movement of the eighteenth century, or because they were worked until they were “out of grade,” cannot always be determined. It was probably due to all these circumstances. In many of the mining districts of Brazil there are portions of the placer deposits which have not been worked, and these are

as rich as any of the worked portions could have been. The reason of their abandonment, in these cases, is obvious. They are "out of grade;" in other words, the placer hills have been washed into the valleys below them until the latter are filled up with sand and gravel to near the level of the former, so that now there is no place into which the débris can be sluiced.¹

Whatever the reason, the gold placers of Brazil, after the middle of the eighteenth century, began to materially decline in productiveness. It was only by means of working the slaves with extreme cruelty that they could be made to pay in 1768. Says Captain Cook, who was in Brazil in that year: "The mines are rich, and lie a considerable way up the country. They are kept so private, that any person on the road which leads to them is hung upon the next tree, unless he can give a satisfactory account of the cause of his being in that situation. Near 40,000 (forty thousand) negroes are annually imported to dig in these mines, which are so pernicious to the human frame, and occasion so great a mortality amongst the poor wretches employed in them, that, in the year 1766, 20,000 more were drafted from the town of Rio to supply the deficiency of the former number. Who can read this without emotion!"² Captain Cook evidently speaks from hearsay, was never at the mines, and did not understand either the character of the work or the climate of Minas Geraes. There is no subterranean work; there is little or no "digging"; the mines are in latitude 20° and 21° south; the altitude is 2,500 feet, or more, above the sea; the climate is temperate, bracing, and healthy. The author

¹ The physical devastation is frightful. The alluvium has been washed off the hills, the valleys are filled up with stones and sand, the mountain streams are diverted from their courses, and the rivers below them are converted into pestilent marshes. See "Rape of the Earth," chapter on the "Rio de la Plata."

² Cook's first voyage, in Mavor's Collection of "Voyages," vol. vi. p. 20.

has worked in these placers during the hottest months of the year, and never observed anything "pernicious" about either the climate or the mines. The mortality mentioned by Captain Cook, though it may be somewhat exaggerated, is sustained by other testimony. Assuming it to be substantially true, it bespeaks extreme cruelty on the part of the mine-owners. Whether this ever attracted the attention of the authorities at Rio, or not, is doubtful. So long as the gold came down from Minas, they probably cared very little how many slave lives it cost. At the viceregal court it was a short life and a merry one. The viceroy, whoever he was, did not expect to enjoy his preferment more than a few years, and he took care to make the most of it. He lived in even greater splendour than the king; he was more difficult of approach; he was more luxurious and more rapacious. Captain Bougainville, who was in Rio in 1767, says the viceroy gave him a box at his opera-house, "where they saw a company of mulattoes perform some of the best pieces of Metastasio, while the compositions of the first geniuses of Italy were executed by an orchestra under the direction of a hump-backed priest in canonicals."¹ As to the groans of the 40,000 victims who, within 300 miles from Rio, were annually sacrificed to support these orgies, they were probably as little regarded by the panderers of the viceregal court as they are to-day by those panderers to cupidity who maintain the false and mischievous doctrine that the value of gold is regulated by the cost of its production by free and competitive labour!

The viceregal court was soon to disappear for ever. The despairing cry of the slave was heard in France and England, countries that were not interested in producing cheap gold by slave labour;² and measures were taken to render

¹ Mavor's "Voyages," v. 147.

² Montesquieu, in his "Esprit des Loix," published in 1750, and Adam Smith, in his "Moral Sentiments," 1759, were among the two earliest writers on this subject. The practical question involved in

the slave trade odious, hazardous, and expensive. It was a fatality that this distinct discouragement to gold mining in Brazil was supplemented by further exactions on the part of the crown of Portugal. It had already compelled Brazil to accept, in lieu of its gold bullion, overvalued gold and silver coins; it now bought up and withdrew all the gold ones, by increasing the emissions of the silver ones.

A measure like this, however practicable it may have been in a petty kingdom like Portugal, was altogether abortive in so vast an empire as Brazil. At first, the risk and expense of evasion caused the law to be observed; but when the slave trade was attacked, the price of slaves advanced, the mines had yielded all the produce they could afford on the basis of slave labour at £30 to £40 per *lifetime*; then hard times began in Brazil, and the colonists, overburdened with the monetary exactions of the crown, took means to evade them. This was effected by purchasing counterfeit coins in exchange for gold dust on the frontier between Brazil and the Spanish settlements on the Rio de la Plata. These coins contained the proper quantity and fineness of silver, and were counterfeit only in the important sense that they were not struck by the authority of government; in all other respects they were as good as the genuine coins, and, indeed, could not be distinguished from them by any known means of comparison. Beauchamp estimates the profits of this illicit trade at 200,000 piastres a year; and as the total produce at this period, 1770-90, had fallen to less than a million of pounds sterling per annum, this is probably a fair measure of its extent.

But the crown was as fertile in the invention of rapacious financial devices as the colonists in methods of evasion. Foreseeing that the produce of gold would soon end, and determined to secure it all, the crown now deluged the colony with the inconvertible notes of the Bank of Por-

emancipating the slaves is far more nearly connected with the "currency question" of to-day than would be suspected by those not familiar with the history of the precious metals.

tugal ; whereupon coins of the precious metals soon disappeared from the circulation. The colony was now in a ferment of discontent, and but for those circumstances which soon afterward drove the royal family to seek an asylum upon its shores, would probably have anticipated its declaration of independence by many years.

The royal family arrived in Brazil in 1808, and soon afterward took measures to regulate its monetary laws, which were now made to incorporate several features of the home system. The custom of "lei" was introduced ; a bank of issue was established at Rio Janeiro, October 21, 1809, and before the end of the following year its notes were circulating in the mining towns of Ouro Preto, Campanha, San Gonsalo, &c. Like those of its prototype, these notes were issued without regard to limit. The charter of the bank restricts its issues to double the sum of its coin reserves, and this restriction may have been observed during a few years previous to the suspension of 1864, but it certainly was no more regarded during the Portuguese regime than it has been since the suspension.

Another measure of the year 1809 consisted of the royal decree of November 20, by which Spanish dollars, when restamped with the arms of Portugal, were ordered to pass current in Brazil at an overvaluation. "During, however, such time as (coins of) these two metals (silver and copper) were used only for small change, no inconvenience arose from alterations in their value, yet as (now) any amount of money in them was a legal tender, and the temptations to fraud were increased, an immense quantity of Spanish dollars, restamped in imitation of those issued by the mint of Rio, were illicitly introduced by private speculators. The exchange of these dollars for the gold half-dobloons gave a profit of about 28 per cent. to the importers ; and not only all the half-dobloons, but also the pieces of four milreis, were very soon either exported, or circulated within the country at a premium. . . . The subsequent enormous issues of copper during the reign of Dom Pedro was a mea-

sure similar in principle, but far more fatal in its consequences, inasmuch as the discrepancy of value was greater. This copper was even in 1829 current (*i.e.* legal tender) to any amount at three times its 'intrinsic' value, and was still freely circulated in all the various provinces of the empire. . . . During the years 1828 and 1829 nearly 6,000 contos of this base copper were coined and thrown into circulation."¹

In 1821 the bank suspended coin payments, so that in that year the moneys both of Portugal and Brazil consisted of inconvertible quasi-legal tender government bank notes to the emissions of which there were no specific limits. Coupled with these notes were coins of gold, silver, and copper, the number of which was liable to be suddenly augmented or diminished through the vicissitudes of mining, the demands of commerce, or the caprices of the crown.

In 1822 Brazil was erected into an independent sovereignty. After adopting a constitution in 1824, she at once took measures to create a monetary system. This has thus far proved to be more or less permanent. Its basis was inconvertible government notes, whose emissions were practically limited to a point where their value, as compared with Portuguese gold coins of the same denominations, would be one-half; and gold and silver pieces were coined, as co-ordinate legal tenders, to this measure. Private bank notes, redeemable in the notes issued under authority of the government, were also permitted to form a feature of the system.

¹ Beauchamp, iii. 409 or 499, says that about 500,000 milreis in paper money were set afloat by the government in the mining districts. When the laws of the United States made greenbacks legal tenders in California, a law of the state, supported by the sentiment of the mercantile community, nullified them. There is no other resemblance between the two occurrences. The Brazilian notes were issued under the authority of a king who had recently been forced to flee his native country; those of the United States were issued by a powerful government full of resources and supported by twenty millions of freemen.

With regard to the Brazilian system of coinage: the Portuguese gold milreis of 1822 contained 29.51 grains, while the British penny contained .513,642 grains of gold of the same standard. Consequently the par of exchange between England and Portugal, and in the gold of both countries, was 57.452 pence to the milreis. In 1829, under the new constitution, a Brazilian gold milreis was coined at one-half the weight of the Portuguese coin of the same denomination, and the par of exchange from that year to 1847 between English and Brazilian gold was 28.776 pence to the milreis. In 1847 the Portuguese gold milreis, having been reduced to 27.67 grains, the Brazilian gold milreis was reduced in the same year to one-half, or 13.83 grains; the *soverano* of 20 milreis being made to weigh 276 $\frac{5}{8}$ grains.¹ This made the par of exchange between English and Brazilian gold 26.93 pence to the milreis. In 1854 the Portuguese gold milreis was further reduced to 27.37 grains, making the par of exchange between English and Portuguese gold 53.28 pence to the milreis. But the Brazilian government did not follow this further reduction, and the par of exchange between English and Brazilian gold therefore remains at 26.93 pence to the milreis.

Meanwhile the paper emissions authorized by the Brazilian government were generally so limited as to keep the notes close to, and sometimes at over par in gold.²

The following table shows approximately the sum of money circulating in Brazil at various periods.

¹ "United States Commercial Relations," 1855, vol. iii. p. 453. There is a slight discrepancy between this equivalent and the others mentioned in the text, which I am not able to explain.

² That inconvertible or irredeemable notes can be carried to a premium in metal coins of the same denominations is proved by numerous instances in the monetary history of countries where both notes and coins were co-ordinate legal tenders. When the notes are exclusive legal tenders, they may be carried by means of contraction or limitation to any desired premium in coins. McCulloch, "Com. Dic.," pp. 68, 69.

Table showing: 1. The sum of government notes outstanding; 2. The sum of bank notes outstanding; 3. Total notes; 4. Coins outstanding; and 5. Total money of Brazil. Sums in millions of milreis and tenths.

Year.	1.	2.	3.	4.	5.	Authority.
1846	48.0	—	—	—	—	Macgregor's "Statistics," iv. 247. ¹
1851	56.0	—	—	—	—	Honan, 646.
1858	55.8	—	—	—	—	"U. S. Commercial Relations."
1863	35.3	—	—	—	—	London "Stat. Jour.," 1864.
1864	—	—	80.0	—	—	Martin's "Year Book, 1867."
1865	—	—	75.0	100.0	175.0	Fawcett, "Gold and Debt," p. 89, for notes; coins estimated.
1866	33.3	—	—	—	—	"U. S. Commercial Relations."
1870	150.4	—	—	—	—	Appleton's "Cyc.," 1871, p. 84.
1873	149.6	35.4	185.0	10.0	195.0	Ibid. 1873, p. 76.
1874	149.6	32.4	182.0	8.0	190.0	H. B. M. Con. Rep., 1875, for notes; coins estimated.
1875	149.6	37.4	187.0	7.0	194.0	Fawcett, "Gold and Debt," p. 89.
1876	149.4	33.5	182.9	6.1	189.0	Rep. U. S. Mon. Com., 1876, for notes; coins estimated.
1883	166.2	21.7	187.9	5.1	193.0	U. S. Fin. Rep., 1884, pp. 221-257. ²

From the above table it will be seen that the total sum of money in Brazil is about 193 million milreis.

The following table, upon the erroneous assumption that the value of English gold pence is unchangeable, shows the resulting fluctuations in the value of the Brazilian milreis. From this table it will be observed that although the par of exchange from 1829 to 1847 was about 28 $\frac{3}{4}$ pence, the exchange value of the milreis in 1840 and 1841 was above par; and that in 1847 it was but little below par. From 1847 to 1854, while the par was about 27 pence, the rate, except in 1849, was always above par. After 1854, the par remaining at about 27 pence, the rate was always

¹ Macgregor says "rials," but evidently means "milreis."

² The original estimate, from Mr. Chas. B. Trail, of the United States Legation at Rio, confuses Treasury notes with money. I have endeavoured to separate them correctly, but am not quite sure that I have succeeded.

above par up to 1864, except during the years 1858 and 1860. Since 1864 the rate has been always below par, except in 1875, when it rose to par.

Table showing the rate of exchange for drafts upon London established by the English banks in Rio Janeiro, the quotations being in sterling pence for one milreis. From Armitage's "Hist. Brazil," ii. 147; "Commercial Relations of the United States," 1864, p. 759; Reports of H. B. M. Consuls; and other authorities.

Year.	Rate.	Year.	Rate.	Year.	Rate.	Year.	Rate.
1821	$52\frac{1}{4}$	1840	$30\frac{3}{4}$	1856	28	1867	$22\frac{1}{2}$
1822	$58\frac{1}{2}$	1841	$30\frac{1}{2}$	1857	$27\frac{3}{4}$	1870	$21\frac{3}{4}$
1823	$50\frac{1}{4}$	1847	28	1858 ¹	$25\frac{1}{2}$	1871	$24\frac{1}{4}$
1824	48	1848	$28\frac{1}{2}$	1859 ¹	27	1873	$26\frac{1}{2}$
1825	$51\frac{1}{8}$	1849	$26\frac{1}{2}$	1860 ¹	25	1874	$26\frac{1}{2}$
1826	$47\frac{1}{8}$	1850	$28\frac{1}{8}$	1861	$27\frac{1}{2}$	1875	27
1827	$35\frac{3}{8}$	1851	$28\frac{7}{8}$	1862 ²	$27\frac{1}{2}$	1876	24
1828	$32\frac{3}{4}$	1852	$27\frac{1}{2}$	1863 ³	$27\frac{1}{4}$	1879 ⁵	$19\frac{1}{2}$
1829	$25\frac{3}{8}$	1853	$28\frac{1}{8}$	1864 ⁴	$27\frac{1}{4}$	1880	$23\frac{1}{2}$
1830	24	1854	28	1865	26		
1831	$24\frac{5}{8}$	1855	28	1866	26		

The fall of the exchange below par is commonly regarded as an indication that the emissions of notes have rendered their value less than that of gold coins of similar denominations; but this does not follow. It may be that the value of the gold coins has risen, while that of the notes has remained stationary.

As forming part of the monetary system of Brazil it should be stated that in 1856, and probably for a long

¹ Coins 5 to 7 per cent. premium from 1858 to 1860.

² Resumption Act passed July 1, 1862; actual resumption of banks, October 23, 1862.

³ Gold coins 5 per cent. premium, 1862-3.

⁴ Run on banks; Resumption Act suspended; gold coins 8 per cent. premium.

⁵ The highest price ever paid in Brazil for English gold was in 1879, the rate having been from $19\frac{1}{4}$ to $19\frac{3}{4}$ pence per milreis.

period anterior to that year, special contract laws were in force;¹ that British sovereigns, and perhaps some other foreign coins, are made legal money in Brazil; that previous to 1868 government notes were receivable for customs duties; and that after 1868 fifteen per cent. of such duties were required to be paid in gold coins.

In September, 1864, the banking house of Souta and Co., the depository of numerous small sums belonging to the middle and poorer classes, failed, and a run ensued upon all the banks of Rio Janeiro, some of which were compelled to immediately close their doors. The rapidity with which the panic spread, and the extremities to which it proceeded, afford grounds for congratulation that the government is now gradually monopolizing the prerogative of issuing circulating notes. In one part of the city depositors who had succeeded in withdrawing their money were kneeling on the stones, kissing their treasure and thanking the saints for their good fortune; in another, the soldiery were riding down and slashing at a tumultuous multitude who thronged about the banks. The rapid withdrawal of bullion from the banks induced the government to issue two extraordinary decrees. One of these authorized the Bank of Brazil² to issue notes to the value of three times its disposable capital; the other decreed a suspension of specie payments, and a suspension of all debts and of bankruptcy proceedings, for sixty days, with a provision that the broken banks should be wound up by commissions instead of the ordinary law officers—one law for the rich, another for the poor.

From these various data it is to be inferred that the monetary system of Brazil consists of:

1. Inconvertible government notes, or greenbacks, whose emissions are supplemented by:

¹ McCulloch, "Com. Dic.," p. 1114.

² This bank, the only one of issue in Rio, is authorized to issue notes to double the amount of its metallic deposits. "Brazil," by William Scully: London, Murray and Co., 1868, pp. 66, 161.

2. Private bank notes, whose emissions were redeemable in greenbacks prior to 1862; in coins from 1862 to 1864; and since 1864 in greenbacks;

3. Gold, silver, and copper coins of Brazil, the former of the weights mentioned;

4. Foreign coins: the British sovereign of 123.274 grains standard having been made legal tender for 8889 reis, which is equivalent to 13.86 grains per milreis;

5. Such other moneys as may be stipulated for in special contracts.

The government notes were unlimited legal tenders up to 1868, when fifteen per cent. of the customs duties were required to be paid in gold coins, which latter have always been unlimited tenders. At the present time this requirement is not enforced, and the government notes are once more unlimited tenders.

This system is defective in several respects. Though the emissions of government notes may be specifically limited, yet by co-ordinating with them both national and foreign coins, the limits to the currency are removed, and this fact exposes its sum and the value of its component notes to fluctuation. The system does not differ materially from that of the United States between 1862 and 1879.

However, the sums of coins (all nickels and coppers) circulating in Brazil is so small that the system may be very readily changed to a limited one by demonetizing all gold and silver coins, repealing the special contract law, compelling the banks to retire their notes, emitting greenbacks in place of them, and fixing by law the total emissions of the greenbacks and minor coins at, say, twenty-five milreis per head of white and negro population.¹

With regard to counterfeit notes, the writer, while in Brazil a few years ago, was favoured with most deplorable

¹ I assume the population of whites and negroes at the present time at eight millions. This would make the total money at the present time exactly two hundred million milreis. It really falls but little short of this sum.

accounts from some of the foreign residents of Rio, Bahia, and Pernambuco. They pointed out the magnificent residence of the Baron of "Notas Falsas," and intimated that it was built entirely from the proceeds of counterfeiting. They named several other illustrious families who rose from indigence to wealth and honours by the same means, and they pointed to the ragged condition of some of the notes to prove how easy it was to imitate them. After carefully investigating these statements, I came to the conclusion that they were substantially unfounded. The older government notes, engraved and printed in Germany, are poorly done, and may have been counterfeited to a small extent, but certainly not by the Baron of Nova Friburgo, or the other respectable people alluded to ; all the rest is prejudice and clamour. The present (new) government notes are engraved and printed in the United States, and furnished with every safeguard against counterfeiting or alterations, known to the art. They are far safer than coins, either of gold, silver, nickel, or copper ; and it is ventured to be predicted that, with the same degree of police supervision which is usually exercised in respect of coins, the use of these notes will be accompanied by a smaller proportion of counterfeits. Such, at all events, has been the result of experience in the United States and Italy, where similar notes were employed.

There has been no intimation that the present issues of overvalued nickel and copper coins have been counterfeited ; but this was notoriously the case with the old issues. According to an article in the Rio Janeiro "Aurora" of September 24, 1834, there were at that time in the United States four manufactories of counterfeit Brazilian coins— one in Belville, New Jersey, belonging to Stephens, Thomas, and Fuller ; one in Bloomfield, New Jersey, belonging to Moffatt and Wolfenden ; and two in New York. The first one employed twenty workmen and three stamping machines, each of which turned out a hundred and twenty gross of 80 and 40 reis pieces in twenty-four hours. It is

estimated that they fabricated, on the average, copper coins of the nominal value in Brazil of 3,110\$400 per day, the cost being about one-fourth of this sum.¹

The present monetary system of Brazil is a simpler and probably better one than that possessed by many nations who are more favoured in respect to the rudimentary advantages of race, social condition, climate, agriculture, fisheries, and useful mines. The system is practically that of a fixed measure of value, consisting of, approximately, two hundred millions of milreis, of which the government furnishes from 170 to 190 millions of milreis, and four banks of issue—one each at Rio, Santos, Bahia, and Pernambuco—the remainder. Bank cheques, except at the seaports and among foreign merchants, are unknown. The drawing of a cheque by the writer, at San Gonsalo, upon Rio Janeiro, distant some three hundred miles apart, seemed so strange a proceeding as to require a long explanation, and so remarkable, as to bring together the entire municipal chamber of the city to witness it.² There are no banks of deposit in the interior, and not only there, but in the seaports, it is largely the custom for merchants to lock their greenbacks in their private safes. Prices differ little from those which prevail in Portugal, Spain, and Italy.

With a domain as extensive as that of the United States, and natural resources which at some future time will place her among the front rank of nations, Brazil has, nevertheless, many disadvantages to contend against which no monetary system can remove. A large proportion of the population consists of negroes, either in a state of slavery, or but recently emancipated from it; education has not been diffused, and least of all among these unfortunate victims of oppression;³ the land is owned in large estates

¹ Armitage, "Hist. Brazil," ii. 145. ² "Science of Money," p. 45.

³ It recently transpired that over a hundred and fifty negroes who had been emancipated twenty years ago, had been kept all that time in ignorance of their freedom at work upon the St. John del Rey gold mine!

by wealthy fazendeiros, who control the local elections, the legislatures, and the government; the administration of public affairs, despite the efforts of a just and enlightened monarch, is notoriously corrupt; the climate of a large portion of the empire is unfavourable to its occupation by Europeans; those rivers, which are wholly within the empire and in the temperate zone, are unnavigable; there are no large lakes; there are but few railways, and those very recent, and few common roads or turnpikes; agriculture is limited to coffee, sugar, and other commercial crops, whose value is determined by foreign moneys and in foreign markets, and without the least regard to the interests of Brazil; the fisheries and useful mines thus far developed are few and unimportant. The shadows of gold mining, of the feudal system, of the monetary system, and of the other institutions of the Dark Ages which Portugal transplanted to this beautiful land, still rest upon it; and it will require long-continued exertions of patience, patriotism, and wisdom, to sweep them away.

CHAPTER XIII.

THE RENAISSANCE OF THE NORTH.

The rise of prices in Spain and Portugal did not become general because the precious metals were monopolized by favoured classes—In Northern Europe their distribution was more general—How the American spoil was obtained from Spain—Piracy—Buccaneering—Privateering—Drake—Raleigh—Plunder of the Spanish-American settlements—Diffusion of the precious metals through the wars in Europe—Quarrels picked with Spain—Cost of Philip's wars in the Low Countries and Italy—Uneven advance of prices—Its advantage to the industrial classes—Extraordinary activity in every department of industry—Agriculture—Mechanical devices—Manufactures—Useful inventions—Fisheries—Ships—Engines of war—Scientific achievements—Great designs and enterprises—Public improvements—Panama canal—Governmental reforms—Popular insurrections—The Dutch and English republics—The Puritan colony—The Fronde—The Reformation—Sudden growth of maritime trade—Commercial school—Postal system—Finances and accounts—Education—Universities—The fine arts—Immense stimulus afforded, by the rise of prices, to every department of human activity—Stock of money in Europe previous to this Renaissance—It increases five times in the course of a century—Previous and subsequent renaissances—Their causes examined, and found to be due in every instance to a rise of prices.

IT has already been shown that the Renaissance, distinctively so called, was not a renaissance of all Europe, but only of the Southern States, chiefly of Moorish Spain and Italy; and that it was primarily due to the conquests of the Arabians and the reopening of commerce with the Orient. The Renaissance of the Northern States had yet to occur, and now was the time. America had been discovered and plundered; the coasts of the world had been visited by treasure-seekers and other adventurers from

Spain and Portugal ; enormous quantities of gold and silver had been secured by these nations, and they had quickly arisen from a state of lethargy and obscurity to become masters of the sea, lords of remote empires, and important factors in European politics. That the good fortune of these nations was as transitory as it had been sudden is due to the circumstance that the treasures they had secured were but inadequately diffused among their peoples. The plunder of America, the coasts of India, Japan, and the Islands, and the vast produce of Brazil, first went into the hands of a few persons—the kings of Spain and Portugal, their court favourites, the commanders, adelantados, and viceroys whom they sent to prey upon the newly-found world, and to the Church. There was no general diffusion of this wealth, the people got but little of it ; and while a few favoured nobles piled up tons of idle plate in their castles, and the churches vied with each other in the splendour of their altars, the condition of the peasant underwent no important amelioration. So long as Spain and Portugal monopolized the precious metals produce of the New World it failed to become generally diffused ; it was not at once coined into money ; the rise of prices that followed was limited, and confined to the seaports and great cities ; in many of the interior parts of the Peninsula scarcely any rise of prices occurred at all, because but little of the new money had reached them ;¹ the leaven which was soon to impart a ferment to all Europe had indeed been found, but it had not yet been disseminated. It was this dissemination that occasioned the Renaissance of Northern Europe. Spain had plundered America, and had mainly enriched her nobles ; Europe was now to plunder the Spaniards, and mainly enrich the people.

The good fortune of Spain had not been viewed by the rest of Europe without envy and alarm, and every device

¹ Mr. Cliffe Leslie, in a recent work on this subject, has shown that in the interior parts of many countries no rise of prices followed the plunder of America for several centuries.

that promised to deprive her of it was listened to with eagerness. Protests to the Pope concerning her pretensions to the exclusive dominion of America, and expeditions to such parts of the New World as were not guarded by her cruisers or fortifications were among these devices, but as yet they had failed of effect. A more efficacious one was privateering and robbery.

When the Portuguese discovered gold on the coast of Africa, their seaports were filled with people from all parts of Europe, eager to embark in this new traffic. "Strangers came from afar scenting the prey. A new mode of life had been found out, and the greater part of the kingdom was moved with a sudden desire to follow the way to Guinea."¹ In like manner, when Spain discovered gold in America, all Europe "scented the prey," and was moved with the desire to share it.

So early as 1521 the plate ships from America were molested by pirates who roamed the coasts of Andalusia and Algarve. In 1522 a French corsair, the "Jean Florin," captured the very first spoils that Cortez obtained in Mexico, consisting of 88,000 pesos in gold-bars and the unfortunate Montezuma's regalia and wardrobe.² These depredations led to the organization of the flota, and establishment of the *haberia*.³ The flota was despatched every six months alternately to Mexico and South America to convoy the plate ships home to the port of Bonanza de San Lucar, near the mouth of the Guadalquivir. But this precaution was destined to be defeated by new devices. The designs upon the plate ships assumed a more systematic form. Quarrels were picked with Spain upon various frivolous pretexts, war was declared against her, and privateers were despatched from almost every port in Europe to snatch from her a portion of the coveted wealth

¹ Barros, Lisbon, 1778, I. i. 8.

² "Hist. Prec. Metals," 92.

³ Postlethwayt's "Com. Dic.," art. "Flota," and "Hist. Prec. Met.," pp. 121. 128.

which she was wresting so rapidly and so cruelly from America. Rovers, with and without government pennants, sailed from France, England, and Holland, in times both of war and peace, who intercepted the Spanish galleons and plundered the Spanish American mining towns and bullion depositories. Drake captured in the "Cacafuego," near Panama, 13 chests of money, 80 pounds of gold, 6 tons of unrefined silver, besides wrought plate to a great amount. Lopez Vaz, a Spanish writer of the time, thus summarizes the proceeds of the English commander's piratical voyage around the world: 866,000 pesos, or 866 quintals, or 1,139,000 ducats of silver; 100,000 pesos of gold, "exclusive of unregistered gold and silver, pearls, precious stones, and coined money, besides merchandise of immense value." Other accounts made the total value of this ill-gotten cargo £800,000. On his return to England in 1580, it was charged that Drake's "pretence of desiring to circumnavigate the globe might serve to amuse the vulgar, but that in point of fact the main business he had in view was plunder, of which he had obtained enough to exempt the nation from taxes for seven years."¹ Upon the complaint of Spain that Drake's actions were piracies, England admitted the justice of the charge by restoring a portion of the booty.²

The coasts of New Granada were ravaged in 1572; Mexico, 1576; Peru and Chili, 1577; Carthagena, 1581; San Domingo with immense booty in 1586; Santa Marta, Guiana, and the settlements on the Orinoco, 1595; and even Cadiz in Spain in 1596, with a loss to the Spaniards in gold and silver, ships, stores, and war material amounting in value to 27,000,000 ducats. In the following century Vera Cruz was plundered, 1603; St. Thomas and other settlements on the Orinoco, 1617; Matanzas, 1628;³ Maracaibo, 1666; Portobello, 1670; St. Catherine, 1671;

¹ Mavor's "Voyages," ii. 36, et seq.

² Camden, "Ann."

³ I am not sure that Matanzas itself was plundered, but the Dutch

Panama, with enormous booty, 1672; Vera Cruz, with a ransom of a million dollars, a great quantity of other plunder, and 1,500 slaves, 1683; Campeachy, 1685; and Carthagena, with eight million dollars in plate, 1697. Before the middle of the seventeenth century buccaneering was a well-established pursuit, and the desperate characters who followed it were in the possession of armed ships and boats, fortified islands, and other effective means of offence and security.

Privateering and piracy, however, were not the only means by which the plunder of America was diffused throughout Europe. Another means was the wars which harassed Spain upon all sides, and many of which, notwithstanding their ostensible reasons, originated in the absorbing desire to wrest from her the plunder of America. In some cases the motive was too obvious to be mistaken. The peace of 1604 which had been negotiated between Spain and England gave great offence to the opulent members of the Commons, "as it checked the spirit of enterprise so prevalent in that age." They opposed the marriage which had already been arranged between the Prince of Wales and the Infanta, because they desired that the king should "turn his sword against Spain, whose treasures were the chief support of the Catholic interest throughout Europe," and yet favoured the union of the prince with a princess of France, another Catholic. When the insult thus gratuitously offered to Spain was followed by a declaration of war, England's first act was to send a fleet to cruise for the Spanish plate ships off Cape St. Vincent; and when this failed, the Commons darkly suggested to the king "divers other great things, such as we think no one parliament in one age can parallel, tending to the stability, wealth, strength, and honour of this your kingdom, and the support of your friends and allies abroad."¹

A similar spirit of "enterprise" actuated France and this year captured a number of Spanish plate ships near that city, and struck medals from this plate, one of which I have seen.

¹ Russell's "Hist. Europe," iii. 179, 207, 225, 231.

Holland ; indeed, all Northern Europe. It is the same sort of enterprise with which the discoverer of any rich mine has to contend, and which commonly ends with him, as it did with Spain, either in a violent death, or the loss of his "find." Yet through these means, however wrongful, mankind eventually derived a permanent benefit, because they served to diffuse the money coined from the metallic product of America throughout nearly all Europe. Voltaire cites the admission of Philip II., that the wars of the Low Countries and of the League cost Spain "fifteen hundred millions, which made near three thousand millions of our present money ;"¹ and the Abbé Raynal alleges that the wars in Italy cost even more.²

The consequence of this diffusion of money was that great RISE OF PRICES which occurred in Northern Europe, along all the lines of commerce and travel, between the years 1570 and 1640.³ There had been rises of prices which were partial, and were caused by war, speculation, or scarcity. This rise of prices was universal ; it embraced land and services as well as merchandise ; its cause could only have been the increase of money. Says Smith, "The discovery of the abundant mines of America seems to have been the sole cause of this diminution in the value of silver in proportion to that of corn. It is accounted for in the same manner by everybody ; and there never has been any dispute either about the fact or about the cause of it."⁴ It is the conclusion of Dr. Smith that during this era the general level of prices in England rose about five times ;⁵

¹ Voltaire's "Louis XIV.," Eng. trans., London, 1753, i. 13. The livre of Voltaire's time contained about 76 grains of silver, not materially heavier than the franc of to-day. Russell, "Hist. Europe," iii. 58, calculates Philip's expenses in the Low Countries at three hundred thousand doblons a month. Nearly all this money went to the people.

² Raynal's "Hist. East and West Indies," ii. 429 ; D'Avenant, i. 351.

³ Smith's "Wealth of Nations," I. xi., Hartford ed., 1804, i. 160.

⁴ By "silver" Dr. Smith means "gold and silver coins." Before 1666 the metals were not—even potentially—money until the State choosed to coin them.

⁵ Smith, i. 159, 211, 213.

and this may be regarded as a fair measure of the rise in France and Holland also.

If all prices rose simultaneously and evenly, neither a rise nor a fall of prices could have any interest for the great mass of mankind ; but, as has been explained elsewhere, such is not the order of nature.¹ In point of fact, the precession of prices during the period under review took the following form : First, corn ; second, fabrics ; third, labour ; and fourth, land and rents. As the stocks of agricultural products and merchandise, at that period, bore a much smaller proportion to the wealth of nations than they do at present, the principal force of this rise of prices manifested itself in the enhanced value of labour and the improved condition of the commercial and industrial classes. Many of the most important articles of modern commerce were at that time either unknown or but little used in Europe ; such as coals, coffee, tea, sugar, tobacco, cotton, &c. Land was (and in England still is) practically difficult and expensive to alienate, or else is held by capitalists whose social rank raises them above the influence of pecuniary considerations.² Rents were generally fixed for long terms. It was therefore chiefly labour that was favourably affected by the diffusion of the American spoil, and we shall presently see to what happy results this circumstance led.

But it should first be noticed that some portions of the industrial classes were bound to pay their rents in corn or other produce, and this stipulation of course deprived them of the general advantage of the rise of prices.

Notwithstanding this conservative effect of "special-contract laws," the purchasing power of labour over rents and land increased so rapidly that, aided by the suppression of monasteries and the sale of mortmain lands which

¹ "Science of Money ;" chapter on the "Precession of Prices."

² Yarranton, in his "England's Improvement by Sea and Land," bitterly complains of the absence of land registries in England, and of the other impediments to the sale and hypothecation of real estate. Except in two counties there are no public registries in England to-day.

occurred at this time, and which, indeed, was due in no small measure to the enhanced ability of the industrial classes to purchase such lands, a very considerable proportion of the lands of Northern Europe passed during this period into the hands of classes who were impelled to render them productive, but who never, since the conquest of Europe by the Romans, had enjoyed an opportunity to do so.

Everywhere was seen the signs of a new awakening, a new birth, a Renaissance for Northern Europe in the industrial arts, in learning, science, and the improved condition of the people.

The first work on agriculture published in England was the "Book of Husbandry," by Sir Anthony Fitzherbert, in 1534. This was followed by another from the same author in 1539. Thomas Tusser's "Five Hundred Points in Good Husbandry" followed a quarter of a century later, and went through many editions, one as late as 1812. Then followed "The Whole Art of Husbandry," by Barnaby Googe, and the "Jewel House of Art and Nature," by Sir Hugh Platte, in 1652. At the same time appeared the first work on foreign husbandry, that of Brabant and Flanders, by Sir Richard Weston. Indian corn, potatoes, squashes, carrots, cabbages, and turnips were all unknown in England until about the middle of the sixteenth century. The peasants subsisted chiefly upon barley bread, ground in hand-mills, and baked by themselves. Flax was first planted in England in 1533, the vine in 1552, and many of the fruits and flowers now in common use during the period 1570 to 1640. Orange trees were first planted in Northern Europe, 1548; turkeys and guinea fowls were introduced into France in 1570; and sugar was first cultivated with northern capital in Barbadoes, 1627. Tobacco was first introduced into England, 1586; tea into Holland, 1610; and coffee, 1630.

Mechanical devices made a similar rapid progress. The first wind and water-mills were introduced into France,

Holland, and England during the period under review. The first saw-mill in England was erected by a Dutchman in 1633; the spinning-wheel was invented, 1530; the diving bell, 1538; and great improvements were made in ships during Elizabeth's reign. Numerous canals were dug in all these countries. That which connected the Loire and Seine was begun in 1605, and completed in 1640. Two thousand square miles of swamp lands were drained in Lincolnshire, &c., 1629-52. Tramways were invented at Newcastle, 1602. The steam engine was invented by Blasco de Garay of Barcelona, 1543; the experiments of Giambattista della Porta were made in 1601; of Solomon de Caus, a Frenchman, 1615; a wheel driven by steam was exhibited by Branca, an Italian engineer, 1629; the Marquis of Worcester's steam engine was seen in motion by the Grand Duke of Tuscany at Vauxhall in 1656, and is described by the marquis in his "Century of Inventions," 1663; Gilbert produced frictional electricity in 1600; Schwenger, a German, planned an electrical machine, 1636; and Otto von Guericke constructed one in 1647. Coaches and carriages were first constructed in France, 1547, and England, 1555. In 1619 the Duke of Buckingham drove six horses to a carriage, and in 1620 the Duke of Northumberland drove eight. Carriages were first let for hire in Paris at the Hotel Fiacre, whence the name of fiacre, in 1650. In 1550 there were only three carriages in Paris; in 1580 only two in England. Turn-pike gates were introduced, 1663.

Manufactures pursued the same progressive course. The refining of sugar, though familiar to the Venetians for a long time, was only introduced into England about the year 1650; though wire-drawing was invented in Nuremberg so early as 1410, the manufacture of wire was not practised there until 1563, nor introduced into England until 1663. Cambrics were first made at Cambrai, in France, about 1550, and first worn in England, 1580. Carpets were first made in France, 1589-1610; tapestries

in France, 1606; in England, 1619. Calicoes were first imported into England from Calcutta, 1631, and shortly afterwards manufactured at Augsburg, in Bavaria. Silk was first manufactured in England, 1604, and broad silk, 1620. These fabrics had been made in Italy and Moorish Spain for centuries. The staining of linen was introduced into England, 1579, and the dyeing of cloth in colours, 1608. Stockings, long manufactured in Venice and Spain, were first made in France, 1547, and in England, 1564, where in 1589 they were made on frames. The cotton manufacture (fustians and velveteens) was started in England, 1641. The manufacture of glass, practised in Venice since its earliest intercourse with Arabia, was not introduced into England until 1557, between which time and 1635 it was continually improved. Paper, though made for centuries in Italy and Spain, was first made in England, 1580. The first paper mills were erected in France, 1570, and in England, 1588. The first improved printing press was used in Amsterdam, 1601, and the first newspaper printed in England, 1622, and France, 1631. The first portable clocks were made in 1530; watches were brought from Germany to England, 1577; needles made in Spain, 1540, and England, 1545; pins made in France, 1540, and England, 1543; knives made in France, 1560, and England, 1563; and forks made in England, 1608. Chimneys were first used by the middle classes in England, 1558 to 1602; iron smelting with stone coals was invented by Lord Dudley in 1619, and coals were first commonly used for fuel about the year 1625. The coast fisheries of Holland, France, and England were first systematically prosecuted during the period under review, and an immense addition procured to the general means of subsistence. The cod fisheries were opened by the French in 1504, and the whale fisheries by the Dutch, 1590. Engines and weapons of war kept even pace with other inventions. Pistols for cavalry, first manufactured at Pistoja in Italy, were made in England, 1544; fire ships, 1585-8; air guns, 1646;

bayonets at Bayonne, 1670; and throughout the period great improvements were effected in cannons and small arms.

The achievements of science were not less stimulated by the rise of prices than the triumphs of mechanical art. This was the period of Copernicus, 1517; Tycho Brahe, 1546-1601; Galileo, 1564-1642; Kepler, 1571-1630; and Descartes, 1596-1650. Algebraic symbols were first used by Vieta, 1590; logarithms by Napier, 1614; and decimal fractions, 1617. Bacon's Inductive Philosophy appeared in 1616; Harvey discovered the circulation of the blood in 1618; Snellings proved the law of refraction, 1624; Torricelli demonstrated the pressure of the atmosphere, 1645; and Otto Guericke invented the air-pump, 1650. The quadrant for measuring angles was invented in 1600; the pendulum for clocks at about the same time; the telescope, 1610; microscopes in Italy, 1619, and Holland, 1621; the thermometer by Drebbel and Sarpi, 1609; the barometer, 1626; the micrometer, 1622-40; and the camera obscura in 1650. In 1635 Richelieu founded the French Academy, and opened that path of distinction to science which hitherto had been reserved only for valour.

It was an era of great designs and enterprises. That which the Arabians had offered to mankind in the ninth, and the Venetians in the twelfth century, namely, OPPORTUNITY, was now offered by all the nations of Northern Europe. Land in the colonies was placed within reach of a peasantry who had never before seen it freed from the taint and burden of feudal vassalage; commercial companies were formed to establish factories and promote trade in America, Africa, the East Indies, and the distant islands of the sea; canals, warehouses, and the improvement of rivers and harbours were energetically carried on in France, Holland, and England,¹ and even the idea of cutting a ship canal through the Isthmus of Panama was seriously enter-

¹ The particulars of many of these improvements will be found in Yarranton's work.

tained. Philip II. of Spain had a route across the isthmus carefully surveyed by some Flemish engineers, but afterwards relinquished the project. Peter Heylin, an English writer, in a geographical treatise published in Oxford in the early part of the seventeenth century, observes that "many have motioned to the Councill of Spaine the cutting of a navigable channell through this small Istmus, so to shorten our common voyages to China and the Moluccoes. But the King of Spaine has not hitherto attempted it, partly because if he should imploy the Americans in the worke, he should loose these few of them which his people have suffered to live; partly because the slaves which they yearely buy out of Africa doe but suffice for the mines and sugar houses; but principally, lest the passage by the Cape of Good Hope being left, those seas might become a receptacle of Pyrats."

This was the age of Sir Thomas More's "Utopia," 1516; of Raleigh's Roanoke colony, 1585; of Harrington's republic of "Oceana," 1657, and of Locke's experimental government in Carolina. Not only did poets and philosophers dream, and statesmen plan, reforms of government, the commercial classes demanded them, and the people struck for them. An insurrection occurred in Castile, 1520, and a popular Junta was established, 1522; a republic was declared in Holland, 1579; a colony, practically renouncing the European system of government, was established in New England, 1620; the peasantry rose in Austria, 1626; a republic was established in England, 1645; and the barricades of the Fronde were erected in Paris, 1648.

Everywhere there was a protest against the old order of things, against feudal governments, against a petrified ecclesiasticism, against prerogatives and privileges and monopolies. The suddenness and rapidity with which the reformed religion was embraced in the Netherlands, the Palatinate of the Rhine, Baden, Hesse-Cassel, Anhalt, Styria, Denmark, Sweden, &c., is quite unintelligible unless it be admitted that the populations of Europe were already

in a ferment from some other and nearer cause than a consideration of their welfare in a future world. Europe had remained steeped in poverty, ignorance, and vassalage for over fifteen centuries, and it was not Luther's vulgar harangues that suddenly emancipated and enriched it—it was the Rise of Prices. It is not too much to say that without the amelioration of vassalage the Reformation could not have occurred, and that without the Rise of Prices the institution of vassalage would have remained unshaken.

The commerce of Northern Europe, hitherto consisting chiefly of a coasting trade in small vessels, suddenly grew to great proportions. In 1699 Petty estimated the combined tonnage of the European merchant marine as follows: Holland, 900,000; England, 500,000; Baltic ports, 250,000; France, 100,000; and Spain, Portugal, Italy, &c., 250,000—total, two million “tuns;” value, £8 per tun. He estimated the sea trade of Holland at £18,000,000; England, £10,000,000; France, £5,000,000; and the rest of Europe, £12,000,000—total, £45,000,000. Without putting too much faith in statements which are evidently founded upon loose conjecture and dictated by national pride, it may be concluded quite safely that two-thirds of the entire maritime trade of Europe was now in the hands of the northern states. A few centuries previously it had belonged almost exclusively to Italy and Spain. The mere fact that an essay was written in England to discuss the matter is in itself a most striking proof of the progressive character of this era. Before the middle of the seventeenth century there were no commercial writers in Northern Europe. These were only to be found in Moorish Spain and Italy.

With commerce appeared all those inventions which facilitate intercourse, negotiation, and credit. The postal system, begun in Venice during the first renaissance, was introduced into the northern countries during the second. It was established in Venice so early as the twelfth, but not in Christian Spain until the sixteenth century; in the Tyrol, 1516; in France, 1524; in England, 1635; and in

Scotland and Ireland, 1644. The first statement of national finances since that of the Doge Mocenigo in 1463 was made by Sully in France, 1598. Book-keeping, long practised in Italy, was not introduced into England, until 1543.

Education evinced the same extraordinary and sudden energy. A mere list of the universities founded during this era will be sufficient to prove this statement. It comprises those of Seville, Siguenza, Compostella, Evora, Granada, Strasburg, Marlburg, Besançon, Königsberg, Gripswald, Douay, Dillingen, Milan, Ingoldstadt, Leyden, Helmstadt, Altorf, Edinburgh, Bamberg, Dublin, Paderhorn, Venice, Parma, Aix, Groningen, Lima, Salzburg, Mantua, Alba Julia (Transylvania), Cambridge, Dorpat, Utrecht, "Harvard" (Massachusetts), Abo, Bruges, and Kiel. The first of these was founded in 1502, the last in 1665.

This was the age not only of Tycho Brahe, Copernicus, Kepler, Galileo, Descartes, and Bacon, it was also that of Cervantes, Calderon, Lope de Vega, Molière, Ben Jonson, Spenser, and Shakespeare, and it afforded those opportunities which made Velasquez, Murillo, Claude Lorraine, Salvator Rosa, Rubens, Rembrandt, Van Dyck, and Sir Godfrey Kneller.

In every department of activity, from the subtle statecraft of Richelieu to the perfection of counterpoint by Palestrina, mankind evinced its capacity for radical improvement the moment its social shackles were removed, and effort and reward were permitted to bear some sort of an equitable relation to one another. It was an age of miracles. The land was cleared; marshes were drained; forests were felled; roads and bridges were constructed; palaces arose on all sides; and every art that could contribute to the comfort and happiness of society soared at once, through the busy mind of man, from discovery to perfection. Everything was thought of; everything attempted; everything done. From the north pole to the south, from the cabinet of Louis, where Colbert planned every enterprise that France afterwards completed, to the frozen tides of

the Neva, where Peter originated every reform that Russia has since accomplished, there was to be observed an unceasing activity of action and of thought. Men lived by centuries instead of years; they saw more movement, more change, more progress, more growth, in one generation than had been seen before in one hundred. There was no "depression of trade" in this renescent period; "overproduction" was unheard of; the rich were prosperous; the poor were satisfied; everybody wore a smiling face—for Prices were rising.

The entire European stock of the precious metals, coins, and plate, at the period of the discovery of America, was estimated by Gregory King, in 1696, at £45,000,000; and by Mr. Jacob, in 1820, at £34,000,000. Up to the year 1546 there had been obtained in America about twenty-five millions, and in Malacca and other places in Asia, say, ten millions more; altogether about thirty-five millions of pounds sterling. As a large portion of the first spoils were absorbed by the nobles and ecclesiastics,¹ it is perhaps a liberal estimate to assume that the entire stock of money, both of silver and gold, billon and copper, in 1546, did not exceed, in nominal value, let us say, £50,000,000. From 1546 to 1645, a period of one hundred years, there were obtained in America gold and silver to the value of no less than two hundred and ninety, and in Japan eighty millions, together three hundred and seventy millions sterling. Assuming that fifty millions were retained in America and lost by shipwreck and other casualties, and that seventy millions were converted into plate, or employed in the arts in Europe, there would remain two hundred and fifty millions for conversion into coins. This would have enhanced the previous stock of money five times, and it is believed that this is, more or less, what actually happened.

Since the Augustan age, when a similar rapid increment

¹ See description of plate in the Basilica, by Humboldt, and of the spoils captured in Rome by the Constable de Bourbon, 1527, in Robertson's "Charles V."

of the stock of money occurred, there had been but one other such an era, and that was during the century and a half which followed the occupation of Spain and the opening of the gold and silver mines by the Arabians. Since the "Elizabethan age" there has been but one other such an era, and that was during the quarter of a century which followed the opening of California and Australia. The accretions of money which followed the Renaissance of the North, like those which have followed the era 1848-73, were added to a stock of money already so large that they failed to cause any further marked rise of prices. It took a century and a half to exploit the mines during the first renaissance, and a century during the second; while during the third—such is the superiority of modern organization, means of locomotion, and mining methods—the exploitation was accomplished in a quarter of a century.

That the Renaissance of the North was indeed due to the increase of money which flowed from the spoil and the mines of America scarcely admits of question, for every step of the phenomenon bears evidence of its cause. The spoil was obtained by the Spaniards and Portuguese. The earliest rise of prices and the earliest social progress which followed it occurred in Spain and Portugal. No rise of prices and no signs of a renaissance are to be observed in France, Holland, or England, until after these phenomena had appeared in the Peninsula. But no sooner did the northern nations—no matter by what means—manage to secure a share of the American spoil, and turn it into money, than there at once followed a similar rise of prices and a similar renaissance.

Nor is this renaissance to be attributed to the opening of commerce with America, for the aborigines produced nothing which could have tempted a voyage across the ocean, and in point of fact no new commerce existed, except that for the precious metals, until after the Renaissance of the North had occurred. The commercial development which Petty noticed in 1699, was noticed because it was new and

strange. It had but little existence, for instance, in 1599. It was not the cause of the Northern Renaissance, but one of its effects. The development of the Mercantile Doctrine, and its treatment by the economical writers of the age as the basis of all true policy on the subject of trade, is a sufficient proof of the correctness of the position that the new commerce of the period grew out of the rise of prices. They thought—and at that period, when paper money was impracticable, they were right in thinking so—that it was essential to the prosperity of each country that it should secure as much as possible of the material for making money. And it may here be remarked that, much as this policy has been berated by modern writers, it is still actually pursued as a cardinal rule of action by all the great banking corporations of Europe, the Banks of England, France, Germany, and others. They evidently labour under no hallucinations on this subject, and still less so did the commercial writers of the ages of Elizabeth and Louis Quatorze.

CHAPTER XIV.

FRANCE, FEUDAL AND MEDIEVAL.

Gaulish and Roman coins—Abandonment of State mining—Decay of the Roman monetary system—Low prices—Decay of commerce—Feudal period—Disuse of metallic money—Corn rents and services—Seizure of mines by the Crown and renewal of State mining—Merovingian moneys—Growth of the Frankish Monarchy—Plunder of Saxony, Bohemia, Hungary and Aragon—Acquisitions of the precious metals—Monetary system of Charlemagne—Extension of commerce—Oriental trade—Disruption of the Monarchy—Failure of the mines and their second abandonment by the State—Renewed growth of the Feudal system—Number and intricacy of Feudal coinages—Low prices—Venetian commerce—Re-growth of the Monarchy—Medieval period—Resumption of the mining prerogative by the Crown—The mines worked by serfs—"Royal metals" doctrine—Inadequacy of the supplies to keep pace with the growth of commerce—Remedies for the scarcity of gold and silver—Overvalued coins—Frequent and violent changes of the ratio—Leather moneys—Relinquishment of the mines to private enterprise, and third abandonment of State mining—Principal monetary events of the medieval period—Influence of the Crusades—The Renaissance—The Arabian empire in Spain—Wars with England and Flanders—Small and fitful supplies of the precious metals—Monetary systems—Weights—Tale relations of coins—The ratio—Lessons derived from its history—Close of the medieval period and unity of the great fiefs under Louis XI.

THE earliest French money of which we have any certain knowledge consisted of the coins of maritime Gaul, which were struck from Greek types about three centuries before the Christian era. During the Roman consular period, money was supplied to Gaul from the mints of Rome,¹ subject, from time to time, to the regula-

¹ "Histoire de France," par Henri Martin. Paris, 1862, i. 90, 138 n., 153 n., 167 n.; Le Blanc, "Traité des Monnaies."

tions which have been described in a former work. After the inhabitants of Gaul had been plundered and its placer mines were divested of their richest produce by Cæsar and the military chieftains who imitated his policy and extended his conquests, the country was supplied with overvalued coins issued by the Roman mints or struck in provincial mints under Roman authority. These coins were of copper and silver, chiefly the former metal. In their eagerness to realize the profits derived from overvaluation, the Roman emperors swept away every limitation to the coinage, and multiplied the coins so rapidly that in course of time they fell in value to that of the metals of which they were composed.

This value of the metals was not that of the current cost of producing them from reef mines, the only ones which had not yet become comparatively exhausted. Rome had acquired from all parts of the then known world, chiefly by plundering its inhabitants, skimming its gold placers, and working its reef mines by slave labour, such an immense quantity of the precious metals that their value became depressed far below the current cost of producing them from the mines, so that at length it became cheaper to procure metal by melting coins than by mining for it. The growing unprofitableness of the mines led to greater exactions and increased cruelties on the part of the mine-masters, and these to bloody insurrections of the mining populations, and finally to the abandonment of the mines by the State. It was these insurrections which facilitated, if indeed they did not invite, the barbarian invasions of Rome, and which ultimately led to the independence of the provinces and the fall of imperial power.

The abandonment of State mining was followed by the decay of the Roman monetary system. As time went on and metallic money grew scarcer and scarcer, it again became profitable to work the mines; but it was now too late to reopen them. Strange races had found their way into Europe, and barred the way not only to the mines, but

also to many of those pastures and fields which hitherto had been cultivated for Roman profit. A long-continued and disastrous fall of prices occurred in Rome, which manifested itself at first in the depression and afterwards in the relinquishment of trade. To remedy the depression, the coins of Rome had been again and again degraded and debased, but to little purpose. The relinquishment of trade continued, social disorders increased, and the decay of the State went on until at length there emerged from its ruins those first and last elements of order known as the feudal system; first, because they have usually succeeded the birth of States, and last, because they have usually preceded their dissolution.

The dissolution of Rome was, however, so gradual that long after the ruin of the Western Empire had manifested itself in the revolt, independence, division, and reorganization of the provinces into petty sovereignties and fiefs, the Court of Byzantium retained a nominal hold upon some of them. Thus, although Clovis in 486 put an end to the real dominion of Rome in Gaul, he nevertheless deemed it politic to afterwards govern a portion of his subjects by titles and charters which he procured from the Byzantine Emperor.

At this period commerce had become virtually extinct, and taxes and agricultural rents were paid in produce and personal services.¹ With the body of Childeric, a monarch of the fifth century, whose tomb was opened in the seventeenth,² were deposited a number of Roman coins, evidently for the reason that similar coins were walled up in the Buddhist topes of the same era; because they had become extremely rare.³ Dagobert (628-38) seems to have acquired, some say from commerce,⁴ some from a lucky find in the mines,⁵ and others, with more probability, from con-

¹ Corn rents of feudal origin were not entirely commuted by money payments until 1565. Roscher, 133, n. 7.

² Morell, 67. ³ "Hist. Money," p. 87. ⁴ Morell, "Hist. Fr.," 68.

⁵ "Côtés Historiques," Paris, 1881, p. 28.

quest, enough gold to make for himself a seat of that metal, a luxury in which he was afterwards rivalled by the dusky chief of Dahomey. Most of the Merovingian kings coined gold and silver pieces, of which many specimens, recovered from tombs and other places of deposit, are still extant; but some of these coinages, certainly the earlier ones, must be regarded rather as a means of asserting the royal prerogative of coinage, or of announcing a new reign, than as providing a circulating money for the kingdom.¹ During the first portion of this period there was substantially no metallic money in use; with the decay of commerce, money ceased to be used, and the feeble societary life which still pulsated between the almost incessant wars that characterized the era was maintained chiefly by means of barter. Under these circumstances State mining was again resorted to, first in a small way in the reign of Dagobert, and afterwards with greater application until after the era of Charlemagne, when, for reasons stated further on, it declined again. The mines of the Merovingian kings were the impoverished placers and beds of the Rhine, Rhône and Garonne, which, abandoned on account of high prices, had again become profitable during an era of lower ones. With the first proofs of their profitableness they were seized upon by the Crown as royal patrimony. The maxim "Fortune d'or est au Roi; fortune d'argent est au Baron," may have not been formulated until the period of Louis XI.;² but its principle was certainly maintained by the Merovingian kings, during the latter portion of whose dynasty metallic money again became the preponderating medium of exchange in France.

The growth of the Frankish monarchy dates from this time, from the time of the re-institution of money. With money came an increase of exchanges, a development of

¹ See allusions to this custom in Mahometan India, "Hist. Money," p. 89.

² It is laid down in his "Etablissements," liv. 1, chap. 165.

trade, an organization of industry that demanded a central power to protect its growth and encourage its continuance. It was these circumstances that paved the way for the phenomenal career of Charlemagne. Whether that monarch's extraordinary capacity for affairs enabled him to discern the true cause of the stimulus that had been imparted to the social activity of the kingdom or not, it is quite evident that he employed the most energetic means to increase its stock of the precious metals. He successively plundered Saxony,¹ Bohemia, Hungary, and Aragon,² and obtained such great quantities of gold and silver—chiefly the latter³—as enabled him to reorganize, unitise, and greatly develop the monetary system of his dominions. Not only this, but he filled the mines with captives, and worked them for his own account.⁴ He formulated the monetary system, he established mints and mint laws, and he coined so great a quantity of money, that even at the present day his silver deniers are common in numismatic collections.

During the latter part of the Roman period the moneys of Gaul were arranged chiefly under two denominations, denarii and solidi, or deniers and sols, of account, of which twelve of the former went to one of the latter. To these a third denomination, the livre, was added, consisting of twenty sols. All actual moneys, whether of gold, silver, or copper, were valued in so many livres, sols, or deniers; but while the weight and composition of the coins underwent many changes, the arithmetical relations between these denominations, except during the reign of Pepin the Short,

¹ For a description of the limits of ancient Saxony and an account of the tributes exacted by Charlemagne, see Gibbon's "Rome," v. 50-60.

² James's "Life of Charlemagne," New York, 1860, pp. 184-5.

³ Guizot, iii. 69, says that gold was scarce in the time of Charlemagne, but Eginhardt, who lived with Charlemagne and described his plunder of the Avars of Pannonia, tells a different story.

⁴ Among others, the silver mines of Rothausberg, Kremnitz, Schemnitz, &c. Jacob, "Prec. Met.," p. 137, and Del Mar's "Prec. Met.," p. 39.

were never changed at all. Twelve deniers always made a sol, and twenty sols a livre. Charles Martel, 715-41, struck a silver coin containing about 38 or 39 grains of silver (nearly the same weight as the Arabian dirhem), which went for two deniers, and was called *moneta soldaren*.¹ Pepin the Short in 755 struck single deniers, of which 12 went to the sol, while, as some authors assert, 20, 22 and 24 sols were at various times counted to the livre during his reign. Whether this opinion is based upon law or regulation, or is deduced from the actual weight of the deniers and the assumption that the coins valued at a livre of account should weigh as much as a livre weight ("ingot coinage"), is not clear. In the latter case it would, of course, be valueless.²

From Charlemagne's time to the French Revolution the arithmetical relation of denier, sol, and livre remained constant. The basis of Charlemagne's monetary system was the denier, an actual coin containing, as determined by recent weighings, about 19 grains of silver. Thus 298 of these deniers were struck from a livre poid du roi (5,666½ English grains), while 240 of them constituted a "livre" of money. This is anything but an "ingot" system. The Crown appears to have monopolized the coinage, so that no more pieces could be put into circulation than it chose to strike. On the other hand, it coined all the metal it could lay hands upon. Thus there were no limits to the measure of value; it was both unknown and unknowable. So long as new supplies of metal were obtained, whether by conquest or slave mining, the coinage was increased, prices rose, and a rapid and surprising development of commerce ensued. This commerce stretched from Barcelona to Lon-

¹ Possibly a Languedoc phrase.

² Consult Le Blanc's "Monnaie de France;" Voltaire's "Hist. Europe," i. 57, and "Hist. Louis XIV.;" Hallam's "Middle Ages," and the "Dict. du XIX^{me} Siècle." The "Conversations Lexicon," article "Livre," also mentions a subdivision of the livre into ten sols, possibly a theoretical deduction from Charles Martel's double deniers.

don, and from the Baltic Sea to the Persian Gulf; for Charlemagne was on good terms with the Moslem Emir of Aragon,¹ the Saxon kings of England, and the Arabian Caliph Haroun Alraschid, from whose (the latter's) dominions were imported silks and other wares that had been fetched from India.

Owing to the backward condition of Europe, there were but few commodities which it could exchange for Oriental products beside the precious metals, and of these, by far the most acceptable to the Arabians was silver. This was due to the different ratio of value between that metal and gold which was established respectively by them and by the Franks. The former valued gold only $6\frac{1}{2}$ times as much as silver, while the latter valued it at 11 times. Hence the principal article of export from France and Germany to the Orient was the silver deniers which constituted the measure of value and the basis of prices and social relations in the Frankish kingdom. With their disappearance these prices fell, and these social relations were disturbed and undermined.

The disruption of the kingdom is commonly attributed to the death of Charlemagne, but not the genius of a dozen Charlemagnes could have held it together much beyond his lifetime. He had built it upon a false foundation, upon the ephemeral fruits of conquest and the unprofitable and uncertain products of slave mining, and it was bound to fall asunder the moment these frail props gave way.

Although Louis le Debonnaire, 814-46, and Charles le Chauve, 843-77, worked the mines with serf labour, and spared no efforts to render them productive, the lessening of money and the fall of prices went on until it was found that the mines were incapable of coping with the difficulty, when the State again abandoned them. At this period the disorganization of the empire was almost complete. Germany had separated from France, and each of these kingdoms had

¹ James's "Life of Charlemagne," New York, 1860, pp. 184-5.

split up into numerous fiefs. This movement constituted a second development of the feudal system.

In the ninth century France was subdivided into twenty-nine, and in the tenth into no less than fifty-five petty kingdoms, each having a sovereign, who exercised the right to make war, administer justice, and coin money.¹ At the accession of Hugh Capet, 987, as many as one hundred and fifty lords, besides numerous prelates, are said to have exercised an undivided and uncontrolled right of coinage. Not only this, they forbade the circulation of the royal coins.² Indeed, France was no longer a kingdom; it had no national history.³ Its history was that of a host of petty lords, each with a petty following. The peasants had revolted in Normandy, 997, and Brittany, 1024; social life had almost died out. There was no co-operation of men or things, except for rebellion or war. There was no commerce, no industry, no general monetary system. The feudal lords struck billon coins so long as there were any silver and copper left to be stolen from one another, and any coiners to be impressed. When these resources failed, they fell back upon barter, and used corn and cows, and even human beings, for media of exchange.

The depth to which prices fell during this period has been sufficiently described in another place. Apart from prices, the monetary history of the medieval ages is without interest; and it is only when a new commerce arose, emanating as before from the Orient, but pushing its way this time through Tyre and Venice (p. 30) to Germany and France, that the monetary history of the last-named country again becomes worthy of pursuit. The exports no longer consisted of silver, for France had no silver to pay. Her silver had already been exported or used up; her mines had only recently been reopened by the State, and as yet had produced but little metal. The

¹ Guizot, "Hist. Civ.," New York, ed. 1850, iii. 380.

² Hallam's "Mid. Ages," 108.

³ Hallam, 22.

exports were now of woollens, linens, and wines. Nor were the imports, as before, of silks and spices; they now consisted of cottons, pepper, a little sugar and some gold, the latter either in the form of Arabian dinars or Greek besants.

During the reign of Philip I., 1080-1106, the Crown endeavoured to relieve the scarcity of coins by circulating an emission of leather money (p. 29), a device which may have originated in Novgorod (Chap. XVII.) and been brought to France by the Easterlings; but as yet the re-growth of the monarchy was so recent that the circulation of the money was probably confined to the Crown domains, and is therefore of little national importance.

Although the power to coin money was less divided than it had been during the earlier reigns of the Capetian dynasty, it was yet nevertheless shared by a vast number of feudal lords and prelates; and so jealously was this power exercised that in 1185 Philip Augustus found it necessary to request permission from the Abbot of Corvey to allow the royal money of Paris to circulate in his dominions. Hallam says that during the reign of St. Louis, 1226-70, eighty lords exercised the right of coinage, but omits to say how many prelates.¹ Martin says that twenty-four high barons and prelates, besides numerous other lords, coined money, usually retaining one-sixth for monnoyage.² Macgregor is more explicit. He says that at the meeting of the States General in Paris, about the year 1337, it was found that no fewer than three hundred prelates and barons coined money.³

With regard to the tax of monetagium or focagium an eminent author states it was levied upon the lords' tenants every three years, in lieu of debasing the coins, a practice which during the medieval ages was usually tantamount to increasing the number of pieces. While admitting the tax,

¹ "Middle Ages," 108.

² "Histoire de France," iv. 311.

³ "Statistics," i. 352-3.

I doubt the motive attributed to the payment of it; for I fail to see what the "tenants" could have suffered from debasement of the coins, nor why they should have paid a tax to avert it. They were not usually creditors but debtors to the lord; and if they had to sell their corn for debased money, they could nevertheless pay their rents with it, and thus return it to its issuer. This is not the only instance which the author has observed where the unthinking prejudice harboured by the most enlightened men against an increase of money, has led them into error concerning its history.¹

The beginning of the medieval period in France is marked by the resumption of State mining in the twelfth and thirteenth centuries. Between this period and the abandonment which had occurred in the ninth century, I cannot find mention of the working of any mines of the precious metals by the State or the feudal lords, except the argentiferous copper mines of Brosse and Montceaux-le-Conte, in Bourgoyne. In the twelfth century were opened the silver mines of L'Argentière in the Hautes Alps, of Bouxeda and Pugalduc in Languedoc, of Paleyrac and Termanez in the Pyrenees, of Viviers in the Vivarais, and those of the King of Dauphiné at Brandes, near Grenoble. In the thirteenth century there were opened the silver mine of d'Ouzals, near Toulouse, and the silver and copper mines of the Seigneur Rosselin de Foix in Provence. Here the movement ceased. In the fourteenth century the only mine opened was the argentiferous lead mine of Lacroix, in Lorraine.

The resumption of the royal prerogative over mines occurred during the reign of Louis IX., 1226-70, and has already been alluded to. So unsettled were the rights of the Crown that at first it only laid claim to mines and finds of gold, relinquishing those of silver to the barons; but later on it took the very proper ground that entire control

¹ Hallam's "Mid. Ages," 108.

over the materials of which money is made was essential to the safety and welfare of the State, and in the sixteenth century the "royal metals" doctrine became firmly established both in France and England.¹

The inadequacy of the supplies of the precious metals to keep pace with a growing commerce was painfully apparent in France during the Renaissance. The haughty demeanour of Philip le Bel towards an insolent aristocracy and an ambitious clergy has covered that monarch's name with obloquy; but if the circumstances of his era be considered impartially, it will be difficult to avoid the conclusion that much of this obloquy was unmerited, and that the king, in altering the value of the coins, was not always without justification. The best proof of the animus against Philip is the fact that although several of his successors altered the coins very much more often and more suddenly than he did, they have been seldom reproached for the act.

Philip appears to have been well aware of the significance of the coining prerogative and its intimate connection with the welfare of the State. In a judicial process brought against the Comte de Nevers, the king very justly claimed that to increase the numbers by raising the value of money, was a prerogative necessary to be exercised in the interests of the community at large ("en la defense du commun"). He denied the right of private coinage, and to every feudal mint he appointed royal inspectors, who were ordered to supervise the emissions and to reduce the valuations of the coins to something like uniformity. The reluctance of the lords and prelates to surrender the coveted privilege of coining rendered Philip's efforts in this direction but partly successful,² and the result was that when the

¹ See "Science of Money," and Blackstone's "Commentaries" and the authorities cited. The monopoly of the silk fibre paper and for making the Treasury notes or "greenbacks" of the United States is founded upon a like consideration.

² The right of private and independent (feudal) coinage was not suppressed in France until the sixteenth century. Buckle, "Hist. Civ.," i. 445.

watchfulness which he exercised over the feudal mints was relaxed by his less rigorous successors, they found themselves obliged to rectify the excesses of those mints by increasing the number and frequency of the coinage changes in the royal mints.

The remedies adopted for the scarcity of the precious metals are alluded to more at length in another place, but briefly, they consisted of admitting feudal and even foreign coins to full course, raising the denominational value of all coins, altering the ratio between gold, silver, and copper coins, and emitting leather moneys. This last-named device was adopted not only by Philip I., as previously mentioned, but also by Louis IX., 1226-70, John the Good, 1360,¹ and Charles the Wise, 1364-80.² These measures not only served to maintain a degree of stability in prices which would have been impracticable had they rested solely upon the fluctuating produce of the mines; they arrested the fall of prices threatened by the diminishing stock of the precious metals; they occasioned a rise of prices; they brought the kingdom more into harmony with the Renaissance of Italy than would otherwise have been possible; and they tended greatly to draw the populace together, to bring it under the influence of the Crown, and to pave the way for that union of the great fiefs which was finally accomplished under Charles VIII. in 1491.³

This rise of prices rendered State mining again unprofitable, and few or no mines appear to have been worked by the Crown during the fourteenth and first half of the fifteenth centuries. During this period, therefore, there happened a third abandonment of State mining in France.

¹ This money was issued as a substitute for the three million golden écus at which the ransom of King John was fixed, but it was probably issued in excess of this sum, for at the death of Charles (1380) the Duke of Anjou found great quantities of gold and silver ingots sealed up within the walls of the castle of Melun.

² Florence had established her funding system in 1344.

³ Money played an important part in the acquisition of Roussillon, Cerdagne, and many of the Burgundian towns.

When, through the fall of prices that ensued, mining was for a brief period again rendered profitable—namely, towards the beginning of the sixteenth century—the circumstances that surrounded it furnished the basis of those principles which appear in the pages of Adam Smith.

When that great logician secluded himself for years in a Scotch village, to compose his work on the Wealth of Nations, what were his literary materials? Had he before him any history of the monetary systems which had been tried in India, in China, in Greece, in Rome? Was he familiar with those of Arabia, of Venice, of Spain, of France? Had he visited the mines of Spanish and Portuguese America, and witnessed the conditions under which the precious metals were being actually produced at the time he wrote? Not at all. His materials were chiefly the treatises of recent writers, and it was from them and the narrow range of facts which had fallen beneath their observation, that he learnt and taught a doctrine which was true enough during some portion of the feudal and medieval ages, but is not true permanently. If it were indeed always true that the value of gold and silver does and must conform in the long run to the cost of their economical production, all the social phenomena which Smith deduced from his premises would follow. The fault of the logician was not in defective reasoning, it was in the weakness of his premiss. This he had obtained, not from any complete records of the world's experience—for at that time there was no history of mining or of monetary systems extant; nor from an investigation into the circumstances, under which gold and silver mining was conducted in his own day—for he had made none; but from the pages of writers who had mistaken a mere transient phenomenon for a permanent law of sociology.

It is to be observed as a general fact throughout all history previous to the opening of California, that whenever the precious metals mines paid to work, they were worked either by the State or the king or baron upon his own

account. This was the case with Greece and the Laurium and other mines, with Rome and the Spanish mines, and—in modern times—with Spain and Portugal and the American mines. When the metallic product of these great mines and mining countries, by being converted into coins, had lowered the purchasing power of all money, occasioned a rise in prices, and rendered further mining unprofitable, the State relinquished the industry to individuals: but not until then. When the gleanings of the river beds and the mines of the feudal ages ceased to be profitable, the king or baron relinquished them to his vassals. The latter rarely abandoned them until they had sunk all their substance in them. States and sovereigns do not die, while individuals perish. States are competent to survey the whole field of mining, and to determine whether it pays on the average or not, an advantage which individuals do not possess. States have recourse to permanent records, and are able to formulate and maintain a policy with regard to mining; while the individual miner is subjected to the allurements of an open mint, the enormous hazards of mining, his own cupidity, and the deceptions and frauds of others.

These river beds and mines of the feudal ages still remain, and the writer has seen many of them. None have been exhausted; most of them are as rich and can be made as “productive” as they were during the feudal ages, yet nobody will now have them for a gift, because, since the plunder of the placers and since the *encomienda* and slave systems of America lowered the value of the precious metals—a value which has since been kept down by the introduction of paper money—these mines will not pay to work by free labour.

When the value of gold and silver conforms to the economical cost of their current production, and “free coinage” prevails, the coins which happen to be in a country cannot be increased at pleasure by industrial means;¹ because any addition to the coins would lower the value of the

¹ This consequence is admitted by Dr. Smith.

whole stock, and also that of the material of which they were made. This would arrest mining, and the arrest of mining would diminish the product of bullion and lower the stock of coins to its previous limit.

Thus money, so long as its value conforms to the cost of its production, repudiates its own office. Cost fixes the quantity of money, a fixed quantity of money fixes prices, and fixed prices invite barter and lessen the necessity for money. To a growing population the only relief to such a state of affairs is war, conquest, and slave mining; and indeed to such devices have all nations been driven who have founded their societary relations upon metallic money. The civilizations of India, of Egypt, of Greece, and of Rome have all moved toward a vanishing point, and that is where gold and silver mining ceased to be sufficiently productive; and unless proper measures to avert it are adopted in time, it would seem that that of the modern world must move in the same direction.

Before the Crown of France again abandoned the mines to individual effort, a last attempt was made to work them at a profit. Since the emancipation of the Crown serfs by Philip le Bel, the resource of mine slavery was no longer practicable, but while French peasants could not now be used as instruments to support a losing industry, Spanish and German ones might be. With this view Louis XI., 1462-83, signed an ordinance to exempt foreign miners who should enter France from all personal taxes and feudal services, but without avail. The ordinance remained on the statute book throughout several successive reigns, but it was a dead letter from the outset. Prices were falling, but they had not yet fallen to the wretched level which alone renders reef mining profitable.

Among those events of the feudal and medieval ages which appear to have influenced their monetary history, and which have not yet been adverted to in this chapter, are the Crusades. The sudden withdrawal of money from France which these singular events occasioned must have

had a marked effect upon the circulation, and should be held in view while pronouncing any judgment upon the monetary history of the time.¹

Of the innumerable monetary systems which were established in France previous to the reign of Philip Augustus, there remain to us only the barest outlines. From the reign of that monarch downward—and thanks to the laborious researches of Sécousse, Pardessus, De Lauriere, Le Blanc, Pauton, and others²—the details are sufficiently ample to form the groundwork for a continuous history; but this, owing to the feudal condition of the country during the middle ages, and the endless and conflicting coinages of the fiefs, would be as perplexing as it would be tedious. On the other hand, a history of money which related only to the kingdom at large, and omitted the mining, coining, commercial, and sumptuary legislation and operations of the barons, would be so incomplete as to be practically valueless. Monetary history is only useful so far as it discloses the operation of general principles, and thus affords a guide to future legislation. This it cannot do when only a portion of the facts relating to each event are known. Such was the case with the history of money in France during much of the period between the Treaty of Verdun and the discovery of America. It has therefore been determined to group the information relating to the whole of this period under six principal heads, viz.:—I. The circumstances surrounding the production of the precious metals. II. The system of weights. III. The prevailing system of monetary

¹ The Crusades are alluded to on page 68 and elsewhere throughout the present work. In 1250, St. Louis, who had conducted the Fifth Crusade to Egypt, was defeated by the Saracens and taken prisoner. The king's ransom was the surrender of Damietta; that of the French barons was 400,000 livres, equal in weight of silver to nearly $7\frac{1}{2}$ million francs of the present coinage.

² The reader is warned against following too implicitly the tables of Denis, Macgregor, Tooke, Soetbeer, and other writers, who, either from carelessness or the intent to prove some theory, have published partial and misleading tabulations on the subject of French coins and valuations.

equivalents. IV. The principal alterations in the coins. V. The ratio of value between gold and silver. VI. The principal materials of money.

I. The production of the precious metals in France has already been sufficiently dwelt upon. In addition to the produce of home mining, it is claimed that so early as 1380 France obtained some small quantities of gold from the West Coast of Africa, through the enterprise of a company of mariners and adventurers from Dunkirk. The date may be wrong, but that gold was obtained from this region during the sixteenth century will not be disputed.¹

Besides the precious metals, numerous coins of the middle ages were made of potin, and other base compositions, both by the Crown, the barons, and by counterfeiters. The counterfeit coins of Padua and Luxembourg have already been referred to (p. 64). Similar coins were also made in England and sent to France. In 1267 St. Louis announced that false sterling pennies ("falsifiées"), bearing the stamp of Henry III. of England, were passed in France for genuine coins, and he forbade their further circulation.²

Tavannes (Memoirs, 132-3) says that in the reign of Henry III. many of the French nobles openly employed coiners to forge German dollars and florins. Charles IX. was himself an accomplished coiner. Salcedo, who was executed in 1582, had purchased an estate from the profits of false coining.

II. The system of weights in France was based upon the Paris ounce of 576 French grains or 472.1875 English grains. Eight of these ounces made the mark, and twelve of them the livre of Charlemagne, and sixteen of them the livre of Paris. Hence Charlemagne's livre contained $1\frac{1}{2}$ marks and the livre of Paris 2 marks.³ The following table, mainly from the "Dict. du XIXme Siècle," affords a view of several of the most commonly used livre weights:—

¹ "Hist. Prec. Met.;" Lock on "Gold;" Badinel on "Slave Trade."

² Martin, iv. 311.

³ The Paris livre of two marks is mentioned in the time of Philip Augustus and may be older.

Weights of Principal Livres of France.

Livre.	Paris ounces.	Paris livres to 100 livres.	French grains.	English grains.
Charlemagne (poid du roi)	12 ¹	75	6912	5666·25
Paris (poid de marc)	16 ²	100	9216	7555·00 ³
Paris, silk	15	—	—	7082·31
Lyons About 13 $\frac{1}{4}$	—	86	—	6497·30
Lyons, silk	15	—	—	7082·31
Toulouse	—	—	—	6428·63
Marseilles	—	81	—	6119·56
Rouen	—	104	—	7857·20

III. Sums of money were sometimes couched in livres, sols, and deniers, usually in gold écus, florins, and deniers, silver gros and deniers, and billon blancs, liards, &c. The gold coins were valued at various times in sols as follows:—Denier, 30; royal, 14 $\frac{1}{2}$, 25, 30, 40; demi-royal, 12 $\frac{1}{2}$; petit royal, 13 $\frac{3}{4}$; double royal, 22 $\frac{1}{2}$, 25; gros royal, 25; petit mouton, 12 $\frac{1}{2}$; mouton, 25, 30; agnelet, 12 $\frac{1}{2}$, 15, 20; agnel, 12 $\frac{1}{2}$, 15, 18 $\frac{3}{4}$, 20; fleurs-de-lis, 20, 40; paris, 25; lion, 25; pavillon, 30; couronne, 40; anges, 75; chaise, 20, 25, 30; franc (of 1360), 20; grand franc, 30; florin d'or à l'écu, 10, 16 $\frac{8}{12}$, 18 $\frac{9}{12}$, 22 $\frac{1}{2}$, 53, &c. The silver coins were valued at various times in deniers as follows:—Denier tournois, 1 T; denier paris, 1 P, 1 $\frac{1}{4}$ P; double tournois, 2 T; petit tournois, 1 P, 6 P; bourgeois single, 1 P; bourgeois forts, 2 P; double paris, 2 P, 2 $\frac{1}{2}$ P; gros tournois, 12, 15, 18, 45 T; gros à la couronne, 10; gros à la fleur-de-lis, 15; gros paris, 12 P; obôle blanche, 6 P; blancs, 6 P; gros tournois blancs, 8 T; blanc à la couronne, 5, 10, 12, 15 T; blanc à la fleur-de-lis, 6, 8, 15; gros

¹ Hallam says that the livre of Charlemagne was divided into 13 $\frac{1}{2}$ ounces; Say, 235 n., and French authorities generally, say 12 ounces.

² The ounce was divided into eight gros, the gros into 48 deniers, and the denier into 24 French grains, thus $24 \times 48 \times 8 = 9216$. Care must be taken not to confuse these weights with the coins and moneys, of account, of the same names.

³ Tate's "Cambist," by Hermann Schmidt, London, 1880, p. 43, gives this equivalent at 7554 $\frac{1}{2}$ English grains, as the result of recent and more exact determinations of the French standard weights. He gives for the Lyons livre 6610 and the Marseilles, 6295 grains.

blanc, 12, 15; blanc denier, à la étoile, 30; denier à la fleur-de-lis, 6, 15; blanc, 5; liard, 3; hardy, maille, &c.

Two principal series of deniers and their multiples—the gros, testoon, or sou—were coined concurrently throughout nearly the entire period from Philip I.¹ to Louis XIV. (April, 1667), to wit, those of Paris and Tours, distinguished by the letters P and T, the latter usually one-fourth lighter than the former; so that four deniers, sols or livres Parisis were usually equal in weight to five deniers, &c., tournois. At a later date appeared the silver écu of 6 livres, and the gold louis of 24 livres. At the present time the écu is counted as five livres or francs.

IV. Without going into the subject very much more fully than is consistent with the plan of this work, it is impossible to convey an accurate idea of the fluctuation in nominal value to which the mark (poid du roi) of silver was subjected. Roughly speaking, this quantity was coined into about $\frac{4}{5}$ of 1 livre—say, 200 deniers tournois of money in the ninth century, 2 livres in the twelfth, 3 livres in the thirteenth, from 3 to 10 livres in the fourteenth, and from 7 to 17 livres in the fifteenth century; but the weight of the livre of money was not always lessened. Sometimes it was increased in weight as much as three or four fold: nevertheless its general course was downward. In 1480 the mark was coined into 10 livres of money, hence the latter contained $377\frac{3}{4}$ English grains of fine silver, which is a trifle more than the American dollar of the present day. In the year when America was discovered the mark was coined into 11 livres, which gave to each livre 343.41 English grains. From this weight the livre gradually fell to $67\frac{1}{2}$ grains at the period of the French Revolution.

V. With regard to the ratio or the relative value of gold and silver one to the other, as fixed by the mint laws of France, it is involved in uncertainty, because at all periods there were different coins which at the same time were

¹ Leber, "Fortune Privée," p. 261, says from the time of Philip I.: Le Blanc, p. x, says from that of St. Louis.

struck at different ratios. As the limit of legal tender to each was not usually fixed, it is difficult to choose those which may be said to have formed the principal moneys of each epoch. Moreover as there was no free and gratuitous coinage,¹ and therefore no incentive to recoin those pieces which were struck at abnormal ratios, the coinage remained in an incongruous condition, so far as ratio was concerned, for several centuries. Some modern writers have picked out such of these ratios as suited their theories, but this practice proves nothing except the ingenuity of the writers.

TABLE OF THE RATIO.

The Ratio, or the relative value of gold and silver one to the other, as fixed by the nominal value or tale relations of certain coins minted in each of the following named years. When more than one ratio is mentioned in a given year, it is either because several coins with different proportions of silver and gold were struck during the year, or else because their legal values were altered. The figure means the number of pounds of silver contained in the same sum of money as was coined out of one pound of gold:—

YEAR.	MONTH.	RATIO.	REMARKS.
511	—	10.00	Reign of Childebert.
6 & 7 cent.	—	10.00	Merovingian dynasty. Desrotours in Rep. Int. Mon. Com., 1878.
691-2	—	10.00	Lex Salica.
752-68	—	11.00	Pepin, Desrotours. Dict. du XIX ^{me} Siècle says 10.5. The Venetian ratio at this period was 11.
854	—	11.50	Edict of Pistes, Desrotours. Soet-beer says 12.
1113	—	11.25	Louis VI. The mark of gold coined into 20 livres. Le Blanc.
1202	—	12.00	Macgregor's Statistics, i. 352.
1226	—	12.21	Relation between the agnel and gros tournois.
1266	July 24	12.21	Same.
1271	All Saints	12.21	Same.

¹ During the medieval period the mints were usually open to coin at a seigniorage. Coins were struck for the Italian States. Charles VIII. coined for Naples and Florence; and Louis XII. for Ast, Milan, Genoa, and Naples. Gratuitous coinage was not adopted in France until 1679.

TABLE OF THE RATIO—*continued*.

YEAR.	MONTH.	RATIO.	REMARKS.
1278	Dec. 3	12.39	Denier d'or and demi-gros.
1294	All Saints	11.56	Royal and gros tournois. Philip IV.
1303	August 15	12.34	New royal and gros tournois.
1303	August —	10.26	Old royal and gros tournois.
1305	June 20	15.90	Royal and gros tournois.
1308	April 16	14.46	Denier d'or and gros tournois.
1310	Jan. 27	15.64	Agnelet and gros tournois.
1310	Jan. 27	19.55	Agnelet and another gros tournois.
1311	July 8	19.55	Denier and bourgeois simple.
1313	August 25	14.37	Denier and maille.
1313	Sept. 8	19.28	Denier and gros tournois.
1315	May 5	14.50	" " " Louis X.
1316	Easter	12.08	Agnel and gros tournois.
1317	March 1	15.33	Agnelet and gros tournois. Philip V.
1322	May 7	15.33	Agnel and esterlin (denier)
1322	Oct. 15	14.21	" "
1323	May 7	14.50	" " Charles le Bel.
1324	June 2	15.70	Royal double and obôle blanche.
1325	Feb. 6	15.70	" " "
1328	March 21	16.21	" " " Philip VI.
1328	March 21	18.79	Royal double and gros tournois.
1329	Sept. 6	13.34	Parisis d'or and deniers parisis double.
1329	Sept. 6 ^a	13.79	Agnel and deniers parisis.
1329	Sept. 6	13.90	Royal double and gros tournois.
1329	Sept. 6	9.00	Florin à l'écu and denier parisis and gros tournois.
1329	Dec. 26	13.34	Parisis d'or and denier ?
1329	Dec. 26	13.90	Royal d'or and denier ?
1329	Dec. 26	13.79	Agnel and gros tournois.

After this date, and until the beginning of the fifteenth century, so many changes were made in the value of coins that it becomes necessary, in order to save space, to cast the table of the ratio into a more condensed form.

TABLE OF THE RATIO—*continued*.

Year 1336, ratio 11.50; 1338, 10.00; 1339, 11.50; 1340, 11.52 and 10.00; 1342, 11.40; 1343, 8.83, 14.41, 14.48, and 14.71; 1346, 16.73, 17.00, 8.30, 13.59, 11.25, 9.20, 9.45, 13.15, 9.06, and 9.20; 1347, 7.84; 1348, 9.10, 9.93, 10.19, 9.10, 6.82, 6.22, 6.07, 7.84, 12.83, and 13.18; 1350, first year of John the Good, 9.86, 6.57, 8.21, and 21.55; 1351, 6.16, 6.47, 7.97, 4.86, 5.39, 4.79, 8.63, 11.50, 12.27, and 6.90; 1352,

TABLE OF THE RATIO—*continued.*

6.90 and 5.75; 1353, 8.09, 12.94, 7.96, 6.67, 6.37, and 5.75; 1354, 4.31, 7.19, 11.50, 10.79, 10.38, 7.87, 6.23, and 6.30; 1355, 5.19, 3.89, 4.87, 3.46, 3.12, 2.49, 2.08, and 10.38; 1356, 6.23, 5.19, 4.15, 5.19, 4.33, 7.79, 6.23, 9.34, 13.35, 4.17, 2.74, 4.98, 3.99, 11.44, and 10.68; 1357, 10.68, 4.98, 13.29, 6.64, 6.48, 5.54, 4.67, 3.12, 9.34, 7.03, 5.27, 8.79, 7.91, and 6.59; 1359, 4.59, 5.51, 4.74, 3.95, 3.16, 2.49, 2.54, 2.53, 2.11, 2.94, 7.35, 4.63, 4.41, 2.45, 2.20, 1.76, 1.32, 1.06,¹ and 11.02; 1360, 8.27, 6.89, 5.51, 11.02, 4.13, 3.31, 2.76, 10.19, 16.53, 3.34, 6.26, 9.18, 10.44, 11.44, and 10.06; 1361, 11.78, 11.50, 11.46, 15.25, 16.77, and 10.78; 1363, 11.50; 1364, first year of Charles the Wise, 11.50 and 11.18; 1365, 10.06; 1366, 10.06; 1370, 9.34; 1371, 10.06; 1372, 9.82 and 9.43; 1373, 9.43 and 10.06; 1374, 9.43 and 10.06; 1375, 9.43 and 10.06; 1377, 9.43; 1378, 9.82 and 10.06; 1379, 10.06; 1380, 10.06; 1381, first year of Charles VI., 9.43, 9.58, and 10.22; 1383, 10.22 and 10.00; 1384, 10.00, 10.22, and 10.35; 1385 to 1388, 10.00, 10.22, and 10.58;² 1389 to 1394, 9.80; 1395 to 1401, 7.87; 1403, 7.31, 7.84, and 7.87; 1411, 6.64 and 6.85;³ 1417, 9.60 and 6.40; 1418, 6.67; 1419, 7.30; 1421, 9.49;⁴ 1423, second year of Charles VII., 10.22; 1425, 10.94;⁵ 1428, 7.45; 1435, 12.59; 1437, 7.97; 1447, 10.93; 1456, 10.79; 1473 (13th year of Louis XI.), 10.94; and 1475, 10.98.

It is not, as bigots may imagine, with the object of excusing or extenuating the numerous changes in the ratio which were effected in France during the fourteenth century that the author now purposes to afford some explanation of them. While he assents to the common opinion so far as to believe that a portion of these changes were due to the unworthy motive of profit to the Crown, he cannot think so of all of them, for it will be shown that many of the changes involved a loss to the Crown, while others resulted in less profit than might readily have been derived

¹ This extreme ratio of 1.06 silver, to 1 gold, is deduced from the billon coin called the *denier blanc à l'étoile*, struck under the Mint law of March 15th, 1359. This coin contained 500 French grains of silver, 125 fine, equal to $62\frac{1}{2}$ French grains fine, and was valued at 30 deniers.

² Humboldt says for the year 1388, $10\frac{3}{4}$.

³ Jacques Cœur in Macgregor, i. 353, mentions a coinage of the year 1416, in which the ratio was $17\frac{3}{10}$; this is probably a blunder.

⁴ Macgregor, i. 354, says for the year 1421, 11.18.

⁵ Macgregor says for the year 1426, 11.2.

from them had profit alone been the object of the changes. For an example of the first kind take the years 1313 to 1317. In 1313 the legal ratio between gold in the gold penny and silver in the silver shilling was changed from 14.46 to 19.28. Admitting, for the sake of argument, that, under the then existing circumstances affecting the relative supplies of gold and silver, this was a profitable operation for the Crown, how could it have been profitable two years afterwards to narrow the ratio between the same coins to 14.50, and in 1316 to 12.08, and in 1317 to widen it again to 15.13? To admit this is to admit that the circumstances affecting the supplies of the precious metals changed and chopped about in two years; and if they did, may not new coinages have been forced upon the Crown, not so much that it might derive profit from them, as to enable it to counteract the baneful effects of rapidly fluctuating supplies of the precious metals? An example of the second kind is to be found in the ratios of 1328 and 1329. If it was profit alone that induced the Crown to change the ratio between the metals in the double royal and gros tournois from 18.79 to 13.90, why did it not go further and change it to 9.00, at which it fixed the ratio between the metals in the florin and gros tournois?

These examples prove that some other motives induced the changes in the ratio beside that of profit. So far as the author has observed, these motives may be classed under three heads, as follows:—

1. To counteract the influence of irregular supplies of the precious metals. This irregularity was due not so much to changes in the supplies from the mines as to changes in the supplies of foreign coins and the effluxes of domestic coins. For centuries before and after the medieval ages the custom prevailed, not only in France but in other countries, to accord free "course," *i.e.*, full legal tender function to foreign coins, both gold and silver, at rates fixed by proclamation. Copies of several such proclamations are given in Le Blanc's and Paucton's works.

2. To prevent foreign nations from depleting the coinage. During the medieval ages the principal control over the precious metals was exercised by the Saracens, the Venetians, and the Germans. France, who exercised a much lesser command of the precious metals, may have been often obliged to change her coinages in order to preserve some stability in the quantity of her circulating money.

3. To counteract the effects of erratic coinages by the numerous barons and prelates who exercised the right of coinage independent of the Crown.

4. To conform to the widely different ratios adopted by the Moors, Aragonese, Venetians, English, Flemings, and Germans, at least within such limits of conformity as to discourage counterfeiting.¹

5. To remedy the scarcity of coins. The changes were effected less often by new coinages than proclamations altering the tale value of the existing coins. The principal alterations were in the billon coins; but the values of all the coins were frequently altered. For example, between 1345 and 1360 the value of the florin d'or à l'écu, or gold crown, was altered no less than 119 times,² whilst the coin itself was seldom altered. The Crown could make but little profit from changes of this sort, because cash prices in coins would tend to vary inversely with their changed value, and time bargains were couched in bullion, and protected by "special contract" laws. Many of them must have been effected to make good a scarcity of the precious metals, which to a country struggling like France at this period to emancipate itself from ignorance, feudalism, and industrial torpor, must have been felt with great severity.

Says Hallam, "*These changes seem to have produced no discontent*; whether it were that a people, neither commercial nor enlightened, did not readily perceive their tendency, or, as has been ingeniously conjectured, that these successful diminutions of the standard were nearly

¹ For instances of counterfeiting, see p. 68, *ante*.

² Le Blanc, 230.

counterbalanced by an augmentation in the value of silver occasioned by the drain of money during the Crusades."

6. Profit to the Crown. I fancy that this was the least of the motives that led to the numerous monetary ordinances of the fourteenth century. Philip le Bel and his three sons all took part in curbing the power and limiting the rapacity of the clergy, and as the priests in those days usually held the pen, they revenged themselves by impugning the purity of the motives which influenced these monarchs.

7. The English coinages in France must have had a very disturbing influence upon the ratio.

Turning now from the motives of the changes to the lessons to be drawn from them, these are chiefly three :—

1. The monetary system of France consisted of an unlimited number of ideal livres, sols, and deniers, or £. s. and d., in which all its coins were valued, and in which prices and payments were usually couched. Thus the same gold royal coin was at one time valued at $14\frac{7}{12}$, at another 25, at another 30, and at another 40 sols of account; the same silver denier parisis coin was at one time valued at one denier parisis, and at another $1\frac{1}{2}$ deniers parisis of account; and so on with many of the coins. Although in a few cases the changes created popular dissatisfaction, as indeed would any changes in coins, they were all carried out successfully; a fact that attests the entire control of the law over money. The changes may not have been honest ones, they may not have been politic ones, but they prevailed and were effective; this is a fact of no little significance.

2. The same may be said of the ratio. Had the kings of France changed their monetary laws for the express purpose of convincing posterity that the law, and the law alone, controls the ratio of value between the two precious metals, they could not have experimented more successfully. They rapidly changed the ratio from 10 to 20, from 20 to 12, from 12 to 19, from 19 to 9, from 9 to 17, from 17 to 6, from 6 to $21\frac{1}{2}$, from $21\frac{1}{2}$ to $4\frac{3}{4}$, from $4\frac{3}{4}$ to 13, from 13 to 2,

from 2 to 10, from 10 to 3, from 3 to $7\frac{1}{2}$, from $7\frac{1}{2}$ to 1, from 1 to 11, from 11 to 6, and from 6 to 15, etc., and every time they changed it the law proved effective.

3. It is evident that "free coinage," that is to say unlimited private coinage at the expense of the State, did not exist. When "free coinage" prevails, successful changes in the ratio can only be made by States possessing a large control over the supplies of the precious metals,¹ and as for changes in the value of coins by which the State can profit, they cannot be made at all. For if the value of a coin is raised, holders of bullion can have an unlimited number of new ones minted and thus defeat the object of the State, and as to lowering it, there is no profit in doing so. Indeed, one of the results of the "free coinage" law was the stoppage of this abuse.

VI. It would be misleading to say generally what sort of money circulated in France during the lengthy period under review. At certain eras money consisted chiefly of gold pieces with silver and copper coins as adjuncts, at others mainly of silver pieces, and, at still others, of billon and copper. "Special contract" and "maximum" laws were enforced at intervals. Foreign coins always formed part of the circulation. These included not only old Roman pieces recovered from hoards, but also the coins of contemporaneous States.² Leather notes and potin and lead coins often eked out the monetary measure. Upon the various occasions when a previous fall of prices had again rendered mining profitable, the circulation was chiefly of gold and silver coins; while during the fall of prices and the depression of trade which followed the repeated decline of the mines, the circulation was chiefly of billon and copper. Such a period was that which immediately preceded and followed the discovery of America, that is to say, before France had obtained any share of the new windfall. Thus Wraxall writes, that so late as 1577 the money of France

¹ Letter to Lord Iddesleigh, in the "Report of the Royal Commission on the Depression of Trade," London, 1886.

² Le Blanc, 251.

consisted chiefly of such materials ; but from this moment it rapidly improved. An influx of the precious metals began. French expeditions traded with the Gold Coast, and French vessels roamed the high seas to plunder those who had already plundered the Americans and East Indians of their coveted stocks of the precious metals.

Upon reviewing the feudal and medieval ages it is to be remarked that the march of civilization has hitherto been treated by historians as though it retrograded only during the fall of the Western Empire, and has continually advanced since that period. With far more justice may it be claimed that the retrogression continued until the fall of the Eastern Empire and the discovery of America, events which happened almost simultaneously. But in point of fact neither view is quite correct, for the general retrogression which preceded the discovery of America was often interrupted by eras of intellectual and industrial activity.

Such an era was the fourteenth century in France. Notwithstanding the long war with England, the revolt of the Jacquerie, the Black Plague, and the captivity of King John, it was during this century that knowledge first became secularized, schools and colleges were greatly multiplied, the towns obtained numerous charters, the working classes organized themselves into guilds, and the Hanseatic trading league attained its "highest degree of power and splendour."¹ Philip le Bel forbade prelates to sit in parliament, moderated the rigour of the Inquisition, checked the rapacity of the Church, stopped the accumulation of mortmain lands, emancipated many of the Crown serfs, and, for the first time in history, convoked a States General which included the tiers-état. Louis X. first promulgated the doctrine that "it is the natural right of every man to be free."² Philip the Long convoked the States General on three occasions, and

¹ McCulloch, "Com. Dic." This was also the era of Rienzi, Wat Tyler, Etienne Marat, Artewald, and other popular agitators.

² The American Declaration of Independence begins with almost similar words.

repressed an attempt of the clergy to organize another crusade to the Holy Sepulchre. Philip of Valois completed the conquest of Flanders. Charles the Wise planned the canal to unite the Loire and Seine, which Henry IV. afterwards constructed, and Charles' son and successor, also a Charles, but hardly so wise, organized a bridge of ships between Calais and Dover, and constructed portable houses which were intended to form an entrenched camp upon English soil.¹

The fifteenth century, on the contrary, was a period of diminishing money and falling prices. "During the forty years that Charles VI. bore the name of king, rather than reigned in France, that country was reduced to a state far more deplorable than during the captivity of John."² While powerful ministers like Montagu and Clisson throve upon the general wretchedness, the Crown revenues were so curtailed by the States General that the King was obliged to pawn his plate. During both this and the following reign the imposts were collected with the greatest difficulty, the cities were rent with civil wars, the country was pillaged by armed ruffians, the court was filled with assassins, the people were alienated from the Crown, and the scarcity of money rendered it impossible to provide for the younger branches of the royal family by any other means than granting to them as an appanage the Duchy of Normandy, which yielded no less than one-third of the whole national revenue.³

In the midst of this gloom rose Louis XI., through whose genius the great fiefs were united by his son in 1492, an union which it can scarcely be doubted would have lasted for but a brief interval had it not been so soon followed by the fortuitous results of Columbus' strange voyage.

¹ It was during this century, too, that gunpowder was introduced from Arabian Spain.

² Hallam, 48.

³ *Ibid.*, 62, 63.

CHAPTER XV.

FRANCE: HALCYON PERIOD.

Abortive re-growth of the classical conception of money—Ascendancy of the feudal conception due to the conquest of America—Population and money of France and all Europe at different epochs—Proportions of gold and silver in the supplies from America—Ratio of value at which coined—Influences supposed to govern the ratio—Really governed by the law of the principal coining nation—Ratios in France since the conquest of America—Supplies of coinage metals before and after the conquest—They came chiefly from Spain—Degradation of French coins—Vast coinages of copper in reign of Henry IV.—Circulation of foreign coins—Rise of prices—The nobles alarmed—One of them sarcastically suggests iron money—All foreign coins except Spanish demonetized—The Mercantile helps to destroy the Feudal system—Legal rate of interest lowered—From 1500 to 1683 money increases tenfold, and occasions the national Renaissance known as the age of Louis Quatorze—The inflation of the precious metals incapable of being sustained by the mines—Signs of reaction—Efforts to arrest it—Illimitable coinage invited in 1679—The English Act of 1666 and French Act of 1679, the only bases of the modern school of political economy—Financial difficulties—First issue of circulating notes, 1706—Partial repudiation of the National Debt—Other ineffectual measures—Fall of prices—John Law's bank and the Mississippi Scheme—Immense issues of circulating notes—Fall of the system—The wreckage—Resumption of financial difficulties—Establishment and suspension of the Caisse d'Escompte—Its second suspension and abolition—Proposal to reopen the gold mines—Its futility—Approach of the climax—Conditions of the circulation—The Revolution.

AT the period of the discovery of America the conception of money, which had died away with the Western Empire, had been partly recovered through the influence of the Italian Renaissance and of the Civil law. This may be called the legal conception. Thus Covarruvias and

some others of the Budelian essayists—men of the greatest learning and highest repute—very pointedly affirm that money is a legal institution, that it is the prerogative of the State to create it, and that the denominational value of its component pieces is whatever the State (which also created the denominations) may choose to make them.¹

But this conception of money had hardly yet found its way into France, still less into England. The Budelian essayists hail from Spain, from Italy, from all parts of the Empire, Pavia, Milan, Cologne, Frankfort, Flanders, &c., but only one from France, and none from England. It is true that Philip le Bel had insisted upon the exclusive right of the Crown to regulate money, and that it was a right whose exercise was essential to the safety of the State; it is also true that whenever questioned upon the subject, the counsellors at law and the judges, both in France and England, had invariably decided in favour of the Crown, but these opinions did not extend beyond the courts of law and the council chambers. They were to be found wherever the light of the Civil law had penetrated, but nowhere else. The people knew nothing of them. Indeed, they knew little about the matter either one way or the other. Nevertheless there was a popular conception of money, one that expressed itself rather in customs and phrases than in formal doctrines, customs which formed part of the feudal or common law, and phrases interwoven with its uncouth jargon. Among these customs had been that of payment *ad scalem*, and among the phrases were *esterlin*, or sterling money, standard (of fineness), &c., a phraseology to which the sophists of a later day were yet to add the bewildering terms, *ingot money*, *market ratio*, *single*, *double*, *optional*, *parallel*, and *alternate standards* (of material), *mono-metallism*, *bi-metallism*, &c.

It is scarcely to be doubted that but for the adventitious conquest of America, the feudal and vulgar conception of

¹ Covarruvias, cap. v.

money would have died away with the re-growth of the Civil law, and that the reconstruction of powerful kingdoms and empires from the numberless political fragments into which Rome had split would have forced upon the popular mind the conviction, already entertained by the learned, that money was not merely a Thing to be immediately bartered for other things, but an Institution of law designed to equitably measure the value of commodities and services, both past, present, and prospective.

But the conquest of America and the Orient changed all this, precisely as the conquest of Spain twenty centuries before had buried out of view the refined monetary institutions of the earlier Romans. There was no need now to wait for an equitable measure of value until kings had developed from mere feudal lords to become the responsible heads of kingdoms, and incapable of altering the value of money except in the public interest. A more than equitable measure was to be obtained from the gold-fields of America. They offered to each adventurer not only his due, but more than his due. They offered him riches to supplant poverty, power in place of weakness, rank in lieu of baseness; and though but few of the adventurers gained these alluring prizes, there was always a fresh contingent ready to compete for them.

We shall presently see that the conquest of the New World not only arrested the re-growth of the classical conception of money, it developed the feudal conception into a form even more monstrous than that into which feudalism had moulded it. The feudal conception of money was that of an actual Thing (a coin or coins) designed to measure an imaginary Thing called value. The legal conception of money was that of an institution, much too often abused, but nevertheless an institution of law designed to equitably measure the exchangeable relation of commodities and services, past, present, and prospective. The conception of money which has grown up since the English Mint Act of 1666 and the French Mint Act of 1679 is that of

two different things designed to measure one relation called value. The two things embraced in the confused conception of money which those Acts are responsible for, are—1. A commodity whose value conforms to an unknowable cost of production; and 2. A series of coins, notes, &c., the value of each of which is in inverse ratio to their aggregate number, and which can, therefore, have no relation to the cost of their production.

It has been estimated that during the reign of the Emperor Claudius (A.D. 41—54), the population of Europe, including Russia, was about 60 millions, of which Gaul or France contained 12 millions, or one-fifth. It has also been estimated that these numbers fell during the Dark Ages, respectively to 30 millions and 5 millions, and that at the period of the discovery of America they had increased to 40 millions for all Europe, including 6 millions for France.¹

Templeman's "Survey of the Globe," 1729, estimated the population of Europe in 1720 at 57,633,199, but omitted Greece and the other European provinces of Turkey, also Switzerland, and several of the German Electorates. Making allowance for these omissions, Templeman's estimate for Europe would not exceed 75 millions; while Voltaire—probably with more discrimination—estimated that in 1700 it contained 90 million inhabitants. Templeman's estimate for France in 1720 was 13 millions, a figure that may very reasonably be advanced to 18 millions. At the beginning of the eighteenth century, France may be said to have contained about one-fifth of the entire inhabitants of Europe, more than Spain and England combined, and a fourth as many again as the Empire, which included all of Germany and parts of Italy, Flanders, etc. These numbers and proportions must be held in mind if it be de-

¹ Consult Rep. U.S. Silver Com., 1876, i. App. 69, and "Hist. Prec. Met.," p. 203, and the authorities cited: also Wallace on the "Numbers of Mankind," Hume's Essay on "Population," etc.

sired to form a just estimate of the relative importance of France during the period under review.

The precious metals employed as money in Europe at the period of the discovery of America were estimated by Gregory King (1696), and by William Jacob (1820), as equal in value to about £34,000,000. This sum, at the then prevailing ratio of 1 to about 11, could be coined out of about 120 tons of gold and 2,400 tons of silver.

The production of the precious metals in America up to the middle of the sixteenth century was estimated by Gomara, who wrote in 1552, as follows: "Within sixty years the Spaniards have discovered, conquered, and plundered the country (America). The gold and silver they have won there is not to be counted; it exceeds 60 millions" (of ducats). This statement was confirmed by the elaborate researches of Humboldt, who estimated the product of gold from 1493 to 1545, inclusive, at £18,000,000, and of silver at £6,000,000. Reduced to tons, at the rate of £100,000 per ton of gold and £9,090 per ton of silver (ratio of 11), this would equal 180 tons of gold and 660 tons of silver, or $3\frac{2}{3}$ times as much silver as gold. If the ratio of value between the two coining metals is determined by the relative quantities produced—as some doctrinaires claim—Spain would have been obliged, towards the middle of the sixteenth century, to adopt a ratio of $3\frac{2}{3}$ silver to 1 gold. Adding together the assumed previous stock on hand and the definitely known new supplies (much of which was rapidly coined), the sum of quantities would be 300 tons of gold and 3,200 tons of silver, or $10\frac{2}{3}$ times as much silver as gold. If the ratio of value between gold and silver is determined by the relative quantities coined and on hand in the commercial world—as some other doctrinaires claim—Spain would have been obliged to continue to coin at or near the ratio of the year 1475, namely, 10.985 silver to 1 gold. If the ratio is determined by the relative cost of producing the metals, Spain would have been greatly puzzled to fix upon any difference of value between them, as, up to this date,

both were obtained by plunder, and one metal cost no more nor less than the other. But these idle hypotheses of the modern economical school did not trouble the statesmen of those days. Spain, unconscious as yet of the argentiferous wealth of Potosi, plainly perceived that the value of her plunder thus far was made up chiefly by gold, and that as her standard¹ coins were silver reals and her accounts were expressed in such coins, she could coin more of them out of the metals she had recently acquired, by increasing the value of gold than by enhancing that of silver. Thus the new supplies had been valued somewhat as follows: (ratio of 11:)

660 tons of silver at 225,000 reals per ton, say	Rs. 148,500,000
180 " " gold at 2,475,000 " " "	445,500,000
	Total Rs. 594,000,000

By increasing the value of gold to $13\frac{1}{3}$ times that of silver, the same metals were revalued as follows:—

660 tons of silver at 225,000 reals per ton, say	Rs. 148,500,000
180 " " gold at 3,000,000 " " "	540,000,000
	Total Rs. 688,500,000

showing a gain of 94,500,000 reals, an immense sum in those days.

Spain having arbitrarily changed her ratio from about $10\frac{3}{4}$ for 1 in 1497 to $13\frac{1}{3}$ for 1 in 1546, was followed by England, who changed from 11.16 in 1497 to 13.35 in 1626; next by France, who changed from 11.00 in 1497 to $13\frac{3}{4}$ in 1636, and lastly by Germany, who changed from 10.50 (accounts of the Teutonic Knights) or 11.60 (Lubeck mint) in 1497 to 14.15 in 1667. This is only the first of a number

¹ Standard relates to the fineness or purity of the metal out of which coins are made, and its use in any other sense—for example, in the recent terms "gold-standard," "silver-standard," etc.,—is erroneous and misleading. There are no "gold-standard" or "silver-standard" or "bi-metallic" moneys. This is part of the jargon of the politico-economical school.

of similar instances which have occurred since the conquest of America, to prove that the ratio of value between the precious metals is neither the result of relative quantities on hand, in use, or produced, nor of that chimera of the economists, the cost of production, but is simply the result of law, and the conflict of laws. On this subject the author has written elsewhere :—

“ With regard to the fluctuations of the ratio in recent years, there can be but one cause for them. What is the meaning of the ratio ? It means the relative value of gold and silver, one to the other, as fixed or influenced by law. There is no other ratio, and since the establishment of mints and mint laws there never has been any other, because the law has always either fixed or influenced it. When the laws of various countries have disagreed on this subject, the poorer ones have been forced to give way to the richer. Thus in Spain, before the discovery of America, the ratio was $10\frac{3}{4}$. When America was plundered the first fruits were gold, not silver ; whereupon Spain, in 1546, and before the wealth of the silver mines of Potosi was known, raised the value of gold to $13\frac{1}{2}$, and as at that time Spain monopolized the supplies of the precious metals to Europe, Europe was obliged to acquiesce in the valuation which Spain saw proper to make.¹ During the following century Portugal obtained such immense quantities of gold from the East Indies, Japan, and Brazil, that the value of her imports of this metal exceeded £3,000,000 sterling a year, whilst those of Spain had dwindled to £500,000 in gold, and had only increased to £2,500,000 in silver. It was now the turn of Portugal to govern the ratio, and this she did in 1688 by raising the value of gold to 16 times that of silver. Except

¹ “ When Spain and Portugal, owning the mines of Peru and Brazil, deem it proper to raise or lower the ratio between gold and silver, the ratio which they establish necessarily controls that of other nations, to whom it must serve as a model or guide.”—Charles Alex. de Calonne, Comp.-Gen. of the Finance of France, in his “ Memorial to the King ” on the recoinage of 1785, when France changed her ratio from $14\frac{1}{2}$ to $15\frac{1}{2}$.

during a brief period of forty years, this ratio has ever since been maintained in Spanish and British America, the latter and part of the former now composing the United States. A century later the spoils of the Orient were exhausted, the Brazilian placers began to decline, and Portugal lost its importance. Through these circumstances Spain again got control of the ratio, and as her colonial produce was chiefly silver, she raised its value in 1775 from 16 to $15\frac{1}{2}$ for the Peninsula, permitting it to remain at 16 in the colonies. France, whose previous ratio (that of 1726) was $14\frac{1}{2}$, now felt obliged to adopt the Spanish ratio of $15\frac{1}{2}$, which she did in 1785, and to this ratio she has adhered ever since. These three historical ratios and the influence of each upon the others has governed all legislation on the subject, and, where there was no legislation, has governed the bullion markets, for more than two centuries past.

“As to what the ratio would be if all legislation on the subject of coins were swept away, this is an idle speculation without bottom, because from the fact that every new supply of monetised metal lowers the value of any given quantity thereof, it is evident that in order to deduce the relative cost of producing the two precious metals from the results of current production it would also be necessary to destroy all the gold and silver that has been taken from the earth. From what I have seen of gold and silver mining during the past thirty years, I should say that in the long run it probably costs as much effort to find and bring to grass-roots a pound of silver as a pound of gold,¹ and that in all newly opened countries gold would even be cheaper than silver, because in such countries the former is always to be found on the surface, whilst the latter is hidden away in the uncertain convolutions of volcanic rocks. Among savage or semi-civilized nations, where no legal ratio of value exists, silver has usually been deemed more valuable than gold;² and in

¹ Indeed, in reef mines these metals are always found together, and one cannot be produced without the other.

² The ancient Germans valued silver above gold. Tacitus, “Ger-

the Orient, where the principal moneys were of copper or paper, where silver coins were only used, and to a partial extent, in the great cities, and gold coins hardly at all, the value of gold previous to European intercourse was only from four to eight times that of silver.

“ It has been asserted that the value of silver to gold has continually fallen since the Christian era. No proof has been offered in support of this assertion, and none can be, for none exists. Indeed, it is so far from being true, that the value of silver rose from $14\frac{1}{2}$ in the time of Theodosius to $6\frac{1}{2}$ in that of Mahomet, and from 9 in that of King Stephen to 1 (equal to gold) in that of Philip of Valois. After innumerable vicissitudes, it was fixed in several countries during the fifteenth century at about 11. The men who make such reckless assertions are the men who have caused all the present trouble about silver. They are the conceited professors of a pretended political economy, charlatans who teach everything and learn nothing, impostors who thrive upon the credulity and indifference of a world too busy in earning money to study the science of its history. It was the poverty of Spain in 1688 and the ignorance of Germany in 1870 that lowered the value of silver upon the only two great occasions when it fell at all. From the fourth to the fifteenth century of the Christian era, the general tendency of silver to gold was upward.

“ It will be observed that in each instance when the ratio was fixed by a nation controlling the principal supplies of either of the precious metals, it was always fixed for the advantage of such nation, and without reference to the relative quantities of the two metals produced by the world at large. When gold was the greater product of such a nation it raised the value of gold, and when silver became its greater product it raised the value of silver. Thus, instead of being governed, as the schoolmen conjecture, by the relative

man,” 5. In the time of Nadir Shah, 1749, the Kurds gave without the slightest hesitation a pound of gold for an equal weight of silver. See also “ Hist. Prec. Metals,” p. 222, and chapter xx. of present work.

quantities of metals produced, the ratio has, in point of fact, been governed by quite an opposite principle, the more plentiful metal produced or controlled by the nation altering the ratio, having always been the metal that was raised in value—a principle and example that appear to have been entirely lost sight of in recent statesmanship. * * *

“ From 1493 to 1640 Spain and Portugal obtained from America and the Orient about 1,125 tons of gold and 46,200 tons of silver. If these quantities be added to the stock on hand in 1492 the result would be 1,245 tons of gold and 48,600 tons of silver, a proportion of 1 to 39. If the new supplies are taken by themselves, without reference to the previous stock on hand, the proportionate quantity of gold to silver was 1 to 41; yet these metals were all coined successfully at a value of 1 to about $13\frac{1}{3}$; a convincing proof that production had nothing whatever to do with the ratio, and that the latter was due entirely to laws and the conflict of laws.

“ From 1640 to 1690 Spain got about 355 tons of gold and 24,720 tons of silver, or 70 times as much silver as gold; yet it was coined chiefly at the ratio of 14 or 15 to 1. If these circumstances, even after making the most liberal allowances for error, the conversion of bullion into plate and of plate into coins, &c., are not sufficient to prove that the ratio is entirely amenable to legislation, then I, for one, utterly fail to see the utility of inquiring into the matter any further. That it cannot be due to the relative cost of producing the precious metals is proved by the well-known fact that every new supply of monetized metals lowers the value of any given quantity thereof. Hence, if it be assumed that these metals are produced on the average without loss, the basis of the industry, the cost of production, and the ratio, must continually change with the magnitude of the stock and the shifting value of its materials. So far as the ratio is concerned this is certainly not the fact. If, on the other hand, the metals are produced, as most practical men believe, not only at a loss, but a highly

varying rate of loss, the cost of production can have no relation to their value.

“ Among those who admit the entire amenability of the ratio to legislation there are some who deem it necessary at the present time to procure an international concert of action on the subject. With great respect for those who advocate this policy, it seems to me unnecessarily cautious and timid. It did not require a concert of the nations to break down the ratio, and it needs no concert to restore it. Either one of the four leading nations can do it, for each of these has enough gold to exchange for all the silver that will probably be offered to its mints.”¹

The reader is now prepared to follow the various changes of the ratio which occurred in France after the discovery of America. These appear in the table on the next page.

It would seem that if the law has the power to fix the relation of value between gold and silver, it also has the power to fix the relation of value between gold (or silver) and other commodities. In point of fact, the law does not directly fix a value between gold and silver: what it really fixes is the value between certain coins or moneys of these metals. Through the operation of the monstrous Act of 1666, which contrary to nature declared all money to be metal and all metal to be money, the metals themselves are made to reflect the value affixed to the coins, but this would not be the case if this Act were repealed. In a similarly indirect way the law can also fix a value between a coin and any other commodity by simply regulating the whole number of such coins. Prices will not remain fixed simply because people are ordered to buy or sell at certain prices and no others: but they can be rendered stable, they can be guarded from the influence of fluctuating supplies of the precious metals, by fixing the total sum of money, or regulating it within certain prudent limits.

There is no evidence of any important increase in the

¹ Letter to Lord Iddesleigh, published in the “ Report of the Royal Commission on the Depression of Trade,” London, 1886.

TABLE OF THE RATIO (MAINLY AFTER PAUCTON).

The Ratio, or the relative value of gold and silver, one to the other, as fixed by the nominal value or tale relations of certain coins minted in each of the following named years. When more than one Ratio is mentioned in a given year, it is either because several coins with different proportions of silver and gold were struck during the year, or else because their legal values were altered. The figure means the number of pounds of silver contained in the same sum of money as was coined out of one pound of gold.

Year.	Ratio.	Year.	Ratio.	Year.	Ratio.	Year.	Ratio.
1497	11.00	1692	15.32	1704	15.10		15.10
1514	11.00		15.24	1705	15.04	1719	14.22
1519	11.01	1698	15.17		14.97		14.55
1532	11.21		15.08		14.81	1720	14.35
1539	12.09		15.67		14.84		15.00
1540	11.04	1700	15.60	1706	14.97		14.64
1547	11.04		15.53		15.10	1723	14.67
1549	10.86		15.47	1707	15.04	1724	14.63
1561	11.10		15.40	1708	14.96		15.06
1573	11.07	1701	15.33	1709	15.10		15.00
1575	10.96		15.25		15.49		14.46
1577	10.83		14.87		15.00	1726	14.46
	11.03		14.92		14.96		15.00
1602	10.83		14.96		14.81	1726	
1636	¹ 13.75		14.84	1713	15.00	to	14.46
1636	14.08	1702	14.96	1714	15.40	1785	
1641	11.80	1703	15.10		15.00	1785	³ 15.50
1652	13.55		15.04	1715	15.00	1785	
1655	13.74		14.96		15.12	to	⁴ 15.50
1689	² 15.21	1704	14.88	1718	14.36	1886	
1690	15.40		14.80		15.00		

¹ Desrotors (Rep. Int. Mon. Conf., 1878, p. 270) says the ratio in 1641 was $13\frac{7}{8}$, "the highest in Europe," and Gaudin says it was $13\frac{3}{4}$; but I can find no such ratio in Pauton, unless it is the ratio of 14.08, adopted in 1636, or that of 13.55 in 1652.

² From 1679 to 1689 the coinage was done gratuitously. In the recoinage of 1689 the ratio was changed from about $13\frac{3}{4}$ to $15\frac{1}{4}$ in deference to the Portuguese ratio of 16 adapted in 1688. The ratios herein after this date are chiefly from a comparison of the silver écus and gold louis, both of which were eleven-twelfths fine. Consult Pauton's tables, also Dupré de St. Maur's "Essai sur les Monnoies."

³ For the reasons of the change of ratio from $14\frac{1}{2}$ to $15\frac{1}{2}$ in 1785 consult Calonne's very complete and interesting "Memorial to the King." It is that of a practical man well acquainted with the subject. His policy gave rise to so much dispute that in the British Museum library alone there are more than a hundred works catalogued under his name and relating more or less to this subject.

⁴ The ratio between full legal tender coins (there were others of this era) only.

stock of the precious metals in France before the middle of the sixteenth century. Mention has already been made of the alleged voyages of French traders to the Gold Coast of Africa in the fourteenth century, a statement that appears to rest entirely upon Father Labat,¹ who adduces no documentary evidence in support of it. However, that the French traded with the Gold Coast so early as 1556 admits of no dispute,² and from this source was obtained some small amounts of gold. It has already been shown (p. 166) that "privateering" in the West Indies added somewhat to these acquisitions.³ The wars in Italy and the sack of some of its wealthiest cities yielded considerable spoil of gold and silver (p. 178 n.) Commerce with Italy also made some further contribution.⁴ But the principal source of the supplies of the precious metals to France from the middle of the sixteenth to the middle of the seventeenth century was its commerce with Spain. In a country whose provinces are ill-connected by means of roads, and whose inhabitants are separated both by lines of race and caste, it is not possible to increase the stock of coins at pleasure and without limit.⁵ Such is the condition of India to-day, and such was the condition of Spain in the sixteenth century. The rise and fall of prices in such countries take place very slowly, and when the precious metals are imported into them and coined more rapidly than they can be absorbed or employed in the exchanges through the rise of prices, the coins—unless very highly overvalued—will either be melted

¹ "Relation de l'Afrique," par Labat, vol. i.

² "The Trade in Slaves from Africa," by James Badinel. London, 8vo, 1842.

³ So late as 1695 a French "privateering" squadron under one Pointis made a raid upon the Spanish American city of Carthagena, and got off, it was said, with plunder to the value of ten million livres.—Voltaire's "Louis XIV.," i., 272.

⁴ See Budelio's reply to Baron Malestroict, written about 1591; also Macgregor, i., 355. The latter mentions the establishment of a bank at Lyons, 1519.

⁵ Because coins can be melted and the metal used in the arts.

down or exported.¹ Until employment is found for them they must lie idle, and in this condition of superfluity it becomes more profitable to employ in the arts the metals of which they are composed, or to exchange them for commodities with countries in which they are less superfluous. All this happened in Spain. The country first became suffused with money, then the surplus metal was fabricated into plate, or sent to England, France, and other countries. The principal portion of this overflow went to England, first because of the dynastic relations between the two countries, and second, because, as Spain had interdicted the exportation of the precious metals either in the form of coins or bullion, it was easier and safer to export them surreptitiously by sea than by land. France, however, obtained a large proportion of them and in the form of coins. Noticing the increase of money in that country during the period of the civil wars 1560-95, Brantome declared, though not without exaggeration, that Spanish gold doubloons, ducats, and pistoles, were more common towards the end of the reign of Henry IV. than had been the smallest silver coins at the beginning of that of Charles IX.;² and De Saulx, Marquis of Tavannes, alarmed at the rise of prices which the increase of money had occasioned, satirically remarked that, as no limit could be assigned to its plentifulness, it might as well be made of iron.³

As a final source of her supplies of the precious metals, France, during the first half of the seventeenth century,

¹ This phenomenon was imperfectly observed by Dr. Smith, and he deduced a false rule from it. He said that the stock of coins in a country could not be increased at all, wherein he not only belied nature, but also contradicted himself in that other part of his work where he affirms that the rise of prices in the seventeenth century was due to the increased supplies of metallic money coined from the spoil of America.

² Consult as to the increase of money, Budelius, Brantome, and Sully: as to the common circulation of Spanish coins, Brantome, iii., 197-202; iv., 29; and Sully, i., 120; ii., 19-23; and as to extravagance in gold and silver ornaments and dress, Macgregor, i., 355.

³ Petitot's "Collection de Mémoires," Paris, 1819-29.

acquired numerous possessions in America and the East Indies, and through these—chiefly through the West India Islands—obtained a further and not inconsiderable portion of the precious metals which Spain had already acquired from the mines. San Domingo, Martinique, Guadaloupe, &c. once carried on an immense illicit trade with the Spanish Islands and Main—a trade which consisted chiefly of slaves and merchandise on the one hand and silver on the other. This trade also extended to the buccaneers, privateers, and pirates, who infested the Caribbean Sea and Gulf of Mexico, and who found at the French Islands a ready market for their ill-gotten spoil of gold and silver. Nor was the increase of money limited by the new supplies of metal, it was increased by further enhancing the value of the gold and silver coins, and particularly during the civil wars, by the emission of copper ones, which the feudal nobles, freed for a time from the supervision of the Crown, struck in vast numbers.¹ Even foreigners joined in swelling the quantity of money. During the siege of Paris in 1590, Mendoza, the Spanish ambassador, caused vast quantities of half-sous to be coined, which he distributed by handfuls to the populace. They bore the impression of the arms of Philip II., and continued long in circulation.² Villeroy informs us that in 1595 he was obliged to employ seventeen carts or waggons in order to transport a sum of about 100,000 livres from Lyons to Dijon, for the payment of the royal forces. The whole remittance was in copper coins.³ During the siege of Amiens, two years afterwards, Rosny employed seventy waggons to carry about half a million livres from Paris to the royal treasury, the greater part of the money being of copper.⁴ The rise of prices not only benefited the people in numerous ways, it drew them nearer to the Crown and became a potent instrument in

¹ De Thou, xiii. p. 24; Matthieu, ii., liv. v., p. 384.

² Wraxall's Hist. France and authorities cited.

³ Villeroy, iii., 193.

⁴ Sully, vol. i., tome i., p. 33.

destroying the feudal aristocracy and strengthening and consolidating the kingdom. This is what gave encouragement to the Mercantile system. It was not the chimera that the political economists have imagined. In its day and under the circumstances that gave rise to it, the Mercantile system was an important and practical policy. It is not quite dead yet, but that phase of its usefulness which has just been indicated, is long over.

So anxious was the Crown of France to promote the rise of prices that Rosny was directed to use the utmost vigilance and vigour in executing the royal interdict against the exportation of the precious metals, particularly gold, and, to check this practice, he made several seizures of considerable magnitude.¹

Another device which may have been adopted to prevent the export of the precious metals from France was alluded to by John Locke. This consisted of rendering certain of the silver coins legal tender only in the inland towns and not in the seaports. It was alleged that these coins being greatly overvalued were exposed to the hazard of being counterfeited abroad and of the counterfeits being imported into the country surreptitiously, and that, notwithstanding the precaution adopted, they were so counterfeited and imported. This precaution may have been extended to all coins of gold or silver, and not to prevent the importation of counterfeits, but the exportation of genuine coins. Although Locke does not specify the coins alluded to, his view of the matter is probably the correct one, because he adds that the abuse was stopped by increasing their nominal value.²

The heaping up of money faster than prices rose to absorb it, is evinced by two Acts of the year 1602. One of these lowered the legal rate of interest to $6\frac{1}{2}$ per cent.,³ the

¹ Sully, ii., 19.

² Locke on "Money," ed. 1870, p. 278.

³ The supply of money and the rate of interest have no other relation to each other than this one, that when money is suddenly or locally amassed and lies idle, it will go a begging for investment, and thus

other lowered the denominational value of all foreign coins, and afterwards—excepting the coins of Spain—forbade their circulation in France.¹

So great was the increase of money that France, which at the opening of the fifteenth century scarcely had 125 million livres of circulating coins, had 550 millions at the opening and probably 750 millions in the middle of the seventeenth century; and at the death of Colbert probably over 1,000 millions.² It will scarcely be disputed that this enlargement of the measure of value was the primal cause of that industrial activity, fertility of invention, and brilliant progress in the arts and sciences which, as we have already seen (Chapter XIII.) characterized the epoch of Louis Quatorze.

But progress, unless sustained, must inevitably suffer reaction. The most crazy enthusiast for paper inflation at the present day would pause before recommending an increase of the circulating money of a State so great as that which had been effected in France by means of the precious metals. While the population of the country had scarcely more than trebled, the circulation, not of notes, for there were none, but of coins, had been increased at least eight

temporarily or locally reduce the rate of interest; and this is as likely to happen when money generally is growing scarcer as when it is becoming more plentiful. Teleologically, interest is due to the growth of domestic animals and plants, and has nothing whatever to do with the supply of money. See my *Essay on Interest* in the Report of National Insurance Convention, New York, 1872, and pamphlet on "Usury and the Jews," San Francisco, 1879, both in the British Museum Library.

¹ Matthieu, liv. v., vol. ii., p. 383, and Sully, ii., 19, 54. In 1602, also, the edict of Henry III., 1577, enjoining all accounts to be kept and all pecuniary transactions to be made in écus, was abrogated, and the imaginary livre, sol, and denier, reinstated as the money integers of France.

² Voltaire and others estimate that at the beginning of the eighteenth century France possessed a circulation of about 1,200 million livres. This sum and those in the text are all counted in livres of the period immediately preceding the Revolution, when about fifty-five were coined from the mark of silver. The table printed near the close of Chapter XVI. will show the progress of the circulation and the authorities from whom the details are derived.

times, and if the copper coins be included, nearly ten times. This rate of increment could not go on for ever; and when it fell, France found itself plunged into that sea of difficulties from which the revolution alone was competent to rescue it.

Fears of the coming reaction appear to have manifested themselves even before the death of Colbert. It is true that the precious metals still continued to enter France, and in larger sums than ever before, nevertheless they failed to enter rapidly enough to maintain the previous rate of increment to the stock. Although it was shown that of the gold and silver obtained from commerce with Spain, a greater proportion remained in France than was absorbed by the East Indies, a cry was raised against the new East India Company (1665) on the ground that commerce with the Orient would drain France of her precious metals; ¹ and it was with the view to stimulate an additional influx of these metals that the French government in 1679 resolved to enact that mischievous law which thirteen years before had been sanctioned by a weak and dissolute king of England.² That part of the French enactment which permitted unlimited coinage ran as follows:—

“ We ordain that the holders of (foreign coins) of gold and silver as well as those above mentioned (namely, certain demonetized French coins) shall bring them to our mints, where, within three months' time, they shall receive back weight for weight and fineness for fineness, in gold or silver coins of the standard established by our edicts of March, 1640, and September, 1641.”

This law rendered it feasible for the holders of any kind and any quantity of bullion to hand it into the mints, and

¹ Voltaire, “Louis XIV.,” ii. 89.

² The same statute that permitted illimitable coinage in England (18th [6th] Charles II., c. 5) granted £600 a year to the “dame Barbara Villiers” in lieu of her previous right of two pence a pound weight upon the silver coinage for twenty-one years. This is the basis of the present dogmatic and unsentimental school of political economy: an Act which appropriated an infamous pension to a king's mistress!

claim coins for it without loss of metal or expense for fabrication. It was not drawn with the formality of its English prototype, but so long as it remained in force it was equally efficacious in attracting the precious metals, and equally fruitful of false doctrine concerning money.

It should be remarked in this place, it is upon these same Acts, and upon these Acts alone, that rests the whole modern school of political economy, with its confused and sophistical arguments, its dismal conclusions, its execrable jargon, and its unmeasured conceit and impudence. The attempts which have been made to connect it with the commercial literature that preceded the Acts alluded to, and to regard the economical school as a scientific development of the commercial one, have been complete failures.¹ There is no connection whatever between them. They held no tenets in common. There was no so-called political economy previous to the Acts of 1666 and 1679, and there will be none when these Acts are repealed. The name was borrowed without warrant from a remote antiquity, the "science" itself is built almost entirely upon the concession of a needy and profligate king to a handful of selfish traders.

Proceeding upon the obvious postulate that exchange is necessary to social existence, and that money is necessary to exchange,²—political economy falsely argues that money is and must be a commodity, and ignorantly and impudently assumes that this commodity has been and is being and must be valued at the average cost of its current production—assumptions that are repudiated by history, and belied both by the operations of miners and the every-day transactions of commerce. Upon this rotten foundation there has been reared a tottering superstructure of sophistry, which masquerading through the world in the false guise of science, has filled the schools and the legislative halls of every modern State with doctrines which bear about the

¹ McCulloch, "Polit. Economy," and Simon Stern in the "New York Social Science Review," 1864.

² Bastiat, "Harmonies of Political Economy."

same relation to societary life that mediæval astrology did to the heavens.¹

The Acts of 1666 and 1679, while they reserved to the State the unimportant and expensive privilege of fabricating coins and making good their loss by abrasion, robbed it of that most essential of all prerogatives, the right to emit the coins and to stop their emission. As the law stands, anybody may hand metal into the mints and demand coins for it, anybody may emit these coins and so swell the volume of money and measure of value, anybody may deface or melt these coins, and so curtail the measure of value, and anybody may again and again take this same metal to the mints and alternately monetize and demonetize it until the end of time and without either loss, expense, or fear of punishment. Over the measures of length, of weight, of liquid volume, &c., governments exercise the most jealous supervision. In each case they prescribe an accurate and specific standard which they lock up and carefully guard from alteration. But over the measure of value—which is far more important than all the others combined—they renounced all supervision whatever from the moment when they adopted the English mint law of 1666 or the French mint law of 1679—in other words, when they adopted what is euphemistically known as “free coinage.” Under this practice, the unit of value—which in point of fact is not one coin, but all coins and notes circulating within the territory of a given State—is subjected to the hazards of mining, the legislation of foreign States, and the operations of intriguants, who may alter it whenever it suits their purposes. Free

¹ No one who has taken the trouble to follow the “science” of political economy during the past thirty years, can have failed to notice the entire hopelessness of enlarging its orbit. While the most startling progress has been made in the other sciences, this one alone has remained unprogressive. It is still revolving around Dr. Smith’s sophisms, and, unless the unwilling truth be admitted that the value of the precious metals does not conform to the cost of their production, or else the Act of 1666 is repealed, it must continue to revolve around them for ever.

coinage does not deserve the name of a policy ; it is too idiotic. It was adopted at the best, with the narrow motive of attracting from Spain those precious metals which she had discovered and endeavoured to monopolize, but which even without this legislation she never could have retained. The tremendous mischief to France which followed its enactment was indeed susceptible of mitigation by means of paper notes, but these paper notes were unfortunately emitted in as great ignorance of the necessity of limiting the measure of value as had characterized the enactment of "free coinage" itself.¹

Towards the end of the reign of Louis XIV. the debt of the State was about 4,500 million livres of the year 1750,² equal to about 5,000 million livres of 1789, of this amount 700 million livres were payable immediately, besides 96 millions of interest charge, and 260 millions of annual expenditure.³

In 1706 the celebrated engineer Vauban was requested to devise a plan for replenishing the treasury. His advice was to levy a uniform tax of ten per cent. per annum upon the yearly value or rental of all property, abolishing all other taxes. As this plan did not suit the interests of the classes who surrounded and influenced the Crown, it was set aside.⁴ In after days similar plans were advocated by Calonne, Turgot, and Neckar and with a like result. In the end the National Assembly adopted this same plan, the execution of which formed an essential part of the great Revolution.

¹ The French act of 1679 was probably precipitated by the base coinage of 1675.

² Voltaire's "Louis XIV.," ii., 126.

³ "Hist. of France," by E. E. Crowe, London, 1830, ii., 178.

⁴ A "dixme royal" was indeed levied in 1710, but not upon the plan advocated by Vauban, the essence of whose scheme was general and uniform taxation. The "dixme royal" of 1710 was quite another thing. Voltaire says of it,—“This tax coming upon the neck of so many others proved to be so oppressive that it was not deemed advisable to levy it rigorously. The government did not gain 25 million livres a year from it at 40 livres to the mark weight.”—“Louis XIV.,” ii. 124.

Meanwhile such was the pressure upon the treasury that a temporary palliative was found in the emission of exchequer bills or royal "bons" bearing 7 per cent. interest, upon which a partial monetary function was conferred by permitting one-fourth of all payments between individuals to be made in them. This served so imperfectly to sustain their nominal value that they soon sank to one-fourth, and for the 32 million (livres) issued, the government is said to have only obtained eight millions in coins.¹

As a desperate resource the Duke de St. Simon proposed that the temporary debt should be deliberately repudiated. Much of it, he averred, had been engendered in fraud and dishonesty on the part of contractors, and collusion between them and officers of the government, and the repudiation of the debt would only injure a class of men for whom the State should show no consideration. This revolutionary proposal was, to a certain extent, actually carried out. A decree was issued requiring public creditors to verify their claims before a committee of the States General, the result of whose labours was that one-half of the 700 millions of temporary debt was swept away, and many persons, farmers of the revenue, contractors, and others, were thrown into prison.

Among the other financial measures of the same epoch were the recoinages of 1692 and 1712. They both consisted in lowering the weights of the principal silver and gold coins. The recoinage of 1692 divided the mark weight of silver into pieces aggregating in value $29\frac{1}{2}$ livres instead of $26\frac{3}{4}$ livres as before. This brought 40 million livres profit to the treasury.² That of 1712 lowered the weight of the coins about one-fifth further, and brought 72 millions profit to the treasury. The gold coins were lowered in propor-

¹ Crowe's "Hist. France," ii., 178. Allusions to these notes issued during the administration of Chamillard, will also be found in Voltaire's "Louis XIV.," ii., 125; Forbonnais' "Recherches et Considérations," ii., 182; Dutot, "Reflexions," 863.

² Crowe's "France," ii., 178. In 1707 the repudiation of the Spanish mint certificates had caused the failure of Samuel Bernard, the richest banker in Europe.

tion, so that the ratio of value between them and the silver ones remained substantially unchanged.

Another financial resource was devised by the Comptroller, General Pontchartrain, who in the year 1696 sold patents of nobility to about 500 persons for 2,000 écus each. As Voltaire tersely remarked, "the resource was transient: the infamy lasting."¹

Behind the vast debt and recurring obligations from which the treasury thus strove to free itself, and behind the requirements of revenue to which the nobles would not yield, and the people could not yield, any more, there were other causes of fiduciary stricture to the consideration of which the Ministers of the Crown never seemed to have addressed themselves. These were a continuous fall of prices (if reckoned in any one kind of money) and a general depression and paralysis of trade.² The cause of this phenomena was the dwindling proportion of the monetary measure, a dwindling that was perceptible not only in France, but in all other countries at this epoch. In other words, the gold and silver money of all Europe, which had increased from say 20 francs per capita in 1500 to 82½ francs per capita in 1700, had begun to shrink towards that 50 francs per capita which was its magnitude at the outbreak of the French Revolution.³

Already paper money to help fill this ominous void had made its appearance in distant America, in Sweden, in England, and even, as we have seen, to a small extent, in France. In all these instances the emissions were limited,

¹ Voltaire's "Louis XIV.," ed. 1752, ii. 124.

² "About the year 1702 a financial writer in Normandy published a detail of the finances of France in two small volumes, proving that since the year 1660 everything had been in a declining state, and that the kingdom had sunk in real value 1500 millions."—Voltaire, "Louis XIV.," ii., 118-19. These statements of the Norman financier, though open to criticism—and Voltaire did not spare him—nevertheless contain a large germ of truth. In point of fact, the decline manifested itself about the beginning of the eighteenth century.

³ "Hist. Prec. Met.," 203.

not indeed upon any general theory that the value of money is regulated by the quantity of it in use, but because these first experiments in paper money all proceeded in a tentative manner. We have now to describe the system of a practically unlimited money, which owed its existence to John Law.

Upon the death of Louis XIV. in the year 1715, the government, which during the minority of Louis XV. was assumed by the Duke of Orleans as Regent, found itself in embarrassing circumstances, loaded with a heavy debt, its resources strained, its credit impaired and menaced by a general depression of trade. This situation gave impulse to what followed.

At this juncture there appeared in Paris a certain Mr. John Law, a Scotchman, and the son of a goldsmith. Law had lived in America and had there learnt something of the banking schemes of early colonial times. In 1705 he had published a work in Edinburgh on banking, entitled "Money and Trade considered." In this work, after discussing certain principles of money, he held that it was feasible to establish and continue a bank of issue whose emission notes should be "founded" not upon a reserve of coins, but upon the possession of land. "Land indeed is the value upon which Mr. Chamberlain (a rival schemer) founds his proposal and 'tis upon land that I found mine."¹ He proposed to calculate the value of the fee-simple of land at twenty years' purchase, to issue notes to that amount, and advance them to the owner of the land. "An acre of land rented at two bolls of victual, the victual at £8 and land at twenty years' purchase, is equal (in value) to £20 and may be made money equal to that value, for it has all the qualities necessary in money."

Whether Law really believed in the absurd doctrine here laid down, or not, is difficult to decide. He had seen land banks work successfully in America, where, however, he had

¹ "Money and Trade considered," ed. 1750, p. 153

not remained long enough to see them fail. In the country where his scheme was first published, the Bank of Scotland had issued notes to the amount of four or five times its coin resources without bad consequences. It was therefore but natural that he should have imagined that these instances of paper issues exemplified an inherent principle of money, that this principle was security of redemption in some kind of property, and that this being provided for, the issues might go on illimitably.

Dangerous as this doctrine was, it exactly suited the purpose of the French Regency to adopt it, and, therefore, when Mr. Law appeared in Paris in 1715, his views were eagerly entertained by the government, and he was accorded permission to establish a bank upon the principles he had laid down.

Accordingly a private bank, called the Bank of France,¹ but better known as Law's Bank, was in the following year established at Paris under a charter dated May 2, 1716. Its capital was to be 6,000,000 livres tournois (at that time equal to about one and a half francs each of present coinage), divided into 1,200 shares of 500 livres each. It had authority to issue notes, payable to bearer on demand, in coins of the weight and standard of 1716, a seductive stipulation in a country where degradation of the coins had been a systematic resource of the treasury.² As subscriptions to the capital stock were received in the depreciated royal bonds, they were soon made up, and the treasury was thus at once relieved of its most pressing liabilities. Advances in the notes of the bank were made upon lands, and deposits

¹ Macgregor, i. 434.

² It should be observed that in no country did governmental tamperings with coins cease until paper notes came into use. The denomination of these notes having necessarily (in view of rents and other long-standing bargains) to harmonize with those of the current coins, they tended also to conserve their weights and fineness. If Law's bank did no other good, it deserves some credit for having done this much.

were received in worn and clipped coins, for which a nominal equivalent was given in bank notes, promising to pay in coins of a fixed weight and standard. The notes were also made receivable in payment of taxes, and, by a subsequent edict, the tax receivers were even ordered to redeem them in coins on presentation.¹ These measures, backed by the patronage of the Court and the address of the promoter, gained for the bank a wide credit, and by the year 1717 it had succeeded in issuing notes to the extent of 50 million livres, or over eight times its capital.

The practical operation of the scheme must by this time have convinced Law that it stood upon a very precarious foundation, and that the redemption of its notes had already become impracticable. Like an insolvent insurance company, which seeks to defer the inevitable day of failure by adding new lives to its volume of risks, so Law's bank sought for new powers and privileges in order to prolong a career already marked for bankruptcy. In August, 1717, the bank organized under its auspices a mining and colonization scheme entitled the "Compagnie des Indes Occidentales," or West India Company, better known as the Mississippi Scheme. The capital of this concern was 100 million livres, 200,000 shares of 500 livres each receivable one-fourth in coins, and three-fourths in "billets d'état," a new form of State notes which the Regency had issued, and whose value in coins had already depreciated. The company had obtained from the Crown a grant of the Province of Louisiana, which, it was said, was filled with gold and silver and precious stones, and parties of colonists were formed in Paris to explore this favoured land, and transport its treasures to France.² A few adventurers of

¹ Moran, 72.

² Seventy years later Calonne indulged in this same dream of resorting to the mines. In 1717 the dream was of the mythical mines of Louisiana; in 1787 it was of the profitless mines of France. It is a dream that invariably accompanies diminishing supplies of the precious metals, and the world is dreaming it again to-day.

the better classes, together with a mob of outlaws, vagrants, and abandoned women, were got together and shipped to Louisiana. After founding the city of New Orleans, and leaving part of their number to guard the settlement, they started out, after the Spanish example, to enslave the Indians and work the mines. As the Indians were able to defend themselves, and there were no mines, the entire project failed.

Before this event transpired in Paris the bank had obtained from the Crown numerous privileges and monopolies, some of real, others of fancied importance, both of which augmented the value of its shares, and increased the desire of obtaining them to the degree of madness. It obtained the exclusive trade of Louisiana, a monopoly of the Canada fur trade, the tobacco monopoly, the administration of the mint, the privilege of trade previously granted to the China, Senegal, and French East India Companies, the collection of all the taxes of the kingdom ("fermes"), &c.

In return for these concessions and other privileges conferred upon the bank, the government was accommodated with repeated loans to enormous amounts. In fact, the scheme was now in such a shape that practically the Regent and Mr. Law were combined to swindle the entire French nation.

On December 4, 1718, Law's bank was declared to be the Royal Bank of France, the government guaranteed its emissions, and actually paid off the old shareholders in coins; and for all payments above 600 livres, coins and bank notes alone were declared legal tenders.¹

In December, 1719, a royal edict ordered that thereafter 105 livres in coins could legally be demanded for a debt payable with 100 livres in bank notes; that the same proportionate difference of 5 per cent. between the value of coins and bank notes should be observed in all payments; and

¹ Moran, 73. An act of 1719 created a livre containing only $55\frac{1}{2}$ Eng. grains of silver. By an act of 1720 these were ordered to be recoined at 69.23 grains.—"Dic. XIX^{me} Siècle."

that silver coins could only be tendered to the extent of 100 livres, and gold coins to the extent of 300 livres, in any one payment.¹

The emissions of bank notes were originally limited to 1,200 million livres, which was as much as the previous coin circulation of the kingdom. Had this limit been strictly observed, and the notes carefully guarded from counterfeiting, it is not believed that any bad results would have followed. But the limit was not observed. On the contrary, the government afterwards admitted that it had carried the emissions to 2,700 million livres, and it is believed that they really exceeded 3,000 millions.²

By this time (1719) the rapid rise of prices and the suspicion of bad faith on the part of the government had begun to impair confidence in the future value of the notes, and the hoarding of coins and other valuable commodities assumed great proportions. To prevent this, laws were enacted forbidding the wearing of precious stones, and forbidding the transportation of coins or bullion from town to town. Their exportation to foreign countries had been previously inhibited under severe penalties. By the edicts of 23rd and 25th February, 1720, it was made obligatory to use bank notes in all payments over 100 livres: no person was permitted to hold more than 500 livres in coins, under penalty of confiscation and a fine of 10,000 livres; and informers were to receive one-half of all amounts confiscated. The use of the precious metals for objects of art or luxury was regulated and limited; and finally, on the 11th March, 1720, all payments in coins were forbidden.

From the outset of this whole scheme, speculation in shares of the bank, and afterwards of the bank and company combined, had engrossed the public mind. To meet the demand for shares there had been issued in May, 1719, 50,000 new shares known as the "daughters," and in July,

¹ Montesquieu remarks of this period: "Everything was dear except gold and silver."

² Moran, 74.

1719, an equal number, known as the "grand daughters." It was at this juncture that the monopoly of collecting the taxes was conferred upon the bank, now called the company. A few months later, four other emissions of shares were made, which carried the total number to 624,000; and yet the rage for them was so great that they rose in value to 18,000 livres each,¹ making the value of the whole 11,232 million livres.

As the actual state of affairs in Louisiana now began to be known in France, it could not help being foreseen by the Government that this madness would soon come to an end, and that the shares would fall, and as it was feared that the fall in the shares would cause the public, in spite of the law, to refuse the bank notes, it was decreed, on March 5, 1720, that the price of the shares should thereafter be 9,000 livres, and at this price they were made exchangeable for bank notes. In other words, the government undertook to buy in the shares of the company with bank notes at 9,000 livres each. But the news from America had given the company a shock from which it was never destined to recover. The shares fell so rapidly that the privilege of selling them for bank notes only served to drag the latter down with them. In February, 1720, the notes had stood at 90 per cent. in coins; after the 5th of March they fell to 60 per cent. and 50 per cent.²

On May 21, 1720, another edict reduced the exchangeable value of the shares to 8,000 livres in notes; and ordered that on the 1st of July it should be further reduced to 7,500 livres, and should thereafter be reduced monthly 500 livres until the 1st December, when their value would become 5,000 livres, which thereafter was to be their permanent value. The bank-notes were only to pass current at 80 per cent. of their denominational or par value until July 1st, when they were ordered to be reduced in value to

¹ Some authorities state that the shares were made exchangeable for 18,000 livres each in notes, and the dividends guaranteed by the government.

² Moran, 75.

75 per cent., and thereafter further reduced 5 per cent. each month until December 1st, when they were to be current at 50 per cent., which was thereafter to be their permanent value.

The intelligence from America, the lowering of the bank-note value of the shares, the lowering of the coin value or legal tender function of the notes, and the great complexity of the methods adopted to secure these ends, deprived the notes of all credit and the government of all authority, and in spite of the law, nobody would take the notes in payment. The edict of May 21st caused such indignation and excitement that on May 27th it was revoked; but this did not mend matters. The bank stopped payment, and the government sealed up the coins in its vaults to prevent them from being paid away for notes.

When the bank stopped, the avowed emission of notes was 2,235,085,590 livres,¹ and the coins in its vaults 336,011,050 livres. The notes stood at 80 per cent. discount. On June 10th the bank was opened for the redemption of 10-livre notes. On the 11th it announced that the notes of 100 livres would be changed into small notes, but only one for each person; and the 12th and 13th of the month were appointed for the payment of the 10-livre notes. This drew together so great a concourse of persons that they were with difficulty controlled by troops. The 17th July was appointed for the changing of the 100 livre notes, and the crowd was so great that some twenty persons were crushed to death. On the 30th July an edict doubled the denominational value of gold and silver coins, which, however, were to be gradually reduced again to their former value, the object of this manœuvre being, by the temptation of a temporary high value, to induce the holders of coins to pay them for debts and put them into circulation; but the edict failed to attain its object.

During the month of June, 25 million livres of perpetual

¹ I have seen it stated somewhere at 2,696,000,000 livres.

annuities at $2\frac{1}{2}$ per cent. per annum, and 4 millions of life annuities at 4 per cent. had been created wherewith to redeem the bank notes. In July, 600 millions of rentes, and in August, 8 millions more of perpetual annuities at $2\frac{1}{2}$ per cent., were created for the same purpose. On August 15 the bank notes of 10,000 and 1,000 livres were demonetized except for the purchase of rentes and annuities; and by a subsequent edict all the bank notes were demonetized after Nov. 1, 1720. The amount of notes actually funded under these edicts was comparatively small and the remainder gradually became valueless, as it was perceived that their repudiation by the government was final. On Feb. 12, 1721, they stood at 96 per cent. discount in coins; and soon after lost all value.

The same arbitrary kind of measures that marked its disposition of the notes was extended by the government to the shares and shareholders of the company. By an edict of June 3, 1720, 100,000 shares belonging to the king, and 300,000 in the hands of the company were cancelled; 200,000 new shares were created and issued in exchange for old ones, share for share, on a payment of 3,000 livres (not stated whether in coins or notes, but presumably the latter), which made the exchange equivalent to two new shares for three old ones. The dividend on the new shares was fixed at 360 livres. Soon afterwards, 50,000 new shares were issued on the same conditions. The "fermes" or leases and collection of the taxes, and the management of the revenues and of the mint were taken from the bank, which thus became little more than a mere mining and trading concern, with no mines and very little trade.

On the 24th October, the original proprietors of shares were ordered to deposit them with the company, and those who had disposed of their shares, to recomplete their original number by purchasing from the company the deficient shares at 13,500 livres each. As many of the shareholders upon the promulgation of this outrageous decree attempted to flee the country with their property, all persons were prohibited

upon pain of death from quitting France without express permission from the Regent.

These arbitrary operations concluded, it was found that on Jan. 1, 1721, the total amount of the public debt was 2,289,762,849 livres, besides 125,024 shares of the company valued at, and good against the government for, 899,638,855 livres; total, 3,189,401,705 livres, with an annual interest and dividend charge of 99,588,375 livres. This debt the government now proceeded to cut down and repudiate. The claimants were divided into five classes, according to the manner in which they had acquired their claims. The claims of one class were cancelled outright and the rest cut down. The claims deposited under this decree amounted to 2,222,597,491 livres, and the whole was cut down to 1,676,501,831 livres. The shares of the company were reduced from 125,024 to 56,000, and the dividends reduced from 360 to 100 livres per share for the first ensuing year and 150 livres per annum thereafter.

Thus came to an end the *Compagnie des Indes*.

Among the many excellent persons who have told the story of this famous scheme there are few who have neglected to deduce from it a conclusion unfavourable to the employment of all kinds of paper money. But such a deduction is illogical and absurd. The notes of the *Banque Royale* were issued without regard to the existing level of prices, or to the demands of the country for currency at that level, or indeed any other circumstances except the needs of an impoverished and dissolute court and the designs of adventurers and speculators. The limit originally assigned to the emissions was not only vastly exceeded, it was not known, until after the failure of the scheme, to what extent the emissions had been carried. The legal tender function of the notes was repeatedly, arbitrarily, and suddenly changed. At first they were not legal tenders at all; then legal tenders only for sums above 600 livres, and co-ordinated with gold and silver coins; then unlimited legal tenders co-ordinated with coins; then the same with coins reduced

5 per-cent. in value; then with coins only for small sums and without coins for large ones; then unlimited legal tenders without coins; whilst the hoarding, transportation, or exportation of the latter was forbidden; after which, payment of the notes in coins was again resorted to. Moreover, this legal tender function was unnecessarily connected and confused with the shares of the company, the notes and the shares being interchangeable at a fixed value. This "fixed" value was frequently and suddenly altered by arbitrary decree. The value for which the shares were to exchange for notes, at first, is not stated; but this was afterwards reduced to 9,000 livres, then to 8,000, then to 7,500, then to 7,000, 6,500, 6,000, 5,500, and 5,000 livres. The "dividends," really interest, on these shares, which was guaranteed by the government, was changed in the same arbitrary manner. Finally, the legal value of the notes was directly altered by decree. At first they were ordered to pass at par with coins; then they were cut down to 80 per cent.; then to 75, 70, 65, 60, 55, and 50 per cent. Then all these decrees were suddenly revoked, then the small notes were made redeemable in coins, and finally the value of all coins was temporarily doubled!

These numerous arbitrary decrees, all of them affecting the legal value of money, and of the greatest importance in a populous and commercial country, were passed during a brief period of two years.

To condemn all systems of paper money as bad because this one was bad, is no more reasonable than to say that all systems of metallic money are bad because those of Philip le Bel and Charles IV. or John the Good were bad. The injurious consequences of a bad system of metallic money are no less numerous and lasting than those of a bad system of paper money. The defects of all these systems were of a similar character; they exposed the Measure of Value to great, sudden, and unforeseeable alterations; but this is even less a necessary characteristic of paper than it is of

metallic money. With the former it is remediable, with the latter it is inherent.¹

For many years after the failure of the *Compagnie des Indes*, no attempt was made by the authorities in France to introduce those improvements in the monetary system which had been secured in Sweden, England, and other countries through the use of limited emissions of notes. The money of France continued to be exclusively metallic; and all the depressing and now dangerous effects of a too slow-growing stock of coins, which had been in operation previous to the era of Law's bank, came again into full play. For the year 1730 Voltaire estimated the currency at 1,200 million livres, for 1753 Montveran estimated it at 1,300 millions, and for 1789 Thiers estimated it at 1,500 millions. France was growing too rapidly for this snail-like increase of the Measure of Value, part of which, it must always be remembered, circulated in the colonies. While in the course of two centuries her population had increased nearly two and a half times, and her exchanges many fold, but few or no quickeners of money had been brought into use, such as direct and efficient fiscal systems, bank cheques, and the like. Her fiscal system was so complex that a large proportion of the circulation was always locked up in the offices of the tax-collectors, and as to bank cheques, they are even at the present day hardly in general use.

It was this monetary stricture that exposed to view and to popular detestation those sores of the feudal system, the capitaineries, the *droits des seigneurs*, the *gabelle*, and the *corvées*, which in prosperous times had flourished unheeded,

¹ "The failures of efforts under revolutionary or despotic governments to establish paper-money systems have no significance whatever. No such efforts have ever been made under free institutions firmly established, without which perfection in money, or any other system which affects the general welfare, is impossible. The failures of one age often become the established successes of the next. Every progressive movement of mankind has been tedious and toilsome, and has been accomplished only through trial, suffering, and repeated failures."—Report of the United States Monetary Commission of 1876.

and which now goaded the people to madness and nourished within them an implacable hatred of the government.

Meanwhile the latter continued to struggle with its old difficulties, a rigid currency, depression in trade, an empty treasury, and an overtaxed and unwilling people.

In 1776 a bank called the Caisse d'Escompte was established at Paris with a capital of about 7,500,000 livres. Until 1782 this bank seems to have been prudently and prosperously managed.¹ It had issued notes to the amount of about 37,500,000 livres, which were payable on demand. In that year, under the pressure of war with England, the Royal Treasury (Turgot was then the Comptroller-General of Finances) called upon the bank to reduce its rate of interest to four per cent. and to make an advance of six million livres to the State. Compelled thus either to issue new notes without any reserve or to part with an unsafe proportion of its coins, the bank in 1783 chose the former alternative, and decided to suspend coin payments, when, by a royal decree dated September 27 of that year, the notes were declared legal tenders. Toward the end of the same year the termination of the war enabled the government to repay some of its debt to the bank, and the latter resumed the payment of its notes in coins. In June, 1787, the circulation of the bank reached about 100 million livres. At this juncture the treasury, now under the administration of Calonne, extending, as before, a State guarantee of the notes, extorted from the bank a loan of nearly 75 million livres, and it again suspended. In 1789, the treasury, under Neckar, borrowed 90 million livres from the bank, which had now plainly become the mere

¹ These dates relating to the Caisse d'Escompte are gathered from a speech of the Hon. Fernando Wood, in the United States House of Representatives, April 19, 1864. The source of information in this instance is not so direct as the author could have wished, but as yet he has not succeeded in finding elsewhere so many details of the history of this institution. Mr. Wood also stated that previous to its suspension the bank divided eight per cent. per annum.

instrument of a bankrupt government to prolong a doomed existence. In 1793, the Convention passed a law which swept the bank out of existence.¹ Meanwhile each day brought the affairs of the kingdom nearer to the inevitable climax. The coins had been again and again raised in value; the ratio had been changed, not, indeed, always on purpose to extract a profit from it, but, nevertheless, usually with that result; the taxes had been more equitably distributed, and many useless expenses cut off: still the treasury was empty, taxes were in arrears, prices continued to fall, and the general distress to increase. All at once people began to dream that the social disorder was in some way connected with the supply of the precious metals, and fancied that this supply might be augmented by reopening the mines of France. Says Calonne, in his memorial to the King, "The project of reopening the mines, too long neglected in France, has attracted his Majesty's attention." But his Majesty could not work miracles, he could not make gold-mining profitable, and had the mines been indeed reopened, they must soon have been closed again at a heavy loss.

The fatal course of permitting prices to fall to the level when gold and silver mining becomes profitable, the course which the empires of Rome, of Charlemagne, of the mediæval ages, had been obliged to follow, was no more to be entered upon. Its day had ended when printing was invented, and when paper money in America, in England, in France, and elsewhere, had swollen the measure of value too far beyond the limits of mining, for it ever to enter them again. Henceforth prices were to fall temporarily and at uncertain intervals, until mankind had learnt the nature of money and how to manage it; but they were never again to fall permanently. For that gravest of all dangers to States, and to the social development of the world, paper money has at least the merit of having offered an efficient remedy. Per-

¹ Tooke's "Hist. Prices," vi., 43.

haps the time is coming when it may also offer a remedy for inflation, for violent fluctuations, for unstable prices, and for those sweeping bankruptcies which arrest the march of progress, and again and again postpone the development of civilization.

CHAPTER XVI.

FRANCE SINCE THE REVOLUTION.

Land and Money the most important institutions of State—French revolutionary measures—Forfeiture of church lands—Emission of royal bons based on lands—The bons turned into assignats—Defects of the scheme—Abuse of it—Disappearance of coins—Extravagant emissions of assignats—Forgeries—Fall in value—Confiscations of property—Execution of the King—Pillages—Stay laws—Premium on coins forbidden—Maximum laws—Forced requisitions—Increase of forged assignats—Further fall in value—Corn money proposed—Scale payments—Payments in kind—Assignats become valueless—Precious metals captured by Napoleon—Reappearance of coins—Special contract laws—Final fall of the assignats—Emission of mandats—Counterfeits—Fall of the mandats—Resumption of metallic money—Funding the public debt—Mutations of the livre tournois—The franc—The banking era—The Banque Royale—Bank of France—Powers, privileges, and emissions—Coinages of France—Seignorage laws—Adoption, in 1679, of the English principle of unlimited coinage—Repealed 1689—Renewals between 1789 and 1803—Its tendency to gold “monometallism” arrested by Napoleon’s plunder of Europe—Comparatively little paper used in France—Hegemony of the ratio—Conditions upon which held—Circumstances of its fall—Swiss coinage of debased francs—Debasement of minor French coins, 1864—Latin Union of 1865—Demand for gold “monometallism” in 1867—This demand repeated in Berlin, 1868—Its adoption precipitated by the Franco-Prussian war—French indemnity of five milliards—Mode of payment—Suspension of silver coinage in France, 1877—Proofs of the influence of the Act of 1666—Ineffectiveness of the “double standard”—Frequent exchanges and expensive recoinages of metal—Not due to production, but difference of legal ratio—Literary evolution of the principle of 1666—Lowndes, Locke, Harris, Desrotours, Liverpool, Chevalier, Soetbeer—International exchanges of metal not important until 1870—They then produced a diminution of money—Fall of prices—Depression of trade—Remedies discussed—International ratio—Repeal of unlimited coinage—Money of France at various periods—Its influence upon her civilization.

WHEN the people of France revolted against their ancient government and the numerous abuses that had clung to it and become incorporated with it, and pro-

ceeded to erect for themselves a new framework of social order, they naturally began with those institutions which seemed to be the most important. These were Land and Money. The first determined the relations of the citizens to the State ; the second determined their relations to one another.

By its decree of December 2, 1789, the National Assembly declared that "all the lands of the clergy belonged to the State."¹ These lands comprised one-third of all France ;² their rent rolls amounted to nearly 200 million livres ; and computing it at twenty-two years' purchase, their value was, in round figures, 4,400 million livres. Of these lands, a portion, the value of which was about 400 million livres, was ordered to be immediately sold for the benefit of the State. As it was feared that so great and sudden a sale would depreciate their value to the prejudice of the public interest, Bailly proposed in the Assembly to dispose of the lands in large blocks to the various municipalities of France, obtaining, in return, promissory notes of the municipalities, payable after a lapse of time in coins, which notes should however be good (*bon*) on demand, for any portion of the seized and forfeited lands at a fixed price per acre. Hence the term "*bons*," referring to the function of the notes, and the term "*assignats*," relating to the assignments of the lands to such of the holders of the notes who might choose to locate and demand possession of them. It was hoped that with these notes the State would be enabled to meet its current expenses.

In this scheme of finance there was an important defect. By making the *bons* good on demand for lands at a fixed price, and paying out the *bons* to the creditors of the government, it really, in effect, placed all the lands on the market at once, and thus brought about the very result which the Assembly feared to encounter. The holder of a *bon*, unless he elected to wait until it was due and payable

¹ Dillaye, 15.

² Thiers, "French Revolution," ed. Philadelphia, 1842, iii. 377.

in coins, became in fact the holder of an undivided portion of the forfeited lands, and the moment the bons were all paid out by the government, the lands, to the extent that they were represented by the bons, would virtually all be sold. Therefore, unless the prospect of eventual payment in coins was great enough to induce the holder to wait for such payment rather than take up an assignment of land for his note at once, the combined value of the bons (which, it must be borne in mind, were not yet monetized) would inevitably fall to that of the lands offered at forced sale. It is evident that something of this defect was perceived by those who participated in the debate ; but whether they were unable to comprehend it more fully, or whether from other considerations they did not choose to do so, it is difficult to say. The fact is that the defect was disregarded.

It was objected to Bailly's proposition that the public creditor might not desire lands, and that if he wanted money he might have to wait for it longer than might be convenient.

So far as it went this objection was valid enough ; indeed it forms a portion of the larger and more general objection, that to market the bons was in fact to market the lands for which only were the bons exchangeable at that time. Any scheme of using forfeited lands wherewith to defray the expenses of a great State was fraught with future evil, and should have been avoided. But to have abandoned this scheme would have been, as it then appeared, to abandon the Revolution. The Treasury was empty, the credit of the State had been undermined, and the immediate resources of the people drained, through the combined exactions of a court, an aristocracy, and an ecclesiastical establishment, all of which had been rendered extravagant, reckless, and profligate by a previous era of abundant silver, rising prices, and a stimulated and ephemeral prosperity. It was too late to heed either the past or the future. The time had come when neither history nor reason were of any avail.

Every consideration was forced to give way to present expediency, and give way it did.

To meet the objection urged against the bons, it was next proposed that the State itself should undertake the assignment of the lands, and that the bons should be monetized. Here again reason assures us that to monetize the bons was to make them good wherewith to pay for anything, whether lands, movables, or debts; that to monetize them was therefore to exalt them far above the mere function of purchasing lands. But nobody saw or seemed to see this. On the contrary, it was held out by the supporters of the scheme, that the great merit of the monetized bons or ASSIGNATS was the security afforded to them by the forfeited lands. The notes of John Law's bank, of the Banque Royale, said they, were secured only by wild lands in Louisiana, and the notes became valueless because the lands were valueless; the assignats are secured by the best lands in France, and they must therefore always be valuable.¹ The fact is that neither of these emissions of notes owed their value to lands. Their value had nothing whatever to do with lands, except in the plans of adventurers or the minds of the unthinking. The notes of Law's bank were issued in moderate amounts, were convertible into coins, and never fell in value below coins. The notes of the Banque Royale were made legal tenders, that is to say, monetized, and from that moment their value ceased to have any necessary connection with lands or any other material thing except other legal tenders. It depended on the whole number of legal tenders in circulation, and when this number became excessive from repeated emissions of notes, their value fell. The circumstances of the assignats were somewhat analogous to these. From the instant that the law made them legal tenders and payable for debts, their value ceased to have any necessary connection with

¹ See on this point Mirabeau's speech cited in M'Leod, "Polit. Econ.," p. 428.

lands. It depended solely upon the whole number of legal tenders afloat, and had this number been kept within due bounds, and the notes efficiently guarded against counterfeiting, they could not have fallen below the value of coins ; indeed, if so desired, they might have been raised above such value.

But the legislators of 1789 either did not or would not discern this principle of money. Some of them saw in the proposition before them only a convenient mode of eventually selling the forfeited lands ; others perhaps foresaw a rise in prices, relief from the long-standing depression of trade, and increased commercial activity ; others might have been actuated by the mere desire of exercising that proud privilege of royalty which the kings of France had so often and so capriciously abused—namely, the right of prescribing what shall be money ; whilst a few may have perceived that were the number of these assignats indefinitely increased, they would have the effect of redistributing property without the aid of an agrarian law.¹

Whatever may have been the opinions or motives of the various legislators of 1789, the Assembly as a body appeared to have had but one idea in respect to the assignats. From first to last their value was associated with that of the lands.² The principle that Limitation, and limitation alone, controls the value of money, if it had ever had any lodgment at all in the minds of Frenchmen, had been swept out of memory by the fatal act of 1679, which had opened the mint to the illimitable coinage of private bullion. Their present conception of money was not that of a measure of value, or a measure of any kind ; money was to them an instrument of political revolution, and with this view they resolved to monetize the bons.³ This was done by a decree

¹ Thiers, i. 147.

² *Ibid.*, iii. 376.

³ The instrumentality of the assignats in promoting the Revolution is noticed by Alison, i. 95-8. They enlisted a large and influential class by the strong bond of pecuniary interest, and rendered the march of the Revolution unalterable.

passed December 17, 1789. The first emission amounted to 170 million livres, and the notes bore 4 per cent. interest. By the 1st of April, 1790, the emissions amounted to 400 million livres, all bearing 4 per cent. interest. This was only the beginning. There were yet to be emitted, either by the government or by counterfeiters, nearly 150,000 millions!

The following table shows the various emissions of assignats and their multiples, mandats, from first to last:—

Table showing the Cumulative Emissions of Government Assignats, the Quantity Destroyed, the Quantity Outstanding, and their Value in Coins. Sums in millions of livres.

Date of emission.	Cumulative emissions.	Assignats destroyed.	Assignats outstanding.	Discount on assignats, p.c.
April 1, 1790	400	—	400	Par.
June — 1790	800 ¹	—	800	”
Sept. 29, 1790	1,200	160	1,040	Slight.
Dec. — 1790	1,200	160	1,040	7@10.
June 19, 1791	1,800	160	1,640	8@10.
Sept. 30, 1791	1,800	215	1,585	—
Dec. 30, 1791	2,100	?	?	—
April 30, 1792	2,400	?	?	—
Sept. 1, 1792	2,700	?	?	37
Dec. 14, 1792	2,800	?	?	25
May 20, 1793	4,000	?	?	33½ ²
Aug. — 1793	5,100	1,324 ³	3,776	—
Sept. — 1793	5,100	1,324	3,776	55
Jan. — 1794	—	—	5,536 ⁴	—

¹ Of the first two emissions of assignats, about 558 millions were printed with the effigy of the king, and, in the secret hope of a reaction, the Restorationists preferred and hoarded these, so that they bore a premium over other assignats of 10 @ 15^o/_o. ² M'Leod.

³ In August, 1793, of the 5,100 millions of assignats authorized to be emitted, 484 millions were not yet emitted, and 840 millions had been burnt. Besides these, 558 millions of the “Royal Effigies” were hoarded, so that while the amount outstanding was 3,776 millions, the amount in circulation did not exceed 3,218 millions. M. Thiers says that at this time there were also 900 millions in the treasury. If this was so, the amount in circulation did not exceed 2,318 millions. Thiers, ii. 274 and 361.

⁴ There had been 1,000 millions retired. Thiers, ii. 259.

Table—continued.

Date of emission.	Cumulative emissions.	Assignats destroyed.	Assignats outstanding.	Discount on assignats, p. c.
June — 1794	—	—	6,536	—
July 28, 1794	—	—	6,400	—
Dec. — 1794	—	—	7,000	—
March — 1795	—	—	7,550	78
May 15, 1795	11,885	3,745	8,140	90 ¹
May 30, 1795	13,000	3,000	10,000	93
June 30, 1795	—	—	11,000	96
July 31, 1795	—	—	14,000	97
Aug. 31, 1795	—	—	16,000 ²	97½
Oct. — 1795	19,000	—	—	—
Dec. — 1795	—	—	20,000	99
Feb. 16, 1796	45,578 ³	9,578	36,000	99¼@½
" " "	—	—	100,000 ⁴	"
July 16, 1796	—	—	147,000 ⁴	100

The emissions of mandats were as follows: March 16, 1796, emission 800 million livres, equivalent to 24,000 million assignats, which with the 36,000 million of genuine assignats made 60,000 million genuine, plus about 75,000 million counterfeit, total 135,000 million of all kinds of assignats and multiples. Within a few months 600 million more of mandats were emitted. This brought the total mandats up to 1,400 millions, equal to 42,000 million assignats, plus 30,000 genuine, and about 75,000 counterfeit assignats, total 147,000 million assignats and multiples. On July 16, 1796, all these notes were demonetized.

The following chronological table shows some of the most important events which affected the money of France

¹ Thiers, iii: 251-2.

² Von Siebel says that at this period (Aug., 1795) interest on money in the provinces was 12⁰/₁₀₀ per annum, and in Paris, 30⁰/₁₀₀, and is evidently of the opinion that the quantity of assignats in circulation influenced the rate of interest, a theory which the intelligent reader need not be informed, can only be true for a short interval following new emissions of money. ("History of the Rate of Interest," by the present writer.)

³ On Feb. 16, 1796, the plates of the assignats were destroyed and their emission ceased. The sum of genuine notes in circulation at this date was about 36,000 million livres, and of counterfeits probably twice as many. Dillaye, 33, 34, 43.

⁴ Including counterfeits.

from the outbreak of the Revolution to the demonetization of the mandates.

1789.
 Dec. 2. Declaration of the National Assembly that the Church lands belonged to the State.
 „ — Emission of territorial bons.
 „ 17. Monetization of the bons or assignats of Church lands.
 „ 19. Assignats of Crown lands.
 1790.
 April 1. 400 million livres of assignats afloat.
 Sept. 29. 1,040 millions afloat. First symptoms of their depreciation.
 1791.
 July. Forged assignats in circulation. Dillaye, 35.
 „ 28. Unlimited and gratuitous coinage opened to silver. Decree of July 11th promulgated 28th.
 Sept. 30. Coins disappear from circulation. Von Siebel.
 Oct. 5. Famine in Paris. The farmers refuse to sell corn for assignats.
 1792.
 Jan. 23. The grocers' shops pillaged by the inhabitants.
 Mar. 30. Appropriation by the State of the property of "emigrants," or absconding nobles.
 Aug. 14. Decree of sale of same.
 Sept. 2. Confiscation of same.
 „ — Up to this date the army was paid in coins or their equivalent in assignats; hereafter in assignats at par. Von Siebel. The army consisted at one time of 1,700,000 soldiers.
 Oct. — Forged assignats from Belgium and Switzerland. Dillaye, 32.
 1793.
 Jan. 21. Execution of Louis XVI.
 — Banque d'Escompte abolished. Tooke, vi. 43.
 Feb. 25. Second pillage of grocers.
 — Laws framed to stay the execution of judgments against debtors. Thiers, iii. 376.
 Mar. 28. Further confiscation of emigrants' property.
 April 11. Decree that all prices shall be expressed in assignats: coins to an unlimited extent allowed to be used at par, with assignats: their purchase or sale at any other price punished with six years in irons.
 May 4. Maximum prices fixed for corn and flour.
 — Interconvertible notes issued. Poor, p. 176.
 July — Retired assignats re-issued. Thiers, ii. 205.
 — "Royal Effigy" assignats outstanding, 500 million livres. Discount on these 5, 10, @ 15 per cent.: on other assignats 15 @ 20, sometimes 40 @ 45 per cent. Thiers, ii. 259.
 — Forged assignats from England. Thiers, ii. 258, and Dillaye

- July 28. Execution of Robespierre.
- Aug. 1. On motion of Couthon a decree was made punishing the purchase of coins at a premium, or the claim of a discount upon assignats with twenty years' imprisonment. D'Ivernois.
- Aug. 4. Forced requisitions.
- Aug. 15. Decree that all debts shall be payable in assignats.
- Sept. 11. Maximum again fixed on corn and flour.
- Oct. 7. Decree of 16 Vendemaire, year II., altering the coinage system.
1794.
- Feb. 14. Decree of 26 Pluviose, amending that of 16 Vendemaire.
- Feb. 22. Maximum extended to many important articles of consumption.
- Mar. 26. Corn and forage of this year's growth seized by the State.
- Aug. — Great numbers of forged assignats from England. Dillaye.
- Nov. 1. Farmers unwilling to sell produce for assignats. Dearth of food in Paris. Daily bread limited to two oz. per capita.
- Dec. 24. Maximum and forced requisitions abolished.
1795.
- Mar. 15. Bread allowance in Paris: labourers 1½ lbs.: all others 1 lb. daily.
- May — 12 to 15,000 million forged assignats afloat. Seventeen establishments and 400 men manufacturing them in London, one establishment in Lambeth. Dillaye, and Von Siebel.
- Corn money proposed by Jean-Bon St. André. Thiers, iii. 252.
- Aug. 15. Unlimited and gratuitous coinage opened to gold and silver. (28 Thermidor, year III.) See decree, July 28, 1791.
- Public lands sold at three times the prices of 1790. One-third of the lands of France, now valued at 15,000 million assignats, for sale for assignats and regarded as a pledge to redeem them. Thiers, iii. 201, 253-4.
- Assignats valued 150 for 1 livre in coins. Thiers, iii. 344.
- Scale payments made at 30 for 1. This custom suggests the mandats of 1796. Von Siebel.
- Scale payments adopted for paying taxes. Thiers, iii. 273.
- Scale payments employed for farm rents. Thiers, iii. 273.
- Rents paid at 10 for 1. Thiers, iii. 351.
- Scale payments prohibited.
- Farm-rents and taxes paid half in produce, half in assignats. Thiers, iii. 351, 376.
- Interchangeable notes again tried without success.
- Proposal to renew the maximum.
- Proposed coin loan at 1 for 100 assignats. Thiers, iii. 350.
- Customs duties paid half in coins. Thiers, iii. 351.
- French taxes in Belgium paid in coins. Thiers, iii. 351.
- Great quantities of foreign coins and bullion captured by Napoleon and his soldiers, and sent to France. The scarcity of the precious metals produced throughout the Continent by these transactions causes an efflux from

- 1795.
- Aug. 15. England, and this added to the East Indian demand, and the resumption of coin payments in France, 1796, led to the suspension of the Bank of England in 1797.
- Special contract law, *i.e.* bargains permitted to be made for payments in "species" or coins. Thiers, iii. 377.
- Dec. — Coins reappear in circulation. Coins plentiful in the provinces. Thiers, iii. 346, 376.
- Rumoured demonetization of assignats. Thiers, iii. 202.
- Assignats refused in the markets of Paris.
- 1796.
- Feb. 16. The plates from which the assignats were printed, destroyed, 30th Pluviose. Including counterfeits there are estimated to have been 100,000 millions afloat. Assignats quoted at 200 to 400 for 1 of coins. Thiers, iii. 346, 376, and elsewhere.
- Mar 16. Mandats created, each one equal to 30 assignats. Renewal of penalty for dealing in coins. The exchange offices closed. Thiers, iii. 377.
- May — Counterfeit mandats make their appearance in great numbers.
- June 4. Assignats quoted at 800 for 1 of coin. D'Ivernois.
- „ — 28,000 livres in assignats only worth one louis d'or. Alison.
- July 1. Genuine and counterfeit assignats and mandats estimated at 147,000 millions. The notes lose all value and are rejected.
- July 16. All notes demonetized, only coins remaining money.

When it is borne in mind that up to September, 1792, the assignats did not monopolize the circulation, but had to share it with those coins which were still employed to pay the troops, it may perhaps seem strange that they maintained their value so well as they did up to midsummer, 1793. At this date they numbered about 3,000 million livres, scarcely twice as many as the old coined livres. The premium on coins had only occasionally risen to 50 per cent., it was commonly not over 10, 15, or 20 per cent., while the prices of other commodities had scarcely risen at all. This comparatively good standing of the assignats is to be accounted for on the ground that the old metallic circulation had fallen short of the requirements of the country; that the Revolution had greatly stimulated trade; that not only had the previous deficit of circulating money to be made good, but additional money had also to be provided to meet the increased demands of the government; and that there was an active export demand for bullion. Not-

withstanding the doubt which is cast upon their efficiency by the repressive measure adopted April 11, 1793, it may fairly be claimed for the assignats, that up to midsummer of that year they maintained their ground as an equitable measure of value, and that their employment had not yet worked any grave or unjust alterations in the varied relations of commerce or society. It is their rapid fall after this date that has always seemed unaccountable, and that has been seized upon for the basis of monetary theories as worthless as they are numerous.

The plain fact of the matter is that at this juncture there was added to the sum of genuine assignats so enormous a sum of counterfeit ones, impossible to be distinguished from the genuine, that the whole mass became redundant and fell in value suddenly, so as to occasion panic. Prices rose with alarming rapidity, and, to make matters worse, the government, in order to defray its current expenses, was forced to issue, almost without notice, sums of new assignats greatly in excess of what had previously been contemplated. In this way it added new fuel to the flames, and greatly accelerated the downfall of the system, so that in two years' time the assignats fell from a merely nominal discount in coins, to nothing. In midsummer, 1793, they had stood at par in commodities, that is, they would purchase commodities or services, as well as coins of the same denominations would; in midsummer, 1795, they were virtually worthless, and would scarcely purchase anything.¹

The forgery of assignats had begun with the first emission; but these forgeries were either so insignificant in amount or else so easily detected, that they had no perceptible effect on the value of the notes. In October, 1792, a vast number of assignats forged in Belgium and Switzerland made their appearance in the circulation, and resulted in the fall of the assignats to nearly one-third of their nominal value in coins. It was not until the following summer,

¹ Thiers, iii. 376; Dillaye; Louis Blanc.

however, that the forgeries of assignats became so numerous as to seriously and permanently affect their value.

At this period no less than seventeen establishments, employing 400 workmen, were in operation in London, forging assignats for exportation to France; and we are informed that this was done with such skill that detection was impossible.

Of course no system could withstand such an attack; and the assignats of France fell, just as the Continental notes of America had fallen, and from the same cause,—undetectible forgery. By the end of 1795, their value fluctuated so suddenly and enormously, that people refused to receive them, and coins began to make their appearance again. In the provinces coins were, in fact, abundant.

In weighing the merits of the assignats it must be borne in mind that at the period when they were refused by the people, two-thirds of the whole mass afloat were counterfeit; that the genuine portion alone were nearly twenty times as numerous as were the coined livres before the Revolution, and the whole mass sixty times as numerous; that no limit was fixed to the emissions, and—at least towards the last—no previous announcement was made of them, and no one felt certain that they would not be doubled within the coming twenty-four hours; that the assignats were not full legal tenders, because farm-rents and taxes were payable one-half in produce; that rents had been fixed at 10 for 1 and scale payments generally at 30 for 1; that a stay law left the payment of debts to the option of the debtors; that special contracts were proposed to be permitted, and were soon after permitted to be made in coins; and that coins were allowed to circulate side by side with the notes, and thus assist to drag down their value.¹

Without these defects of the system, the coin value of the combined mass of assignats could not—unless in times of

¹ The Assembly had the good sense to forbid the employment of company shares and scrip as well as all other than government notes for money. Alison, i. 315.

greater commercial inactivity than what had prevailed even before the Revolution—have fallen below 1,750 million livres; whereas, in point of fact, with these defects, and owing to them, it fell to 400 millions. This is to be seen from the following calculation: 100,000 million genuine and forged assignats circulated before their final fall, at the rate of 250 for 1 livre of coins; equal to 400 million livres in coins for all of them.¹

Still imbued with the fatal error that the value of the assignats depended upon their function of purchasing lands, and ascribing their depreciation, at least in part, to the want of directness in the application or exercise of this function, the National Assembly next determined to cure this defect by conferring upon the holders of the notes the right to demand specific parcels of land.

With this view, they resolved to stop the further emission of assignats, to destroy the plates, to reduce the outstanding notes to 24,000 millions, and to issue a new series of notes, to which were given the name of MANDATS, or mandates, in allusion to their function of immediately compelling the assignment and transfer of such particular parcels of land as the holder might select. The lands were to be surveyed, parcelled out, and held open for entry at thirty times the prices of 1790. Half the purchase money was to be paid in ten days, the other half in three months. The new notes were to be coined to the extent of 800 millions of livres, each one of which was to represent and be a legal tender for 30 livres of assignats, as well as to be legal tender for all other purposes. Besides these 800 millions, 600 millions more of mandats were to be employed to defray the current expenses of government, and were to be put into circulation immediately, and 1,000 millions more printed and deposited in the Treasury, for immediate use when needed.

¹ Thiers, iii. 376, calculates their value at 200 millions in coins, but he appears to wrongly add the retired notes and omit the forged ones.

It is difficult at this period to understand how such extravagant measures should have obtained a footing. It was abundantly evident that from various causes, chiefly over-issues, uncertain issues, and counterfeits, the paper notes of the government had become almost useless as a measure of value; yet here was a scheme which was certain to result in virtually trebling the quantity of genuine and doubling the quantity of genuine and counterfeit ones combined. For, be it observed, the legal tender character proposed to be, and afterwards actually given, to the mandat, left its value no more connected with lands than with other commodities. It is true that, so long as there were any lands to be obtained, and that the exchange of lands for money was not delayed nor hampered by difficulties, the value of the mandat could not fall below that of the lands for which it was exchangeable. This is M. Thiers' argument: "The mandat, it is true, was worth as much as the land, but it could not be worth more." But the value of the lands was, in fact, an unknown quantity. There was delay and difficulty in exchanging mandats for them; the title to them was doubtful, and in the event of a political reaction might become entirely worthless; finally, everybody did not want lands. In fact, so few persons wanted them, that when the notes became worthless a large portion of the confiscated domains remained unsold. The function of the mandat in paying for other commodities was far more important than its relation to lands. It could purchase numerous commodities the prices of which were fixed by the law of maximum, as well as others which were not; it could pay debts, rents, taxes, all of which were expressed in fixed sums; it could buy bread and provisions at maximum prices, and it could pay for any other commodities. Under these circumstances, its faculty of being "redeemable" in, or character of being "secured" by, lands, so much dwelt upon by the legislators of the day, and by unthinking commentators since, was little more than mythical.

But while the commentator has no excuse, the legislator

of 1796 was not without apology for his blunders. The State was still in urgent need of money, and without risking a political reaction it saw no better means of obtaining money than through the printing press. This is proved by the fact that after the mandat project had been adopted, and while awaiting the printing of the new notes, the necessities of the government obliged it to issue scrip, or promises of mandats.¹ As might have been expected, these promises at once fell below their legal value in assignats. At the best they were only so many more thirties of assignats. To arrest this fall, the government, simultaneously with the first issue of mandats, 26th Ventôse, 16th March, 1796, began to retire and destroy the assignats, whereupon the mandats at once rose in value, a convincing proof that it was their monetary function and number which determined their value, and not the lands for which they were exchangeable. But the government was not yet in a position to contract the currency. Its necessities even led it to further excesses. It commenced to issue its "reserve" of mandats. This was the batch of 600 million mandats—equal in legal efficiency to 18,000 million assignats—which were intended for current expenses. Behind this again was a third batch of 1,000 million mandats—equal to 30,000 million assignats—for contingencies.

The result of this emission was the almost immediate discredit of the whole mass. People refused to accept notes at any valuation. In vain was the legal tender law invoked; that law was no law which had no limitations; and nobody obeyed it. The special contract law took its place; all bargains were made in coins; silver dollars poured into the southern provinces from Spain; gold coins were imported from England; half of the customs duties in France were paid in coins, as well as all the taxes in Belgium; the spoils of the victorious armies came into Paris in the

¹ Thiers, iii. 378.

form of foreign coins and bullion;¹ in the markets of Paris no money was seen except coins; the wages of daily labour were paid in them; and the government, finding that gold and silver had become common enough to enable it to impose taxes and enforce their payment in coins, determined to entirely abandon the paper system, which it had so gravely abused. On the 16th of July, 1796, the character of legal tender was taken from both assignats and mandats, and they immediately became worthless.²

At this period there were outstanding about 30,000 million genuine assignats, for but few of them had been retired with mandats; about 75,000 million counterfeit assignats, and some 1,400 million genuine mandats, representing 42,000 million assignats; altogether, say 147,000 million livres of assignats, besides 1,000 millions of mandats (equal to 30,000 millions of assignats), impending and ready to be issued.

There can be little doubt that the excesses of the Reign of Terror were greatly promoted by the operation of the assignats and mandats. This money caused so rapid and tremendous a rise of prices that all vested interests were deprived of value, all fortunes were levelled, and the social order was completely broken down. The landed proprietor and the mendicant of the slums, the gentleman and the ruffian, the industrious citizen and the professional pauper, the honest man and the thief, the patriot and the traitor, the weak, the strong, the small, the great, the good and bad were all mingled together, all ranked alike, all rendered equally rich, equally poor, equally powerful, equally impotent, and equally influential in promoting useful or pernicious ends. The assignats and their counterfeit adjuncts constituted an illimitable measure of value, and it ended, where all illimitability ends, in chaos and in madness.

¹ The payment of the soldiers in assignats which were comparatively valueless had stimulated them to capture gold and silver spoils. A similar result had attended the excessive use of overvalued copper coins in ancient Rome. Alison, i. 313. ² Thiers, iv. 6; M'Leod, 430-1.

The public debt which existed prior to the Revolution, as well as that which was incurred during that period, was merged and funded into 5 per cent. life annuities, payable in assignats. These annuities were afterwards converted into perpetual rentes,¹ the interest upon which is payable in the current money of the country, which since 1796 has consisted, as we shall presently see, largely of gold and silver coins at their metallic value.

The mutations of the livre tournois, so much dwelt upon by politico-economical writers, have really but little significance previous to the conquest of America. The livre tournois was neither the only nor the principal coin of the country, nor, under the system of heavy seigniorages then imposed upon coins, would it matter if it had been. Until the eighteenth century, when the livre was adopted as the common integer of accounts, sums of money were commonly expressed in crowns, and the value of these—or of their equivalents in imaginary livres, sols, and deniers, whether tournois or parisien—depended rather upon the whole number of coins in circulation than upon the quantity of material in each of them. When commerce and forgery caused the number to vary inversely with the weight, then the latter became indeed important. In 1490 there were 11 livres tournois struck from the mark of fine silver; 1513, $12\frac{1}{2}$; 1515, 11; 1515 (later), $12\frac{3}{4}$; 1519, $12\frac{1}{2}$; 1521, $12\frac{3}{4}$; 1539, $12\frac{1}{2}$; 1540, 14; 1549, $14\frac{1}{2}$; 1550, 15; 1550 (later), $14\frac{1}{2}$; 1556, 15; 1560, $14\frac{1}{2}$; 1561, $15\frac{3}{4}$; 1573, 17; 1575, $17\frac{3}{4}$; 1580, 19; 1602, $20\frac{1}{4}$; 1641, 22; 1643, &c. (Colbert), 26; then $26\frac{1}{2}$, then 27; and in 1654, $28\frac{1}{2}$. Under the Act of 1679, coinage became gratuitous and unlimited, and the weight of the livre tournois of far more importance than before. For this reason, the weight in English grains is given in the following table with precision; the number of livres to the mark being only approximate:—

¹ Alison, i. 315-319.

Weight of the Livre tournois in fine silver.

Year.	No. of livres in mark.	Livre. Eng. grains.	Year.	No. of livres in mark.	Livre. Eng. grains.
1654 . .	$26\frac{1}{2}$	142.54	1730 . .	49	76.28
1683 . .	27	139.90	1759 . .	$49\frac{4}{5}$	75.71
1692 . .	$29\frac{1}{5}$	121.85	1771 . .	$53\frac{3}{10}$	70.87
1702 . .	$32\frac{2}{5}$	115.17	1789 . .	$56\frac{1}{5}$	67.20
1703 . .	34	111.10	1796 . .	55	68.59
1710 . .	40	94.44	1803 . .	$*54\frac{2}{5}$	*69.45
1712 . .	$42\frac{1}{2}$	88.79	1809 . .	*56	*67.50
1715 . .	35	108.12	1809 . .	$*54\frac{2}{5}$	*69.45
1720 . .	60	62.93	1819 . .	$*54\frac{3}{4}$	*69.02
1725 . .	$44\frac{2}{5}$	85.08	1867 . .	—	*69.45
1728 . .	$49\frac{7}{10}$	75.90			

* Francs, instead of livres.

On May 6, 1799, the franc, of which $54\frac{2}{5}$ were struck from the mark of fine silver, was substituted for the livre as the integer of accounts, and the legal rate for converting sums of livres into francs fixed at 81 of the former to 80 of the latter.¹ On October 1, 1834, the livre was demonetized.² The weight of the franc, as fixed by the Acts of 1803 and 1809, was re-enacted, 1867, by a law providing that out of one kilogramme (15,434 Eng. grains), .900 fine, there should be coined 3,100 francs in gold or 200 francs in silver; and, except as it had been affected, 1864, by the debasement of silver coins under 5 francs, and was afterwards modified, 1877, by the suspension of the coinage of 5 franc pieces, this remains the law to-day.

The period from 1810 to 1849, that is to say, between the closure of the Spanish-American mines and the opening of California, constituted essentially the banking era. Private banks of issue arose in all the commercial countries of the world, especially in England and America, to make good with their paper emissions the scarcity of metallic money which the closure of the mines had occasioned. But in France no such scarcity was felt, and no private banks arose.

¹ The full text of this law appears in Rep. Roy. Com., 1868, p. 142.

² Tate's "Cambist," 35.

Law's old Banque Royale appears to have raised its head again, and issued notes in the years 1799 to 1803.¹ On the 14th April, 1803, this bank was reorganized, and is the present Bank of France. The capital was 45, afterwards increased to 70, and in 1806 to 90 million francs. In 1848 the capital was $91\frac{1}{4}$ million francs; its present capital (1886) is 182 million francs. It was originally granted the exclusive privilege for forty years of issuing notes in France. This privilege was extended by the laws of 1806 and 1840 to the year 1867, and by that of 1852 to the year 1897. The notes were promised to be convertible on demand into coins. At first the lowest denomination of notes was 500 francs; June, 1847, this was lowered to 200 francs; March, 1848, to 100 francs; and afterwards, successively, to 25, 20, and 5 francs.² The limit of the emissions was at first 150 million francs; March, 1848, extended to 350 millions; April and May, 1848, to 452 millions; 1849, to 525 millions; 1870, to 1,400 millions; afterwards to 1,800 millions; November, 1871, to 2,300 millions; afterwards to 3,200 millions; and afterwards all limitation was removed.

At the present time, the Government can by simple mandate increase or diminish the circulation at pleasure, and, as it did during the Franco-Prussian war, make the notes legal tenders. The bank and branches suspended coin payments March 16, 1848;³ resumed August 6, 1850; and again suspended in August, 1870, when the emissions were made legal tender. This last-named privilege expired January 1, 1878.⁴ There is no specific coin reserve, "this being left entirely to the discretion of its managers." The bank has branches in all the principal cities of France. That at Rouen was established 1808, and Lyons 1810. Both

¹ Tooke's "Hist. Prices," vi. 48. The emissions of the old bank rose from 16 million francs in 1799 to $42\frac{1}{2}$ million in 1802.

² No 5-franc notes issued since 1876.

³ Tooke, vi. 57-8, states that in 1848 coins were worth a small premium over large notes, and small notes a small premium over coins.

⁴ Rep. Int. Mon. Com., 1878, p. 220.

of these closed in a few years. In 1835 many new branches were established. In 1848 fifteen of them issued circulating notes of one-half the minimum denominations issued by the main branch. The total issues began at 60 millions, rose to 106 in 1812, fell to 25 in 1814 and 1815, rose to 224 in 1824, fell to 173 in 1826, rose to 229 in 1832, fell to 204 in 1837, rose to 260 in 1846, fell to 240 in 1847, was at 368 in 1848, rose to 672 in 1852, fell to 532 in 1857, rose to 781 in 1862, fell to 722 in 1864, was at 878 in 1865, rose to 1,398 in 1869 and to 2,807 in 1873, fell to 2,207 in 1878, rose to 3,162 in 1884, fell to 2,978 in 1885, and 2,800 millions in 1886. The following are the details of the outstanding notes, January 1, 1885:—

Bank of France.—Denominations of outstanding Notes.

Denominations of notes. Fr.	Emissions. Francs.	Denominations of notes. Fr.	Emissions. Francs.
5,000	25,000	50	246,567,000
1,000	1,186,638,000	25	521,475
500	294,890,500	20	3,000,925
200	523,800	5	835,815
100	1,244,649,900	Old.	420,175

The rapid augmentation of the circulation between 1878 and 1885 is to be attributed to the so-called depreciation of silver, one of the results of which had been the suspension of the coinage of full legal tender silver pieces in 1877. A large proportion of these coins are held by the bank, which issues in place of them its own notes. Thus the present position of France and the United States on this subject is very similar. They both possess large reserves of full legal tender silver coins, which are represented in the circulation and do full duty, in the United States, by means of legal tender "silver certificates," and in France, by means of legal tender bank notes.

Prior to 1835, the notes of the main bank did not circulate beyond Paris. Partly on account of the place of redemption, and partly because of their large denomina-

tions, the notes, when offered in cities distant from Paris, were usually sold at a discount of one to two per cent.

Before the revolution, that is to say, from 1726 to 1790, the average annual coinages of France were 15 million livres gold and 24 million livres silver; and after the revolution as follows:¹—

Average Annual Coinages of France by quinquennial periods.—Sums in millions of francs; nominal values.

Period.	Gold.	Silver.	Period.	Gold.	Silver.
1796-1800 . .	none	14.0	1841-5 . .	3.8	75.8
1801-5 . .	13.8	26.7	1846-50 . .	32.3	107.8
1806-10 . .	30.0	40.0	1851-5 . .	316.7	35.8
1811-15 . .	82.5	130.2	1856-60 . .	540.1	16.7
1816-20 . .	48.8	24.8	1861-5 . .	191.7	4.4
1821-5 . .	11.6	88.1	1866-70 . .	238.7	85.1
1826-30 . .	7.4	125.8	1871-5 . .	61.9	68.5
1831-35 . .	20.6	164.4	1876-80 . .	128.3	14.2
1836-40 . .	14.6	76.2	1881-6 Est'd.	1.2	1.6

The rates of seigniorage on coins in France have had a most important bearing upon its monetary policy and the results which have proceeded from it. Before 1679 a heavy seigniorage was imposed on the coinage of money. In 1679 the coinage was made gratuitous. In 1689, when a re-coinage took place, a seigniorage was reinstated, and this together with other charges on coinage amounted to about 6 per cent ad valorem; in 1726 these charges were about $6\frac{1}{3}$ per cent.; in 1771 the seigniorage was lowered to about 3 per cent.; in 1785 the seigniorage on gold was $2\frac{1}{2}$, and on silver $1\frac{1}{8}$ per cent., besides other charges; on October 7, 1793, the seigniorage was fixed at 1 per cent. for silver, and $\frac{1}{3}$ of 1 per cent. for gold; on November 28, 1795, seigniorage was abolished and gold and silver were coined gratuitously, and without limit. By the Act of 1803, seigniorage or *retinue* was imposed at 9 francs per kilo. for gold, and 3 francs for silver; in 1835, 6 francs for gold,

¹ A. Foville—Bulletin de Statistique, Ministère des Finances, Paris, March, 1885.

and 2 francs for silver; in 1854, 6.70 francs for gold, and 1.50 francs for silver. At the present time this rate for gold remains unaltered, while that for silver was rendered inoperative by the suspension of "free" silver coinage in 1877. Adding loss of interest on the gold awaiting coinage, the practical mint charge for gold at the present time varies from $\frac{1}{4}$ to about $\frac{3}{4}$ of 1 per cent.¹

It will be observed that on more than one occasion France imposed a heavier ad valorem seigniorage on gold than on silver. This is contrary to the usual practice of nations. At the rates imposed in 1854 it cost 6,700 francs to convert a metrical ton of fine gold, and 1,500 francs to convert a metrical ton of fine silver into coins, without counting interest.

In order to show the important bearing of the seigniorage laws, it will be necessary in this place to consider the circumstances which surrounded the enactment of the English law of gratuitous and unlimited coinage.

The law of 1666 was merely intended to put a stop to that abuse of the prerogative of seigniorage in England which of necessity belongs to every State, but which Charles II., like other kings both in England and France, had subverted to the basest of private purposes. Nevertheless, the promoters of the Act greatly over-reached their object. They disturbed other affairs, and influenced the legislation of other countries and ages: they founded a politico-economical school, and, in doing so, they laid beneath their edifice of freedom a foundation so rotten that unless plucked out in time, it will eventually bring the edifice to the ground.²

¹ Tate's "Cambist," and Rep. Royal Com. Int. Coinage, 1868, pp. xi., 146, &c. The instance from Gaudin's report of 1802, adduced by Mr. Horton (p. 716) to prove that the ratio was not disturbed in France from 1726 until about 1785, does not establish a hegemony of the ratio for France during that period, because until 1785 the seigniorage was heavy enough to prevent an international exchange of metals except under extraordinary circumstances.

² "The solution of monetary questions is to be sought rather in the results of experience, which rarely deceives, than in doctrines the logic

In dealing with a commodity so easily and inexpensively transported as bullion, the Act of 1666 became at the time a law not only to England, but also to those countries between which and England the freight and insurance on gold and silver was not enough to deter those metals from being sent to England for conversion into money. Hence it became a law to France. In other words, after the passage of this Act France deemed it inexpedient to maintain a seigniorage on coins. She found it difficult to preserve that distinction between coins and bullion which was necessary to render the former a more or less definite measure of value. This was a progressive age for France, and she required constant supplies of bullion to maintain the equity of her monetary measure. For fear that the new supplies from America might be diverted by the attraction of gratuitous coinage in England, France felt impelled, in 1679, to follow the example of her neighbour, and open her mints to the gratuitous and unlimited coinage of bullion. After trying this system for ten years, and observing that not even gratuitous coinage enabled England to increase her stock of the precious metals, France abandoned it in 1689, and the prerogative of the State over the coinage was resumed. Another reason that facilitated the abandonment of gratuitous coinage in France is alluded to in the debates of the English House of Commons of December, 1717; for the Act had been followed in England by the same bad result that had followed it in France—a difference in the legal and market ratios of value between gold and silver. In England the difficulty was temporarily remedied, January 27, 1718, by forbidding the exportation and melting down of coins, a remedy of no little efficacy in a small and insular country; but on account of the extent and nature of her frontiers, impracticable in France.

In the course of the following century the seigniorage of which, however sound it may be, is subject to defects of interpretation and application, which often bring serious errors in their train." (Gaudin. French Minister of Finance, Report of 1802.)

system was so much abused by the kings of France, that one of the first measures of the revolution re-enacted the English revolutionary mint law of 1666. The decree of the Council of State, dated September 20, 1789; the decree of the National Assembly, of October 6, 1789; the royal proclamations of October 12, and November 25, 1789; the decrees of the National Assembly, of May 19 and 21, and July 11, 1791; and those of the National Convention, of October 7, 1793, February 14, 1794, and August 15, 1795; the resolution of the Council of Elders of November 28, 1795, and finally a law of the Consulate of the 7th Germinal, year XI., or March 27, 1803, established unlimited, but not always nor entirely gratuitous, coinage.

The influence of Napoleon's plunder of Europe upon the monetary systems of the world has hitherto been strangely overlooked by historians. Not only did that conqueror despoil the various countries of the Continent of their stocks of the precious metals which he sent to France for coinage into money (thus relieving that country from the difficulties which its abuse of the assignat system had brought about), his invasion of Spain led to the revolution in Spanish America, and this to the closure of the mines and the stoppage of the principal metallic supplies to Europe.¹

Owing to these circumstances France obtained during the Restoration so much control over the stock of the precious metals in Europe, that had other circumstances been favourable, she might have enhanced the value of silver, and for ever disposed of some of the most vexatious questions that arise out of the employment of the two precious metals for money. But the opportunity was not favourable for any radical change. The country had passed through too many changes already, and the men of this age were more concerned to undo them than to add to them. The Restoration had been effected through the combined power of other nations, and such a project as a

¹ "Hist. Prec. Met.," 145.

material alteration in the value of silver would have aroused their strenuous opposition. In short, France was coining the metals which Napoleon's old veterans warily brought forth from hiding-places and deposited in the mint, not for herself, but for that Europe from which she had despoiled them. Accordingly they were coined strictly in conformity with the laws of surrounding nations, namely, at the Spanish mint ratio of 1775,¹ and at so low a rate of seigniorage or *retinue* that it nearly and practically conformed to the English gratuitous coinage Act of 1666.² With respect to withdrawing all limit to the coinage, it followed that Act strictly.

It was perhaps not altogether without apprehension that France would take advantage of this unique opportunity, which prompted Lord Liverpool to advise that when coin payments were resumed in England they should be entirely and definitely of gold.³

Although the adoption of paper moneys in the despoiled countries served to maintain prices until the slower operations of commerce had redistributed Napoleon's spoils, yet France continued, during a period when the scarcity of gold and silver was most severely felt elsewhere, to maintain such a hold upon these metals that the banking systems

¹ "The relative value of the two metals ought to be regulated with reference to the ratios established in neighbouring countries." (Gaudin, 1802, in his Report upon the proposed Act of 1803.)

² Under the Act as at present administered there is charged in London about $\frac{1}{2}$ of 1 per cent. to convert fine gold into coins. In Australia the charges are somewhat higher.

³ The money of England consisted of silver coins with gold adjuncts up to 1717, when it was made theoretically to consist of both gold and silver, but practically only of gold coins, until 1774, when the full legal tender function of silver coins was suspended. From 1797 to 1821 it consisted of inconvertible Bank of England notes. The Letter of Lord Liverpool to the King was published in 1808, and its principle of "gold monometallism" incorporated in the Act of 1816. A digest of all the various laws bearing on this subject will be found in my "Minute on the Money of Great Britain," printed in the Appendix to the Report of the Monetary Commission of 1876, vol. i., p. 96.

and the common use of paper money which had become a necessity to other countries were not introduced there to the same extent. In 1848, with a population scarcely one-fourth more and a commerce much less, than that of the United Kingdom, France possessed double its stock of gold and silver coins; and this disproportion has since been more than fully maintained.

The control of France over the ratio had continually diminished, and was fully extinguished by the termination of the Spanish-American revolution, or rather, when the metallic supplies to Europe were fully resumed, about 1850. When California was opened, had it suited the purposes of England or the United States to entirely destroy it, this might have been done with the greatest ease. France had no mines that could produce the precious metals at their current equivalent in services and commodities, and no commerce competent to attract important supplies of them from other countries. The retention of her control over the ratio after Napoleon's plunder had once passed through her mints was due to the circumstances of other nations. Spain was asleep. The Spanish-American States, who produced silver, and whose interests were in favour of a low ratio, had been long disturbed by political convulsions, the effects of which upon the mines were not even approximately overcome until 1844, and not fully so until 1850.¹ The United States of America, who produced gold, and whose interests would have been in favour of a high ratio, were profoundly indifferent on the subject. Until 1857 their money consisted almost entirely of bank notes and Spanish silver coins, and even afterwards comprised but a comparatively small proportion of coins of any kind.² Holland, whose interests

¹ "Hist. Precious Metals," p. 177.

² Previous to 1857 Spanish silver coins were full legal tenders in the United States, and they monopolized that small portion of the circulation not occupied by bank notes. This is the reason why so few American silver dollars were coined. This significant fact is unfairly ignored in most recent controversies on the subject.

on the subject had lost some of their old importance, was divided like England between her home and colonial systems of money. England, while presenting the appearance of a "monometallic" State, was really a "bimetallic" one, who, while she refused to coin silver on private account in London, accepted all that was offered to her mints in Bombay or Madras. Austria and Russia had suspended coin payments; and Germany and Italy were still divided into a number of petty principalities with no monetary policies and comparatively little money.

Owing to these circumstances the hegemony of the ratio which France exercised during this period was quite adventitious, and her power over the distribution of the gold obtained by other nations in California and Australia was ridiculously exaggerated by M. Chevalier, whose "parachute" was a chimera founded upon two delusive theories, viz., first, that since the era of paper notes prices are susceptible of being affected to any important extent by the vicissitudes of mining; and second, that the relative quantities of the precious metals determine their relative value.

The precarious control which France exercised over the ratio at intervals during the present century is evinced by the triviality of the circumstance which originally undermined it. This was not the war of 1870, as is commonly supposed. The unity of Germany and the recoinage of 1871-3 did indeed precipitate the fall of "the 15½," but it was not the origin of it. This was due, oddly enough, to the cause that had so long rendered it effective, namely, the plunder of Continental Europe by Napoleon.

After having plundered Belgium, Switzerland, and Italy of their stocks of the precious metals, that hero filled those countries with paper francs (assignats). When afterwards the assignats were got rid of, the francs remained: in other words, those countries adopted the French franc or Italian "lira" as their integer of accounts. By the Federal law of May 7, 1850, Switzerland decreed that the French franc should supersede the Swiss franc in all her cantons. This

gave rise to a common money in the two countries, a result which doctrinaires have pleaded for, but which statesmen have been careful to avoid. No sooner had it become the custom to pay French coins in Switzerland, than the last-named country lowered the standard of her small silver coins to .800 fine, and during several years large numbers of these were exchanged across the border for French coins which were of the same weight and denomination, but .900 fine.¹ To stop this abuse, the French Treasury issued a circular, dated April 14, 1864, prohibiting its public offices from receiving Swiss coins, and on May 25, 1864, it lowered the standard of its own 50 and 20 centime silver pieces to .835 fine, and ordered 30 million francs of these coins to be struck. Their legal tender between individuals was limited to 50 francs, a provision that was nullified by the undertaking of the Government to exchange them for full legal tender coins.² Upon this, as M. Fould puts it, Belgium suggested "the utility of a treaty between 'the four States' whose monetary system rests on a numeration by francs," and this led to the Conference of November 20, and the treaty (Latin Monetary Union) of December 23, 1865.

This treaty originally comprised France, Belgium, Switzerland, and Italy, and took effect August 1, 1866. In 1866 the States of the Church joined the Union; in 1867 Greece and Roumania. In 1874, 1875, and 1876 the treaty was modified by limiting the coinages of full legal tender silver pieces, and in 1877 by entirely suspending such coinages. In 1878 and 1885 the treaty of 1865 was renewed. The essential features of this treaty were: 1. The unification of gold and silver coins in weight, fineness (.900 fine), denomination, and form. 2. The gold coins and the 5-franc silver coins were to be coined without limit, and to be full legal tenders. 3. The silver coins of lower denominations than 5 francs were to be coined of proportional weight, but

¹ Report of Achille Fould to the Emperor of France, April 14, 1866.

² Rep. Int. Mon. Com., 1878, p. 782.

only .835 fine. A limit of coinage for these pieces was fixed for each State. Their legal tender was limited to 50 francs between individuals, and 100 francs to public banks, but the nation coining them should receive them at par; a nugatory provision. 4. Subject to the exceptions mentioned, all the coins were to be full legal tenders in all the States of the Union, unless when worn or defaced.¹

It does not appear upon the surface that France in 1864 had any intention of changing her money to gold coins. So far as appearances go, the convention and treaty were entered into solely because the Government weakly supposed that it would "satisfy the requirements of commerce" to promote "a community of money" in Belgium, Switzerland, Italy and France.² But the transaction did not end here. When the "international" delegates got together they discussed money in all its bearings, that is to say, in all those bearings which the unseen Act of 1666 permitted them to observe, and it was inevitable that they should come to the conclusion that money should be made of one metal, and that that one should be gold.³ It apparently required all the efforts of the French delegates to prevent the conference from declaring itself in favour of this doctrine at once.⁴

But though foiled in 1865, the Act of 1666 was bound to assert itself in the end, for nothing is so inexorable as the

¹ The coins found in the public offices of France have been examined and classified on several occasions since this treaty went into operation, with the view of obtaining some basis for determining what proportion were coined by the various States of the Union. The latest operation of this kind took place in 1885, when it was found that 10½ per cent. of the gold and 28 per cent. of the silver was foreign. As the sum examined was relatively very small, only 17 million francs gold and 1½ million francs silver, the examination only shows, by a remote analogy, what proportions of French and foreign coins were in the entire circulation.

² Achille Fould, Rep. Com., 1878, p. 785.

³ Achille Fould, Rep. 785. In 1862 the author fell into the same error, and published a work on the subject entitled, "Gold Money and Paper Money."

⁴ Achille Fould.

logic that proceeds from a false premiss. Unlimited private coinage for nothing, or at brassage, means one metal, and that one metal means the dearer one, on account of the higher *ad valorem* cost of (not the charge for) coining the cheaper one.¹ Accordingly, when the "international" delegates met again (June 17, 1867), although the convention was called ostensibly only to unify the coinages, it discussed the entire monetary question, and, as the natural result of a discussion which omitted all reference to the history and operation of the Act of 1666, carried a resolution in favour of gold "monometallism."

As the purposes for which this convention was called and the principal resolution it came to have been questioned by high authority,² it is deemed necessary to quote the words of the invitation and the resolution.

In his official letter inviting the United States to join this conference the French minister at Washington, M. Berthelemy, wrote to the American Foreign Minister, Mr. Seward, January 4, 1867, as follows:—

"These measures" (the Latin Union of 1865) "had a sole object, that of putting an end to the disappearance (exportation or melting) of fractional silver. . . . It is now desired to see this Union more extended, and the establishment of a general money among all civilized States . . . in order to arrive at monetary uniformity."

The Convention of 1867, at its third sitting, June 20, debated the following resolution:

"Is this result (monetary uniformity) attainable (only) on the basis and condition of adopting the exclusive gold

¹ Said Calonne, in 1785: "An enlightened policy, meditating upon the experience of the past and the probabilities of the future, announced that gold would continue to acquire constantly, and by steady gradations, a marked enhancement of value as compared with silver." M. Cernuschi, in 1877, pointed out that the difference between the *ad valorem* cost of coining gold and silver was connected with the increasing value of the former metal, but failed to follow the consequences of this phenomenon to the logical conclusion so tersely expressed by Calonne.

² Rep. U. S. Mon. Com. 1876, p. 64.

standard, leaving each State at liberty to temporarily retain its silver?" With the exception of the Netherlands, the vote on this question was unanimously in the affirmative.

President Magnin, in his address to the International Monetary Conference of 1881, said "The Conference of 1867 had for its object to inaugurate uniformity of coinage."

Vice-President de Parieu, in describing the result of the Conference of 1867, said, in his report of July 6th: "With a unanimity the more remarkable, since no preliminary consonance of opinion had been either looked for or foreseen (he appears to have been unaware of the Act of 1666, or unconscious that the "questionnaire" had all been prepared beforehand), your Conference, although it comprised among the twenty States represented, only two in which gold is the standard money, has reached the conclusion that a basis for the monetary unification of the future is only to be sought in the gold standard, with silver if need be, as a temporary adjunct." Moreover, this understanding of the result was precisely what the American and French delegates reported to their respective Governments.

Said Mr. Ruggles, in his letter to the American Foreign Minister, Mr. Fish, April 8, 1870: "The plan of international coinage finally adopted by the Conference with only one dissenting voice, embraces a single monetary standard exclusively of gold, .900 fine."

On October, 20, 1868, a commercial convention was held in Berlin, at which were represented 119 German cities. The subject of money was discussed, and resulted in the adoption of a resolution in favour of gold "monometallism" as follows:—

Res. 3. "Monetary unity and at the same time such a general monetary reform as befits the age, can be brought about by the simultaneous adoption by all the German States of the single standard, with full application of the decimal system, in pursuance of the principles recommended by the International Monetary Conference at Paris in its report of July 6, 1867."

With regard to its adoption in these countries, the foreign policy of America has always been influenced by the advice of Washington in his Farewell Address, and it has refrained as much as possible from entering into foreign combinations. Hence the recommendations of its delegate to this convention were entirely unheeded by Congress, and the "gold standard," so far as it was brought about at all, was blundered into "unintentionally."¹

In Germany the case was different. The resolution of the Berlin Convention of 1868, clearly shows that "gold monometallism" had become a settled conviction in monetary thought, and only awaited a favourable opportunity to develop into action. This opportunity occurred sooner than was perhaps expected. The military events of 1870 led to the consolidation of the German empire April 16, 1871, and on December 4, 1871, an Act was passed which provisionally established the "double standard" at 15 $\frac{1}{2}$, stopped the coinage of legal tender silver, without demonetizing or retiring the coins already in circulation, ordered a coinage of gold pieces, and made provision without setting a time, for the withdrawal of the outstanding silver legal tender coins, whenever the Chancellor of the empire should see fit. By an Act passed July 9, 1873, definite provision was made for the establishment of the "gold standard," however, not without leaving open the door to the renewal of the "double standard," should such a policy be deemed expedient. This was done by permitting the "thaler" silver coins to remain in circulation as full legal tenders. The monetary system thus adopted by

¹ Such is the mild judgment of the monetary commission of 1876. It states that the Act of February 12, 1873, demonetizing silver was "not read except by title;" that President Grant, who signed it, "had no knowledge of what it really accomplished in relation to the demonetization of silver," as is evinced by his letter of October 3, 1873; and that the measure was only completed by an obscure provision of law enacted in 1874, upon a careless and erroneous assurance from the committee on Revision of the Statutes. Report of the United States Monetary Commission of 1876, pp. 89-90.

Germany was facilitated by the payment of the French war indemnity.

According to a treaty accepted by the National Assembly March 1, 1871, and signed at Frankfort May 10, 1871, Germany was to be paid five milliards of francs as an indemnity for her expenses and losses by the Franco-Prussian war. In round figures this amounts to £200,000,000. On August 5, 1874, M. Léon Say gave to the French legislature an account of the manner in which the payment was made. Following this eminent authority it appears that the treaty provided for the following payments by France:—

	<i>Francs.</i>
Thirty days after the establishment of order in Paris	500,000,000
During the year 1871	1,000,000,000
May 1, 1872	500,000,000
March 2, 1874	3,000,000,000
	<hr style="border-top: 1px solid black;"/>
	5,000,000,000
	<hr style="border-top: 3px double black;"/>

On the 3rd of March of each year the French Government was to pay interest on the last three milliards at the rate of 5 per cent. per annum. In these payments the silver thaler was rated at $3\frac{3}{4}$ francs, and the silver florin at 2.15 francs. If remitted in bills of exchange the sums were to be reckoned at the usual "course" for the day. No payment was to be "effective" until converted into its metallic equivalent at Berlin. No advance or delayed payments were to be made. It was further agreed that the German Government should allow 325,000,000 francs for the Alsace-Lorraine railways and 200,000,000 francs for damage done to the city of Paris. At the final settlement of these vast payments, the total sum appeared to be 5,862,807,290 francs, and the average equivalents were as follows: The thaler, 3.7910; the pound sterling, 25.4943; the marc banco, 1.9089; the Belgian franc, 1.0061; the Dutch

florin, 2.1509; the Frankfort florin, 2.1637; and the reichsmark, 1.2528 francs. The quantity of metallic money transferred from France to Germany by the Government of France was as follows:—

	<i>Francs.</i>
Gold	273,003,058.10
Silver	239,291,875.75
	<hr/>
Total	512,294,933.85
	<hr/> <hr/>

The balance of the various payments consisted of bills of exchange drawn against commercial credits of Frenchmen in foreign countries, and against bills of exchange on foreign countries received for subscriptions to French governmental loans newly issued for the purpose. It further consisted of German and other foreign stocks, and German and other foreign bank notes and credits held by Frenchmen, all of which came into the possession of the French Government as subscriptions for the loans organized for the purpose.

In effect, out of the total payments of about £234,512,292, about £20,491,797 were paid in coins, and the balance in the form of a charge or annuity on the French Government, represented by Government stocks or rentes.

Although M. Say's account furnishes the details, by coins, of the sum of 512,000,000 francs paid by the French Government to Germany in metallic money, it does not furnish the details of the transmission of this sum by dates; so that herein, as well as with regard to the German official import and export account, which is defective, the movement of the precious metals into and out of Germany between December 4, 1871, and the date of the payment of the last instalment of the French indemnity, in 1874, is left in doubt.

From other sources, however, an approximate estimate may be made. We know that the German mint melted down for its own coinages £33,880,000 worth of French napoleons. It is also known, says M. Léon Say, that the

Bank of England bought nearly £8,000,000 of the same sort of coins between 1870 and 1873. Here, therefore, we can trace the passage out of France since the war, and previous to 1874, of nearly £42,000,000 of her gold. But as Germany drew from London £1,680,000 of the napoleons which she put into her furnace, it may be that the sum was included in the £8,000,000 of the Bank of England, and is therefore counted twice. For this reason the amount really sent to Germany and England may be roundly put at £40,000,000, and this is the sum which, according to M. Say, represents the effective loss of gold which France had to support after the war. Of this sum the Government exported to Berlin £10,920,000 and the remaining £29,080,000 were carried out by private firms, for transmission to Berlin and for various other purposes.

Besides this, the French Government sent to Berlin £9,572,000 in silver; on the other hand, between 1870 and 1873, France imported from Germany at least £12,160,000 worth of silver, showing that she got back all of the £9,572,000 in silver transmitted by the Government, and at least £2,600,000 in addition. Therefore, so far as France is concerned, the transaction of the Indemnity in actual metal resulted as follows:—

	France lost.	France gained.
Gold	£40,000,000	None.
Silver	None	£2,600,000.

And so far as Germany is concerned, it resulted as follows:—

	Germany lost.	Germany gained.
Gold	None	£33,540,000.
Silver	£2,600,000	None.

Whether the £2,600,000 worth of silver lost by Germany and gained by France is to be taken as part of the silver considered to have been thrown on the market by Germany in pursuance of her change of monetary policy, or not, cannot be determined with certainty. It probably was.

That it was the inevitable tendency of the Act of 1666,

checked in its operation, but not eradicated by the redistribution of Napoleon's plunder, and precipitated, but not caused by the German mint laws of 1871-3, which led to gold mono-metallism, is proved by two leading series of observations: (I.) The actual cessation, since 1666,¹ of the concurrent circulation of gold and silver in England and France whenever a difference of ratio rendered it profitable to melt or export metal; and (II.) The course of economical thought on the subject. In dealing with these subjects it will be profitable also to consider, (III.) The contrast between the recent demonetization of silver, and all previous ones. (IV.) The means by which it has been proposed to be undone, and (V.) What appears to be a more efficacious means of accomplishing that result.

(I.) When the law of 1666 was enacted, the principal metallic supplies of the world were of silver. Spain obtained annually about £2,440,000 silver, and £560,000 gold from America; Holland about £150,000 silver and £75,000 gold from Japan, besides a larger amount of gold from the East Indies; Portugal £200,000 gold from Brazil, and the other nations but little metal from original sources: total about £3,000,000 silver, and £1,000,000 gold. The principal metallic supplies and coinages of England were of silver. The coinage ratios and conditions at that period were, in Spain, 15.00, and high seigniorage; France, 15.10, and high seigniorage; England, 13.35, and high seigniorage; the Low Countries, 12.50, and low seigniorage; and Upper Germany and Milan, 12 for 1; so that if the precious metals had been open to gratuitous coinage, or even to low

¹ No exchanges of gold for silver money, or of silver for gold money of native or domestic fabrication appear to have occurred between the various States of Europe previous to the practical renunciation of seigniorage in Holland (where Sir Thomas Gresham lived and obtained his experience, and from whose monetary vicissitudes he deduced his so-called law of the precious metals), and its subsequent entire renunciation in England; and none have since occurred, except in countries where gratuitous and unlimited coinage, or low seigniorage and unlimited coinage prevailed.

seigniorage in England, there would have ensued an exchange of silver for gold, not from Spain and France to England, but from England to Holland and Germany. But no such exchange is to be discerned in the annals of the time. No sooner, however, was the Act of 1666 established, than an exchange at once began. The silver coins of England were shipped to Holland, and there exchanged for gold. In the former country small change became alarmingly scarce. The King (Charles II.) issued tin farthings; innumerable private persons coined copper ones. The silver coins were clipped, punched, and sweated, and in less than twenty years after the passage of this mischievous Act, private bank notes had to be authorized to relieve the distress which it had occasioned. Even these, being emitted in exchange for clipped coins, and required to be paid in full weighted ones, were forced to be dishonoured, and the Bank of England which had only started in 1684, suspended payment in 1696. Mr. Macaulay has painted the evils of this period with a masterly hand, but he entirely failed to point out their significance to posterity when he omitted to state that they were caused by the Act of 1666.

“In England a considerable rise in the value of gold, as compared with silver, in the reign of James I., led to the general exportation of the gold coins. To obviate the inconvenience which ensued, several royal proclamations were issued raising the value of the gold coins. The gold coins, however, were over-valued in the proclamation of the ninth year of his reign, and this led to the exportation of the silver coins, to the still greater inconvenience of the various dealers. Partly from these causes, and partly from the debased state of the silver coins, the greatest uncertainty as to the value of gold coins prevailed for many years. The guinea, which had been originally struck as a 20*s.* piece, passed successively for 30*s.*, 26*s.*, 22*s.*, and 21*s.* 6*d.* At last, an end was put to these mischievous fluctuations by a re-coining of the silver, and by fixing the

value of the guinea at 21*s.* The proclamation by which this was done was issued in the year 1717, and the effect of it has been practically to establish gold from that time forwards as the single standard of value in England.”¹

Similar results occurred in France after the enactment of gratuitous coinage in 1679. In that year the coinage ratios were, in France, 15.00, England, 14.50, and Holland, 12.50; and the silver coins of France went where the silver coins of England had gone, to Holland, in exchange for the gold of Japan and the Indian Archipelago. The concurrent circulation of the two metals was disturbed, the silver coins were clipped and sweated, silver change became scarce, and, to prevent the mischief from proceeding too far, the Act was obliged to be suspended in 1689, when a re-coinage took place, and the former high rate of seigniorage was resumed.

When the lowering of the seigniorage partially revived the Act—that is to say, during the reigns of Louis XV. and Louis XVI.—further exchanges of metals occurred. In the last-named reign gold was shipped to Spain in exchange for silver dollars. Even to melt louis d’ors in Paris afforded a profit of 3 per cent., for, as Calonne shows, there was that much difference between the market and the legal price of the metal. The French Monetary Commission of 1790, at the head of which was Noel F. M. A. Desrotours, reported that “within the past few years England has imported from Asia into Europe more than 200 million livres in gold.” This gold was obtained from the natives of East India at from 7 to 12 times, and sold partly in England and partly in France at 15½ to 15½ times its weight in silver. Accordingly the French Coinage Committee of 1790 passed the following resolution:—

“Whereas the gold coinage of 1785 has raised the value of louis d’ors beyond their worth in the markets of Europe,

¹ Rep. Royal Com., 1868.

and this has caused damaging speculations and the extraction of silver money from this kingdom.”

Under the influence of this movement the silver coins were at a premium in gold ones. In point of fact, France exchanged a portion of her silver for Indian gold, and for a time the former bore a premium in her own markets.

After the reopening of the Spanish-American mines it became profitable to melt and export gold from France, and during several years, notably from 1829 to 1846, that metal bore an actual premium varying from $\frac{1}{4}$ of 1 to nearly $1\frac{1}{2}$ per cent. over silver.¹ In 1841 the “double standard” at 15 was restored in India, and a few years later another exchange of metals took place. The mint ratio in France was $15\frac{1}{2}$ and the mint price 15.62;² while the mint ratio in India was 15. It therefore became profitable to ship silver to India in exchange for gold, and in 1848 this movement actually took place, although I am not aware that it caused silver to bear a premium in Paris. In 1852 the “double standard” was abolished in India, and the movement ceased.

When coin payments were resumed by Turkey in 1845, she coined gold and silver at the ratio of 15.08, and this

¹ The premium on gold in 1829 or 1830 was $\frac{1}{4}$ of 1 per cent. (Report of Mr. John White to the Secretary of the U.S. Treasury, dated Baltimore, February 15, 1830, printed in Rep. Int. Mon. Com., 1878, p. 655.) Mr. Giffen, in a series of tables read before a meeting of the Institute of Bankers, May 19, 1886, claimed that gold bore a premium in Paris in every year between 1820 and 1847: but, as was shown by Messrs. Schmidt, Montagu, and others at the same meeting, these tables are defective. They are made up from the London rate of exchange on Paris, and of course omit brokerage, shipping charges, freight, insurance, mint charges, interest, and the other items which constitute the difference between a ratio deduced from the rate of exchange abroad and one which results from actual coinage at home.

² The relative quantities of metal in the gold and silver coins of the same denomination was 1 to $15\frac{1}{2}$, but this ratio was not what the respective depositors of these metals in the mints got back in coins. The latter was, before 1835, 1 to 15.69, and afterwards 1 to 15.62. (Rep. Int. Mon. Com., 1878, p. 686.)

promoted an exchange of metals with France. The movement of silver to Turkey was concealed by the coinage of counterfeit Turkish dollars in England, and arrested by the stoppage of this illicit traffic and the suspension of coin payments in Turkey.

When in 1862 a second and somewhat more lasting resumption of coin payments took place in Turkey, another movement of silver took place from France, where it was coined at 15.5, to Turkey, where it was coined at 15.08. On account of the forgeries of Turkish silver dollars, both in England and Greece, the actual export movement of bullion from France is not shown by the statistical accounts, but this movement is possibly indicated in M. Fould's report of April 14, 1866, where he says that during late years almost all the old 5-franc pieces have been exported or melted down, and replaced by gold coins, and that the reappearance of silver at the mints, though often announced, has not yet been realized. These circumstances bespeak a premium on silver in gold at the ratio of $15\frac{1}{2}$, and therefore the breaking down of that ratio.¹

II. The lapse of time was scarcely more than sufficient to conceal the origin of the Act of 1666, when the doctrine arose that money ought to be made of one metal, and not of two. Lowndes, Vaughan, Locke, Harris, and others, whose works on the subject have never been excelled for clearness of reasoning, took especial pains to point out that one metal, and not two—to wit, silver, and not gold, was the money metal par excellence of England. These writers did not perceive that the greater cost of coining the cheaper metal would eventually render the dearer metal the pre-

¹ In 1830, and for some years previous to 1850, gold coins were at a premium; between 1855 and 1865 silver coins were at a premium; and after 1870 gold coins were again at a premium. (Rep. Int. Mon. Com., 1878, pp. 657, 716, 782-3.) It must be borne in mind while examining the conflicting evidence on this subject, that the Bank of France often held enormous quantities of coins of the cheaper metal in reserve long enough to restore its value. This metal was not "in circulation."

ferable one. This was a discovery to be made by Desrotours, and to be used by Lord Liverpool.¹ Between 1810 and 1849 both gold and silver were so scarce that it would have been impolitic to urge the demonetization of either, but no sooner was California opened than the literary movement continued. De Quincey published an elaborate collation of the miners' accounts, current at that time, from which he arrived at the conclusion that the annual out-turn of gold would soon reach £70,000,000! On the basis of these extravagant expectations, the Governments of Europe were invoked by Chevalier and others to prevent the anticipated depreciation in the value of money, or, in other words, the anticipated rise in general prices, by the demonetization of gold. Said the latter ("Fall of Gold," 1856-7):—

"The quantity of gold annually thrown on the general market approaches, in round numbers, a milliard of francs (£40,000,000). Those two countries (California and Australia) must, for a long series of years yet, produce gold in such quantities and on such conditions as to render a marked decline in its value inevitable. It is absolutely certain that so vast a production should be accompanied with a great reduction in value. In no direction can a new outlet be seen sufficiently large to absorb the extraordinary product of gold which we are now witnessing, so as to prevent a fall in its value. Therefore, unless we possess a very robust faith in the immobility of human affairs, we must regard the fall in the value of gold as an event for which we should prepare without loss of time."

This literary movement was next taken up by Dr. Soetbeer, and finally, through these various instrumentalities, it found expression in the so-called monetary conventions, which were merely gatherings of *savans*, with neither powers nor responsibilities, who met in Paris and Berlin between the years 1865 and 1868.

¹ "Gold is the metal most convenient and least expensive to export." Desrotours, 1790.

III. So long as there continued to remain several important States who employed silver coins for money, others gold coins, and still others both gold and silver ones, the only inconvenience or loss which arose from the exchange of metals to which different ratios gave rise, was the cost of carriage to and fro, and the cost of recoinages. Each one of the principal States was employed in gratuitously refabricating the coins of the others; and to such an extent was this senseless practice carried, that their united coinages amounted to several times as much as all the gold and silver which was added to the monetary stock. In other words, every ton of bullion which the mines contributed to the mints passed successively through the mints of all the principal countries of the world. The exchange of metals was costly, but it was not of vital importance; it did not affect the whole quantity of money. But since 1870, the case is different. Germany, France, Italy, the United States, and several less important States have suspended the "free" coinage of full legal tender silver pieces, and there is no longer any country to which silver can be exported in exchange for gold, unless at a loss of value which is already considerable, and threatens to be irrecoverable. The measure of value in each State, so far as it consists of coins, has been diminished by the demonetization of silver, and threatens to be still further diminished by the increasing difficulty of obtaining new supplies of gold. The result has been a fall of prices and depression of trade.

IV. Prominent among the remedies which have hitherto been offered to avert a continuance of these evils, is an international agreement to remonetize silver, at a common ratio of value to gold. But, for several reasons, such a remedy is objectionable. In the first place, it is not at all certain that another gathering of irresponsible *savans* will not end as all the previous ones have ended, that is to say, in recommending "gold monometallism." Indeed, so inexcusable is logic, that, unless the delegates to such a con-

ference are prepared beforehand by a course of study on the history and operation of the Act of 1666, it is tolerably safe to predict that they will come to precisely the same conclusion as their predecessors. However, assuming that the next international conference recognizes the importance of retaining silver coins for full legal tender money, and recommends a common ratio of value between silver and gold coins for all nations, the adoption of such a ratio would be objectionable on the ground that it would bind the contracting nations in a matter in which it is essential to the maintenance of their respective autonomies that they should always be free.¹ Secondly, the constitutions of some States render it doubtful if they possess the legal power to enter into such a contract. Finally, there can be no assurance that the treaty would not be broken, upon the first happening of war, or indeed upon any occasion when the real or pretended exigencies of the State would render such a course advantageous.

V. The experience of France from 1679 to 1689 and the necessity which has already compelled France, Germany, and the United States to suspend or terminate the unlimited coinage of silver, point to the only certain and efficacious remedy for the great monetary problem which confronts the progressive States of the world: and that is, to also suspend or terminate the unlimited coinage of gold. After two centuries of political convulsions and unnecessary wars,

¹ "Any system of money that is common to several countries is a vicious one, in that it subjects the entire internal business of each of them to all the disasters originating in the political or financial mismanagement of the Government, or in the political disturbances, follies, misfortunes, or reckless speculations of the inhabitants, of any one or all the others." Rep. U. S. Mon. Com., 1876, p. 45. Von Scholz, the eminent German financier, said (January 22, 1886), that it would constitute an act of treason to sign away the independence of a State in reference to money. (London "Times," February, 1886.) See letter of John G. Fichte to the Government of Prussia, on the necessity of a distinctive money to progressive nations, cited in the author's "Science of Money," p. 47, n. The Int. Conf. of 1878 came to a similar conclusion. See the Report of 1881, p. 9.

many of which had their origin one way or another in commercial crises due to unregulated and mischievous monetary systems, it is evident that only the State can establish an equitable measure of value, and that the attempt made through the Act of 1666 to deprive it of this function has ended in the wildest confusion of monetary doctrine and practice. The abuse of kingly power which prompted the Act of 1666 has long since ceased. The practice of suddenly increasing money by debasing or degrading the coins and that of deriving private emolument from high seigniorages imposed upon their refabrication, only prevailed so long as the coining power and the State were not identical; it ceased with the downfall of absolute monarchy and the establishment of constitutional governments. There will be no future Philip le Bel in France, nor Charles II. in England.

Moreover, the efficacy of the Act, in the respect of preventing a sudden increase of money, expired nearly half a century ago. In the time of Charles II. unlimited coinage, while it invited such an increase of money as the mines, or commerce, or plunder afforded, entirely prevented that sudden and mischievous increase which it was always in the power of the king to effect by proclamation. It can do so no longer. The prerogative of money has been resumed, not indeed by the king, but by a power mightier than kings. It is wielded by the State. In the seventeenth century money consisted almost entirely of gold and silver coins, and the only way in which the measure of value could be suddenly and mischievously enhanced was by means of arbitrarily raising the nominal value of metallic money. This result can now be brought about and it has been on several occasions brought about as suddenly and mischievously by means of paper money. Against the effects of this mighty engine the Act of 1666 is no safeguard at all. So far as the mutual rights of property and labour are determined by the supply of money—and this has probably much more to do with them than any other human

institution—they are no longer susceptible of being protected by the scales and crucible. It is the law alone that can protect them, and therefore it is the law that must now be regulated and not the scales and crucible.

The influence of a slowly rising currency in promoting the halcyon age of Louis XIV.; of a slowly falling one in bringing into relief those social ulcers which led to the Revolution; and of a limitless one in intensifying the excesses of the Reign of Terror, have already been dwelt upon in former chapters.

Upon the fall of the assignat system, that is to say, in 1797, the coined money of France was estimated by Montveran to have equalled about 2,080 million livres. From this period, according to Desrotours, it increased to 2,290 million livres or francs in 1801, and according to Mollien, to 2,300 millions in 1806. At this juncture the notes of the Bank of France began to form so important and increasing a proportion of the currency that, in order to obtain a clear view of its mutations, it becomes necessary to arrange the estimates in tabular form. Amidst the conflict of evidence on this subject, the writer has selected those estimates which have been made by the most careful and responsible authors: ¹—

Table Showing the Money of France at Various Periods since the Revolution. Sums in Millions of Francs.

YEAR.	COINS.	PAPER.	TOTAL.	AUTHORITIES FOR COIN ESTIMATES.
1801	2290	30	2320	Desrotours.
1806	2300	65	2365	Mollien.
1814	2100	25	2125	Count Storch.
1830	2615	225	2840	Montveran.
1833	2625	215	2840	Woodbury and Marshall.
1837	2850	204	3054	Moreau de Jonnés.
1847	2500	240	2740	Ch. Deputies, Ap. 13, 1847, and Fould.
1848	2000	368	2368	Thiers, Susp. Bk. Fr. until 1849.

¹ Amongst the several careless and irresponsible persons who have made such estimates, and, owing to their official position and the wide circulation given to their reports, by far the most mischievous ones, have been the various Directors of the mints of the United States during the past ten years.

Table—continued.

YEAR.	COINS.	PAPER.	TOTAL.	AUTHORITIES FOR COIN ESTIMATES.
1849	2575	435	3010	Tooke, "Hist. Prices," vi. 80.
1852	2875	670	3545	De Puynode.
1860	3600	750	4350	Charles Moran's "Money."
1864	4000	720	4720	Duc de Morny, "4 to 5 milliards."
1870	3750	1750	5500	Susp. Bk. Fr. until 1877.
1871	3250	2325	5575	Payment of the Indemnity.
1873	4000	2805	6805	Rep. U.S. Bu. Statistics, Sept., 1873.
1876	5000	2550	7550	Cernuschi.
1879	5100	2300	8400	"Hist. Precious Metals," p. 220.
1886	6000	2800	8800	Estimate.

Under the systems of mixed moneys which prevail in France and most other countries at the present time, such estimates are at the best only rudely approximative, and must not be relied upon too closely.

Of the proportion of silver in the circulating coins, it can only be said that Desrotours estimated it for 1801 at about two-thirds; Tooke, for 1849, at about thirty-four thirty-fifths; Roswag, 1852 to 1860, at one-third; Cernuschi and Seyd, for 1876, about one-third; and the United States Monetary Commission for 1876, at about two-fifths. At the present time the proportion is greater.

From the table it will be seen that, whereas before 1848, paper only constituted one-tenth of the currency, it now constitutes one-third. Both this paper and the silver portion of the currency are subject to regulation by the Government. In other words, in 1879, fully four-fifths of the currency of France was subject to Government regulation, and, at the present time, this proportion is greater.

Fixing the attention exclusively upon the whole currency, it appears that it diminished after 1806, until the fall of the first Empire; that, during the Restoration, it increased until the year 1837, perhaps to a later date, when it began to decline, and then brought on that fall of prices and depression of trade which led to the barricades of 1848. Within a few years after this revolution, the Californian and Australian mines were opened, and thenceforth the money of France rapidly increased until 1870, when the Franco-Prussian war

reduced the coins to probably 3,750 millions, leaving a void that was filled by the emission of 1,000 millions additional of inconvertible paper notes. When the payment of the Indemnity, between 1871 and 1873, reduced the coins about 500 millions more, the void was again filled by inconvertible notes, and, owing to the success of this measure, no fall of prices nor interruption to trade took place. The consequence was an influx of bullion so great that the bank resumed coin payments in 1877, and the money of France continued to increase until 1879, when it was estimated at 8,400 millions. Since that date, although several estimates have been made, they are not deemed sufficiently reliable to form the basis of further deductions.

Looking at the subject from the largest point of view, and disregarding all facts or inferences which seem open to question, it will not be disputed that, at least, a very clearly defined synchronism has marked the rise and fall of the Measure of Value, and the advance and retardation of social progress in France. When the causes of this synchronism come to be examined by the historian, they will be found in the relation of money to prices, of prices to trade, of trade to prosperity or adversity, and of these conditions to social progress or decay.

When these truths are established, and a people as discerning and ingenious as the French, have discovered that they may grasp with their own hands, and hold entirely amenable to their own control an institution so powerful for good or mischievous ends as money, it can scarcely be doubted that they will hasten to enshrine it in their laws, where it shall stand, as it was depicted by their own eloquent Mirabeau: "A money dependent neither upon the fertility of the mines, nor upon the avarice nor caprice of their possessors." * * *

"May we witness this happy epoch, and, if an exemplar be needed, let it be the empire of the French!"¹

¹ Mirabeau's address on the "Monetary Constitution," 1790.

CHAPTER XVII.

RUSSIA.

Previous to the Tartar Invasion, money symbols in Russia were made of leather—The Tartars introduce silver coins—The silver system lasts until 1605, when the Emperor Alexis Michaelovitsk establishes a system of overvalued copper coupled with silver coins. Over-issues and counterfeits undermine this system, cause the export of silver, and occasion a popular revolt in Moscow—Abolition of the system and substitution of silver coins—Peter the Great—He changes the system back to that of Alexis—Over-issues and counterfeits of the overvalued copper pieces impair this system as before—Disappearance of silver—Gradual fall of the overvalued copper system to a commodity system—Establishment of a paper system by Elizabeth—This system coupled with silver coins—The copper coins become subsidiary—These coins are afterward reduced in weight and become overvalued—Under Catherine II. they are made heavier, and, the market price of ingot copper having risen, they become undervalued and are exported—Rectification of this error in 1810, and continuance of the combined paper and silver system to the present time.

ALLUSIONS in history to the monetary systems of Russia previous to the middle of the fifteenth century are too meagre and indefinite to warrant any extended commentary. Previous to the reign of Ivan the Great, 1462-1505, the Russia of to-day scarcely existed, and even this monarch, until he succeeded in throwing off their hateful yoke, was but a vassal of the Tartars, compelled to offer them degrading homage.¹ The States which now form the Russian Empire were some of Oriental, others of European origin. Portions of Tartary, Persia, Turkey,

¹ For an account of this servitude consult Coxe's "Travels," i. 409, n.

Sweden, Finland, Germany, and Poland are included in its vast domain. To trace the history of money in these various States until they became merged into the Empire would be a tedious task to the writer and a wearisome entertainment for the reader.

The superb collection of coins and other money symbols belonging to the Russian Government which I enjoyed the privilege of examining, a few years ago, at the Hermitage, in St. Petersburg, is, in one sense, a true epitome of the Russian Empire itself. It is made up from the most incongruous sources, Aboriginal, Tartaric, Ducal and Provincial, and was obtained from various places extending from the eastern shores of Asia to the midst of Europe.

The history of Russia commences with the ninth century, at which period it appears that martens' skins were used as money.¹ This custom was the origin of the use of the word *kung* (marten) as a generic term for money. At a later period, when it was discovered that neither the size nor beauty of the skins preserved their value, but that this depended entirely upon their number, and that the supply failed to keep pace with the growing wants of the nation for money, the use of skins was discontinued in favour of skin-snouts, which were used instead.² Still later, the employment of skin-snouts for money gave way to pieces of skin or "leather, about a square inch in size, which were probably stamped by the government,"³ in order to denote their legitimacy and public and legal function. It is equally probable that their emission was regulated in some rude way, so that their value might not be impaired by illimitable issues or enhanced by scarcity.

If this peculiar system of money is herein correctly out-

¹ Coxe's "Travels," iii., 222-228.

² Even at the present time, when the boundaries of Russia have become vastly enlarged, the entire annual product of martens' skins is only 60,000.

³ Roscher, "Polit. Econ.," i., 352, n. 3, and the various authorities cited.

lined, it bespeaks a much higher state of civilization in Russia than is commonly accorded to her at this period. It should be remembered, however, that Russia during the Middle Ages was confined chiefly to the principality, once the republic of Novgorod, the population of which was noted for its intelligence, enterprise, and commercial spirit. In the early part of the thirteenth century, and presumably at a period when its parchment money system was in full operation, Novgorod was a member of that great Hanseatic League whose fleets swept the coasts and rivers, and whose commerce penetrated to the remotest corners, of Europe. In short, at this period of history, the civilization of Russia was as far in advance of that of Western Europe as afterwards it fell behind.

The parchment system of Russia lasted until the Mongul-Tartar Invasion of 1223, when, except as hereinafter mentioned, it immediately broke down.

The fury and rapacity of the conquerors not only rendered impossible a public system of money, it scarcely permitted any public measures at all. The only government practicable was the capricious will of a despot, and the only money the barbarians would accept was rude lumps of silver and whole skins of the squirrel and beaver, marten skins having become too scarce for this purpose. In Novgorod and Pskow, the old system of parchment numeraries survived longer than elsewhere, because these places had but little commerce with the Monguls; in the rest of the kingdom money consisted of commodities, and of course fluctuated in purchasing power with their demand and supply.

One of the lumps of silver used for money during this era is at present in the coin collection of the Bibliothèque Nationale in Paris. It is somewhat of the shape of a shoe, has no mark upon it, weighs apparently something over two ounces, and is catalogued as a primitive silver "rouble." This may be an anachronism, for as will be seen further on, the term "rouble," as applied to money, appears to be of much later origin than the primitive silver slugs of Russia.

The coördination of skins with silver slugs for money was probably due to the difficulty of procuring enough silver. This is evinced by the promulgation of an interdict against its exportation dated toward the end of the thirteenth century.¹ So long did this scarcity continue, that in 1610, after Potosi had thrown sixty years of its argenti-ferous product into Spain and the rest of Europe, a Russian military chest was captured containing 5,450 roubles of silver and 7,000 roubles of skins.²

Notwithstanding this long-continued use of these rude shifts for money, silver coins were introduced into Russia by the Tartars at an early date after the conquest. The use of these coins, owing to their scarcity, was probably confined to the larger operations of trade, in which to weigh and value slugs of metal would have been unprofitably tedious. Specimens of these coins are in the Hermitage collection. The most ancient exhibit a human figure on horseback wielding a sword, but are mostly stamped with rude representations of animals, as the mouse, ox, tiger, &c. These animals are typical of the year of their issue. Another series of the Tartar coins in this collection contains inscriptions; another has jointly both Tartar and Russian inscriptions; another has Russian inscriptions without dates, and another consists of the coins of the great dukes, beginning with Vassili Demetrovich and ending with Vassili Ivanovitch; the oldest of the last-named series belonging to the year 1424. Another series consists of coins of the princes of the blood who held independent principalities; another consists of the coins of the towns which possessed the right of coinage, as Novgorod, Moscow, &c., the first-named being the most ancient; and another series consists of imperial coins from the czar Ivan Vassilievitch II. to Peter the Great. The first gold piece was made in the reign of Ivan. The first silver rouble was coined by Alexis

¹ Sartorius, cited in Roscher, ii., 444, n. 5.

² Karamsin, xi., 183, cited in Roscher, i., 353, n. 3.

Michaelovitch, father of Peter the Great. Another class of coins in this collection consists of pieces coined by Peter the Great and his successors, and another of foreign coins ; those of Oriental countries being exceedingly numerous and of great interest to the numismatist.

In 1655, the Czar Alexis determined upon an entire reform of the monetary system. The use of skins for money had ceased, except in the remote districts of the north, or among the Kirghises and other tribes of the steppes,¹ and the circulation of Russia consisted substantially of metal slugs and coins. But here was precisely where difficulty occurred. These pieces of metals were being exchanged for their ingot value, and this—from sudden plentifulness in Western Europe and increasing scarcity in Eastern Europe (for the Mercantile System was now in full operation)—was rapidly falling in Spain, France and England, and steadily rising in Poland and Russia. Once a piece of silver found its way out of Russia, it never came back again. The nascent foreign commerce of the country was paralysed. Prices ruled so much lower in Russia than elsewhere that she could not afford to buy the manufactures of Western Europe with silver. She could not pay in agricultural products, as now, because at that time there was no commerce in this class of merchandise : each nation raised its own articles of subsistence. She had no manufactures to pay with, and the silver which she had obtained by conquest or gathered painfully from the mines² was almost gone. Domestic commerce, of infinitely more importance to Russia, was greatly depressed. Her stock of silver coins, and consequently prices expressed in them, were steadily falling. The condition of the empire was

¹ The Kirghises used horses, sheep, wolf-skins, and lamb-skins for money. Pallas, i. 390. The Tartars used cows. Haxthausen, ii. 371, cited in Roscher.

² The mines of Petchova were discovered in 1491 ; those of Olkusz, near Cracow, in Upper Poland, at a later date. The product of both of these was small.

daily growing worse. It was evident that a reform in the system of money must precede all other reforms, and had this reform been projected upon an intelligent basis, Russia, instead of lingering in the rear of Europe, might, with a single bound, have passed to the front. Unfortunately for the interests of that great Empire, such was not the case.

The system established by Alexis consisted of highly overvalued copper coins. To work successfully, this system should have excluded the use of all other money, the emissions should have been specifically and prudently limited, the coins should have been so artistically made and the system so carefully guarded, as to have prevented the fabrication or restricted the introduction of counterfeits. But all these safeguards were neglected. The use of silver coins was permitted; the emissions of copper coins were constantly increased, and the coins were so poorly made and the police supervision was so defective, that counterfeiting ensued upon an immense scale. Some of the overvalued coppers of Alexis were coined the same in size, not in weight, as the silver poltinik or half-rouble of the same period, and were ordered to pass current as unlimited tenders at the same value; others were coined of smaller denominations, the five-copek pieces being the most common. So long as the emissions were kept within small limits, this value was sustained; but in 1658, either from over-issues or counterfeiting,¹ they began to fall below the value of the silver pieces for which the law made them equivalents. The following table shows the course of their depreciation:—

1655-58—100	silver	units	were	worth	100	copper.
1658—100	”	”	”	”	101	”
1659—100	”	”	”	”	104	”
1661—100	”	”	”	”	200	”
1662—100	”	”	”	”	300@900	”
1663—100	”	”	”	”	1500	”

¹ Mr. Bungé says “hastened by counterfeiting.”

In 1663¹ the depreciation became so rapid that the tradesmen of Moscow, which was then the capital and chief commercial city of Russia, refused to accept the copper coins at their legal value, and upon being forced to do so, they broke into revolt. This revolt was suppressed by bloody means, but nevertheless silver coins were hoarded and exported, until the government, perceiving the impolicy of its course, took measures to prevent further counterfeiting, and ceased, for a time, to increase the emissions of copper coins. The result was that the latter remained fixed at their last-named mark of depreciation, and at this rate continued in use. But later on this fixity was frequently disturbed by new emissions, and these created so much further discontent as to induce a sudden and violent contraction of the emissions by the government.

During the progress of this contraction, and whilst its mischievous effects were most severely felt, Peter the Great ascended the throne.

The contraction went on until the copper coins were brought to par in silver,² and the state was again exposed to the operation of a monetary system whose symbols were composed of a commodity (silver) not entirely subject to the control of the government. Silver was now very scarce in Russia; there were no native mines of any account,³ and the supplies from abroad—chiefly from America and Japan viâ Spain and England or Holland—were uncertain and fitful.

Again did trade languish, again did the cries of public

¹ "Russia," by Karamsin, et al. i. 221, says 1662.

² Harris, ii. 123, says that in 1675 there was "no base money in Russia." He means that the copper coins were no longer overvalued. Count Storch says the overvalued copper coins were "suppressed," but they do not appear to have been any further suppressed than are the "greenbacks" of the United States at the present day (1886).

³ Besides the sources already alluded to, some little silver and gold were obtained from Siberia. Coxe, iii. 341. About 360 English pounds weight of gold was also imported yearly from China. "Universal Hist., Modern," xxxi. 288.

distress menace the peace of the empire and the security of the throne, and again was it perceived that a reform was urgently needed in the system of money. It was quite evident that Russia could not, as against the wealthier and more commercial states of Western and Southern Europe, command a sufficient supply of the precious metals to maintain prices. On the other hand, to permit prices to fall to the low and fitful level to which they would have been consigned by relying upon the limited and uncertain supplies of silver derivable from foreign commerce, would have been to reduce the people to beggary and unjustly involve them in debt. Paper notes had indeed been introduced into Sweden; but a vast proportion of the heterogeneous races who now composed the mass of the population of Russia could not read, and it would have been impracticable to employ notes for money in that country. There remained only the resource of overvalued copper coins, and this was now to be employed again, coupled, unfortunately, with the same defects that had led to its overthrow before. Experiment had proved that a mixed system of money would not permanently reform the bad condition of trade; but it had also proved that it would alleviate it for a time; and, in the absence of knowing the right thing to do, a palliative was better than no cure at all.

This palliative was adopted by Peter the Great in 1704, a few years after his return to Russia from England and Denmark. The mixed copper and silver system of Alexis had yielded to its own defects and the clamour of the Muscovites. It was quite extinct, and a system of silver coins at their commodity value had usurped its place; but the defects of a commodity system of money, though of an entirely different character from those of an unregulated issue of overvalued and mixed pieces, are no less unfavourable to trade and social progress, and in this instance they soon brought the silver system into as much disrepute as its predecessor. The arrival of a consignment of silver metal from Bremen, Hamburg, or Holland, at once sent

up the prices of other commodities; the announcement of war, by its threat to interrupt the imports of silver, at once sent them down; the opening or closing of a mine, the use of plate in the arts, the passage of coins into and out of the coffers of the Empire,—all these and numerous other circumstances affected the purchasing power of silver, by producing sudden and unexpected fluctuations in the prices of other commodities. The scarcity of silver led also to irregularities in the coinage. The silver coins of Alexis were ordered to be made of the same standard as the lion dollars of Holland, but in point of fact many of them were of much baser metal.¹ These fluctuations and irregularities produced great discontent, and it was in order to allay this feeling, as well to provide a currency which should free the operations of the state from the trammels of a monetary system that was subject too much to foreign control, that Peter established his system of overvalued copper coins.

The history of the new system is much the same as the old. The emissions were not regulated, nor were there sufficient safeguards against counterfeiting. Silver coins were allowed to circulate side by side with the overvalued copper ones,² and whilst full "course," or legal tender function, was accorded to the former, "no one is obliged to receive the latter in payment, except such as are in the service of the Crown."³ In other words, the overvalued copper coins were legal tender only to and from the government.

A writer of this period, Ivan Possoschkow, who proclaimed that the value of the copper coins was due to the

¹ John Locke (1691) gave the fineness of Dutch lion dollars at .745,833, the gross weight at 426½, and the net weight at 318.098 grains. Isaac Newton (1717) gave the fineness at .741,666, the gross weight at 422, and the net weight at 313 grains. The fineness of the Russian coins was very irregular.

² "Peter I., wanting silver for the new coinage, issued out a decree that the customs should be paid in Dutch dollars; at present half the duties are still discharged in that money." Coxe, iii. 341.

³ "Univers. Hist.," Modern, xxxi. 288.

denominational stamp of the government upon them, is cited with great approbation by a distinguished modern advocate of what is termed "fiat money."¹ Now, in point of fact there is not, and never was, any such thing in existence as what is meant by fiat money, and both Possoschkow and his commentator are mistaken. The value of a piece of money, whether it be made of gold, silver, brass, paper, or any other substance, no matter what it cost to produce, and no matter what the stamp or mark upon it may be, whether such mark promises anything or nothing, or whether it is made by government or not, depends (inversely) upon the number of such pieces in use, or liable to come into use, as money. The mark of authority serves, indeed, to distinguish what is money from what is not; but neither does this mark nor the mark of denomination confer any value upon it, this being regulated entirely by Number. And the proof is this: that if the number is kept constant, the mark of denomination may be changed without at all affecting the value; while, on the contrary, though the mark of denomination be kept constant, if the number is changed the value will at once begin to conform, in inverse proportion, to the latter.

Although only a limited course was accorded by law to the copper coins of Peter the Great, yet, in point of fact, they soon circulated as freely as though they had been made full legal tenders. The pieces were roubles, halves and quarters, twenty of the former being coined from a pood of copper, the latter being of proportionate weight. As a pood of copper metal, in Moscow, at that period, could be bought for five silver roubles,² it follows that the copper coins were overvalued four times; in other words, the copper in a copper rouble was only worth 25 per cent. of the value of the silver in a silver rouble. As will be seen further on, this value, through changes in the weights

¹ Dana Horton, in "Proceedings International Monetary Conf." of 1881, p. 496.

² Storch says 5; the "Univers. Hist." says 7 roubles per pood.

of the coins and other changes in the value of the metals, varied during a century between 15 and 115 per cent. The first issues of copper roubles did not exceed 10,000 a year; and in 1705, although these coins had but a limited course, they could be exchanged for silver roubles upon paying a premium of 2 per cent.¹ The subsequent issues, however, were upon a far more extensive scale, and when to these were added vast numbers of counterfeit coins, their value declined so far below that of the silver roubles, that the latter were no longer used as money, and were hoarded, melted, or exported.

To meet this difficulty, Peter in vain reduced the silver rouble to one-half its previous weight. In 1718 copper pieces to the legal value of 40 silver roubles were coined from a pound of copper, and this rate continued throughout the reigns of Catherine I. and Peter II., when, according to Count Storch, their over-valuation, as compared with the then market price of copper, amounted to six and two-thirds times.

Not only were the copper coins counterfeited in Russia, they were counterfeited abroad. Says Storch: "We learn from the memoirs of Count Munnich that besides the four millions' worth of copper money coined in the Empire, there was six millions worth of it imported from foreign countries. For this amount of counterfeit money, the foreigners had bought silver and other Russian commodities, at a profit of 566 per cent., Russia being by these means impoverished and deprived of silver."² This circumstance (the presence of vast numbers of counterfeits) could not fail to lessen the value of copper money; and while it fell to nearer its metallic value, all commodities became dearer. The people felt the effects of this, and the government, obliged to receive this money at its nominal value, and only able to employ it in purchases at its metallic value, soon experienced a marked decrease in its revenues.

¹ "Univers. Hist." Modern, xxxi. 288.

² This is an exaggeration, because this relation of price was caused by and followed the introduction of, the counterfeit coins.

“So many calamities at last opened the eyes of the administration, and in 1735 the Empress Anne caused new money to be coined at the rate of 10 roubles to the pood. This money was only overvalued $53\frac{4}{5}$ per cent. The metallic value of the copper rouble was 65 copeks; however, as the previous money continued in circulation, the latter was still used wherewith to buy silver coins, which in this way disappeared as soon as emitted from the coining press.

“After many unsuccessful schemes had been tried, during a period of ten years, to get rid of the copper money, it was decided to demonetize it; which expedient was resorted to by three steps, to wit, in 1744, in 1745 and 1746, so that all pieces of 5 copeks were successively reduced to the nominal value of 4, 3, and 2 copeks.

“This operation, ordered by the Empress Elizabeth, was done at the expense of the government, at a loss of $78\frac{1}{3}$ per cent. on the entire value of the money.

“The reduction of this money (to its metallic value) caused new trouble. Four millions of it had been reduced to a million and a half, silver pieces had disappeared,¹ the want of small coins was felt throughout the Empire, and the weight of the new money made it still more inconvenient for circulation than the old. Although these drawbacks were fully perceived by the government, and although it was difficult to procure the necessary quantity of copper for the new coinage, still the idea of replacing it by silver pieces did not occur to them; on the contrary, they desired solely to reduce the copper coins to their commodity value.

“In 1755 two-copek pieces were withdrawn from circulation, and an attempt was made to coin new copper money

¹ The coupling of silver coins stamped at their metallic value with copper coins at a high over-valuation was a fatal defect of the system, and the disappearance of silver was natural and inevitable, yet somebody had to bear the blame for it; and the Empress found a scapegoat in the unfortunate Jews, all of whom were expelled from Russia. Montesquieu, “*Esprit des Lois*.”

at the rate of eight roubles to the pood. This money was too good, because the current price of copper in bars, being the same as the rate of the money, the cost of fabrication fell upon the government, causing them an important loss and a very needless one, from the fact that copper money was only used to represent silver in those purchases where silver could not be so used.

“But this good money did not last long.¹ War having broken out in Russia, it was decided to give to copper money a nominal value twice that of its commercial value. Consequently, from the year 1757, copper money was coined at the rate of 16 roubles to the pood.

“This new system had, however, scarcely lasted five years, when (in 1762) Peter III. ordered that the monetary value of copper coins should be doubled, and caused to be added to the large pieces in circulation others still larger, valued at ten copeks.

“Happily this system had not time to be used. Catherine II. immediately upon ascending the throne, re-established the proportion fixed by Elizabeth.

“Thus, with the exception of the years 1762 and 1763, the rate of 16 roubles to the pood was maintained from the year 1757 to 1810, *i.e.*, 53 years.”

From this account it will be observed that the system of Peter the Great lasted more than half a century—that is to say, until the reign of Elizabeth in 1755, when the contraction begun by Anne in 1735 was completed, and the copper coins were brought to their commodity value.

Although unsuccessful in establishing a permanent system of money, it can hardly be said that the copper systems of Alexis and Peter were without beneficial results. The depreciation of the coins during the reigns of Alexis, Peter I., Catherine I., and Peter II. had the effect to quicken trade, equalize wealth, and promote the industrial and social development of the Empire. It levelled the

¹ This was an “ingot” money, and it lasted during one year, viz., 1755-6.—“Hist. Money, Ancient,” p. 199.

power of the boyars, drew the people nearer to the Crown, cemented its influence, and augmented that middle class which in an aristocratic state has always been regarded as the surest support of the throne.

The causes of the failure of these systems lie upon the surface: the issues were not specific, they were not limited, and they were not sufficiently secured against counterfeiting. Add to these that the copper coins were coupled with silver ones, whose issues, whether from the Imperial mint or from counterfeiting, were similarly unspecific, unlimited, and beyond control of the government; and the fall of the mixed systems became inevitable.

In 1762 Peter III. ascended the throne, and during his reign of a few months decreed two important changes in the monetary system. He reduced the silver rouble to $277\frac{1}{2}$ grains Troy, and doubled the nominal value of the outstanding copper coins. After Peter had been deposed by his wife, who reigned as Catherine II., the reduction of the silver rouble was allowed to stand, but Peter's revolutionary decree with reference to the copper coins was wisely repealed, so that it had no practical effect.

One of the first measures of Catherine's administration was the establishment of a new system of overvalued money—like its predecessors, unspecific, unlimited, and unwittingly placed beyond the control of the government by its inclusion of non-overvalued coins. It differed from the others, however, in a single respect; the new pieces of money were made of paper instead of copper, and were thus not only more convenient to handle, but also less liable to be counterfeited.

By means of two banks, afterwards united in one—the Bank of Assignats—an emission of twenty million roubles of paper notes was commenced in 1768, and, in point of fact, kept limited to this amount for twenty years.¹ These

¹ When in 1768 Catherine II. introduced paper money into Russia, the people gladly paid $\frac{1}{4}$ of 1 per cent. premium to the state treasury for it. (Brückner, in Hildebrand's "Jahrbücher," 1863, 49.) According to

notes were irredeemable, and the rouble mentioned in them had no necessary relation to coins of the same name except as to obligations and contracts in force at the time of their emission. As these obligations and contracts were in copper roubles, the paper roubles passed for copper ones until 1817, when the latter having been substantially withdrawn from circulation and silver roubles issued in their stead, the paper roubles were declared "redeemable," and they were thereupon redeemed to a certain extent in silver roubles.

In this respect they resembled the American greenbacks of 1862, which, though at first irredeemable, were made redeemable in gold or silver dollars by the Act of 1869, and, practically, in gold dollars alone by the surreptitious mint law of 1873, as modified by an equally surreptitious section of the Revised Statutes of 1874, and were actually commenced to be redeemed in the last-named dollars or their equivalents in 1878.

Before the paper notes of Catherine came to be made "redeemable," certain other events occurred in the monetary history of Russia which deserve to be mentioned.

The paper notes were not only unlimited legal tenders and receivable for taxes and other dues to the government; a certain proportion of the latter were positively required to be paid in them, with the view to retard the retirement of the copper roubles, which retirement, though actively conducted by the government, could not, with prudence, be permitted to take place too rapidly.

As, during the eighteen years mentioned, the emission of paper notes was not increased, whilst that of the old copper coins was always diminished, and as the population and exchanges of the empire continually enlarged, the purchasing power of the former became enhanced.

This condition of affairs was terminated by the addition of Cancrin, ("Öconomie der menschl. Gesellschaften," 116,) private individuals in from four to five months exchanged forty millions of silver roubles for paper ones.

sixty millions assignats¹ to the circulation in 1786, and by various other emissions in subsequent years; so that by the year 1810 the twenty millions of 1768 and the one hundred millions of 1787 had swollen to five hundred and seventy-seven millions.

The currency not only consisted of these 577 million roubles of paper notes, which stood at $43\frac{1}{3}$ per cent. in silver coins of the same denomination, but also of some few millions of roubles in heavy copper coins which stood at $83\frac{1}{3}$ per cent. in silver coins. I say a few millions, because during the years 1802 to 1806 inclusive the price of copper in silver metal had been such that the copper coins were at a premium in silver coins, and a great portion of the outstanding emissions of the former were melted down. This occurrence affords an instructive example to those American theorists of the present day who clamour for what they call putting "a gold dollar's worth of silver in the silver dollar." The result would be that the moment the metallic value of such coins rose to a premium in gold dollars—and this might happen at any moment—the silver dollars would be melted down.

In 1810 the Russian government adopted measures which promised the substitution of silver coins for the assignats, and thus essentially changed their relation to the old copper coins. Customs duties were required to be paid, and "specific contracts" were allowed to be made, in silver coins. In both cases either the silver or its equivalent at the day's market rate, in assignats, could be tendered. These measures degraded the old copper pieces to the function of subsidiary coins. They were no longer full legal tenders; only "tokens." Nevertheless, owing to the low prices which prevailed at that time, and to the multiplicity

¹ Assignat is an anachronism and an otherwise incorrect term in this place. The Russian notes were simply irredeemable. My excuse for using the term "assignat" is that it was used by Storch and numerous other eminent writers on the subject. Greenback, also an anachronism, is a much better term.

of small payments, their function as money was by no means unimportant. Said Count Storch in 1812, "All transactions for less than five roubles are still made, as formerly, with copper coins."

In 1817 the work of paper contraction and silver substitution, miscalled "redemption," actually commenced. The emissions of paper roubles had reached 836,000,000, and their relative value to silver roubles was about one-fourth. In this year the government borrowed silver from foreign countries wherewith to buy up its own assignats. During seven years 241,000,000 were purchased at their market price in silver. In 1821 the emission of assignats was reduced to 640,000,000, and in 1824 to 595,000,000, after which no further reduction took place until 1843.

Meanwhile various efforts were made to encourage the use of non-overvalued silver and gold coins for money, amongst others that of according them in the paper currency of the day, their superior value as commodities. For example, between the years 1830 and 1839, 28 silver or gold roubles were permitted by the government to be paid for 100 paper roubles, a privilege which led the way to the so-called Resumption ukase of the last-named year.

In 1828, during the dearth of new silver occasioned by the Spanish-American revolution, the Russian government conceived the idea of striking pieces of 3 and 6 roubles from platinum, each rouble to weigh 53.16 Troy grains fine. As the silver rouble of the period weighed 277.4 grains fine, and the gold rouble 18.5 grains fine, the ratio of value between these metals, in the coinage, was as follows:—

Platinum	2.8735 to 1 of gold.
Silver	15.0000 to 1 of gold.
Silver	5.2200 to 1 of platinum.

From April, 1828, to May, 1832, the platinum coinage amounted to 698,700 roubles, which, at a nominal value of about three shillings sterling to the rouble, would amount a trifle over £100,000 English money. This coinage was continued until 1837, though the statistics of the last five

years are wanting. It was then abandoned, chiefly, as it is understood, from the appearance of numerous counterfeit platinum coins.¹

On the 1st of July, 1839, an imperial ukase relative to the retirement of the paper assignats was promulgated.² Its provisions were substantially as follows: The measure of value shall henceforth consist of silver roubles, each to count as 1, and of paper roubles, $3\frac{1}{2}$ of which to count as 1. All payments to and from the government may be made in either. The fixed ratio at $3\frac{1}{2}$ is only to operate from 1840; meanwhile it is to be 3.6. All new contracts, both public and private, are to be payable in silver roubles; old contracts in silver or paper, according to the bargain. Gold coins to be received and paid at 3 per cent. premium in silver, e.g., the "Imperial" at 10.30 roubles, and so on in proportion. Copper pieces, both those coined at 24 to the pood (law of 1810) and those at 36 to the pood (query: as to the date of this law between 1810 and 1839, which reduced the weight of the copper rouble to 1.218 pounds Troy) to be retired at the same rate as the assignats, viz., $3\frac{1}{2}$ roubles for 1 of silver. Copper pieces receivable at this rate for taxes to an unlimited amount; for deposit in credit institutions this privilege is limited to the equivalent of 10 silver roubles, viz., 35 roubles of copper.

No addition was made to the emission of assignats, and the above measures met with entire success.

On July 1st, 1840, a convertible paper rouble (silver note) was issued by the government through the Bank of Commerce. In 1841 the coin reserve of this bank rose to 24,000,000 silver roubles; in 1842 to 43,000,000. The proportion of notes to reserve is not stated. Assured, by the floating of the Bank of Commerce notes, that convertible notes could be maintained, at least temporarily, at par in

¹ France had a similar experience with platinum coins during the reign of Louis Philippe.

² This is published at length in Tooke's "Hist. Prices," iv. 454.

silver coins, the government, on November 1st, 1843, attempted, by a further issue of convertible notes based on a coin reserve of one-sixth, to buy up the outstanding assignats, which, under the ukase of 1839, were still a legal tender, at the rate of $3\frac{1}{2}$ roubles assignats to 1 of silver. This second act of resumption continued to operate successfully until 1853.¹ The sum of assignats outstanding in 1843 was 595,000,000 roubles. These, under the act of 1839, were equal to only 170,000,000 roubles in silver.

How much of this sum of 595,000,000 of assignats was supplanted by the convertible notes of the bank (at the ratio of $3\frac{1}{2}$ to 1) is not quite certain. It was probably all of it thus supplanted, or, to use a more convenient term, scaled down or condensed.² Besides the 170,000,000 of condensed assignats (now called "convertible" notes) which it was found would circulate at par with the coins in use, a further issue of 140,000,000 of "convertible" notes was made. All these notes were payable in coins—so long as the "reserve" lasted—at par.

In 1853, upon the eve of the Crimean war, this temporary convertibility of the bank note broke down, and has never since been renewed.

After the "suspension," really the cessation, of coin payments by the bank, silver coins, though they commanded a premium of $2\frac{1}{2}$ to 5 per cent. over notes; continued to circulate upon a par with them until 1854, when the war having broken out, and 333,000,000 roubles of additional paper circulating notes having been authorized, the premium rose to 7 or 8 per cent., and the coins ceased to circulate as money. Despite the express prohibition of the government,³ they were melted down or exported to foreign countries. The new notes were nominally convertible, but the promise was quite gratuitous and useless, for nobody placed the slightest faith in it, and it never conferred any additional value upon the notes. The so-called "reserve"

¹ Tooke, iv. 461. ² Martin's "Year Book," 1877, p. 371.

³ "Hist. Russia," by Walter R. Kelly, ii. 465.

held by the government, beyond the extent to which it was necessary to provide against payments of interest and military and naval expenses abroad, was another useless device. This reserve consisted of 161,300,000 roubles, from which point it fell in 1858 to 141,000,000 roubles.

The increased emissions of money in 1854 led to so much activity in production, and to so much prosperity in every branch of trade, that it more than outweighed the losses and disadvantages occasioned by the war. In the following four years Russia made greater material and social progress than she had made in the preceding forty years. Everybody seemed animated to do his utmost. The peasant raised an extra crop; it was sold in half the usual time, and at more than the usual profit. Exchanges of every kind went on with increasing complexity and rapidity. The poor man emerged from want, and the rich man increased his store, until in an evil hour some ignorant theorist whispered into the imperial ear, and a prudently regulated and highly beneficial system of money was ordered to be changed. Everything else was permitted, as before, to grow in Russia—plants, animals, manufactures, railways, the means of subsistence, population, and exchanges; only money was ordered to remain fixed.

In 1858, notwithstanding the retirement of 60,000,000 roubles of condensed assignats, and 30,000,000 roubles of bank notes (bills of credit), silver rose to a premium of 14 per cent., and the bank even declined to repay special deposits of coins.

In March, 1859, the government offered to repay the special deposits of coins with 4 per cent. rentes, an offer which was not received favourably. In September, 1859, it offered to repay them with 5 per cent. interest-bearing notes, to redeem these in coins at the rate of 1 per cent. per annum, and to lend money on them from time to time to the extent of 90 per cent. of their face value, together with minor advantages.

Out of 725,000,000 roubles, special deposits made by

individuals, 274,000,000 were thus repaid. Besides these, 153,000,000 of special deposits made by institutions subject to government control, were also repaid, the latter with 4 per cent. rentes, the total amount of the repayments being 427,000,000.

In 1860 the Banque de Russie and its branches was established as a state bank. It was authorized to fund 100,000,000 roubles of assignats (query: bank notes, Act of 1843?) into 41-year bonds carrying 4 per cent. interest in coins, and made legal tender at their face value for taxes. After the bank had funded 70,000,000 of the notes in this manner, the operation was stopped by the government because it attracted deposits from the bank.¹

In this year the government borrowed £15,000,000 sterling worth of silver in Hamburg and London, and caused it to be fabricated at Strasburg into subsidiary coins of 20, 15, 10 and 5 copeks each, .500 fine, a proceeding which reduced them, as compared with the old subsidiary coins, about 12 per cent.² In 1861 an effort was made to resume payments partly with these coins. The rate of the redemption at the outset was the market price of the notes in standard silver roubles, and this rate was to be reduced $\frac{1}{2}$ of 1 per cent. each month following, until 1864, when payment was to be resumed at par. At the commencement of the operation the premium on silver coins was 11 per cent. As it went on, silver began to be exported, when the government, in order to avoid the transmission of silver and standard coins from London, where the metal was borrowed, to St. Petersburg and back to London again, whither it was being exported, offered to redeem the notes in bills of exchange on Rothschild. By the 1st of November, 1863, it was perceived that the operation would prove unsuccessful. At this time the metallic reserve of the bank had fallen to 56,500,000 roubles in gold and silver, while the export movement continued. On this date, therefore, the opera-

¹ "Annuaire des Finances Russes," ed. 1871, p. 234, et supra.

² "Br. Parl. Report on Silver," No. 2, p. 87; and Murray's "Hand-Book of Russia," London, 1868, p. 45.

tion was suspended. The paper rouble now stood at $93\frac{1}{2}$, and the depreciation amounted to about $6\frac{1}{2}$ per cent.

In 1864 the circulation of the state bank notes (in addition to these there were some others) amounted to 637, and in 1865 to 651 million roubles. At the last-named date the metallic reserve was only 55,400,000 roubles. In 1867 the bank was authorized to purchase gold and silver with new notes, and this operation, by increasing the emissions, raised the premium on coins to 17 per cent. The silver thus obtained was coined into small pieces debased below the standard of the rouble.¹

These pieces were then paid out for notes. In short, the operation of 1860-3, which consisted of redeeming the paper notes partly with debased silver, was repeated. This feeble stroke of finance was, however, soon abandoned, and in 1869 the emissions of paper notes were again increased, this time to 724,000,000 roubles. In 1873, although 12,000,000 of the new notes were funded into 5 per cent. securities, the emissions amounted to 764,000,000 roubles, with a reserve of 186,600,000 roubles.

In 1876 the note emissions reached 797 millions, and on the 13-25 November of that year the official Gazette promulgated the following regulations:—

1. From January 1, 1877, customs must be paid in gold coins;² or
2. Coupons of the current and last preceding term belonging to Russian coin bonds; or
3. Coupons of the 4 per cent. Imperial Bank coin bonds; or
4. Coupons of the bonds of the Nicolai railroad; or
5. Coupons of the consolidated bonds of Russian railroads; or
6. Such of the above mentioned bonds or notes as have been drawn for redemption; or

¹ "Parl. Rep. on the Depreciation of Silver," 1876, No. 2, p. 87. See also, Appendix to same, p. 6.

² The customs duties for the whole empire amounted to about 55,000,000 roubles per annum. They had, previous to this date, been receivable in notes, the discount on which in silver coins was about 20 per cent.

7. Foreign gold coins ; or
8. Foreign bank notes redeemable in gold coins.
9. The Imperial Bank will receive on deposit any of the above moneys or representatives of moneys ; also gold bars.
10. Also gold orders of the administration of the mines.
11. Also gold drafts on foreign countries.
12. Silver roubles will not be received on deposit at par to a greater amount than 5 roubles 15 copeks.
13. Credit rouble notes will be received on deposit at one-half their face value, but not to exceed 100 roubles, and only up to January 1, 1878.
14. Subsidiary silver and copper coins will not be receivable for over 20 copeks.

These regulations disclose a design to change the material of Russian roubles from silver to gold, a design which, in consequence of the suspension of all coin payments and the remoteness of resumption, has hitherto escaped public attention. This design is not without a strong and practical motive behind it. The interest on the foreign debt of Russia amounts to 60,000,000 roubles a year, and her creditors imagine it to be of great advantage that this interest shall be paid in gold.

It is by no means an insignificant fact that the change from a silver to a "waiting standard" took place in Russia at about the same time that a similar change was engineered in the United States, Japan, and other countries.

By the ukase of 6th November there were issued on the 18-30 of same month 100,000,000 roubles of "bank billets," bearing 5 per cent. interest, and it is probable that these were employed to some extent to reduce the emissions of notes ; for, on January 1, 1877, the latter had fallen to 763 millions. In the following year, however, the emissions were increased to over 1,000 millions.

The following table (after Storch, Vessélovsky and De Clercq,) affords a view of the increase of government paper note emissions since the year 1768:—

Of the total note circulation in 1886 about 80 per cent. was in bank notes, against which the bank held a "reserve," consisting almost entirely of gold coins, amounting to about 25 per cent. of the bank issues.

The most important inductions to be derived from its perusal are: First, unless new gold mines are discovered far richer than were those of California and Australia, or new silver mines more productive than those of Nevada, Colorado, and Montana—for these failed to enable Russia to permanently resume coin payments—the money of that country must continue for an indefinite period to consist of paper notes. By making prodigious efforts, and at the risk of promoting popular distress and inciting grave disorders, Russia might be able to wrest from the Western nations enough of their scant stock and supplies of the precious metals wherewith to establish a system of coined money. But she could not maintain it longer than a few years. The metal would inevitably flow back to the countries whence she had obtained it. The experiment was sufficiently tried in 1843, and failed. It was tried

¹ Bungé says the emission of notes up to 1774 was only 20 million roubles. Bruckner (in Roscher) says the notes commanded a premium of $\frac{1}{4}$ of 1 per cent. over coins. Consult, also, "Les Finances de l'empire de Russie," par P. H. De Clercq, Amsterdam, 1886, 8vo.

² June 25, 1812, Napoleon invaded Russia.

³ Bungé says that in 1817, the value of paper roubles was only 25 per cent., or one-fourth that of coins.

⁴ 1860. Including 70 million notes of the new state bank.

⁵ Wagner, "Russische Papierwährung," p. 74, remarks that in 1866 the value of Russian notes in coins varied between 66 and 84 per cent. As the number of the notes was nearly constant, this proves that the variation was due not to the supplies of notes, but to those of coins. The German war of that year—although Russia was not engaged in it—might also have influenced the value of the notes by threatening additional emissions of them.

⁶ In 1886 the total emissions were 1,046 millions, less 155 millions in the Imperial bank, leaving about 890 millions in actual circulation. The Government has undertaken to reduce the emission at the rate of 50 millions a year, until it falls to 716 millions.

again in 1861, when the suspension of coin payments in the United States had removed out of the way one of Russia's most formidable competitors for the possession of gold and silver, and again it failed. It is hardly worth trying a third time.

Accepting paper money as a finality, it should be the care of Russia to properly regulate it; and this brings us to a consideration of the next induction.

Second, it appears that from about 5 roubles per capita of population in 1850, the currency of Russia has gradually, although irregularly, increased to about 10 roubles per capita at the present time. Had this increase been less rapid, while, at the same time, had it been regulated, Russia would have enjoyed all the prosperity which has fallen to her share without incurring any of the financial difficulties, or witnessing any of the social disturbances that have characterized the past ten years. Governments have yet to learn that the regulation of their monetary systems has much to do with the prosperity, contentment, and peace of their subjects, and that there is no greater disturber of the social order than an ill-regulated money.

Third. The quotations of paper in silver roubles must not be taken to mean that the former have always fluctuated, whilst the latter have remained constant in value. It is simply a ready means of expressing that relation of value between these two objects which is caused sometimes by the fluctuations of one and sometimes by the other. For example, if 100 million roubles in gold money were sent to St. Petersburg to-day, there would ensue a great rise in the quoted value of paper as against metallic roubles; whereas, in point of fact, there would have occurred no change whatever in the purchasing power of paper roubles over other commodities. The actual change would be in the metallic rouble alone, which would fall in value both as to paper roubles and as to commodities generally.

The names of the most typical Russian coins, such as

rouble, grivna, and copek, appear to have been derived from some ancient system of weights used for commodities, and as this system was decimal, it was probably of Tartaric or Chinese origin.¹ There were ten grivnas to a rouble, and ten copeks to a grivna; but it is not to be inferred from this that such was the relative weights of the coins which went by these names. Nor did the rouble, even as a weight, bear a constant relation to the grivna or copek. While in some works it is treated as equal to ten grivnas—about seven Russian pounds—in others it is stated to have only weighed a quarter of a Russian pound. As to the coin or sum of money called the rouble, the weight of the heaviest one known—that is to say, ten silver copeks of the first mintage of Peter the Great—was less than one-eighth of a Russian pound.

The grivna of the twelfth century weighed 4442.17 grains Troy. If the coin copek weighed one-tenth of a grivna, which I consider extremely doubtful, it contained 444.21 grains, or nearly an ounce of fine silver. At the present time, the coin copek is the one-hundredth part of the coin rouble, and, therefore, would contain, if coined in silver, which it is not, only $2\frac{3}{4}$ grains of that metal. So great a degradation as these figures imply is inconceivable in a country like Russia. The facts of the case seem to be that the weight copek had nothing to do with the coin copek, and that the latter, a small silver coin, was the integer of accounts in Russia until the time of Alexis, when the silver rouble of 100 copeks took its place, and the copek was soon thereafter coined of copper.

¹ Rouble is said to imply something chopped off, or, as we might say, a chip or slug. Copek is pretended to be derived from *copie*, a lance, from that of St. George which appears on some of the older coins; but it is evidently of much higher origin. It has also been associated with a Russian word which means to hoard. The name of the weight zolotnik—about 65.8 grains Troy—has been traced by Yeats to the Roman solidus; but I can see no warrant for this beyond a slight similarity of sound.

Table showing the decline of the silver rouble since the time of Alexis. Weights in Troy grains, fine. Values in American silver cents or (approximately) British halfpennies.

Year.	Reign.	Coin.	Weight.	Value.
1700	Peter the Great . . .	Pieces of the Copek	751.33	\$2.024
1700-4	” . . .	” . . .	375.67	1.012
1704-18	” . . .	Rouble . . .	375.67	1.012
1718	” . . .	” . . .	320.14	.862
1724	” . . .	” . . .	312.10	.841
1725	Catherine I. . . .	” . . .	309.90	.835
1727	Peter II. . . .	” . . .	310.00	.835
1734	Anne	” . . .	317.20	.854
1750	Elizabeth	” . . .	321.80	.867
1762	Peter III. and Catherine II.	Rouble . . .	227.50	.747
1780	Catherine II. . . .	Rouble . . .	275.90	.743
1797	Paul (only a few coined)	Rouble . . .	394.86	1.063
1797	” . . .	Rouble . . .	275.90	.743
1799	” . . .	” . . .	280.80	.756
1802	Alexander I. . . .	” . . .	273.00	.735
1805	” . . .	” . . .	278.10	.749
1810	” . . .	” . . .	276.60	.718
1828	Nicholas	” . . .	277.40	.747
1876	Alexander II. . . .	” . . .	277.67	.748

Under the coinage law of 13-25 November, 1876, the silver rouble was limited in function, and the gold rouble of $18\frac{1}{2}$ Troy grains fine took its place as the only unlimited legal tender coin in Russia. Practically this change for the present only concerns the customs duties and interest on the public debt, the real money of the country not consisting of either gold or silver coins, but of paper notes and subsidiary pieces.¹

Under the law of 4-16 January, which came into operation 13th May, 1886, the gold half-imperial was reduced to 89.59 grains fine, and valued at 5, instead of 5.15 roubles, as before. This reduced the gold rouble to 17.92 grains fine, and made the weight ratio between it and the silver rouble as 1: $15\frac{1}{4}$.

¹ Under Section 3564 of the Revised Statutes of the United States, the Director of the Mint is required to deduce, and the Secretary of the Treasury to declare, the rate of exchange between the moneys of foreign countries and that of the United States. In performing this

During the era of the copper roubles—that is to say, from 1704 to 1817—so many changes were made both, as has been seen, in the weight of the silver roubles, and in that of the copper ones, and so much variation occurred in the relative value of copper and silver metal, that the silver rouble value of the metal contained in the copper rouble fluctuated between 85 per cent. discount and 15 per cent. premium, as shown in the following table:—

Table showing—1. The number of copper roubles which were coined out of one pood of raw copper; 2. The market value, in silver roubles of the day, of a pood of raw copper. (It will be borne in mind that the weight of the silver rouble was frequently changed. See preceding table.) 3. The market value, in silver roubles of the day, of the quantity of copper contained in a copper rouble.

Epoch.	1.	2.	3.	Epoch.	1.	2.	3.
		R. cop.	R. cop.			R. cop.	R. cop.
1704-17	20	5.00	.25	1802	16	16.80	105
1718-34	40	6.00	.15	1803	16	18.40	115
1735-51	10	6.50	.65	1804	16	17.65	110 $\frac{1}{4}$
1752-56	8	8.00	1.00	1805	16	17.13	106 $\frac{7}{8}$
1757-61	16	8.00	.50	1806	16	16.06	100 $\frac{3}{8}$
1762	32	8.00	.25	1807	16	14.68 $\frac{1}{2}$	91 $\frac{3}{4}$
1763	25	Copper with gold.		1808	16	12.09 $\frac{1}{2}$	.75 $\frac{3}{5}$
1765	16	8.00	.50	1809	16	10.05	.62 $\frac{3}{4}$
1768		First paper issues.		1810	16	13.33 $\frac{1}{3}$	.83 $\frac{1}{3}$
1775	16	9.90	.61 $\frac{7}{8}$	1811	16	9.30 $\frac{1}{2}$	.38 $\frac{4}{5}$
1785	16	9.80	.61 $\frac{1}{4}$	1812	24	9.01	.37 $\frac{1}{2}$
1795	16	11.30	.70 $\frac{5}{8}$	1813	24	7.60	.31 $\frac{1}{3}$
1800	16	13.75	.86	1814	24	8.10	.33 $\frac{1}{4}$
1801	16	13.92	.87	1817	Copper roubles retired.		

It will be observed from this table that while the copper rouble of 1704-17 was only worth, when melted, one-fourth,

duty, the Director has imagined that Russian roubles were silver coins and American dollars gold ones. The rate of exchange has in this way been erroneously calculated at 64 $\frac{1}{2}$ cents to the rouble; and a wide field opened for reclamations upon the government by importers of duty paid merchandise from Russia. The rates of exchange allowed in the accounts of the Fifth Auditor of the Treasury furnish a strange commentary upon those deduced by the Director of the Mint. See Report International Monetary Conference, 1878, p. 44.

or 25 per cent. of its value when coined, and the copper rouble of 1718-34 only 15 per cent., that of 1755-56 was worth par, and that of 1803, 15 per cent. premium over silver coins. In consequence of this under valuation, which lasted from 1802 to 1806 inclusive, vast numbers of the copper roubles were melted down, an occurrence that had previously happened in China, Ancient Rome, and other countries employing copper coins for money. In 1725 square cast copper roubles were fabricated at Ekaterinsburg, and in 1771 round cast copper roubles at St. Petersburg. Square copeks and half copeks of iron were formerly employed to pay off the gold miners of Olonetz, a district near the White Sea. From 1763 to 1781, about 3,800,000 roubles of copper of unique composition were coined, at the rate of 25 to the pood. This copper contained some gold and silver, which at that period could not be extracted with profit. In 1781 an economical process of extracting the precious metals from the copper was perfected, and this sort of copper was no longer used for coining. The weight and market value of a pood of this copper metal was as follows:—

	Weight, Grains.	Value. R. c.
Copper	250,608.04	7.93
Silver	2,042.16	7.36
Gold	89.80	4.91
	<hr/>	<hr/>
Total, one pood, or	252,740.00	20.20

So that the pieces which went at 25 roubles contained metal that was worth 20 roubles and 20 copeks. The roubles of this class bore the Siberian coat of arms and the legend, "Sibirskaya Moneta." Extant specimens are very rare.

Russia obtained the copper for her extensive coinages of the last century chiefly from Siberia. Copper mining began there during the first quarter of the century, but did not attain important dimensions until 1735. From that year to 1809 inclusive, the product was 9,820,055 poods, of

which 6,146,936 poods were fabricated into coins. The remainder of the coins were made from imported copper. The following table shows the weight of the copper rouble, the number of such roubles coined from time to time, and the total weight of each emission up to the close of the year 1811:—

Epoch.	Roubles coined from a pood.	Number of roubles coined.	Number of poods coined.
1704-54 . . .	Various. . .	7,382,327, say	200,000
1755-56 . . .	8 . . .	¹ 436,806 . . .	54,601
1757-61 . . .	16 . . .	6,846,886 . . .	427,930
1762 . . .	32 . . .	¹ 2,337,075 . . .	73,033
1763-88 . . .	16 . . .	² 54,000,000 . . .	3,375,000
1789-1810 . . .	16 . . .	34,073,084 . . .	2,129,568
1811 . . .	24 . . .	2,310,492 . . .	96,270
		Total . . .	107,386,670, say . . .
			6,356,402

Thus during a century of time 6,356,402 poods—about 100,000 tons—of copper were coined into about 107,000,000 roubles, a portion of the same copper having been used over again in different coinages. Owing to the great weight of the coins, the transportation of large sums of money during this era became a subject of grave concern to the government, and gave rise to several singular customs and arrangements. The high cost of coinage constituted another demerit of this system.

The production of gold and silver in Russia is treated so fully in the author's "History of the Precious Metals," that nothing further is needed in this place on the subject, except a brief allusion to some of the results there shown in detail. The mines of Petchova were discovered in 1491, and Russia for the first time saw silver and copper money the produce of its own territory, coined in its capital.³ In 1665 the royal tithe upon the produce of the mines of Upper

¹ Re-coined in subsequent years.

² During the period 1763-88, Russia also coined 76,000,000 roubles in gold and silver. Hermann, in Roscher, i. 355, n. 4.

³ Karamsin, i. 127.

Poland, near Olkusz, north-west of Cracow, amounted to 1,225 marks of silver and 1,514 pounds of lead.¹ The silver mines of Nershinsk were opened in 1704. In 1800 the annual production of silver in all Russia was 58,150 pounds Troy.²

From 1759 to 1885 the mines of Russia yielded about 90,000 poods of gold and 130,000 poods of silver. From 1826 to 1874 they yielded 809,000,000 roubles worth of both metals, and during the same period exported 560 and imported 463 millions' worth, leaving (if the custom-house accounts can be depended upon) about 710 millions' worth for home consumption in the arts, wear and tear, and stock of coins on hand. In the year 1876 Russia exported $101\frac{1}{2}$ million roubles of gold and imported $4\frac{1}{4}$ millions, losing $97\frac{1}{4}$ millions in one year, or as much as she had lost in the previous forty-eight years.³ This was the year in which she limited the legal tender function of silver coins.

Gold and Silver Coinage of Russia since the year 1700

Epoch.	Gold coins, roubles.	Silver coins, roubles.
1700-1762	2,797,330	61,768,633
1700-1762, if in present coins	3,496,662	77,210,791
1762-96	18,774,690	69,526,548
1796-1801	2,047,347	10,018,471
1801-1811	9,165,193	27,658,068
1812-1865	No data.	No data. ⁴
1866	20,000,000	⁵ 2,800,000
1867	18,000,000	3,000,000
1868	17,000,000	2,800,000
1869	19,900,000	2,800,000
1870	25,600,000	2,900,000
1871	4,500,000	3,500,000

¹ "Fall of Poland," by L. C. Saxton, N. Y., 1852, ii. 240.

² "Phillips on Mining," p. 264. ³ "Com. Rel.," 1877, p. 803.

⁴ £15,000,000 sterling worth of silver coins fabricated in 1861. See supra.

⁵ Since 1861 the subsidiary silver coins of Russia have been only .500 fine.

Table—continued.

Epoch.	Gold coins, roubles.	Silver coins, roubles.
1872	12,300,000	2,700,000
1873	15,200,000	2,900,000
1874	24,800,000	2,800,000
1875	¹ 20,300,000	¹ 2,900,000
1876	67,100,000	10,400,000
1876 to 1883	No data.	No data.
1884	24,900,000	1,600,000
1885	26,800,000	1,300,000

Briefly reviewing the foregoing history, it appears that the first system of money in Russia of which we have any succinct account was the overvalued copper system of Alexis, which was established in 1655 and broke down about 1670. Following this was a silver commodity mixed system, which lasted but little longer, and was succeeded by the overvalued copper system of Peter the Great, which lasted from 1704 until about 1746. This was followed by a copper commodity system, until 1757, when the copper coins were again overvalued by the Empress Elizabeth, who ordered 16 roubles to be coined out of a pood of copper. As copper in ingots was worth at the time but 8 silver roubles the pood, it followed that the new copper coins were overvalued exactly twice. In 1768 these overvalued copper roubles were partly supplemented, partly replaced, by overvalued paper roubles. In 1810 the government began to purchase the paper roubles with silver roubles, at their market value. In 1839 this market value was fixed at 3.6 of the former to 1 of the latter, and in 1840 at 3.5 to 1. In 1840 the government continued these purchases not with silver coins, but with bank notes, which were promised to be paid in silver coins.

From 1843 to 1853 this promise was kept, but in that year standard coin payments were suspended, and though

¹ The figures for 1875 in the Report of the Director of the U. S. Mint for 1879, p. 126, are wrong. See Lord Loftus' despatch in "Rep. Br. Silver Com.," p. 121.

resumed with base coins and for a brief period in 1861, and again in 1864, coin payments were again and again suspended, and in all probability will never be resumed—a result which will, no doubt, be looked upon as a calamity by a narrow and interested class, but which in fact opens to Russia a far more prosperous career than she could hope to fulfil while bound in the trammels of a dwindling metallic system.

CHAPTER XVIII.

AUSTRO-HUNGARY.

Political composition of the Empire—Early moneys of Hungary.—Imperial systems of the eighteenth century—Bank of Vienna—Napoleonic wars—Suspension of coin payments—Immense coinage of copper by the Emperor Francis Joseph—Inconvertible notes—Redemption notes—Their failure—Temporary rise of the Bank notes—New redemption notes of 1811—Anticipations Scheine—National Bank of Austria—Contraction of 1816-26—Vienna Währung—Resumption of coin payments, which continue until 1848—Standard of the coins—Revolution in Vienna and war with Hungary—Suspension—Premium on silver coins annually since 1848—Money of the Empire annually since 1852—Treaties of 1857 and 1867—Weights and fineness of coins—Coinages—Paper the practical money of Austria—Progress of the Empire—Paper worth more than silver money.

THE Austro-Hungarian Empire is composed of many national fragments, the most important of which are Hungary, Austria, Bohemia, Moravia, and Galicia.

Hungary was an assemblage of small states which, toward the close of the tenth century, became established as a kingdom. In the fifteenth century it fell by inheritance to the Hapsburgs of Austria, afterwards was united through a royal marriage to the crown of Poland, and again fell to Austria. The Turks then conquered a considerable part of Hungary, and for 150 years it was divided into three portions, with often-changing limits, under, respectively, the Hapsburgs, the pachas of the Sultan, and the princes of Transylvania. The Turks were driven back during the seventeenth century, and finally expelled in the eighteenth, when Austria resumed its sway over the entire kingdom.

Austria was originally founded by Charlemagne with a

colony of Bavarians. In the tenth century it was a margraviate of the Holy Roman Empire; in the thirteenth it became a duchy; in the fifteenth an archduchy; in the sixteenth a kingdom, and in the nineteenth (August 9, 1804) an Empire. During all this time its area was enlarged. In 1308 Austria contained only 26,534 square miles of territory; in 1804 it contained over 250,000.

Bohemia in the eleventh century was a duchy; in the twelfth century it was a kingdom, and so it remained until the sixteenth century, when it was absorbed by Austria. During the 'Thirty Years' war—1618-48—Bohemia maintained a separate existence; but this was terminated before the conflict ended, and the country again fell under the sway of Austria.

Moravia lost its independence in the eleventh century, and, although it continued a margraviate of the Empire, it was subject, as a fief, to the crown of Bohemia, and shared the political fate of that kingdom when the latter became subjected to Austria.

Poland in the sixth century was a duchy, and in the tenth a kingdom. It was dismembered in 1772, and divided between Russia, Prussia, and Austria, the latter's portion being Galicia and Lodomeria.

To trace the monetary history of Austro-Hungary previous to the eighteenth century would involve an account of the monetary systems of all these various countries, a recital too complicated and lengthy to suit the purposes of this work.

It may, however, be briefly stated in this place that previous to the Roman era the inhabitants of Hungary—a rich agricultural plain surrounded by mountains formerly containing gold placers and still containing narrow veins of both gold and silver—employed, among other moneys, one of baked clay tablets, stamped with appropriate marks;¹ that during the Roman era coins were employed, at first of

¹ Some of these have been found in recent years. S. R. 1876, p. 399.

copper only, afterwards of copper, silver, and gold, chiefly the former; that during the Dark Ages live animals,¹ and at a later period copper and silver coins were employed for money.²

A convenient period for beginning the history of money in Austro-Hungary is the commencement of the eighteenth century. At that time the empire embraced substantially all its present constituent parts except Galicia. The portions of Italy which were governed by Austria are not included in this account. It may here be stated, however, that some of them remained subject to Austria until the Napoleonic wars, some until the unification of Italy, and that some still remain within the limits of the empire.

The Bank of Vienna, originally established in 1703, appears to have been under the jurisdiction of the municipality of Vienna from 1703 or 1705 to 1762, when it fell under that of the imperial government, and was thereupon employed as a medium for the emission of circulating notes.³ Until the period of the Napoleonic wars, this emission was so insignificant as not to materially alter the composition of money throughout the empire, which up to this period may be regarded as having substantially consisted of coins.⁴ In 1793 the emissions of the bank were further increased, notwithstanding which their convertibility appears to have been maintained up to the year 1800, when the emissions having been still further and greatly increased, and an

¹ Cattle fines were imposed in King Stephen's laws, tenth century. Wachsmuth, "Europäische Sittungesch," ii. cited in Roscher.

² The author in 1886 personally inspected many of the mines in the Transylvanian mountains, and formed the opinion that at no period of history could they have furnished a sufficiently steady supply of the precious metals to render safe the permanent use of the latter as the materials of money.

³ Bunge's essay on "Russian Money;" Sumner's "History of American Currency," p. 311.

⁴ Indeed, Dr. Kelly, "Cambist," i. 351, says that the bank did not issue any notes at all until 1793; but herein I think the learned metrologist was mistaken.

efflux of the precious metals having occurred, payment became impracticable, and the bank "suspended." Upon this, the notes were declared legal tender for any amount and for nearly all purposes. The exportation of the precious metals was forbidden, and base coins of small denominations were struck and ordered to pass co-ordinate with the paper notes. However, the purchasing power of the latter soon fell so much lower that the coins rose to a premium in them.

In 1802 Austria was flooded with counterfeit seven-kreutzer pieces. Nevertheless, these pieces were at a premium in paper. In 1807 the government issued copper coins so greatly overvalued as to be on a level with the paper. Hassel estimated their circulation at 80 million florins, or gulden. By the year 1812 the emissions of these coins amounted to 139 millions. Counterfeit paper also made its appearance in great quantities, and, as it was difficult to distinguish it from the genuine, it circulated with it side by side and tended to lower the value of the mass.

The cumulative emissions of genuine notes were as follows :—

Year.	Gulden.	Year.	Gulden.
1796	47,000,000	1806	449,000,000
1800	200,000,000	1811	1,060,000,000

The extent to which counterfeit coins and notes were circulated has not been determined.

In 1810 "redemption" or "anticipation" notes were issued by the Austrian Government and ordered to be exchanged for the over-issued and inconvertible notes of the bank at the rate of one for three. The name of these notes was derived from the expectation that they would be redeemed in coins from the proceeds of certain anticipated revenues. As the "redemption notes" were also inconvertible, the operation did not succeed. But few persons cared to exchange them; there was no advantage in it. At this juncture the bank notes had fallen to five for one

of coins. During the same year they fell to eight, and later to eleven for one of coins.

This great depreciation was not merely due, as has been supposed, to the inconvertibility of the bank notes. History repeatedly assures us that inconvertible notes will keep on a par with coins, and even become more valuable and command a premium in coins, provided the sovereign power of the issuer remains unshaken, provided the number of the notes is specified and limited, provided that the notes are made an unlimited tender for all purposes within the sovereignty, and provided that they are mechanically secured against counterfeiting. All these circumstances were wanting in Austria. On May 3, 1809, Napoleon entered Vienna as a conqueror, and on July 9th of the same year he gained over the Austrians the decisive victory of Wagram. This was a perilous juncture for any kind of paper money, convertible or inconvertible; for the rapid and overwhelming successes of the enemy imperilled all property not susceptible of concealment; they imperilled all existing credits and all contracts. The power of the empire was temporarily impaired, its sovereignty was endangered, its institutions were shaken. But this was not all. The number of the bank-notes outstanding was neither specified nor limited, they were not a legal tender for all purposes, they were not secure against counterfeiting; the volume of money was also swollen by coins of which a great number were base or counterfeit, also by the "redemption" notes. Under these circumstances it is little matter for wonder that the bank notes fell so low in value. To show the influence of political events upon them it need only be stated that when, on the 2nd of April, 1810, Napoleon married Marie Louise and peace was assured, the notes rose to five for one of coin, although no change had occurred in their volume.¹

Under an imperial proclamation which took effect March 15th, 1811, a new series of "redemption notes" was issued

¹ Jacob, p. 393. Roscher, i. 452, n.

at the rate of one for five of the bank notes. The affairs of the Government had greatly improved, and the new notes found a footing where the old ones failed. The new redemptions also differed from the old ones in possessing a less limited power of tender. The new ones were a legal tender for all purposes, except, it is believed, customs duties. The bank notes were declared uncurrent for government revenues and expenditures. As for the old redemptions, they had failed to be generally accepted by the people, and were withdrawn. In addition to these provisions, the debased 30 and 15-kreutzer pieces were revalued at one-fifth of their denominations.¹

In May or June, 1811, the bank notes stood at 10.80 to 16.90 for 1, and the new redemption notes at 2.16 to 3.38 for 1 of silver. Had the government now contracted the outstanding circulation of these notes, they might soon have been brought to par in coins, had such a result been desirable. The government, however, either deemed such an object undesirable, or was not in a position to pursue it successfully. Instead of contracting, it resolved to expand; and some time between 1812 and 1815 a new series of paper notes was issued. During this period (1814) the quantity of copper coins in circulation is estimated by Storch at 27 million florins, and of silver and gold coins in the treasuries at 55 millions.

At the outset only 45 million gulden of the new series of "Anticipations Scheine" or anticipation notes, were issued; but the emissions were secretly increased until they amounted to 416 million gulden. Meanwhile the old issues of paper notes, both bank and government, were funded, scaled, or withdrawn; so that in 1816 the anticipation notes were the only sort of paper money circulating in Austria. The emis-

¹ The fact that the rate of exchange did not rise after this scaling down or condensation of the bank notes is attributed to the suddenness of the operation and want of confidence in the future measures of the government. *Tübinger Zeitschr.* 1763, 1874, cited in Roscher, i. 450, n. 2.

sions now amounted to 638 million gulden, and the value of the notes in standard silver coins of the same denominations was as 1 to 10; in other words, it took 10 gulden in paper to buy 1 in silver.

A further depreciation of the anticipation or redemption notes soon followed. It was evident that the coin revenues were insufficient to redeem them. Alarmed at the complaints of influential classes concerning their inconvertibility, the government took speedy measures to contract the currency. The agency employed for this end was the National Bank of Austria.

This institution was established in 1816, and mainly for the purpose of reducing the emissions of anticipation notes by purchasing them at their market value in standard silver coins. This plan, somewhat modified, was that pursued in England with regard to the bank notes outstanding at the period of resumption in 1821. English writers on money commonly assume that this resumption was effected at par; but the Resumption Act itself assures us that such was not the fact. When a plan of this kind was advocated in the United States with regard to the paper emissions of 1861-5, it was decried as dishonest; nevertheless it has the practical warrant of many powerful nations and the support of many eminent writers.¹

The capital of the new Austrian Bank was fixed at 10 million gulden or florins in silver coins, and the government deposit at the outset amounted to 50 million florins in silver coins. The first step in the resumption process was to demonetize the anticipation notes by declaring them no longer legal tender for certain important purposes. The second step was to buy up these notes at their market value. This operation was performed so precipitately, and the notes were purchased at rates so much above those of the market, as to occasion a run upon the bank and a temporary sus-

¹ See pamphlet of Judge Mason of Iowa, on Resumption, published in 1868, which advocated such a plan.

pension of its operations. Calmness having been restored, and the ratio of exchange between notes and coins having been more considerably fixed, the work of retirement went on until the outstanding anticipation notes were reduced to 181 million florins.

Beside the purchase of the anticipation notes with coins, other means were employed to retire the former. For example, they were purchased with convertible notes issued by the new bank on the strength of its capital, its credit with the government, and its numerous powers and privileges. Anticipation notes were also funded into government bonds, bearing $2\frac{1}{2}$ per cent. interest per annum, payable in silver coins. They were also received at the rate of ten florins for one of silver in subscriptions for the shares of the bank, the dividends upon which were payable in silver coins. Lotteries also played some part in this resumption.¹

These various means proved so effectual that in the year 1824 there were 100 million florins of coins in circulation,² and by the year 1825 or 1826 the anticipation notes rose to $2\frac{1}{2}$ for 1 of silver coins or convertible bank notes, and at this rate the conversion was permanently fixed. The number of anticipation notes outstanding was so far reduced that the government offered, in effect, to retire them all at any time at the rate of $2\frac{1}{2}$ for 1 of coins; and this declaration was regarded as tantamount to a resumption of coin payments. The coins were struck at the rate of $180\frac{1}{2}$ English grains of fine silver to the gulden.

Mr. William Jacob, from whose admirable "History of the Precious Metals" (p. 393) some of these facts are taken, also informs us that at this juncture (1830) gold and silver coins were in circulation, and estimates the total circulation of the empire at 100 million florins in convertible paper and a like sum in coins. That the circulation of Austria at this period was on substantially a "coin basis," as such phrase is commonly understood, there can be no reasonable doubt.

¹ McCulloch's "Gazetteer," i. 234. ² "Finance Report," 1834, p. 616.

Yet Professor Sumner, writing in 1875, informs us that ever since 1762 Austria had been "under the dominion of paper;" that the paper currency of 1810 remains to-day the legal tender money of Austria,¹ and conveys the impression that no resumption of coin payments ever took place in that empire.

There can be no doubt that such resumption did take place, and that Austria paid very dearly for it; because it was urged upon her and adopted at a period when, like the present one, the current supplies of the precious metals were dwindling, inadequate, and susceptible of being monopolized and controlled by combinations of private bankers.

In 1827 the anticipation notes were reduced to 91 million florins; in 1830 they stood at par, *i.e.* at par on the basis of $2\frac{1}{2}$ for 1 of coins; in 1838 they were reduced to 16 million florins, and in 1840 to 10 million florins. In 1838 the convertible bank notes amounted to 140 million florins, and in 1840 they stood at a premium of $\frac{1}{2}$ to 1 per cent. over coins.

The phrase "Wiener Währung," or "Vienna currency," requires explanation. It was employed to designate the anticipation notes at the constant ratio of $2\frac{1}{2}$ for 1 of coins, as provided for by the resumption law of 1825 or 1826. Wiener Währung was sometimes called "Scheingeld," or "representative money," and both the paper money and these names for it remained in use long after resumption was definitely accomplished—that is to say, in the Austrian provinces up to 1848, and in Hungary until some years later, when, except a few notes which were never offered to the government offices, it was all retired.

The standard coins were gulden or florins, of which 24 were coined out of a Vienna mark weight (4,333 English grains) of fine silver; so that each piece contained 11.6935 grams, or $180\frac{1}{2}$ grains, of fine metal. The equivalents of the coins were, 2 florins = 1 convention or species thaler =

¹ "History of American Currency," pp. 311-15.

$1\frac{1}{3}$ Reichsthalers or "rixthalers" = 16 skillings = 40 groschen = 120 kreutzer = 480 pfennige = 960 heller.

Until 1848 the notes of the Bank of Austria continued to be convertible. In that year, and in consequence of the revolution in Vienna, payments were suspended, and soon afterwards the notes were made legal tender throughout Austria and Hungary. Up to the 1st of February, 1848, the notes stood at par in standard silver coins; during the remainder of the month they stood at a slight discount. In June, 1848, the premium on silver coins rose to 17 per cent.; in August it fell to $6\frac{1}{2}$ per cent. In September, after the beginning of the war with Hungary, it rose to 22 per cent., and upon the conclusion of peace, a year later, it fell to 7 per cent. In 1850, owing to the Russian imbroglio, the premium on silver coins rose to 33 per cent.; in 1851 it stood at 30; in 1852 the government issued a new series of paper notes; in 1853 the premium on silver coins fell to 8 per cent.; January, 1854, it rose to 22; later on in the same year, when the Crimean War broke out, and the issue of notes was increased, 39; 1857, 8; November, 1858, it fell to par, and a temporary resumption of coin payments ensued; December, 1858, it rose to $1\frac{1}{8}$; 1859, the war broke out with Italy and France, the bank again suspended payments, and silver coins rose to a premium of 16 to 42; January 31, 1860, 33; September, 1860, 33 to 34; 1861, average for the year $41\frac{1}{4}$, highest 50; 1862, average 28, range 17 to 39. In December, 1862, an abortive act was passed requiring the bank to resume, January 1, 1867. In 1863 the premium was 13.8 per cent.; 1864, 15.7; 1865, 8.3; 1866, war with Prussia, average premium 19.84, range $2\frac{1}{4}$ to 33, new emission of staats-noten authorized; 1867, 24.31; 1868, 14-48; 1869, 21.02; 1870, 21.89; 1871, 20.38; 1872, 9.27. In 1873 the premium on silver coins was 7.82, gold coins 10.92 per cent.; 1874, silver 5.09, gold 11.2; 1875, silver 3.23, gold 16.69; 1876, silver 2.96, gold 25.70; 1886, silver, par, gold 25 per cent.

The charter of the bank requires that its emissions be

yond 200 million florins shall be covered by a metallic reserve, of which one-fourth shall be gold. From May 13, 1873, to October 10, 1874, this requirement was suspended. At the present time it is more than complied with; but such has not always been the case.

The limit to the emission of the assignats or staatsnoten is fixed at 312 million florins, but in addition to this amount notes may be issued in place of certain negotiable mortgages to the extent of 100 million florins, making the whole possible emission 412 million florins. These limits, however, are susceptible of being changed by legislation.

The table on p. 338 shows the bank and state notes outstanding, and the estimated sum of coins, mostly base silver and copper, in circulation, each year since 1852, and is compiled chiefly from official sources.

The coin reserve in bank and treasury was in 1861, 90 million guildens; 1873, 144 millions; 1876, 137 millions (of which 67 were gold); 1879, 185 millions (of which 60, gold); 1883, 221 millions (of which 80, gold); and 1885, 219 millions (of which 81, gold).

Previous to 1753 the Austrian double florin or reichsthaler of the constitution contained 390 grains of pure silver, or 195 grains to the florin. In 1753 the florin was reduced to $180\frac{1}{2}$ grains fine, and in 1858 to $171\frac{1}{2}$ grains, that is to say, to $190\frac{1}{2}$ grains, nine-tenths fine: its present weight.

The ostensible object of the last-named change was to harmonize the weight of the florin with that of certain foreign coins, and this was expected to abate the inconvenience and annoyance of calculating foreign exchanges—an expectation that, it is needless to say, has not been realized. The real object of the change may have been economy in the use of silver metal; at all events, that is the only useful result that has flowed from it. The change was inaugurated by a mint treaty with Prussia and most of the other German States, the exceptions being Denmark (for Holstein, and Lauenburg), Mecklenburg, Hamburg, Lubec, and Bremen, known as the Mint Union, dated

Money of Austro-Hungary.

Year.	Bank Notes.	State Notes.	Total Notes.	Coins.	Grand Total.	Remarks.
1852	192.6	164.9	357.5			1854. Crimean War.
1853	188.3	148.3	336.6			Notes increased.
1854	383.5					1856. Peace.
1855	377.9					1857. German mone-
1856	380.2					tary treaty. Re-
1857	383.5					suspension.
1858	385.0	150.0	535.0			1859. War; suspension;
1859	466.0			None		standard silver coins
1860	462.0			"		rose from par to 40%
1861	475.2			"		premium and fell
1862	430.0	112.9	542.9	"	542.9	back to 20% pre-
1863	397.7	109.8	507.5	"	507.5	mium, all within the
1864	386.4	102.0	488.4	"	488.4	year.
1865	350.4	97.8	448.2	"	448.2	1866. June, war with
1866	316.3	158.3	474.6	"	474.6	Italy.
1867	243.8	270.2	514.0	"	514.0	1867. July 31st, coin
1868	245.7	297.1	542.8	"	542.8	treaty with France.
1869	294.1	305.3	599.4	"	599.4	Sudden increase of
1870	287.8	326.2	614.0	"	614.0	notes and rise of
1871	296.4	361.6	658.0	"	658.0	prices; great indus-
1872	309.1	376.0	685.1	"	685.1	trial activity. First
1873	334.9	367.7	702.6	"	702.6	issue of new notes,
1874	313.8	332.0	645.8	"	645.8	116.6 million florins;
1875	296.1	339.0	635.1	"	635.1	increased by July to
1876	296.3	354.3	650.6	"	650.6	215.3 millions and
1877	280.0	370.0	650.0	10.0	660.0	afterwards to 270.2
1878	277.8	374.2	652.0	25.0	677.0	millions.
1879	295.4	314.6	610.0	25.0	635.0	1873. Decrease of
1880	317.3	322.7	640.0	25.0	665.0	notes; fall of prices;
1881	332.1	327.9	660.0	25.0	685.0	depression of trade.
1882	356.0	329.0	685.0	25.0	710.0	1879. Lowest point of
1883	380.5	351.0	731.5	30.0	761.5	depression.
1884	372.4	347.4	719.8	30.0	749.8	
1885	375.8	354.2	730.0	35.0	765.0	1885. January 1st.

January 24, 1857, according to which 45 Austrian florins were to be coined out of 500 grams, or 7,717 English grains of fine silver. By an Imperial decree of January 27, 1858, these coins were made legal tenders from November 6, 1858, and by decree of April 27, 1858, the following

scale of equivalents was established:—100 florins Convention coins of 1753 = 105 florins “Oesterreiche Währung,” or “Austrian currency” coins of 1857; 100 florins “Wiener Währung” (old anticipation notes) = 42 florins of 1857; 100 florins South German currency = $87\frac{1}{2}$ florins of 1857; 100 lire Austriache (Trieste, Fiume, &c.) currency = 35 florins of 1857; and 100 florins Austro-Polish currency = 25 florins of 1857. Although in 1867 Austria retired from the Convention of January 24, 1857, this scale of equivalents has been adhered to; and pecuniary liabilities incurred specifically in the several kinds of money mentioned have been required to be discharged in conformity with such scale.

By the same treaty of 1857 there were also coined pieces of 1 and 2 thalers, known as “Vereins-münze” or “Convention coins,” which were made legal tender throughout the Union, the thaler having the same contents of fine metal as $1\frac{1}{2}$ Austrian florins, and the double thaler twice as much. Austria ceased to coin these pieces in 1867, and in 1876 the double thalers were retired by Germany, who, however, still circulates the single thalers as 3 marks. Other provisions of this treaty more properly belong to the history of Germany.

The following table, chiefly from official sources, shows the quantity of coins minted in Austro-Hungary during the various periods named:—

Period.	Sums in Millions of Florins.		
	Gold.	Silver.	Copper.
1792-1802 . . .	19 .	249 .	32
1803-1812 . . .	10 .	104 .	139
1813-1822 . . .	24 .	44 .	12
1823-1834 . . .	73 .	70 .	3
1835-1857 . . .	157 .	145 .	4
1858-1867 . . .	69 .	285 .	2
1868-1877 . . .	53 .	138 .	— ¹
1877 . . .	8 .	17 .	2
1878 . . .	5 .	29 .	3
1883 . . .	5 .	14 .	—
1884 . . .	5 .	9 .	1

¹ The copper coinage during the period 1868-77 amounted to only

From this table it will be observed that in the present century, except during the period 1824-48 and the year 1858, when resumption took place, the coinage of gold or silver in Austria has been comparatively small. And it may also be stated that a very considerable portion of the silver coined was either into base pieces, or trade dollars of 361 grains fine, the latter for export to the Orient.¹

Under the treaty with France dated July 31, 1867, and a law of March 9, 1870, Austria struck gold coins of 4 and 8 florins, containing the same quantity of fine gold as French coins of 10 and 20 francs, viz., 44.8 and 89.6 English grains respectively, and by the law of November 6, 1870, these were made legal tenders in Austria for 4.05 and 8.10 silver florins respectively;² but owing to the rise in the value of gold over silver since 1873, these coins actually circulate in France and not in Austria, in which country, except when paid for customs duties, they are bought and sold as bullion. The fact that they were effective legal tenders for sums exceeding those stamped upon them is worthy of attention.

The private or so-called "free" coinage of silver was suspended in 1878, since which date the government has resumed the exercise of its prerogative over the mints.

The mint charges for coining gold and silver in the 306,950 florins. Small paper notes of 10 kreutzers took their place in the circulation. At the present time (1886) sums of 10 and 20 kreutzers are represented by base silver coins, and larger ones by paper notes and standard florin coins.

¹ The trade dollars called variously "Maria Theresas" and "Levantine" were first coined during the last century. Those coined since 1870 bear the imprint of Maria Theresa, and contain 28.064 grams of silver, .833½ fine, equal to 361 English grains fine. Though ten grains lighter than American silver dollars, they were exchanged, at par, in the Orient for American gold dollars.

² Except for the payment of coupons to government bonds, in which case they are only legal tender for the amounts stamped upon the coins. The motive for thus raising their value by proclamation was to make them agree with the standard silver florins at the ratio of 1 gold to 15½ silver. "Rep. International Monetary Conf. of 1878," p. 98.

Austro-Hungarian mints (Vienna and Kremnitz) are as follows:— $\frac{1}{2}$ of 1 per cent. for gold ducats¹ and 8-florin pieces; 1 per cent. for 1 and 2-florin silver pieces; $2\frac{1}{2}$ per cent. for $\frac{1}{2}$ -florin silver pieces, and $1\frac{1}{2}$ per cent. for Maria Theresa (trade) dollars.²

From the foregoing account it will be remarked that the money of Austria has consisted at various times of, substantially, the following symbols:—

- | | |
|-----------------|--|
| 18th
cent. } | Substantially of silver, billon and copper coins. |
| 1800 | 1. Vienna bank notes, made legal tenders and inconvertible.
2. Billon and copper coins. |
| 1810 | 1. Government redemption notes, at the rate of 1 for 3 bank notes.
2. Billon and copper coins, the latter in great numbers |
| 1811 | 1. New redemptions, 1 for 5 bank notes.
2. Billon and copper coins. |
| 1814 | 1. Anticipation notes.
2. Base and counterfeit coins. |
| 1816 | 1. Silver florins of $180\frac{1}{2}$ English grains, paid out at the market rate (about 1 to 10) for "anticipations."
2. Convertible bank notes. |
| 1825 | 1. "Wiener Wahrung," or $2\frac{1}{2}$ anticipations = 1 silver florin; supplemented by:
2. Silver florins. |
| 1840 | 1. Convertible bank notes.
2. Coins; and
3. A small amount of "Wiener Wahrung." |
| 1848 | Inconvertible bank notes. |
| 1852 | 1. Inconvertible bank notes.
2. State notes. |
| 1857 | Same as last. In this year the silver in the florin was diminished about 5 per cent. |
| 1866 | 1. Inconvertible bank notes.
2. New emission of State notes. |
| 1878 | Same as last. Billon coins and afterwards silver florins appear in the circulation; and this position of affairs continues to the present time. Since January, 1879, customs duties have had to be paid in gold coins. |

¹ The gold ducats of Austria contain 3.4904 grams of gold, $.986\frac{1}{2}$ fine, equal to 53.12 English grains fine. They are descended from the old Venetian ducat or sequin, from which they differ but slightly.

² "Rep. Int. Mon. Conf.," 1878, p. 98.

During a recent tour through Austria and Hungary the author observed that the circulation consisted nearly altogether of paper, most of the small bills from 1 to 50 gulden being "staats-noten" under the law of 1866, and the larger ones, bank notes. A few standard silver florins were in circulation, and a large number of 10 and 20 kreutzer billon coins, besides coppers.

Owing to the steady growth of the Empire and the prudence which has marked the emissions of paper money since 1872, the premium on silver coins has disappeared, and the notes, though still inconvertible, have at times commanded a premium in coins. The appreciation of gold since 1873 is correctly represented by the premium which the 4 and 8-florin gold pieces command over and above their legal value in silver coins.

CHAPTER XIX.

HISTORY OF MONEY IN TURKEY.

Rise of the Ottoman empire—First mint established at Kari-jahissar in thirteenth century—In fourteenth century the capital and mint were successively at Broussa, Jeni-Shehr, and Adrianople—The dirhem the earliest integer of account among the Ottomans—A Venetian bank mentioned at Damascus in fourteenth century—In fifteenth century the capital and mint of the Ottomans established at Constantinople, and their integer of account the asper—In the seventeenth century the integer was the para—Decline of Ottoman power—Spanish dollar—Dutch commerce and dollar—This coin adopted as the Turkish integer of account during the eighteenth century—Sir John Chardin—Further decline of Turkish power, and debasement of the piastre—Multiples and fractions of this integer—Its repeated debasement during the eighteenth and nineteenth centuries—Copper money—History and debasement of the silver grouch and gold sequin—Monetary reforms of nineteenth century—Medjidie system and coins of 1845—Attempt to imitate the British monetary system of 1816—Its failure, and the causes thereof—System of 1849—Beshlik money—Copper money—Special legal tender functions of various coins—Counterfeit coins—Crimean War—System of 1853—First issue of irredeemable notes called *caimé*—These not numeraries—Sagh, shireh, bill, and bazaar monéys—Diversity and confusion of the system—Table of coins and monéys, with their value in each class of tender—Excessive number of *caimé* notes in 1857—Their depreciation measured in sterling gold—Amount of beshlik coins outstanding—Their value in sterling gold—Number of *caimé* notes in 1859—Efforts to retire them—Establishment of the Imperial Ottoman Bank—Its operations—Contraction of the *caimé*—Its final retirement and demonetization in 1862—This effected at the immediate expense of English creditors—Condition of the currency in 1869 and 1873—Enormous issues of overvalued coppers—Troops paid in these coins—Drain of the precious metals—War of 1875 with Herzegovina and Russia—Repudiation of the Turkish debt—Suspension of all metallic payments—System of 1876—Second issue of *caimé*—They are made legal tender for all purposes throughout most of the empire—Excessive emissions—Rapid depreciation—Description

of the notes—The unlimited character of the emissions occasions social disturbances in 1880, and the government resolves to return to the medjidie system of 1845—Repudiation of the caimé notes—Present monetary system.

THE Ottoman Empire owes its origin to the expeditions of the Monguls led by Genghis Khan in A.D. 1222. A portion of the Turcomans or Turks, who had been driven by this conqueror from their homes in Central Asia, migrated south-westwardly, and after having taken service from the Seljukian sultans, and subdued the feeble garrisons of the declining Byzantine empire, they became settled under Othman, in Bithynia—and Anatolia. Their principal town was Kari-jahissar, and here they established their capital and mint-house, where, according to some historians, they were permitted to coin money in the name of their leader.¹

In 1299, upon the dissolution of the Seljukian monarchy, the Ottoman seat of government was removed to Jeni-Shehr, and in 1326 to Broussa; and here, in 1328, during the sultanship of Orchan and viziership of Aladdin, they established a mint, and “coined money in the name of Orchan.”² At this period the pay of foot soldiers was a quarter dirhem of silver per day,³ a fact which serves to indicate the integer of accounts and the comparative wealth of the new nation in the precious metals.

In A.D. 1362, the Ottomans established their capital and mint at Adrianople. According to Voltaire and Jacob, the integer of their accounts at this period was changed from the dirhem to the asper.⁴ Murad I. coined

¹ “History of the Ottoman Empire,” by Samuel Jacob, Col. Procter, Rev. J. E. Riddle, and J. M’Conechy, London, 1854, p. 305; and “History of the Turks,” by John McGilchrist, London, 1856, p. 16.

² Ibid. 307.

³ “Hist. of Turkey,” by A. de Lamartine, Eng. trans., New York, 1855, vol. i. p. 210.

⁴ Voltaire, “Gen. Hist.,” ii. 30 and 44; “Hist. Ottoman Empire,” 326.

the copper mangir, of which sixteen went to the asper. The mangirs were, however, frequently raised in value by proclamation, and the aspers as frequently lowered by debasement, until eventually the two coins passed at the same value.

During the fourteenth century the condition of Turkish money appears to have been much the same as it is at present. The bulk of it consisted of an unknown number of overvalued billon and copper coins, between which and any specific quantity of the precious metals there existed a fluctuating relation of value, due sometimes to the changed supplies of the former, and at others to those of the latter. The precious metals circulated as now in the form of foreign coins, whose value was fixed by proclamation and varied from time to time. The principal ones of these were the Arabian gold dinar, then $63\frac{1}{2}$ grains fine, and the silver dirhem of about $41\frac{1}{2}$ grains fine (see p. 22). At a later date the Venetian sequin of 55.8 grains fine (see p. 34), afterwards 53 grains fine, took the place of the dinar. These coins were counterstamped with "sagh," or contrôle.¹

After the conquest of Constantinople, partly from the spoil of that city, and partly from the profits of the Oriental trade that still flowed through it, the Turks acquired such an immense quantity of gold as led them, in A.H. 883, under Mohammed II., to coin altuns or sequins for themselves. These were of 53 grains fine, at which weight they remained constant for a long period. Ahmed III. suddenly degraded the sequin in Constantinople A.H. 1123, and also in Egypt, some twenty years afterwards, to less than 40 grains. Thenceforth the old sequins were known as funduklis, and the new ones as mahbúb. In the reign of Mahmud II., A.H. 1203, the mahbúb were successively reduced to $37\frac{1}{2}$, 37, and 24 grains.² There were double sequins of both funduklis and mahbúb. All these coins passed at valuations

¹ Coins and Medals," ed. by S. L. Poole.

² Ibid.

fixed from time to time in aspers, paras, or piastres, the successive integers of Turkish accounts.

Mr. Colwell alludes to the early establishment of a bank of deposit at Damascus by "those engaged in the Eastern trade" of Venice. Of this bank "we only know that it was the repository of great treasure when that city (Damascus) was taken and pillaged by an Eastern conqueror early in the fifteenth century."¹ This doubtless means its conquest and destruction by Tamerlane in A.D. 1401; but, as previous to this event, and since A.D. 1291, Damascus had been in possession of the Mameluke lords of Egypt, it is not clear how the Venetians were enabled to establish a bank there.²

During the fourteenth century the Ottomans conquered Thrace, Bulgaria, Servia, Bosnia, Albania, Macedonia, and Thessaly. In the fifteenth century, after the withdrawal of Tamerlane and his hosts to Samarcand, they occupied Roumelia and Central Greece, and last of all, in A.D. 1453, captured the imperial city of Constantinople.³

Their sway now extended over the whole of the Byzantine Roman empire in Eastern Europe and Asia Minor; and in the following century it embraced both Arabia and Egypt on the south and Hungary on the north. No better system of money appears to have been developed by the political and commercial necessities of the Ottomans than

¹ Colwell's "Ways and Means of Payment," p. 303.

² Upon investing the city, the inhabitants paid to Tamerlane 1,000,000 gold ducats (sequins) to spare their lives; but in violation of this compact they were all pillaged and murdered, and the city destroyed by fire. Lamartine's "Hist. Turkey," i. 325. The author adds that after the destruction of Damascus Tamerlane sent thence ambassadors to Egypt and Constantinople, to order the Mameluke Sultan to stamp henceforth the Khan's (his) effigy upon the coins (of Egypt) and to extract from the Emperor of Byzantium the tribute which had previously been paid to the Turks. Ibid. p. 343.

³ Upon the capture of Constantinople, "the coined treasure found in private houses is alone valued at four million ducats. The uncoined gold, silver, &c., . . . represent an incalculable amount." Lamartine, ii. 120. Four million ducats contained about the same quantity of gold as is now contained in \$9,320,000, say two millions sterling.

the rude device of an unknown number of silver and copper coins. The original Turcomans, or their successors, the Turks in Asia Minor, must have been familiar with the glass numeraries of the Arabians (909-1171) the paper monies of China (1260-63), and Persia (1294), and the copper tokens of Delhi (1330-31), to say nothing of the leather and paper monies of mediæval Europe. The neglect or refusal of the Ottomans to employ similar systems of money must therefore be ascribed to the unsuitableness of their social organization, rather than to ignorance of the advantages to be derived from such systems. The constituent parts of their empire were too heterogeneous, the character of its diverse populations was too unsettled, and its territory was too imperfectly connected under its new and warlike but unprogressive masters, to fit it for a numerical system of money.

The dependence of Turkish monetary systems upon spoils of the precious metals is evinced by the fact that when its military conquests were checked, the state began to decay. These conquests ended in 1529, when Solyman was repulsed at Vienna, and in 1571, when Selim II. was defeated at Lepanto.

During the sixteenth century, Spanish pieces-of-eight formed an important part of the money of Turkey. In 1598 the Dutch Republic effected a treaty of commerce with the Porte, which accorded to the former equal commercial advantages with England and France.¹ The result of this treaty was an increased employment of Spanish pieces-of-eight, called by the French piastres, by the Dutch dollars, and by the Turks grouches.² Until 1645 these pieces were coined at eight to the mark, and contained over 400 grains of fine silver. They were then reduced by the Spanish and American mints to 386 $\frac{7}{8}$ grains fine, or eight and a half to the mark. Upon this the Dutch coined a

¹ De Luzac, "Richesse de l'Holland," i. 159.

² Spelled variously, grouch, grúsh, gherish, and kirsh.

similar piece containing but 374.4 grains fine, and called it a dollar.¹

Finding that the reduced dollar passed as readily in the Levant trade as the piece-of-eight, the Dutch proceeded a step further in the work of degradation, and coined a dollar of 312.98 grains,² which from the figure upon it was called by the Dutch a lion, by the Turks a grouch or aslani, and by the Arabs, who mistook the lion for a dog, an abukeshbi.³

Before the inferior value of these pieces was suspected, they passed in Turkey for a full piastre of 120 aspers; but so soon as it was ascertained they fell to 80 aspers.

At this date the equations of exchange were as follows:—

Equations under the Para System.

	Paras, formerly meidins. ⁴		Paras, formerly meidins.
3 Aspers or akchehs	1	1 Zolota, or Azutlik	30
1 Beshlik para	5	1 Grouch	40
1 Oulik	10	1 Double zolota	60
1 Oubeslik	15	1 Ikilik, or double grouch . .	80
1 Yigirmlik	20	1 Yuslik or yuzluk	100

500 grouches or piastres = 1 purse, kees, or chise.

833 $\frac{1}{3}$ piastres or 100,000 aspers = 1 jux or juk (obsolete).

1,000 purses = 1 khazneh or treasury.⁶

It has been stated that the first integer of account in Turkey was the dirhem, and that this was supplanted in 1362 by the asper. Originally there were four aspers to the para, afterwards three. In 1655 the integer of accounts was made the para of three aspers. In 1750 the piastre (of 40 paras, or 120 aspers) became the integer; but, as

¹ The Holland rix dollar of 50 stivers. Newton's "Table of Coins."

² The Holland lion dollar. Newton's "Table."

³ Postlethwayt's "Dic. of Com." arts. "Aslani" and "Dallar."

⁴ In Egypt, A.D. 1647, the *madine* was a small silver coin, 35 or 40 of which went to the Spanish dollar. Greaves.

⁵ "Commercial Relations of the United States," 1873, p. 1120.

we shall presently see, it was only half the weight of the old piastre. Small as it was, it was destined to become much smaller.

Coins were not the only money of Turkey in the seventeenth century. In 1683 many of the imperial revenues were levied in kind,¹ and this custom has since been greatly extended.

In Sir John Chardin's work, published in 1686, it is stated that the current money of the Turkish capital and seaport towns at that period was the debased lion dollar of Holland and its still more debased fractions, the halves and quarters. The use of these debased fractions soon led the way to a further debasement of the piastre, and in the early part of the eighteenth century it had fallen to 226 grains of fine silver, and the Spanish and Mexican piastres passed for two-thirds as much again.

The following table, gleaned from Mr. Poole's work, affords a striking illustration of the irregularity of the weight of the Turkish grouch. Unfortunately the numismatist does not give the fineness of the coins, so that their relative value cannot be shown:—

Weight of the Turkish Silver Grouch.

Reign.	Period A.H.	Gross weights of coins—Troy grains.
Soleyman II. . .	1099—1102 .	285, 294.
Ahmed II. . .	1102—1106 .	300.
Mustapha II. . .	1106—1115 .	298, 293, 300.
Ahmed III. . .	1115—1143 .	389, 415.
Mahmoud I. . .	1143—1168 .	371, 366, 363, 362.
Othman III. . .	1168—1171 .	365.
Mustapha III. . .	1171—1187 .	306, 298, 297, 292, 281, 295, 245.
Abd El Hamed I. . .	1187—1203 .	296, 292, 274, 272, 247, 300, 295.
Selim III. . .	1203—1222 .	190, 195, 203, 194, 192.
Mustapha IV. . .	1222—1223 .	197.
Mahmoud II. . .	1223—1255 .	200, 180, 230.

From the foregoing table it appears that the grouch varied between 180 and 415 grains. I am, however, of

¹ Voltaire's "Gen. Hist. Europe," iii. 28, and "Asiatic Turkey," by Grattan Geary, pp. 13, 16, and 92.

the opinion that some of these were "altnichliks," or $1\frac{1}{2}$ grouch pieces, others double grouches, and others, again, "yuzluks," or $2\frac{1}{2}$ grouch pieces. The grouch of 226 grains fine, previously mentioned, was probably coined by Soleyman II.

Toward the middle of the eighteenth century the grouch and piastre, up to that time identical, parted company, the former continuing to retain some resemblance to its prototype the dollar, and the latter rapidly dwindling in weight until at the present time it only contains a fortieth part of its original contents of fine silver. It is needless to say that this differentiation arose from the fact that the grouch was not the integer of accounts, while the dwindling piastre was.

The following table, in which the coins are reduced to their contents of fine silver, shows the rapid decline of the piastre after it was made the integer of Turkish accounts.

Debasements of the Turkish silver piastre.

Year, A.D.	Coin.	Coin. Fine silver grains.	Piastre. Fine silver grains.
1730-54	Lion dollar or <i>aslani</i> piastre	—	226.00
1757	Piastre of Mustapha III.	—	161.00
1773	Piastre of Abd El Hamed	—	159.50
1773	Piastre of Abd El Hamed, another about same period	—	147.50
1789	Double piastre	186.40	93.20
1811	Piastre	—	95.70
1818	Piastre, 150.48 grains, .7333 fine	—	110.35
1818	Piastre, 150.48 grains, .450 fine	—	67.70
1821	Half Yuzluk, $1\frac{1}{4}$ piastres	97.68	78.14
1821	Beshlik of five piastres	276.00	55.20
1829	Altmishlik, $1\frac{1}{2}$; Utchluk, 3; and Altelik, 6 piastres (about)	—	14.00
1831-2	Piastre, 44 grains, .220 fine	—	9.68
1836	Half piastre. 23.497 grains, .1632 fine	3.835	7.67
1845	Medjidie of 20 piastres, 371.21 gr., .830 fine	308.100	15.40
1849	Beshlik of 5 piastres, 249.69 gr., .200 fine	49.940	9.87

From this table and the preceding data it will be observed that the piastre fell from over 400 grains of fine silver in 1598 (the Spanish piece-of-eight) to $7\frac{2}{3}$ grains in 1836.

Nor were these reductions stopped in 1836; they continued until the death of Mahmoud II. in 1839. The wars which followed the revolt of Greece and Egypt, both of which countries attained a degree of independence during Mahmoud's reign, severely taxed the resources of the Porte, and rendered it necessary to replenish these from the coinage. A vast emission of overvalued copper coins, of which little is said in the various works of reference on the subject, furnished the ephemeral resource of which Turkey stood so greatly in need.

At the period of Mahmoud's death the Spanish "piece-of-eight" and other foreign coins formed a material portion of the circulation in the commercial cities of the empire. The Turkish piastre had been reduced so often that the merchants were afraid to accept it in payment, and, but for the arbitrary means which were pursued to enforce circulation,¹ it would have become obsolete. For the rest the circulation consisted of copper coins and a few debased sequins.

The sequin, first struck by the Venetians in 1276, soon afterwards found its way into the Levant and Turkey.² It originally contained about 55.8 grains of fine gold. The following table exhibits the successive reductions of this coin in Turkey:—

¹ Mr. J. L. Stephens, in his "Egypt, Arabia Petræa, and the Holy Land" (New York, 1837, vol. ii. p. 238), states that under the régime of Méhemet Ali the inhabitants of Jerusalem were ordered to pay the dollar for a given number of piastres by a proclamation, which ended with "Death to the offender." He adds that certain of the inhabitants "cultivated an intimacy with the officer of the mint, and, by giving him an occasional present, always got intimation of any intended change" in the relation fixed from time to time by the government between foreign coins and Turkish piastres.

² See chapter on "Venice" herein

Debasements of the Gold Sequin.

Year, A.D.	Coin.	Coin. Fine gold gr.	Sequin. Fine gold gr.
1730	Sequin	—	48.0
1773	Sequin fondukli of Constantinople . .	—	43.30
1789	” ”	—	42.90
1773	Yermebeshlik, or double sequin, mahbúb .	73.1	36.55
1789	Sequin mahbúb	—	28.90
1773	Sequin of Cairo	—	31.00
1789	”	—	26.90
1821	Yermebeshlik, or yirmilik, double sequin of about the year 1821	70.3	35.15
1840	Do. (20 piastres), 24½ grains .832 fine .	20.38	10.19

The value of these coins in aspers, paras, or piastres, like the value of all other coins in Turkey, was regulated by proclamation from time to time.

In 1840 the great powers of Europe reduced Egypt to the condition of a tributary state, and in 1841 they guaranteed the integrity of the Turkish empire. At this juncture an effort was made to reform its monetary system. In 1842 the Porte contracted with a private banking house at Constantinople to buy up and retire the old Turkish silver coins then in circulation at prices in foreign bills of exchange, that gave about 15½ grains of fine silver to the piastre.¹ As some of the old piastre coins were of a higher standard than this, and many of them of a lower standard, for example, those coined since 1821, the government only succeeded in retiring some of the latter. In July, 1843, it demonetized both the foreign and old Turkish coins, and attempted to buy up the foreign coins at the rate of 22.8 piastres of exchange to the Spanish dollar of 370.9 grains fine, and the old Turkish coins at rates “in proportion” . . . “but as these rates were not at the same

¹ U.S. Com. Rel., 1857, iii., 310. The rate was 110 piastres to the £ sterling, at three months' date.

ratio with those of the exchange, and as the difference was of about 8 to 10 per cent. under their par value, their circulation continued at rates ranging from 10 to 12 per cent. above those fixed by the government.”¹

In 1845 the Porte made a new effort to reform the monetary system of Turkey, and although this met with no better success than the former ones, yet it was of a character that calls for a more extended notice. The friendship and protection of England, the readiness of her capitalists to advance money upon the slender and dwindling resources of the Ottoman Empire, the commercial and financial prosperity which had attended England since the battle of Waterloo, a date coincident with that of the adoption of a gold “standard” in the United Kingdom, combined probably with the influence of the British commercial population of Constantinople, who naturally but erroneously were led to attribute the financial progress of England in some measure to her monetary system, all united to move the Porte, and in 1845 it ordered the British system of money to be adopted in its dominions.

With this view it coined the following new pieces: 1. A gold piece of 100 piastres, weighing 111.111 grains, .916 fine, net 101.77 grains fine, with 0.308 grains remedy. This piece contained nine-tenths as much gold as the British sovereign, which weighs 113.1 grains, fine. It was called the Turkish *lira* or pound. Pieces of half the same weight, same fineness, were also coined, to go for 50 piastres. 2. A silver piece of 20 piastres, weighing 371.21 grains, .830 fine, net 308.1 grains fine, with 0.462 grains remedy. This piece was a base imitation of the Spanish dollar, which weighed 371.25 grains fine. It was called the *medjidie*. Pieces of one-half, one-fourth, one-tenth, one-twentieth, and one-fortieth the same weight, same fineness, were also coined, to go for 10, 5, 2, 1, and $\frac{1}{2}$ piastres respectively.

In this system of coins the relative value of silver and gold

¹ “U. S. Com. Rel.,” 1857, iii., 310.

was fixed at 15.08 for 1, while the principal coinage rates in other countries at the time were $15\frac{1}{2}$ to 16 for 1. Compared with those countries, the silver coins were therefore overvalued; and if the coinage was monopolized by the government,¹ the system by itself constituted a single "gold standard," similar to the British system of 1816.

Here the resemblance ceased. When, in 1820, England made preparations to resume coin payments and render effective the metallic system which she had provided for in 1816, she possessed the means, by reason of her great wealth and exceptional productive resources, of purchasing from all parts of the world the gold and silver with which to fabricate the coins she designed to put into circulation; and in point of fact a great influx of the precious metals into England was occasioned at that period, some of it coming from Turkey and causing that very scarcity of silver, and leading to that debasement of the coinage, which the latter was now endeavouring to repair.

But the wealth and resources of Turkey in 1845 bore no resemblance to those of England in 1820. The Porte did indeed coin gold liras and silver medjidies, but it possessed no means to prevent them from being exported as bullion.

Other obstacles stood in the way of the reform beside the poverty of the State. Among these was the disordered condition of the country, many portions of which, as the African and European provinces, were rather dependencies than integral portions of the empire, and retained the right to establish and maintain their own systems of money.²

A very considerable portion of the circulation of Turkey consisted of copper coins, highly overvalued. To have successfully established the new system it would have been

¹ "Rep. U. S. Mon. Com.," i. 531, which says, "all done at the Imperial mint, Constantinople," . . . "and is, of course, monopolised." But this may be erroneous; because French silver is known to have been coined in the Turkish mint and on private account.

² For monetary system of modern Egypt, see Kelly's "Cambist;" of Wallachia, "Com. Rel.," 1867, p. 618; and of Servia, &c., same series.

necessary not only to retire all the old overvalued silver pieces, but also all of the old overvalued copper ones. In a word, Turkey would have had to do with her overvalued metal precisely what England had done with her overvalued paper: buy it all up and demonetize it. But this she made no effort to do. Some consideration must be accorded to the difficulty of introducing new types of money among an illiterate people; although this, perhaps, was the least of the obstacles in the way of Turkish monetary reform. The real obstacles were ignorance of the principles of money, and inability to command sufficient supplies of the precious metals.

Under the various circumstances adverted to, the medjidie system utterly failed, and the piastre of 1845 proved an abortive experiment. The old system of base silver and overvalued coppers resumed its sway, and the new coins were reserved for the special purpose of paying customs duties at the ports. Ultimately, however, all the medjidie coins were exported, first the gold, then the silver ones; most of them finding their way to the mints of that same England whose monetary system Turkey had vainly essayed to follow. Before this occurred, however, another plan of money was adopted. This was the beshlik system of 1849.

The futility of the medjidie system became so soon apparent that it was entirely abandoned by the year 1849, when the Porte fell back upon what proved to be substantially the old system. In that year Abdul Medjid coined a new series of piastres, with their multiples and fractions all of debased silver, the integer of which (the 5-piastre piece) was called beshlik, and has given its name to the series. Under this system the silver piastre consisted of 9.87 grains of fine silver, and this was made a co-ordinate legal tender with the silver and copper coins of the systems prior to 1845, for all purposes except the payment of customs duties. These last could only be paid in the medjidie coins of 1845, of which a few new ones were occasionally issued from the mint. By the system of 1849 the silver piastre

was restored to, substantially, the standard of 1831-2, and therefore raised nearly 30 per cent. above what appears to have been that of 1836. The system, however, consisted so largely of copper, and so little of silver coins, that this enhancement of the silver piastre was not observed to have produced any corresponding fall of prices.

The system of 1849 consisted of:—

1. Medjidie coins of 1845, viz.: the gold lira and its multiples and fractions, and the silver medjidie and its fractions. These were legal tender for customs duties and all other purposes, for the former at par,¹ and for the latter at the enhanced rates set forth in the table of coins appended below to the system of 1853.

2. Beshlik silver coins of 1849, viz.: the beshlik, 5; yuzluk,² 2½; kirkpara, 1; and yermee para ¼ piastres. These coins were issued at different weights, in fine silver, to the piastre. For example, the beshlik and yuzluk contained 9.87 grains to the piastre, whilst the kirkpara and yermee para contained only 7.67 grains to the piastre, the same as the old piastre of 1836. The beshlik, however, was the practical integer of the series. The beshlik coins were legal tender for all purposes except customs.

3a. Old Turkish debased silver coins of dates prior to 1845, and of a standard lower than beshlik. These included, among others, the half piastres of 1836, and all piastres of 1831-2 worn below full weight.

3b. Turkish copper and billon coins overvalued. The bulk of these coins were struck during the reigns of Mahomet II., 1808-1839, the latter portion especially, and

¹ Two of the rates at which medjidie coins were receivable were termed respectively *sagh*, or government, and *shirek*, or commercial. In 1854 they appear to have been received for *sagh* at a slight premium. "Com. Rel.," 1857, iii. 313. In 1869 they are quoted for *sagh* at par. "Com. Rel.," 1869, p. 358.

² There appears to have been a gold yuzluk coined in the early part of this century, worth about the same as the gold lira of 1845. Consult "Com. Rel.," 1862, p. 564.

of Abdul Medjid, since 1839.¹ Both of these series of coins, the silver lower than beshlik and the coppers, were legal tender for all purposes except customs duties and (perhaps also) the *verghi*, a species of house tax.

4. Old Turkish silver coins of dates prior to 1845, and of a standard higher than beshlik, of which the principal ones remaining in circulation were the piastres of 1818 (67.7 grains fine), another piastre, and the yuzluk of 1818 (110.35 grains fine to the piastre), and the half-yuzluk of 1818 (78.14 grains fine to the piastre). These coins were legal tender for all purposes at rates fixed by the government in beshlik, and these rates were such as to allow for the coins about two-thirds of their value in silver. Under this regulation the unworn coins of this class found their way to the melting pot, or were exported, and the worn coins were retired by the government at, perhaps, a small profit.

5. Foreign coins, chiefly the Spanish silver dollar, the "Convention species," the Austrian trade dollar, the five-franc piece, or silver écu of France, and the silver rouble of Russia. These were receivable for all purposes, including customs, at rates, for other purposes, fixed at or near the beshlik standard, and for customs at the medjidie standard.

6. Counterfeit Turkish silver coins manufactured chiefly in Greece and England, and surreptitiously introduced into Turkey. In 1876 it was stated that this movement had been going on for twenty or thirty years (fifty years would have been nearer the truth), but that it was impossible to form an estimate of its extent.²

Such was the monetary system of 1849, intricate, confused, and vitiated by the co-ordination of a vast mass of diversely minted overvalued copper coins, and of foreign silver coins, both genuine and counterfeit. Bad as it was,

¹ In 1876, although no coppers had been coined for several years previously, there was still a very large sum of them in circulation. "Rep. U.S. Mon. Com.," i. 531.

² "Rep. U.S. Mon. Com.," i. 535.

this system was yet to become worse ; for the resources of the government were so strained that the least accident was liable to compel it to abandon the use of coins altogether. Such a crisis occurred in 1853 upon the breaking out of the Crimean War.

The apprehension of war occasions an arrest of industrial activity ; the actual happening of war often stimulates it by affording employment to the idle, and instigating a sudden and great demand for arms, ammunition, accoutrements, and military supplies. Upon the occasion of industrial stagnation or depression there is less use for money than usual, and when this money consists of commodities (the precious metals, for example) they are not stored up for future use at home if they can be exported for immediate use in other countries. Between the depression that precedes war and the industrial activity which follows it, so short an interval commonly elapses that the nation, which during the former has parted with its monetary symbols (in this case, coins), cannot get them back in time for the emergency which awaits it. Hence it is obliged to invent other symbols than coins, and these have usually been notes. Such was the resource of the Turkish government in 1853.

The notes issued on this occasion were irredeemable, as such notes usually and necessarily are. They were not numeraries, because they were not specifically limited in number, another usual, but by no means necessary, feature of such emissions. Moreover, they were limited in legal tender function, a common but unnecessary characteristic,¹ and restricted with regard to territorial diffusion, a quality both uncommon and, with but few exceptions,² peculiar to

¹ They were not available for the payment of customs duties, and in this respect resembled the American greenbacks, of 1862, but not the inconvertible Bank of England notes of 1797, which were available for all purposes.

² Same in Antwerp (Kelley, i. 19), whence the system may have been derived ; also in France (instance of interest notes not good at seaports).

Turkish paper money. These notes (caimé) were made coordinate legal tenders at par with the beshlik coins previously in circulation, and with the other classes of coins at rates proportioned to the relations established and mentioned below between these coins and beshlik.

Though all these coins were current throughout Asia Minor and other parts of the empire, the currency of the caimé notes was confined to Constantinople,¹ a measure that greatly impaired their efficiency and hastened their depreciation.

Upon the emission of these notes the contract made with the bank in 1842 was rescinded,² and no further efforts were made to unitize the heterogeneous coinages of the empire.

The confusion which these created, combined with the new confusion introduced by the special and limited character of the caimé notes, induced a writer on the subject in 1854 to declare that the monetary system of Turkey was on no better footing than it had been thirty or forty years previously. He added that the emissions of caimé notes were so great and irregular that the discount upon them, presumably in beshlik, often varied 4 or 5 per cent. during the course of a day.³

The following table exhibits the various monetary symbols circulating in one of the principal ports of the Turkish empire in 1854, and the rates at which they were received for various classes of payments:⁴—

¹ "Commercial Relations," 1862, p. 566.

² "Com. Rel.," 1857, iii. 311.

³ Ibid.

⁴ This table is constructed upon the basis of the materials set forth by E. S. Offley, U.S. Consul at Smyrna, in "C. R.," 1857, 313.

Table of the various Turkish and Foreign Silver Coins circulating in Smyrna, December 30, 1854.

Coins.	Weight. English Grains.	Fine- ness.	Weight in fine silver. Grains.	Value fixed by thePorte in 1845. Piastres.	Value in piastres of account in 1854 as :				Weight of one piastre in fine silver.
					Beshlik money.	Bill money.	Tariff money.	Bazaar money.	
Medjidie, or 20 piastre piece of 1845	371.21	.830	308.10	20	20.75	21.25	22.00	23.25	15.40
Half medjidie, or 10 piastre piece of 1845	185.61	.830	154.05	10	10.37	10.62	11.00	11.62	15.40
Quarter medjidie 5 "	92.80	.830	77.02	5	5.18	5.31	5.50	5.81	15.40
Tenth medjidie 2 "	37.12	.830	30.81	2	2.07	2.12	2.20	2.32	15.40
Twentieth medjidie 1 "	18.56	.830	15.40	1	1.04	1.06	1.10	1.16	15.40
Fortieth medjidie ½ "	9.28	.830	7.70	½	.52	.53	.55	.58	15.40
Beshlik 5 "	246.69	.200	49.34	5	5.00	5.11	5.25	5.50	9.87
Yuzluk 2½ "	123.34	.200	24.67	2½	2.50	2.55	2.62	2.75	9.87
Kirkpara 1 "	46.994	.1632	7.67	1	1.00	1.02	1.05	1.10	7.67
Yernee para ½ "	23.497	.1632	3.83	½	.50	.51	.52	.55	7.67
Akelik 6 " 1829 to 1841	196.98	.4375	86.18	6	6.00	6.15	6.30	6.60	14.36
Utehuk 3 "	98.99	.4271	40.14	3	3.00	3.07	3.15	3.30	13.38
Altinishlik 1½ "	47.99	.4271	20.50	1½	1.50	1.53	1.57	1.65	13.67
Piastre 1 " 1818	150.48	.450	67.72	4	4.25	4.35	4.50	5.00	67.72
Yuzluk 2½ " "	376.47	.7333	276.06	17½	18.50	19.12	19.65	21.50	110.42
Half yuzluk 1½ " "	203.89	.4791	97.68	6½	7.15	7.30	7.50	8.25	78.14
Piastre of 1 " 1818	150.48	.7333	110.35	7	7.40	7.65	7.85	8.50	110.35
Half piastre " "	23.497	.1632	3.83	½	.50	.51	.52	.55	7.67
Quarter piastre " "	12.473	.1632	2.04	¼	.25	.25	.26	.27	8.16

In 1857 the issues of *caimé**notes amounted to 260 million piastres, "worth 2,340,000 pounds," and it required 150 piastres in *caimé* to purchase a pound sterling in gold.¹ At the same time the emissions of *beshlik* money are stated to have amounted to 400 million piastres, and that the metallic value of this sum was £2,000,000 sterling, or at the rate of 200 *beshlik* piastres to the pound sterling. According to this statement the *caimé* was worth more than the silver piastre.

Besides the coins mentioned in the above table, and their foreign made counterfeits, an immense mass of copper coins and the *caimé* notes, the system of 1853 included another sort of money. This consisted of the notes of the Imperial Ottoman Bank, which was established in 1859,² the notes being redeemable in gold coins.³ At times these notes have circulated in Constantinople to a large amount, as well as to some extent in the other large towns of the empire; but in 1876 the officers of the bank stated that its issues had been of late very considerably reduced.⁴

The emissions of *caimé* notes continued to increase up to May, 1859, when the government announced that a foreign loan had been contracted for £5,000,000 sterling, and that the proceeds would be devoted to the withdrawal of the *caimé* notes. Details were afterwards promulgated showing that this loan had produced 547,925,000 piastres (*medjidie*), and that to this extent the *caimé* notes were being retired. At the same time, the whole issue of *caimé* notes was announced as having amounted to 618,979,000 piastres.⁵

¹ Senior's "Journal in Turkey and Greece, 1857-8," cited in "Lond. Stat. Jour.," xxiii., 111. At the rate of 150 piastres to the pound sterling, 260 million piastres would be worth £1,733,000 sterling, or 1,946,000 Turkish pounds; so that Mr. Senior's equivalent of 2,340,000 pounds, whether sterling or Turkish, appears to be erroneous.

² "Lond. Stat. Jour.," xxiii., 111. This institution is said to enjoy a monopoly of banking in Turkey. Geary's "Asiatic Turkey," p. 39.

³ "Rep. U. S. Mon. Com.," i. 532.

⁴ *Ibid.*, i. 534.

⁵ "London Stat. Jour.," xxiii., 111.

The following table shows the amount of caimé notes outstanding at various dates according to the data given above :—

Cumulative Emissions of Caimé Notes.

	Piastres.
1853. First emission	No data
1857. " 	260,000,000
1859. " 	618,979,000
1862. Retired by means of a forced composition.	

The work of contraction does not appear to have been vigorously conducted until the winter of 1861-2, for at the beginning of 1861 the premium on Turkish gold coins in caimé was 90 per cent., whilst during the following winter it rose to 125 per cent.¹

In July, 1862, caimé notes were permitted to be paid for customs duties at Constantinople, at their equivalent in gold liras, the rate being fixed daily at the highest rate for the notes, at the borsa (exchange) and posted in the custom house; and provision was made that in case the circulation of the notes was extended to the provinces, the same rule should apply there.²

During the same month, however, the government announced the retirement of the entire emission, and[†] in August it commenced to redeem them, 40 per cent. with gold coins and 60 per cent. with consols bearing 6 per cent. interest per annum. On September 13, 1862, the legal tender function of the notes was arbitrarily withdrawn, and the currency of Constantinople immediately became metallic, though not without occasioning great loss to the classes adversely affected by the change. The severity of their distress may be estimated from the fact that on the day before the legal tender character of the notes was nullified, gold coins stood at 60 per cent. premium in caimé, and from the fact that within a few weeks afterward the prices of commodities in current piastres fell 12 to 15 per cent.³

[†] "U. S. Com. Rel.," 1862, p. 566. ² Ibid. pp. 563-66. ³ Ibid.

As all of the gold with which this composition and retirement were effected was borrowed in England, and a considerable portion of the consols employed in the same operation found their way to the same country, it follows that the "resumption" of 1862 was effected at the immediate expense of the English.

In 1869 Spanish dollars were quoted at Beirut in "sagh" at 23.425 piastres, and in "shirek" at 26.5 piastres—equal in the former case to $15\frac{3}{4}$ grains, and in the latter to 14 grains of fine silver to the piastre.¹ The quotation in sagh agrees very nearly with the standard of medjidie silver; that in shirek does not agree with the beshlik standard, but does agree with the exceptional 6, 3, and $1\frac{1}{2}$ piastre pieces of 1829, mentioned above—a fact which suggests that these pieces may have formed the basis of a standard which remained peculiar to the province in which this port is situated. (Tate's "Cambist.")

In 1873, among the heterogeneous coins current in Turkey were Egyptian gold pieces, European and American gold dollars, and Spanish silver dollars, and in 1875 it was stated that all European coins were current.²

A year previous to the "resumption" of 1862, it was estimated that the value of the debased silver coins and caimé notes circulating in Turkey was equal to 10,750,000 dollars,³ but this sum is so far below the truth that it would appear to have been meant for the circulation of Constantinople alone. In 1875 the value of the base silver, billon and copper coins in circulation was estimated at 86,000,000 dollars,⁴ which is probably near the truth; although it is difficult to see how this could have been ascertained. The

¹ "Com. Rel." 1869, p. 358.

² *Ibid.*, 1875, p. 1374.

³ "Almanach de Gotha," 1861, p. 876.

⁴ "Com. Rel.," 1875, p. 1374. Contrariwise, the same report gives the nominal value of these coins in circulation in Turkey at only \$10,000,000 and the real value at \$5,000,000, but these amounts are far too small for the empire, and if not intended to relate to Constantinople alone, are blunders, and throw doubt on the figures in the text.

treasury was so poor that not only were the troops paid in copper coins, their wages even in this money were long in arrears.¹ The foreign coins, and, as fast as they were coined, the Turkish gold liras, and even the overvalued silver medjidies were exported,² and to these signs of pecuniary distress was soon to be added that of repudiation.

In 1875 the insurrection in Herzegovina broke out, and on the 6th of October in the same year the Porte was obliged to refuse payment of one half of the interest on its public debt, and a few months later, of the whole; the interest charge amounting at the time to \$65,500,000 per annum.³ The finances of the State were never in a worse condition.

Under these circumstances the government had no other resource than to issue a new series of *caimé* notes, and this was begun July 27, 1876. These notes, as before, were issued without specific limits as to number or amount, and as *beshlik* money; being legal tenders for all purposes except customs. On this occasion, however, their circulation was extended throughout all the dominions of Turkey in Asia Minor.

The following table shows the cumulative emissions of this money:—

Date.	Millions of piastres.	Authority.
July 27, 1876 .	300 .	"Three millions Turkish liras." "Rep. U. S. Mon. Com.," i. 554, and Martin's "Year Book," 1877, p. 459.
Nov., 1876 .	600	"Over six millions Turkish liras." Martin, 1877, p. 459.
Jany., 1877 .	1,000 .	"Forty-three million dollars." "U. S. Com. Rel.," 1876, p. 896.
Oct., 1877 .	1,000 .	"Ten million Turkish pounds." London "Times," Oct. 20, 1877.
Oct. 31, 1878 .	9,900 .	"Ninety million pounds sterling." Martin, 1879, p. 464.

Compared with the gold lira of 100 piastres, the discount

¹ "Com. Rel.," 1875, p. 1374.

² *Ibid.*, p. 1368.

³ "U. S. Com. Rel.," 1876, pp. 884-897.

per cent. on the various classes of monies circulating in Turkey has been, at the dates mentioned, as follows:—

Date.	Medjidie silver coins. ¹	Beshlik silver coins.	Other base silver coins.	Copper coins.	Caimé notes.
May, 1875	2.0 . . . . .	. . . . .	. . . . .	22.0 ²	None.
Aug. 1, 1876	14.0 . . . . .	. . . . .	. . . . .	. . . . .	5.0 ³
Dec. 18, 1876 ⁴	4.6	9.5	11.5	49.0	22.25
Jan. 1, 1877	4.0 . . . . .	. . . . .	. . . . .	30.0 . . . . .	. . . . .

If the figures obtained from Martin relative to the issue of caimé notes is correct, this amounted on the 31st October, 1878, to 9,900,000,000 piastres.⁵ Their value in such metallic coins as may have been in circulation in Turkey at the same date is not given. It is presumed, however, that few other beside overvalued debased silver (billon) and copper coins were in circulation at that time;⁶ and of the former, and probably also of the latter, a portion were counterfeits.⁷

Besides extending the circulation of caimé throughout all the dominions of Turkey proper, and perhaps also to some of the European provinces adjacent to the capital, the legal tender function of these notes must have been en-

¹ The discount on medjidie for May, 1875, is from U. S. Minister Horace Maynard, in "Rep. U. S. Mon. Com.," i. 531; and that for Dec. 18, 1876, from the Ottoman Bank. *Ibid.*, 534. Those for Aug. 1, 1876, and Jan. 1, 1877, are calculated from the market price of silver in gold at those dates, after making a certain allowance.

² Minister Maynard's communication mentioned above.

³ *Ibid.*

⁴ Communication of Imperial Ottoman Bank mentioned above.

⁵ In 1879 the outstanding caimé were stated at only 360,173,800 piastres, and after 1880 at nothing, the government having repudiated them. "Fortnightly Review," September, 1885.

⁶ From 1845 to 1876, Turkey had coined 29,000,000 gold liras, and 6,500,000 liras in silver medjidies at the rate of five medjidies to the lira—total gold and silver coin, say 35,500,000 liras. Of these it was estimated in 1876 that there remained in the country, not in circulation, about 15,000,000, probably an excessive estimate. Communication of Ottoman Imperial Bank in "Rep. Mon. Com.," i. 534. By the year 1879 these remaining medjidie coins had probably been all exported.

⁷ "Rep. U. S. Mon. Com.," 1876, i. 535.

larged between 1876 and 1880, for at the last-named date we hear of their employment (though at a reduced rate) for paying customs duties.¹

The writer has two of these notes in his possession, one measuring $6\frac{3}{4}$ by $4\frac{1}{2}$ inches, the other 5 by $3\frac{1}{2}$ inches. They are made of a rather flimsy and brittle bank-note paper, quite incapable of withstanding much wear. From the manufacturer's watermark which appears in this paper, the notes seem to have been manufactured in Paris. The engraving, which appears to have been done on wood, consists of ornamental medallion, arabesque, and scroll work, and a few Turkish characters. This is confined to one side; the other, with the exception of a small black "seal" and a printed registration of the Imperial Ottoman Bank, being left blank. The legend on the face (in Turkish characters) is "An imperial caimé of 5 (or 10, &c.) piastres for public circulation, without interest, and received at the public treasury as coined money. 5 Redjib 1293" (1876).

From this description it will be seen that these notes were easily counterfeited.

Through the influence of the Imperial Ottoman Bank, the Porte was reluctantly induced to register and number the notes, "as a safeguard, however slight, against both counterfeiting and excessive issues."² The extent of the issues on October 31, 1878, and the consideration above adduced with reference to the ease with which the notes may have been counterfeited, prove how ineffectual this supposed safeguard must have been.

In point of fact, the new caimé notes were counterfeited to such an extent—chiefly in France and Germany—that their value continually fell, and in the course of a few years it was reluctantly resolved to demonetize and repudiate them.

In 1880 it was announced that the Porte had "resolved

¹ Telegram to Associated Press, dated Constantinople, March 13, 1880.

² Minister Maynard in "Rep. U. S. Mon. Com.," i. 532.

to return to the gold standard and require the revenues (presumably the customs) to be paid in gold, to the exclusion of paper and debased metallic currency; the latter to be received for arrears of taxes at one-half the nominal value." It was, moreover, stated that this resolution had occasioned a further depreciation of the metallic currency, that the price of bread had risen in proportion to the depreciation, that shopkeepers had refused to receive it except at a reduction that entailed a loss of half their means upon the poor, that disturbances had been reported from provinces in Europe and Asia, and that in some of the towns bakers' shops had been pillaged.¹

In 1882, a plan of re-establishing the currency (upon the gold standard, of course) was submitted by the English and French resident agents, Messrs. Vincent and Aubaret, and promised to be adopted by the Turkish government.²

The sum of all money circulating in Turkey was innocently estimated by Mr. Burchard, Director of the United States Mints in 1884, at about 1,900 million piastres, the value of which he estimated in American money at \$83,315,976, or \$3.34 per capita of population!³ From this estimate is omitted the most important elements of the circulation, to wit:—1. The beshlik base silver and copper coins; 2. Counterfeits; and 3. Foreign coins. It is regarded as quite safe to estimate these as amounting together to more than the gold and silver coins and paper notes to which the Director's estimate was limited; so that the money of Turkey probably aggregated over 4,000 million piastres.

Notwithstanding the official announcement of April, 1882, that foreign silver coins would cease to be received into the public treasuries by tale, they still continue to

¹ Associated Press despatch from Constantinople, March 12, 1880.

² "Galignani," May 18, 1882.

³ The details were as follows:—Government notes, 160; bank notes, 31; gold coins, 900; full legal tender silver coins, 800; total, 1891 million piastres. "Finance Report," 1884, pp. 217 and 256.

circulate among the people. Reuter's telegram, dated Beirut, June 2, 1884, contained the following :—

“The Turkish authorities here have seized a small quantity of foreign silver coins belonging to some Jews enjoying the protection of England who had landed here, alleging that its circulation had been prohibited in Turkish territory. Some comment has been excited by the action of the authorities, inasmuch as *foreign coins continue in circulation to a large amount.*”

Foreign gold coins continued, and still continue, to be taken at the public offices, as well as to circulate among the people.

CHAPTER XX.

MODERN JAPAN.

Review of ancient Japan—Archaic money—Japanese conquest—Opening of the placers—Gold-dust money—Exhaustion of placers—Reef mines—Electrum and copper slug money—Plunder of Corea—Commerce with China—Chinese coins imported—First native coinage A.D. 465—Bronze zenni—Electrum slug multipliers—Absorption of coins in Buddhist images—Recoinage of images—Gold from Corea—State mining—First silver mines A.D. 670—Scarcity of precious metals—Retirement of slugs—Substitution of zenni—New reef mines opened eighth century—Disproportional coins—Decrease of money—Rice rents—First paper notes twelfth century—Usurpation of Shogun—Suppression of feudalism—Paper notes thirteenth century—Excessive emissions—Contraction—Resumption of coins—Decrease of money—Relapse into feudalism—Arrival of Portuguese, 1545—Monetary condition of Japan—Mines—Coins—Ratio—Seigniorage—Weights—Rice rents—Coinage system, 1588—Ratio 1 to 1—Cupidity and cruelty of Portuguese—Mine slavery—Vast treasures obtained—Exports to Europe—Mines opened—Treachery of Portuguese—Alarm of Japanese government—Expulsion of Portuguese—Suppression of rebellion and feudalism—Depletion of money—Resumption of State mining—Coinage system, 1635—Ratio 1 to 12—Dutch trade—Copper—Failure of mines—System of 1696—Decrease of money—Ratio 1 to 13—Money equivalents—Degradation of gold and bronze coins—Iron money—Further changes—Abandonment of State mining—Renewed relapse into feudalism—Perry's expedition, 1854—Opening of the ports, 1859—Money and civilization—System of 1855—Influx of precious metals—Counterfeit coins—Rise of prices—Revolution of Meiji—Suppression of feudalism—Resumption of Mikado's authority—Demonetization of feudal kin-satsü—National notes—Mischievous system of 1872—"Free coinage" and "gold standard"—Coincidence of these measures and anti-silver legislation in Europe and America—Efflux of gold from Japan—Increase of paper notes—Rise of prices—Industrial activity—Excessive

paper issues—Depreciation—Contraction—Depression of trade—History of gold koban—Silver itsiboo—Seigniorage—The ratio—Value of Spanish dollar in zenni—Influence of money upon civilization of Japan.

THE history of money and civilization in Japan previous to the discovery of that country by Europeans, has been outlined in the author's former works; but since their publication so many additional facts have fallen beneath his observation that it is deemed advantageous to briefly review and reconstruct that history in the present volume.

Between the perforated soap-stone discs, which, perhaps mistakenly, are regarded by some authors as having been used for money by the Ainōs, and the "coins" of which Titsingh is said to have possessed specimens of an era "as far as 600 years before Christ," no mention of any Japanese moneys appears in Western literature.¹ It is probable that when the country was subdued by its present masters, they opened the placer mines, made a rude sort of money from gold nuggets and dust, and continued to use this until the placers were exhausted and resort had to be made to some new device, possibly electrum and copper slugs, the produce of reef mines. Titsingh's collection, if still extant, may settle this point; meanwhile, it only rests upon conjecture.

During the first century before the Christian era a census of the population was taken and the office of Shogun created, the first during the era B.C. 97-30, and the latter in B.C. 86.

Between the era imputed to Titsingh's "coins" and A.D. 203, when the Japanese plundered Corea of eighty ship-loads of gold, silver, and other precious merchandise, no allusion occurs in Western literature to the monetary system of Japan. It is probable, however, that the system remained in a rudimentary condition until regular com-

¹ Titsingh was the chief agent of the Dutch East India Company at Nagasaki, Japan, where he resided for fourteen years. His collection consisted of about 2,000 Japanese and Chinese coins of gold, silver, copper, and iron. The coins were purchased in 1818 by M. Nepveu, who took them to Paris, where they were entrusted to M. Klaproth for arrangement.

mercial intercourse was opened with China. When this first occurred is uncertain. At all events, it was in operation during the fifth century of our era, for at that period the money of Japan consisted of Chinese chuen which had been purchased with Japanese gold.

In 465 (9th Inrukia) occurred the first native coinage of bronze zenni. These were modelled after the Chinese chuen, and had the same round form and square hole in the middle. It is probable that these coins, together with, perhaps, a few electrum slugs used as multipliers, constituted the money of Japan during the entire period from the earliest commercial intercourse with China up to the time when paper kinsatsū were first printed.

A scarcity of coins appears to have occurred towards the end of the sixth century; for in the year 604 (12th Suiko) the Empress ordered the bronze image of Siaka to be cast into coins, and a plaster statue to be erected in its place. The absorption of coins to be cast into Buddhist images and bells has interfered more than once with the Japanese system of money,¹ and the fact that it was permitted to occur, proves that whatever the church in former days may have known and planned in this matter, the government was quite unaware of the necessity of regulating money and had no permanent policy on the subject. In the same year (604) gold was obtained from Corea, whether by plunder or commerce is not stated.

In 630 a new and more precise system of weights was adopted in Japan, and as this system, which is still in vogue, is partly binary and partly decimal, the latter corresponding with the weights of China, it was probably a Chinese graft upon a native stock.

In the reign of Tenchi (668-72) another census of the population was taken, an occurrence that usually, though not always, bespeaks a progressive era.

In 670 State mining for silver was resumed, and in 675

¹ In 739 a bronze figure of Buddha, fifty-three feet high, and covered with gilding, was set up in a Japanese shrine.

(3rd Tenmu) the government took possession of the silver mines in the Korean island of Tsushima; yet in 682 such was the scarcity of silver, that the Emperor Tenmu was obliged to retire all coins of that metal, and supplant them with bronze zenni. In 708, the first regnal year of the Empress Genmei, certain gold and silver pieces were coined; but the latter were retired and replaced in the following year by zenni. The legal ratio of value between silver and copper (in the coins) was 1 to 4. Gold appears to have been imported at this period from China. Between 708 and 715 new copper mines were discovered; and in 749-50 the gold mines of Suruga and Oshiu were opened, and the importation of gold from China temporarily ceased. The legal ratio of value between silver and copper in the coinage of 721 was 1 to 25; in 722 it was 1 to 50; and in 760 it was 1 to 10.

It is possible that, during the fifth and sixth centuries, when the laws, religions, letters, customs, and inventions of China were introduced, a knowledge of its paper money was also brought into Japan; but of this there is no certain indication, and the probability, which, in a former work, was inferred from Griffis' expression of "several centuries past," is now deemed unsafe. The author much prefers to transfer that probability to either the ninth, tenth, or eleventh centuries, when paper notes were again and again employed in China, and must have been heard of in Japan, or else to the twelfth century when the new Chinese emissions (*hwui-tsze*) assumed unprecedentedly great proportions.

Otherwise, the money of the country consisted of native bronze zenni, coupled, probably, with Chinese *chuen* and native *electrum* slugs; a money which was being continually diminished by the consumption of bronze and gold and silver in the arts, for example, for religious images, church bells, statues, ornaments, gilding, &c., and by the wear, tear, and loss of coins and slugs. The only means of making good this diminution of money was the irregular and spasmodic product of the mines. How defectively these means served

to fulfil their office is evidenced by the fact that during the eighth century, and, notwithstanding the opening of new copper and gold (reef) mines, rents were commonly paid in rice, and this commodity appears to have been also the measure of value in the limited number of large transactions which the times permitted.

The mines of Suruga were of copper containing some gold and silver. When the last-named metals occurred in sufficient proportions, they were extracted from the copper, but when found in such small proportions that with the rude methods then in vogue this extraction was unprofitable, the gold and silver were suffered to remain in the copper, and the latter was cast into zenni. The hammered slugs and cast coins from these mines were fabricated in a mint at the town of Suruga. The slugs were chiefly electrum obans, kobans, boos and itsi-boos, the koban and itsi-boo being worth respectively about five and two ducats each—a fact which, if the Japanese slugs were all composed of similar metal, evinces disproportional weights, because the coined koban was always worth four coined itsi-boos.

In the twelfth century occurred that remarkable revolution in the political system of Japan which resulted in the seizure by the Shogun of the principal powers of the State, and the suppression of feudalism. The inference that paper kinsatsū were in use at this time is very strong. The first positive account of them, however, relates to the emissions of the Ashikaga Shoguns, toward the end of the thirteenth century. These emissions are said to have ceased in 1319, although some of the notes remained in circulation until near the opening of the fifteenth century.

The use of paper money could scarcely have failed to profoundly agitate the social condition of Japan by imparting to industry and trade an impetus much more powerful than could have been derived from the sparse and feeble results of mining.

Whatever its effects were, they have been overlooked by historians. The disuse of the notes and return to "coin

payments" point to excessive emissions, discredit, collapse, and popular clamour for a money which with all its demerits was at least regarded safe from the evils of an ill-governed printing press.

From the fourteenth century to the arrival of the Portuguese the money of Japan relapsed into its condition previous to the usurpation of the Shogun, its characteristic features being zenni fallen to their commodity value, electrum slugs coined at a high rate of seigniorage, and rice—in short, a composite commodity money. The state of civilization was the necessary complement of such a money: fixed, unprogressive, and with an increasing tendency to relapse into feudal conditions.

Marco Polo, writing in 1298, gives an account of Japan which he had obtained from the envoys of Kublai-Khan, who, in 1274, had invited the Japanese to enter into an alliance with their sovereign. Says Polo, "they have gold in the greatest abundance, its sources being inexhaustible; but the king does not permit it to be exported." He adds by way of proof that the Emperor's palace at Kioto is plated with gold on roof and ceilings, and that inside are tables of the same metal.

All this may have been true without proving the existence of "abundant" gold in Japan, or the "inexhaustibility of its sources," of which more anon. At the present time the domes, ceiling, and pillars of many churches in St. Petersburg and Moscow are plated with gold, and there are numerous tables of the same metal in the Emperor's palaces; yet Russia possesses so little gold that in spite of several efforts to resume coin payments, she has not been able to do so, and her currency consists practically of paper. It is obvious that in arguing abundant gold from the testimony of a gilded roof both the Chinese Envoys and Marco Polo might have been very wide of the mark.

There is no evidence that any other than metallic money was employed in Japan from the fifteenth to the last half of the eighteenth century. Griffis (425) asserts that "for

centuries past every great daimio has issued paper money current only in his han. There are over one hundred local varieties of varied colours, values, and sizes:” but this must relate either to the emissions of the thirteenth and fourteenth centuries, already mentioned, or else to those which appeared after the Portuguese had exhausted the country of its metallic wealth and compelled it to return to paper money—that is to say, about the middle of the seventeenth century. Sir S. Raffles appears to assert positively that there was no paper money during part of the seventeenth and eighteenth centuries.

We now come to the period when Japan was visited by Europeans. In 1542 two Portuguese vessels were wrecked on the coast. In 1545 Mendez Pinto, a Portuguese adventurer, and sea-rover, was driven to Japan by stress of weather. Within a year or two after this event, and attracted by the glowing reports which Pinto carried to China of the great wealth and magnificence of Japan, the Portuguese at Ningpo fitted out nine ships to explore the newly-found islands. Of these vessels only one survived, but this one, who had bought her cargo for silver, sold it for gold, which she carried back to Ningpo, an event that led to the immediate “opening” of Japan.

Such was the state of disintegration and exhaustion in which the Portuguese found this great empire that had their visit been delayed another century, there is too much reason to fear that it would have resulted in reducing the country to the same fate as Mexico. Fortunately for the Japanese, though they had forgotten the use of firearms, they had not lost the art of making gunpowder, and the Portuguese could not terrify them with mere noise as the Spaniards had done the Aztecs. It is perhaps due to this trifling circumstance more than any other, that the designs of their sinister visitors were not realized. Beyond the introduction of mine-slavery and a perverted form of religion, whose real object was the appropriation of those coveted metals which the Japanese system of money had

accumulated, and those others whose presence in the soil and rocks that system had revealed, the Portuguese never succeeded, for at this point they were exposed and driven out of the country.

The condition of mining affairs in Japan was as follows: the placer mines had been exhausted many ages before; the most productive reef mines consisted chiefly of copper lodes containing some gold and silver, an amalgam to which the ancient Greeks had given the name *electrum*; and the mines were all in the hands of the daimios, the government having long since relinquished their working.

The taxes on mining are said ¹ to have been two-thirds of the metallic product for the crown, but apart from the objection that at this period the crown had but little power, this is so extravagant a proportion that if exacted at all, it could only have been during some very remote and temporary period, when there were such things in Japan as newly discovered and highly productive placer mines. What has been regarded by European authors as the former tax upon mining was probably merely the rate of *seigniorage*, which in 1671 was imposed by the Japanese government upon the fabrication of coins, in order to prevent them from being exported. When Perry visited Japan, the *seigniorage* on silver coins was about two-thirds (65 per cent.) of their value; in other words, a Chinese *tael* weight of silver bullion when coined in Japan was valued at 6,400 *zenni*; when melted it fell to 2,250. The *seigniorage* in gold coins was 59.3 per cent. What the rate of *seigniorage* was previous to 1671 has not been ascertained, but it was probably high.

Although Martin says that Japanese *zenni*, inferior in weight to Chinese *chuen*, bore a higher value, this was not due to high *seigniorage* on the former, but to the greater scarcity of copper in Japan than in China. The ease with which *zenni* could be counterfeited must have always kept

¹ Kaempfer, as cited in Jacob's "Hist. Prec. Met."

down the seigniorage, and at the period now under review it was probably very low.

The Japanese weights for the precious metals, together with their Chinese and English equivalents, were as follows. They are not known to have undergone any alteration in modern times.

Japanese.	Chinese.	English.
1 Tan = 10 Kin	1 Picul	133.33 $\frac{1}{3}$ lbs. avoird.
1 Kin = 16 Jumomme . .	1 Catty	1.33 $\frac{1}{3}$ „ „
1 Jumomme = 10 Momme.	1 Tael	583.33 $\frac{1}{3}$ grains.
1 Momme	1 Mace	58.33 $\frac{1}{3}$ „

Care must be taken not to confuse the above weights with the numerical terms of proportion, used in counting money—that is to say, 1 tael = 1,000; 1 mas or mace = 100; 1 candareen = 10; and 1 cash = 1 zenni. These terms came into use, not as some theorists would argue, because the Japanese had ever employed “ingot coins,” which is not the fact, but simply because the terms were decimal, and therefore convenient. The tael weight and the tael number had no relation whatever to one another.

There were six kinds of money in use. 1. Electrum slugs or “shoos,” as they have since been called, from the Dutch word “shuit,” a boat, the shape of which they were thought to resemble. They were cast from the gold and silver amalgam as obtained from the mines, a practice which, as the Japanese valued these metals alike, resulted in no inconvenience to them so long as they were not brought into contact with Europeans. One of these slugs assayed by Dr. Kelly contained 2,368 grains of silver eleven-twelfths fine, or 2,170.6 grains fine, and was valued at one shoo or koban. Previously, when silver was equal in value to gold, it must have passed for four kobans. 2. Native bronze Imperial zenni, which had fallen, through unlimited emissions, to their commodity value. 3. Bronze zenni emitted by the daimios, also fallen to their commodity value. 4. Forged zenni. 5. Chinese chuen. These were not demonetized until 1608. 6. Corn (rice) money. All these

moneys were valued in zenni, to which the electrum slugs acted as multipliers. These slugs were chiefly in the hands of the government and the feudal lords, the money of the people consisting chiefly of zenni. The number of the latter was not known.

The practice of computing agricultural rents and the revenues of the empire and those of great landed proprietors in rice, prevailed during this period—indeed, is in use to the present day, though to a diminished extent. For example, the revenue of the empire in the seventeenth century is stated to have amounted to nearly 30 million koku (165 million bushels) of rice. Of this nearly 9 million koku were retained for the use of the Shogun. Some of the feudal lords possessed incomes assessed at upwards of half a million koku, although the usual range was from ten to a hundred thousand. Captain Golownin said (p. 213) : “The soldiers receive their pay in rice ; only in the islands of Matsmai, Kunsaschien, Ectooroop, and Saghalien they get part in rice and part in money.” Gen. Williams, in 1877, said all farm rents or taxes are paid in koku of rice, or calculated in rice and paid in money ; in the latter case upon a government valuation. See also Griffis, 273-83.

In 1588 the Portuguese established a *caza da fundição* or smelting house, where the produce of the gold and silver mines was smelted, refined, and coined under native supervision, the first coinage taking place immediately. The coins were of gold, electrum, and silver, these metals being valued alike by the natives, but not by their visitors. The coins were thin and oval ; the uncouth work of the hammer. There was only approximate uniformity of standard size, and proportional weight. The principal coins were the oban or quadruple koban, the rio or double koban,¹ the koban, valued at 6,400 bronze zenni,² and its

¹ The gold rio of Hidéyoshi, 1582-98, must not be confounded with the silver rio of a subsequent era.

² After 1671 in dealings with foreigners the koban was valued at 6,800 zenni.

subdivisions the half-koban or boo, and the half-boo or itsi-boo. There were also some minor coins which are noticed in the system of 1671. All of these coins were valued in zenni, but no effort was made by the government to regulate the whole number of zenni in use either separately, or as represented by these coins.¹

As yet the Japanese knew nothing of the widely different estimation in which gold and silver was held by the strangers.

When the sinister designs and cruel transactions of the Portuguese are examined,² it will scarcely be believed that the entire sum of gold and silver which formed the first object of these designs was probably under £10,000,000. But at that period the precious metals were very scarce in Portugal, and the country was greatly excited over the success of the Spaniards in America. The most lavish social rewards awaited any adventurer who succeeded in bringing home any considerable quantity of these metals, and under such circumstances the avidity and perfidy of the new-comers finds explanation, if not excuse.

In the course of less than half a century from the time when the Portuguese first sighted Japan, they succeeded in getting two-thirds of all its stock of gold and silver. Martin says that up to 1598 the Portuguese and Spaniards received at Macao and Manila, chiefly, it is presumed, from Japan, 2,000 chests of silver and gold to the value of several hundred thousand pounds sterling.³

The fall of prices occasioned by this depletion of money,

¹ The following passage in Perry's "Expedition," i. 424, is probably only an allusion to high seigniorage: "Japanese money, from the strict laws that govern its circulation, could not be used in dealings with foreigners."

² For a full account of these transactions see "Hist. Prec. Metals," chap. xvii.

³ In one year alone the Portuguese got £587,500 worth of silver. This year was, of course, an exceptional one. Perry's "Expedition," i., 60. For full statistics on this subject consult my "Hist. Prec. Met." chap. xvii.

the allurements of foreign gew-gaws,¹ the demands of the new religion which the strangers had introduced, and which liberally dispensed indulgences for coins, combined to urge a renewal of mining, this time upon an increased scale. The Portuguese had evidently studied Xenophon's advice to the Athenians: "If you would rebuild the State, you must work the mines, and to work the mines you must have more slaves;" and they urged a similar policy upon the Japanese. Having duped the Shogun and "converted" and won to their purpose the daimios Okubo,² Bingo and others, they reduced a million of the natives to the hideous labour of the mines, and shipped thousands of their brethren to Macao, the Philippines, and elsewhere, even the Malay and negro servants of the Portuguese taking part in this horrid traffic.

Under the stimulus thus furnished the produce of the mines from 1598 to 1624 amounted in value to about £60,000,000, an average of nearly £2,225,000 a year, of which it may be conjectured from Voltaire's remark that about two-thirds consisted of gold.³ All of this metal was

¹ At a later date the Japanese said: "With the exception of medicines (European drugs) we can dispense with everything that is brought to us from abroad." Japanese Memorial of 1710, quoted in "Hist. Prec. Met.," 142. The other articles of this trade were weapons and silks from China, pepper and ivory from India, and medicines, dress stuffs, finery, watches, tin, and lead from Europe, together with some little iron and hardware.

² Okubo was the feudal lord of the island of Sado, the seat of those gold and silver mines to which and to death the Portuguese consigned thousands of Christian converts. This they were enabled to do by promising the deluded Okubo to make him hereditary ruler of the empire and of themselves! When the revolution of 1611 broke out they sank their plunder in a well, from which, together with certain alleged evidences of their guilt, it was afterwards recovered by Iyéyasū. Reed, i. 212. It is possible that this Shogun knew too much about the hiding-places of Portuguese plunder, and that the revolution of 1611 may not have been altogether unconnected with this knowledge.

³ In my "Hist. Prec. Met.," p. 134 n., I estimated that of the Portuguese exports probably two-thirds (of value) were in silver, and that the heaviest shipments were made during the half century preceding

exported : £54,000,000 by the Portuguese, and £6,000,000 by the Dutch.

The proportion of two-thirds gold and one-third silver exported, is confirmed by the coinage, which from 1608 to 1670 comprised 7 million ounces of gold and 80 million ounces of silver, which, calculated at the Spanish ratio of 16, the common ratio of the period when these computations were recorded, were worth about \$140,000,000 gold, and \$80,000,000 silver. Substantially all that was produced was coined, and all that was coined was exported. Among the reef mines opened before this period were the silver mines in the island of Tsushima about the year 670, at which date they are mentioned as belonging to Japan; the gold mines of Oda, in the province of Oshiu, 749; and the gold mines of Suruga, 750. Among those opened during the seventeenth century were the silver mines of Iwami, and the gold mines of Idzu and of Shimo Aikawa on the island of Sado. The latter were discovered in 1613. What profits they yielded before 1869, when modern machinery and methods were applied to them, is not known with certainty, but it may be gathered by analogy. In 1878-9 the main shaft was down 600 feet, and the output for the year was 6,428 tons, yielding \$7 per ton in gold, and \$14 in silver, and requiring the aid of 1,080 workmen, besides a rock-breaker, a stamp mill, winder, furnace, tools, supplies, fuel, &c. The entire product of the mine, if divided equally among all the workmen, only amounted to about one-third of a dollar, or less than 1s. 6d. sterling a day, while the profits were nothing; the mine having lost in ten years about £50,000.

Gold mines have also been opened (date unknown) in

1624. So long as the Portuguese drew upon the stock on hand, this proportion of silver was doubtless correct, but after 1598, when having exhausted the stock on hand they began to draw upon the mines, the proportion was reversed, and two-thirds of the exports were probably of gold. The heaviest shipments, as shown by the table on p. 134 of that work, were between 1598 and 1624.

the provinces of Satsuma, Kai, Osumi, Rikuchiu, and Yeso ; silver mines in Jôshiu and Setsu ; and argentiferous lead mines in Hida, Iwashiro, Echizen, Echigo, Rikuchiu, Suwô, Hiago, and Higo. The "Japan Mail," from which some of these details were gathered, says: "The best gold field in Yeso is that of Toshibetsu. The gravel holds but one-half the amount of gold contained in the poorest gold placers of California."

Small as the product of Japan was in the seventeenth century, it was considered so great at that time, that Adams, the English pilot, wrote in 1611, "There is no need for silver to be sent out from Holland, for in Japan is much silver and gold."

In 1611 the Shogun perceiving that the feudal condition of the country and the superior arts of the Portuguese would eventually lead to the loss of national liberty, determined to get rid of the strangers. To effect this object, he adroitly made use of the Dutch, who, having found documentary evidence that the Portuguese intended to seize the Emperor and enthrone a usurper of their own choosing in his place, the Shogun made war upon them and their native allies and dupes. During four years the country was disturbed by an internecine strife in which more than one hundred thousand lives were sacrificed. In 1615 the power of the rebels and Portuguese was broken, and by 1624 every one of the latter was driven out of the land. Some of them had sunk what gold and silver remained in their hands, in the river near Osaka. In 1670 this treasure was recovered by the Japanese.

The triumph of the Shogun also involved the downfall of feudalism, and the suppression of the usurped powers of the daimios.

Among the latter was the control of the mines and the coinage. "Before the time of the Togugawa shogunate, 1603, the daimios or provincial princes had worked the gold, silver, and other mines included in their domains, on their own account, converting the produce into money as they

thought fit. Iyéyasū, however, took all the mines of the country into his own hands, and placed them under the direction of one Okubo-Nogayasu, upon whose advice he had acted in centralizing the control, and who now took rigorous measures for working and letting the mines." The Shogun also struck all the coins after this date, or else superintended their fabrication, so that the seigniorage should form part of the State revenues, and not fall to the daimios.

The coinage system of 1635 consisted of kobans, containing about 163 grains of gold, equal to about 10 grains to the half koshu : also of silver itsiboos, containing about 120 grains of silver : a ratio of 1 to 12. Besides these coins, which were relatively unimportant, the currency consisted of bronze zenni, of which 1,600 went to the itsibooban. The volume of the currency is unknown. The following scale of equivalents was employed :—

Money Equivalents, Seventeenth Century.

Gold coins	Value : zenni.	Silver coins.	Value : zenni.	Other coins.	Value : zenni.
Oban . . .	25,600	Nibu . . .	6,400	Bronze piece .	100
Rio . . .	12,800	Double Nishiu	3,200	„ Tempo .	10
<i>Koban</i> or "shoo"	6,400	Nishiu . . .	1,600	Brass (Semon) Zen	4
Boo . . .	3,200	Boo . . .	800	Bronze double „	2
Itsibooban . .	1,600	<i>Itsi-boogin</i> . .	400	„ Zen . .	1
Koshu . . .	800	Half . . .	200	„ $\frac{1}{2}$ Zen .	$\frac{1}{2}$
Half Koshu . .	400	Quarter . . .	100	Iron Rin . . .	$\frac{1}{16}$

Notwithstanding that the author has taken pains to render this table complete and correct, he is by no means sure of having succeeded. Not only do written authorities disagree, but so also do the various native officials and other persons to whom he has applied for information on the subject. Kämpfer says the oban was equal to ten kobans : other authors say three, while the evidence of the coins is in favour of eight kobans. The Portuguese are said to have called the nishius "dollars ;" while the Dutch called them "crowns." I can find no multiple of the old itsiboogin which agrees with the Portuguese or Spanish dollar, unless it is

the nishiu, or quadruple itsiboo of 1696, and this contained 428 grains of fine silver; while the Spanish dollar of that period only contained about 400 grains. Neither is it certain that the nishiu contained four times as much metal as the itsiboo: much doubt being thrown upon these relations by the changed value of the coins at subsequent eras. What is certain is the contents and relative value of the koban, itsiboo-ban, itsiboo-gin, and bronze zen; and as all the calculations in this work have been made from these coins, and their contents and relations, the uncertainty alluded to cannot affect anything herein, beyond portions of the above table of equivalents.

It is worthy of remark in this place that the change of ratio between gold and silver from $1 = 1$, to $1 = 12$, which the Japanese made in 1635, did not arise and could not have arisen from any difference which had developed itself in the cost of producing those metals, first, because in many cases both of them came from the same ores, and, therefore, one cost as much as the other; and second, because the sudden occurrence of such an enormous difference in the cost of production is impossible. The change was due simply to the legal ratios in Europe, which by this time the Japanese had learnt and determined to profit by in the arrangement of their own monetary system. The rate of profit which they derived from this change was the same as Pinto had earned on his first voyage, namely, 1,200 per cent. The amount was far greater, for in this instance the rate operated upon the entire emission of gold coins, every million ounces of which was suddenly raised in value from, say, £200,000 to £2,400,000.

The Dutch had arrived in Japan previous to these occurrences, their first voyage having been made in the year 1600. Up to the outbreak against the Portuguese, the former had acquired no influence and accomplished but little trade with the islanders. Actuated by jealousy of the Portuguese—a jealousy which was sharpened by sectarian and patriotic hatred, for the Dutch were Protestants, and

Holland was a rebellious province of Spain, to whom Portugal also belonged—they opened the eyes of the Japanese to the arts of their rivals, instigated the outbreak against them, and became the immediate cause of their well-deserved expulsion.

At the outset of the trade which fell into their hands the Dutch annually exported about £840,000 worth of the precious metals, but this soon fell away, so that up to 1646 they only got altogether about £9,400,000 in gold and £19,000,000 in silver.

Previous to 1641 they always preferred silver to gold: after that year, owing to the change of ratio in Holland to $12\frac{1}{2}$ for 1, they preferred gold to silver, but as a matter of fact they got about the same proportion both before and after that year, namely, about two-thirds silver and one-third gold. From 1646 to 1671 they got about £2,000,000 gold and £9,200,000 silver.

These large exportations, though they depleted the money of Japan and lowered the prices which the Dutch obtained for their goods, and therefore continually lowered their profits, yet did not efface them entirely, and the trade continued, until the Japanese, perceiving from the scarcity of silver coins, that the end of this movement would be industrial paralysis and ruin, took vigorous measures to stop it. In 1671 they issued an edict forbidding the exportation of coins of gold or silver or of silver bullion.¹ The Dutch then (1672) bought up all the old kobans (of 252 grains) they could obtain, at something less than six taels weight of silver each, a ratio of about thirteen: whereupon the Japanese extended the export interdict to gold.

Although Raffles intimates that illicit traffic defeated these measures, their efficacy is proved by the almost immediate falling off of the Dutch profits and trade. From 1649 to 1684 the average annual dividend of the Dutch

¹ Hildreth, 385. Says Capt. Golownin, p. 207: "Among the prohibited exports are coins." Says Com. Perry, p. 310: "The Japanese strictly forbade by law the exportation of their money."

East India Company was $17\frac{2}{3}$ per cent. In 1670 and 1671, which were exceptional years, it was 40 and 45 per cent. respectively, and although the Japan trade only furnished a portion of the Company's revenues, these rates indicate how profitable its operations were. In 1704 the profits of the Japan trade had fallen so low that the Company seriously thought of abandoning it altogether. This could hardly have been the case had the condition of affairs admitted a profitable exchange of the precious metals. Baffled in their efforts to obtain gold and silver, the Dutch now turned their attention to copper. It seems that the copper of Suruga contained some gold which the Japanese had not learnt to separate, but which the Dutch knew how to treat. This led to an eager demand and large shipments to Holland, where the copper was refined and the gold extracted from it. From 1663 to 1708 the exports of copper were 1,114,446,700 pounds (catties?), say 600,000 to 700,000 tons.¹ In 1644 the price of sheet copper in Japan was 20 taels the picul, equal to $87\frac{1}{2}$ grains of silver, say 1s. 4d. sterling per pound avoirdupois: a ratio of value between copper and silver of eighty to one. By the year 1708 the Japanese had learnt to refine copper and separate the gold from it nearly as well as the Dutch. In that year, therefore, they put an end to the trade by interdicting the export of copper.²

In spite of these measures the currency continued to decrease. Without slavery the mines were unprofitable. Every addition to the currency which their produce effected only tended to raise the cost of working them and to diminish their profits. From this and the other causes presently to be mentioned the government found that it had embarked in a losing industry and it gradually abandoned mining and relinquished it to lessees, who were almost invariably the daimios of the districts in which the mines were situated.

¹ The "Encyc. Brit." 1886, says 250,000 tons, but appears to be in error.

² Hildreth, 385.

The period from 1671 to 1859 is so instructive that from this alone may be gathered almost every lesson useful in the monetary regulations of States. During this period, as before European intercourse, Japan was substantially separated from the rest of the world and at peace. The people were skilful, energetic, and enterprising. They were acquainted with, and had employed, almost every known form of moneys, corn moneys, gold, silver, and bronze coins, and paper moneys. They were familiar with moneys emitted by feudal lords, and others by the imperial government. They possessed mines both of gold, silver, and copper, and they could separate and refine these metals. They manufactured the best of paper: they knew how to cast, to strike, and to print moneys. There was but one thing they did not know in this connection, and that was the nature and functions of money, the mode of its operation upon prices, and its influence upon civilization; and this ignorance greatly impeded the progress of the State.

In these two centuries of Japanese experience we appear to be going over the entire history of Europe from the fall of the Western Empire to the discovery of America. Coincident with the gradual failure of the mines, a fall of prices went on which was only imperfectly retarded by means of degrading and debasing the coins, and this fall of prices led to a decay of trade and discouragement of industry which impoverished and weakened the government, compelled it to rely more and more upon the daimios for revenues and military aid, and in the end to transfer nearly all its powers to those usurpers.

In 1696 the Japanese reduced the koban to about 132 grains and the itsiboogin to 107 grains, a ratio of nearly one to thirteen. Within recent years the Dutch had made a profit by smuggling gold out of Japan, where it was worth twelve times as much as silver, and selling it on the coast of Coromandel, where in commerce with Mexico it fetched fifteen times as much. This trade had once afforded a profit of twenty-five per cent. The change of ratio in

Japan and the increasing cost and risk of the traffic now turned this to a loss of fifteen per cent.

The depletion of money which the Portuguese had occasioned had rendered it necessary to permit the use of Chinese bronze chuen for money. This practice was stopped by the Shogun Iyémitsū, 1623-50, who coined a new emission of native zenni and decried the foreign coins. A similar though lesser depletion of money having afterwards been occasioned by the Dutch, the Japanese were again forced to add to their circulation of zenni and at the same time to lower the weight of the pieces.

During the reign of the Shogun Yoshimuné, better known by his title Kange-yé, 1717-44, zenni were made of iron. They were intended to complement and perhaps eventually to replace the outstanding copper zenni; but the iron ones being issued in excess, eventually lost their nominal and fell to nearly their commodity value, at which they now pass, for they are still in circulation. These iron zenni, of which the writer possesses one, are round, $\frac{3}{4}$ of an inch in diameter, and have a square hole in the centre $\frac{1}{4}$ of an inch wide. They are cast, and weigh about eight to the ounce, avoirdupois. When first issued, they passed current as copper zenni. Ten of these are now required as the equivalent of a copper zenni. They are inscribed with the legend, "Kang-yé-Sze-Foh"; the last term meaning lawful money.¹ After the Shogun had introduced these coins into use, the daimios commenced to cast them on their own account, and their excessive numbers may have been due to this agency rather than the Shogun's impolicy. These iron zenni, or catties, or rin, are now chiefly used for offerings in the religious temples of Japan.

In 1710, the koban was lowered to 120 grains or $7\frac{1}{2}$ grains to the half koshiu, while the itsiboogin was coined at about 75 grains, a ratio of 1 to 10.

¹ Mr. James White, in the London Numismatic Chronicle, N. S. xx. 174-6, gives the inscription of others as follows, "Ching Yung, Tung Pau," or "the current money of Yung the Prosperous."

In 1720, the koban was lowered to 80 grains. It is believed that the silver coins were also lowered; but no assays of them have come to light.

While these changes were going on, a new trouble arose: this was the diminishing product of the mines. In vain were the most energetic measures resorted to by the government to increase the produce of gold and silver¹: nature had scattered these metals too sparsely and adventitiously to render them subservient to man's will. There was a continual loss of these metals occasioned by their consumption in the arts, by accident, by wear and tear, and other means, with which the product of the mines wholly failed to cope, and the government, finding that a bewildering mass of subterranean rocks was an unprofitable place in which to seek for the materials of a national money, turned the mines over to the daimios, and thus, while ridding itself of a source of pecuniary loss, surrendered an essential requisite of its own autonomy, and opened the door to the re-introduction of the feudal system, whose seeds had never been wholly eradicated from the country.²

It was in this condition that Commodore Perry found Japan, and the facility accorded to him in re-opening that country to foreign trade is to be accounted for rather from the desire of the imperial government to shake off the feudal system which threatened its existence, than from desire of foreign intercourse, or fear, at this period, of foreign conquest.

The date of this re-opening, 1854-1859, corresponds

¹ The native author, Tsikugo, alludes to the unwonted energy with which the mines were worked by the Tokugawa shoguns.

² Raffles, xl. It seems strange that the Japanese should have worked their mines at all. A bitter experience had proved to them that so long as the precious metals were to be obtained in Japan by Europeans, the State was exposed to intrigue, treachery, and the danger of overthrow. Why not close them, as the Coreans had done in the early part of the century, "lest the discovery of these metals should attract the cupidity of foreigners"?—Report of U.S. Minister Foote, dated Seöul, Corea, August 1, 1883.

roughly with the native era of Ansei, which began in 1855. At this period agricultural as well as other classes of rents were reckoned and paid in koku of rice. Retail dealings were couched in bronze zenni and iron rin, ten of the latter going for one of the former. The daimios issued paper kinsatsū, which were current only in each "han" or feudal clan. They were payable for local taxes, and in this sense were redeemable, but it is not believed that the holder had the right to insist upon their "conversion" into coins of any kind. Gold, electrum,¹ silver, bronze, and iron coins were in circulation. Some of these were struck; others cast. Some were fabricated by the Shogun, others by the daimios, and still others by forgers. They were each valued in so many bronze zenni, of which, regarding the subject not from the Japanese but the European point of view, and the point of view at that time when the ratio between gold and silver was 1 to 16, about 500 were of equal purchasing power to the bullion contained in a silver dollar.

The nominal value of the gold and silver coins outstanding from the mints of Japan and not known to have been melted or exported, was, in 1855, as follows: gold, 81,588 million zenni, silver, 24,513 million zenni, together, 106,101 million zenni. In addition to the gold and silver coins, the currency of 1855 consisted of a large sum in paper kinsatsū, besides bronze and other zenni. Owing to the uncertain relation between the zenni anterior to Ansei, and those of the later monetary system of Meiji, these various elements of the old currency can neither be added together nor translated into the new. If conjecture be allowed to take the place of fact, it would be that 4.8, say 5, old zenni equalled one new one. Hence the gold and silver portions of the old coins outstanding were equal, nominally, to about 200 million yen or dollars, less seigniorage about two-thirds, leaving

¹ The use of the term "gilt" to express electrum, or an admixture of gold and silver, is rather misleading. See Mr. Tookey's report in Rep. U. S. Mon. Com., 1876, p. 292.

the value of the metal at about 70 million yen, say two yen per capita of population.

Notwithstanding the efforts which the government made to adhere to the Ansei system of money, it was found impossible to do so after the ports were opened. Japanese coins were not difficult to imitate, and counterfeiting soon took place upon so large a scale, as to call for considerable importations of the precious metals wherewith to imitate the highly overvalued coins of the country.

During the years 1860-63 gold flowed in, not only from Europe, but also from China, and was rapidly struck into overvalued coins. Not satisfied with the large profit thus obtained, the Japanese counterfeiters struck gold coins from metal debased below the legal standard, and even fabricated false ones of silver, washed over with gold. Some of these last-named pieces, weighing about 100 grains each, were received at the Bank of California, and sent to the San Francisco mint for assay. In order not to be outdone by the counterfeiters, the government commenced coining with new energy, and at a much lower rate of seigniorage. It was probably at this juncture that the value of the old zenni was raised. In 1864, nearly a million dollars in gold were imported from China and coined at Yedo.¹

The increase of money thus occasioned brought about a rise of prices, a quickening of industry, and such improved relations between the people and the crown, that the latter was enabled to assert its proper authority, and shake off the shogunage, and, with it, the entire system of feuds. This memorable revolution took place in 1868-9, and is known by the name of Meiji.

No sooner did the Shogun resign (1867) and the Mikado firmly regain his power (1868-9), than the attention of the government was drawn to the necessity of reforming the currency.

This reformation commenced with the suppression of the kinsatsū issued by the daimios, and its replacement by

¹ "U.S. Com. Rel.," 1865, p. 501.

paper notes issued by the general government. Although the sum of money was thus diminished, its efficiency was greatly enhanced, and this increased efficiency kept pace with the development of industry which had brought on the revolution, and which the revolution had in turn conserved. The feudal kinsatsū had only circulated in the feudatories; the national kinsatsū now circulated all over the empire.

The next step taken in reforming the monetary system was a false one. The Japanese Government, in viewing the superior power and resources of European States, not unnaturally ascribed some of these advantages to their systems of money, and resolved to adopt a similar system for itself. In the very first year of Meiji it invited the advice and co-operation of English and American financial experts, and commenced the erection of a new mint at Osaka.¹ This edifice was completed in April, 1871, at a cost of \$2,000,000, and on the 4th August of that year the establishment was thrown open to the reception of bullion from the public to be coined free of seigniorage.

Meanwhile the monetary system, except as to seigniorage, had not yet been essentially changed. The paper issues had been kept pretty closely to about 100 million yen; and although in 1871 but little gold was in circulation, the outstanding gold and silver coins were reported in 1872 at 80 million yen; and this was probably an under-estimate.

The coinage system of 1871 was based on free exports and unlimited coinage, with a seigniorage charge of 1 per cent on gold, and about $1\frac{1}{2}$ per cent on silver coins. The principal gold coin was the yen of 23.15 grains fine and the principal silver coin the yen of 374.4 grains fine, both full legal tenders: a ratio of 16.17. As at this ratio, and subject to these regulations, silver was undervalued (compared with its market price in Europe) the new coins soon found their way to the melting pots of London and Paris, and the

¹ On these measures see my "Eighth Essay on the Treasury," addressed to the Japanese Financial Commission, New York, 1870—pamphlet.

“double standard” system came to an end within a year. Still trusting to the wisdom and good faith of its European advisers, the Japanese now changed their system to the “gold standard.”

The new system, which may be said to date substantially from 1872, was based upon gold bullion at the rate of 23.15 grains of fine gold to the yen, consisting of 100 sen, or 1,000 rin. All other than gold coins were over-valued and of limited legal tender, or made “subsidiary” to the gold ones, in which alone all payments over limited sums could legally be made. In short, Japan was taught to adopt the idiotic “free coinage” Act of 1666 as though it were a gift from heaven; and it is a very singular thing to observe that this planting of the “gold standard” in Japan occurred almost simultaneously with its introduction into Germany, France, the United States, and other countries. A doubting world has been repeatedly assured that these occurrences were mere coincidences, due to a correspondence of information and opinion; and this may possibly be true. However, one of these coincidences is very remarkable. Previous to this date the dollar in America was termed in law the integer of accounts; in the Acts of 1873 and 1874 it was falsely termed the “unit of value,” and similarly the “Japanese Currency System and Mint Regulations” of 1875 aver that “the one yen is unit.”¹

The effect of calling in the old coins and reminting them was probably to disclose many light-weight and false coins, and these passed current at a discount. This may serve to explain the fact that in 1875 the paper notes were worth 1 or 2 per cent. more than gold coins. The circulation of gold coins at this date is estimated by Griffis at \$1.75, and of silver coins at 25c., total \$2 per capita.

No sooner was the new system fairly in operation than the gold coins began to disappear. The cause was obvious:

¹ These regulations are dated 1st month Meiji, 8th year, signed Okuma Shigenobu, Minister of Finance, and are printed in the Rep. of the U.S. Mon. Com. of 1876, i. app. 275-7.

the Japanese had abolished seigniorage, and in doing so had exposed their gold coinage to the plunder of the commercial world. By the year 1876 the gold coins were being hoarded, and were soon to disappear entirely from the circulation. In 1878 there were few or none left.

The movement of gold and silver between 1872 and 1877 appears to have been somewhat as follows: sums in millions of yen :

	Gold.	Silver.	Total.
Circulating January 1, 1872	92	18	110
Exports over imports to June 30, 1876	29	9	38
Circulating June 30, 1876	63	9	72

To make good the deficiency thus created in the measure of value, the government was obliged to increase its paper issues, and in 1877 gold coins rose to a premium in paper. In the following year the coins entirely disappeared. The vicissitudes of the currency can be hereafter best traced in the following table :—

Paper Money of Japan.—Sums in Millions of Yen.

Year.	Estimated outstanding.	Value of paper in gold yen.	Remarks.
1850	100	Par	Oliphant. Chiefly provincial kinsatsŭ.
1862	100	Par	Little gold seen. U.S. Consul at Kanagawa.
1866	90	Par	Rise of prices.
1868	90	Par	Revolution of Meiji. Provincial replaced by national notes.
1869	90	Par	Rise of prices.
1870	90	Par	Rise of prices. New coinage system begun.
1871	90	Par	Little gold seen, owing to re-coinage.
1872	90	Par	Estimated coins, 80 to 110 millions.
1875	90	¹ 102	Estimated coins, 72 millions. Griffis.
1876	94	95	Gen. G. B. Williams states paper 94 millions.
1877	130	90	Rumour of 40 millions more paper.
1878	160	80	Gold coins disappear entirely.
1879	200	50	Three million counterfeit notes discovered.
1880	240	38	Reform in engraving and printing notes.
1880	220	62	Contraction. Fall of prices.
1883	113	—	Contraction continued. Trade paralysis.
1884	124	84	Gold premium 19%; silver, 9%.

¹ Although the notes were at a discount in 1877, yet they had pre-

As several of the sums in this table have been derived from newspapers, and others deduced from a comparison of discordant statements, they must be accepted with some allowance for error. A remarkable instance of this discordance occurs in 1877. Gen. Geo. B. Williams, "financial adviser to the Mikado," is reported to have stated the discount on kinsatsū at 3 to 4 per cent. below "the silver standard of value," whilst Consul Flowers reports it with equal lucidity as "a discount of about 80 per cent. against gold."

In 1877 the paper circulation consisted of 112 million yen issued by the Government, and 18 millions by fifteen "national banks," established after American example. The imperial revenues were 63 millions, of which about nine-tenths were paid in rice. In 1878 there were thirty-three national banks, all issuing circulating notes. In 1879, 3 million of counterfeit two-yen notes, fraudulently printed from government plates, were discovered at Osaka, and several high functionaries were arrested upon the charge of intending to issue them. By this time all the gold and silver coins had disappeared from circulation, and, although it does not follow that they had been either melted or exported, this was probably substantially the case. The quantity of silver coins held by the banks and depositaries was estimated at only 8 million yen.

Finding it impossible to maintain gold coins in circulation, and anxious to meet the views of its new financial advisers, who fallaciously assured it that it could not hope to be successful in maintaining commercial relations with the West unless it adopted as an ingredient of its currency some form of money common to the commercial world, the government resolved to adopt the "silver standard." This policy was somewhat facilitated by the "fall of silver" in Europe.

viously been at a premium of 1 or 2 per cent. over gold.—U.S. Consul Flowers, Hiogo, April 15, 1878, in "Com. Rel.," 1878, i. 325-6.

Accordingly, in 1878, Japan adopted as the integer of its accounts and dealings with foreigners a silver yen of 416 grains, .900 fine, net 374.4 grains, about the same as the American dollar, and declared such coins legal tender to any amount. A similar function was also conferred upon the Mexican dollar of 374.02 grains fine and the trade dollar of 378 grains. Nevertheless, the kinsatsū continued to fall in value. In 1880 the total circulation of these notes was probably 240 to 260 million yen. Besides these there were in circulation about 10 million silver yen or dollars, and a large but unknown amount of bronze coins.

During the period of rising prices caused by the large issues of kinsatsū, the trade of the country rose to unprecedented dimensions, and a great stimulus was imparted to industry. Had the government understood the principles of money, this desirable movement of affairs would not have been allowed to stop. But under the advice of the financial advisers whom it had invited from the Occident, it commenced in 1880 that policy of contraction which in four years' time lowered the value of lands in Fukushima ken 27 per cent., Minami 33, Kofu 70, and Aichi 100 per cent., and other commodities correspondingly. In 1885 the currency was stated by the Japanese minister of foreign affairs as follows: Notes, government, 93; bank, 31: total, 124 million yen; gold coins, 81; silver coins, 24; total, 105 millions; altogether 229 millions, besides bronze coins to an unknown amount. In addition to the coins in circulation, there were stated to have been 10 million gold and 30 million silver coins in the treasury and banks. I regard the 105 millions of gold and silver coins reported to have been in circulation as entirely mythical. They are merely the coins which were struck at the mints in previous years, over and above the coins entered outward in the export registers, and—considering that the gold ones bore a premium of 19 per cent. and the silver ones a premium of 9 per cent. in paper—could scarcely have formed a part of the circulation.

The following table affords a view of the various coinages

of the koban from 1588 to the present time. Values in Japanese yen or American dollars.¹

The Gold Koban.

Year.	Total grains.	Gold pro- portion.	Silver pro- portion. ²	Net gold gr.	Net silver gr.	Value of gold.	Value of silver. ²	Total value.
1588	275.00	.9166 $\frac{2}{3}$	—	252.08 $\frac{1}{2}$	—	\$10.85 $\frac{1}{2}$	—	\$10.85 $\frac{1}{2}$
1603-4	274.08	.8620	.1370	236.26	37.55	10.17	.10	10.27
1605-22	275.04	.5640	.4320	155.12	118.82	6.68	.32	7.00
1696	200.16	.6549	.3440	131.08	68.85	5.64	.18 $\frac{1}{2}$	5.82 $\frac{1}{2}$
1710	180.00	.6666 $\frac{2}{3}$	—	120.0	—	5.19	—	5.19
1720	137.52 ³	.5640	.4320	77.56	59.40	3.34	.16	3.50
1730 ⁴	138.72	.5550	.4420	76.99	61.31	3.31	.17	3.48
1787 to								
1837	138.72	.5550	.4420	76.99	61.31	3.31	.17	3.48
1854	—	—	—	80.00	—	3.50	—	3.47
1858-66	51.36	.5747	.4230	29.52	21.73	1.27	.05 $\frac{2}{3}$	1.32 $\frac{2}{3}$

The following table shows the various coinages of the itsiboo-gin from 1588 to the present time. Values in American silver dollars.

The Silver Itsiboo.

Year.	Total grains.	Fine-ness.	Net grains.	Present value.	Ratio, silver to gold.
Before					
1588	133.92	993.7	133.08	\$0.36	1
1635 ⁵	133.92	896.1	120.00	.32 $\frac{1}{3}$	12
1696	133.44	801.8	107.00	.29	13

¹ Among the native works on coins and the precious metals are a pamphlet on "The Riches of Japan," by Arrai-Tsikugo-no-Kami-Sama, a person of distinction at the Emperor's Court. This was written about 1708, brought to Europe by Titsingh, about 1810, and translated into French, and published by Klaproth in the second volume of the "Nouveau Journal Asiatique." It is an argument against the exportation of the coining metals. Another is a numismatic work in seven volumes, published at Yedo, in 1822, and mentioned by Jancigny and Hildreth. A third is "Dai-nipon-Kuwahei-shi" (History of Japanese Coins) referred to by Mr. William Bramsen of Tokio, himself an authority on the subject.

² Where the proportion and value of silver is left blank, the silver portion of the coin is converted into gold, presumably at the European ratio of the time.

³ Deduced from a two-koban piece of exactly double weight.

⁴ Sir S. Raffles, and he is repeated by Hildreth, mentions a koban of 1730, which was five per cent better than that of 1710, but I have met with no assay of it.

⁵ After 1635, there were two kinds of Japanese silver coins, known among the Dutch as "heavy" and "light money," the latter sometimes

Year.	Total grains.	Fine-ness.	Net grains.	Present value.	Ratio, silver to gold.
Before					
1709-13 ¹	—	—	75.00	.20	10
1854	—	—	36.44	.09 $\frac{3}{4}$	7 $\frac{1}{4}$
1868-9	29.28	990.0	29.00	.08	15
1870	29.28	907.0	26.55	.07 $\frac{1}{4}$	13 $\frac{3}{4}$

In the absence of the text of the laws on the subject, the ratio between gold and silver in the coinages of Japan is somewhat obscure. A report on the ratio relating to the year 1854 was drawn up by Pursers Speiden and Eldridge, a committee of two persons appointed by Com. Perry to arrange with the Japanese officials the rates of currency and exchange which should govern their commercial intercourse. This paper, published in the Report of the Expedition, is dated Simoda, June 15, 1854, and enters into an elaborate account of the Japanese currency, which, but for its extraordinary confusion, would be of great value in this inquiry. Unfortunately, the evident strangeness of the subject to the officers entrusted with its elucidation, their prejudice, partiality, and the errors of theory which pervade it throughout, render it of little use. So far as it can be understood it presents the following scale of values.

Value of Coins and Bullion, and Rate of Seigniorage in Japan, 1854.

<i>Sums in "cash."</i>				
Gold.	Tael.	Dollar.	1 Itsiboo-ban.	
	583 $\frac{1}{2}$ gr.	23.22 gr.	20 gr.	
When coined in Japan	46,640	2,064	1,600	
Bullion	19,000	836	780	
Seigniorage, 59.3%	27,640	1,228	820	
Silver.	Tael.	Dollar.	4 Itsi-boogin.	
	583 $\frac{1}{2}$ gr.	371 $\frac{1}{2}$ gr.	145 $\frac{3}{4}$ gr.	
When coined in Japan	6,400	4,600	1,600	
Bullion	2,250	1,600	556	
Seigniorage, 65%	4,150	3,000	1,044	

distinguished as "bar silver." All kinds of silver were carried to account without distinction down to the year 1635, at the rate of 62 $\frac{1}{2}$ stivers or \$1.25 per tael. After that period the "bar silver" or Tokugawa coins were reckoned at 57 stivers or \$1.14 per tael.—From a Dutch memoir, by Imhoff, quoted in Raffles' "History of Java," vol. ii. app. B.

¹ During the reign of Naka Mikado, 1710-35, three Shoguns succes-

The quantity of fine gold in the itsiboo-ban was 20 grains, and of fine silver in 4 itsiboo-gin a trifle over $145\frac{3}{4}$ grains: hence the ratio of value between gold and silver in the coinage was as 1 to 7.284.

Grouping together the various data on the subject, we have the following comparative table of the legal ratio in Japan.

Year.	Ratio.	Authority.
Before 1635	} 1	Sir Edw'd. J. Reed, and Miss M. B. Unger, in the "Californian" for July, 1880, p. 8.
1635			12	Deduced from the coins.
1672	13	Old kobans bought by Dutch at about six taels silver.
1696	13	Deduced from the coins.
1710	10	Sir Isaac Newton, 1717, said "9 to 10."
1720	10	Postlethwayt, "Dic. Com." Art.—"Coins."
1854	$7\frac{1}{2}$	Report of Pursers to Perry's Expedition.
1858	6	Griffis. Possibly a blunder.
1868-9	15	Deduced from the coins.
1870	$13\frac{3}{4}$	Deduced from the coins.
1871	$16\frac{1}{5}$	"Double standard." Schmidt.
1872	$14\frac{3}{8}$	Gold "standard." Silver limited in function. ¹
1876	$14\frac{3}{8}$	Gold yen contains 23.15 and silver yen 332.8 grains fine.
1878	—	"Silver standard." Trade yen of 378 and yen of 374.4 grains fine, full legal tenders. The actual money of the country consists of paper notes and bronze coins.

The theory which, I believe, was originally advanced by Kaempfer that during the sixteenth century the ratio in Japan was 1 to 4 is evidently derived from the fact that the gold boo is worth four silver boos, &c., and appears to have no other foundation. With equal truth it might be said that the ratio in America is 1 to 1 because the gold dollar is exactly equal in value to the silver dollar.

sively carried on the government of Yedo, viz., Iyénohu, Iyétsugu, and Yoshimuné. The first of them, Iyénohu (1710-1713), finding that, owing to previous degradations of the coinage, a portion of it—the heavier pieces—were hoarded, issued a new coinage of lighter weight but better alloy. These changes were not completed within his brief tenure of office, and had to be concluded by his son and successor, Iyétsugu (1713-17).—Reed, i., 233-4.

¹ In the system of 1872 the copper rin weighs 14, and the copper sen 110 grains. The old bronze tempo weighed 265 to 372, average $321\frac{3}{4}$ grains: and the old bronze zen about 40 to 50 grains.

Yet this theory is given as matter of fact in the official report of the U.S. Minister Townsend Harris dated July 6, 1857, and published in the "Diplomatic Correspondence;" also in Chevalier's "Fall of Gold," in "Blackwood's Magazine" for October 1863, vol. lvii., p. 503, &c. It is possible that the quadruple relations between boo-ban and boo-gin, &c., may have arisen from an actual ratio of 1 to 4 in some ancient time; but I can find no confirmation of the theory. It was certainly not the ratio in the sixteenth century.¹

The following table shows the value in Japan of the Spanish and American silver dollars in old zenni at different epochs.

Value of foreign Silver Dollars in Japan.

Year.	Value: Zenni.	Authority.
1820 .	464 to 474	. Kelly's "Cambist," 197.
1850 .	470	. Oliphant.
1854 .	464	. Perry's Expedition.
1860 .	535	. U.S. Com. Rel., 1861, p 336.

The pursers of Perry's squadron positively assert that, in Japan, American silver dollars were only valued as so much bullion. "It is at the bullion value that the government has decided to receive our dollar, the same at which they take the silver from the mines, asserting that, as its present die and assay give it no additional value, it is worth no more to them." They then state that the Japanese valuation of the bullion in a silver dollar was 1,600 "cash." If this was the same rate at which they valued "silver from the mines," the bullion in four itsiboo-gin was worth 556 "cash," while the four itsiboo-gin when coined were worth, by law, 1,600 "cash." In these details the pursers agree with other authorities. Yet Commodore Perry gives the value of the bullion in the American silver dollar at 464 zenni, thus making a distinction between zenni and "cash;"

¹ The relation may have arisen from the value of silver and copper in the coinages of A.D. 699.

and in this valuation he is supported by Kelly, Oliphant, and others. The only way in which these discrepancies can be reconciled is to regard the "cash" as ordinary zenni, and the "zenni" of the last-named authorities as "semon" or brass zenni, each of which was worth four of the ordinary ones.

In a former work the author was taken to task by one of his critics for asserting that in the systems of money adopted by Rome and other states of antiquity the legal value of the coins was much greater than that of the metal of which they were composed, and that in order to successfully maintain such overvaluation the coins must have been limited in number; otherwise their value would fall to that of bullion. Under this limitation and the overvaluation which resulted from it the coins became numerals or numeraries, whose value depended upon their numbers and not upon their material. It was denied that such was the case, and doubted that such systems of money were practicable.

Yet the Japanese system was of this character only forty years ago. The gold coins were overvalued more than twice, and the silver coins nearly three times, that is to say, 780 zennis' worth of gold bullion was coined into one itsiboo-ban, valued at 1,600 zenni, and 556 zennis' worth of silver bullion coined into four itsiboo-gin valued at 1,600 zenni. To maintain this overvaluation, the gold and silver coinage must have been limited, otherwise the coins would have failed to retain in the exchanges the overvaluation conferred upon them by law. As in point of fact they did retain this overvaluation, it follows that the coinage was limited, and that the value of the coins depended upon their numbers. Hence, to this extent, the system was numerical. If the history of money in Japan had no other worth than to prove the practicability of numeraries, it would nevertheless repay attentive study, for this proof affords a key to the otherwise inexplicable systems of the ancients.

There is another interesting conclusion to be derived from the study of Japanese money. The premium which

high rates of seigniorage offer to counterfeiting, and the ease with which coins of any kind can be imitated, renders the imposition and retention of such rates impracticable unless the government wholly controls the supplies of the precious metals. Hence it may be safely inferred that wherever high seigniorage was maintained the government worked or controlled the mines, and regulated the importation of the precious metals.

These deductions by no means exhaust the interest of the history of money in Japan. It offers many proofs of the close correspondence between monetary systems and the march of civilization. The Japanese are a singularly energetic and intelligent race, their country is insular, and free from the danger of foreign interference, its topography is favourable to industry, the natural resources are abundant, the soil is fertile, the rains are perennial, the climate is temperate, the government is paternal, and the religion tolerant, and of a character that offers no obstacle to progress. Yet until quite recently Japan had made no progress for centuries. The land is only sparsely inhabited and partially cultivated, the mechanical arts are in their infancy, the fine arts have enjoyed but scant development, and science is almost unknown. As for recent progress, it is merely the result of European intercourse, and has no inherent force. Let any of the causes that have been assigned by writers on civilization as a reason for social retardation or decay be applied to Japan, and it will fail to explain the backwardness of this country. The sun shines there as brightly as elsewhere, the rain falls as favourably to man, the soil is as rich, the government is as mild: yet Japan from the societary point of view is a petrification—and it has been a petrification, except at rare intervals, ever since its history began. These rare intervals of progress offer the only solution to an otherwise unaccountable phenomenon. In every instance these were intervals of increasing moneys and rising prices. The same correspondence between these occurrences which Hume observed

in the affairs of England and Alison in those of Rome, is to be found in the history of Japan. Not high, but rising prices, have invariably been followed by progress; and not low, but falling ones, by decay. The stationary condition which has characterized Japan is to be imputed neither to the influence of nature nor the operations of individual men, but rather to those governmental arrangements, foremost among which stands Money, which, instead of promoting the development of civilization, has proved to be an obstacle and a drag.

CHAPTER XXI.

THE THIRD RENAISSANCE.

Gold and silver moneys rise in purchasing power between the discovery of one great mining country and another, when they fall—The failure of the European placers led to the decay of Roman civilization—Abortive attempt of Charlemagne to arrest this decay—Arabian mining and commerce exercised a more effectual influence—The First Renaissance—But no influence entirely effectual until the opening of the American placers—Brazil—Plunder of the Orient—Rapid advance of European civilization—The Second Renaissance—Failure of the American placers—Efforts to arrest impending social decay—Reef mines—Negro slavery—Gratuitous coinage—Copper moneys—Land-bank notes—Clipped and sweated coins—These devices prove unavailing—The American and French revolutions—Illimitable paper issues—Plunder of Europe by Napoleon—Closure of the Spanish-American reef mines—Convertible bank notes arrest the impending collapse, and substitute a spasmodic prosperity—Bankruptcies of 1835-45—Discovery of the California placers—Australia—Immediate relief—The Third Renaissance—Signs of another collapse—The future.

IF it be true—and it is submitted that upon the body of evidence adduced in the author's various works there is no longer room to question the fact—that moneys made exclusively of the precious metals have a tendency to rise, and do continually rise in purchasing power between the discovery of one great mining country and another, when their purchasing power suddenly falls, to be again restored when the product of the mines shall have disappeared, then the connection of such moneys with, and their influence upon, civilization, is evident. A long continued fall of prices, not alone of farm products and manufactures, but also of lands and services, works con-

stant injury to the agricultural, manufacturing, and commercial classes; while at the same time it confers unjust benefits upon lenders of money and the recipients of fixed incomes from rents and loans; because such incomes continually tend to become enhanced in purchasing power. From this cause ensued the exclusive enjoyment of wealth by the landlords and money-lenders of decaying Rome, of the middle ages, and of the period preceding the American and French Revolutions. These inequitable rewards of fortune, when in operation for long periods, eat like cankers into the body-politic, and entirely change the form of its development.

The exhaustion of the Roman placers in Spain, Gaul, Pannonia, Dacia, &c., deeply affected the history of European civilization. Progress was rapidly succeeded by retrogression; growth by decay; and order by turbulence and the disintegration of empires.

When the bottom of this social abyss was reached, that is to say when the falling of prices through several centuries of time, had rendered reef mining profitable and imparted a new, though feeble, impulse to prices, and to that civilization which was seen to be so closely connected with prices, the precarious nature of the new social foundation caused it to give way almost as soon as it was brought into use. Charlemagne possibly foresaw this when he placed money upon a new footing. The precious metals were not discarded, but they were valued in imaginary livres, sols, and deniers, a system that could it have been executed and reformed from time to time by an authority as general and absolute as that which had initiated it, might have proved an efficient substitute for the previous one. But the empire and the measures of Charlemagne passed away with his life, and the monetary system which he had established only served to generate a new, or rather to revive an ancient, form of monetary abuse. During the decay of Rome the growing scarcity of money had been relieved by the debasement and degradation of coins. To this device

was now added that of capriciously raising their value by proclamation.

The rise of the Arabian power, the plunder of Greece and Persia, the conquest and mine exploitation of Africa and Spain, the reopening of the Suez Canal, and the resumption of trade with the Orient, afforded that next great impulse to European progress which has been so graphically described in Professor Draper's chapter on the Development of Moorish Civilization. Religious bigotry has hitherto so successfully belittled this impulse that it is best known through the results which it produced in Italy, where it was called the Renaissance. This Renaissance, however, chiefly affected Southern Europe, and it only reached the remote North after it had lost its force. Therefore, in a large sense, it may fairly be held that between the opening of the European placers by Rome, and the American placers by Spain and Portugal, the civilization of Europe had almost continuously receded to a vanishing point.

From the moment that the American placers were opened and plentiful gold supplies obtained, society was profoundly stirred into action. In the course of a century and a half prices rose in Maritime Europe from five to ten times, a result to which the plunder of the coasts of Africa, the Eastern Archipelago, and Japan, had powerfully contributed. A great wave of industrial activity swept from the south to the north of Europe. Spain, Holland, England, and France, all successively enjoyed a halcyon age: when men lived a dozen lives in one, when genius soared to the very dome of thought, and miracles were performed in every department of invention. This period, which coincided in Spain with the ages of Charles and Philip, in Holland with the Republic, in England with Elizabeth, and in France with Louis XIV., constituted the Second Renaissance of Europe.

All at once a reaction commenced. Before the close of the seventeenth century prices began to fall, and trade to languish. The cause was not difficult to discern. The

placers of America had been exhausted, the islands and shores of the Orient had been plundered of their stores of gold and silver, and the level of prices and extension of commerce demanded an annual addition to the stock of the precious metals which reef mining, though stimulated by Negro slavery and the lash, was unable to supply. To stay the fall of prices and the dangerous consequences which lurked in its train, the various States of Europe resorted to measures, some of which, now long out of date and marked by increasing incongruity with surrounding affairs, remain to be dealt with by future legislation. Holland, England, and France adopted unlimited and gratuitous coinage; Russia and Sweden resorted to copper moneys; and the British American colonies to land-bank notes. These measures had only a limited or temporary success, and the current supplies of the precious metals continuing to bear an inadequate proportion to the stock of money, the latter fell, relatively to exchanges, and with it, prices and trade. This gave rise to the emissions of the banks of Stockholm, England, and France; measures which at that period proved so unsuccessful that they were followed by an era of coin clipping and sweating, and finally by a renewed fall of prices and by collapse, turbulence, political revolutions, inconvertible notes upon an illimitable scale, the plunder of Continental Europe, a redistribution of the precious metals, and the close of the reef mines of Spanish America. When the sword terminated this period of turmoil, disasters, and excesses, it left the States of the Western Hemisphere weak in resources, loaded with debt, and panting for relief from unjust burdens and a shackled trade. The only remedy offered them was the adoption of convertible bank notes upon an improved basis; and the greed with which they resorted to the panacea, proved the violence of the disease. From the Peace of Paris, 1814, to the bankruptcies of 1835-45 the convertible bank-note system grew to such vast dimensions that, when the inevitable crisis came, it went to pieces with a crash that even at this distant day

is not wholly unfelt. Prices then resumed their downward tendency, commerce rapidly shrank, invention paused, the activity of man relapsed into inertia, and one misfortune followed another in rapid succession.

This long halt in the march of civilization, a halt that had lasted with few intermissions ever since the era of Louis XIV., was at length terminated by the adventitious discovery of extensive gold placers in California and Australia. Here began the Third Renaissance of Europe. Again was the march of progress resumed, again did commerce stretch its wings over the seas, again did invention labour at the bench—this time to perfect and diffuse the great discoveries of steam and electrical power—and again were the busy mind and indomitable energies of man stimulated into unwonted action by a rise of prices that for a time held out rewards to every branch of productive exertion.

Into the details of this Third Renaissance it is unnecessary to go, they are familiar to all of us; the evidences still surround us, for the golden period has not yet wholly faded away. But is it not evident that we have passed its zenith, and that henceforth unless financial art can safely stretch the convertible note and credit systems still further or find some better means of harmonizing stationary measures of value with growing volumes of exchanges, we must look for another collapse? Already have Austro-Hungary, Russia, and all the South American States suspended the use of coins; a measure to which their immense paper issues and comparatively slender coin reserves must sooner or later compel many other nations to resort.

If we await the coming of this day to frame a monetary policy, may it not be too late? The intrigues to contract the currency through the demonetization of silver in America, have been answered there by a new clamour for expansion; and unless monetary laws are revised upon enlightened and equitable principles, there is reason to

fear that this movement will lead to demands for undue expansion in other States ; in short, that if justice is not soon done in the arrangement of monetary systems, more than justice may be demanded.

APPENDIX. (See p. 29.)

THE LOST ARTS.

AMONG the numerous arts, known to the Romans, lost during the Dark Ages, and rediscovered during the First Renaissance, is said to have been that of constructing and managing sailing ships.

Sailing ships were employed by the ancient Hindoos and Chinese. The Egyptians employed boats on the Nile with papyrus sails. The Phœnicians and Carthaginians used sailing vessels. Archimedes, B.C. 250, constructed an enormous sailing ship-of-war for the Syracusans. The Greeks and Romans used sailing vessels.

That a device so widely known and commonly used,—a device afterwards found to be known to every savage tribe of the New World from Greenland to the Antarctic circle,—should have become lost, is scarcely credible: yet works of reference inform us that sailing vessels were not rediscovered until the twelfth century.

If this statement were quite reliable there are several reasons which could be assigned to explain the fact, as the general decay of commerce, the lack of timber suitable for constructing sea-going ships, the absence of cotton or linen cloths for sails, the want of cordage for the rigging and running gear, etc. The antipathy of an ignorant and decaying population to the employment of any device for economizing labour—as the sailing ship compared with the oared-galley—the disorganization of labour, and the multitudes of slaves available as rowers, might also be regarded as reasons why sailing vessels, having once fallen into disuse, had also fallen quite out of remembrance.

It is alleged that the art of steering a vessel by means of a rudder,—an art well known to the ancients,—was also lost during the Dark Ages and recovered during the Renaissance.

I am inclined to believe that neither of these arts was totally lost, but that they merely degenerated. The ship dwindled into a boat, its multitude of linen sails into a single one of skin, its iron anchor to a stone, and its rudder to an oar, which its occupants employed either to steer or propel with. Of course there were larger vessels than this class in use during the Dark Ages, but we hear of no sailing vessels

until the period mentioned. Until the Arabians plundered the Greek and Persian Empires and scoured the Continent of Africa for gold-dust, there was no incentive to commercial enterprise in Europe, and none existed. In an era of continually falling prices nobody cared to construct vessels for a traffic which could only end in loss, and so none were constructed, and the art of building large vessels was gradually forgotten. In the same way the arts of fabricating its various component parts were lost, as the sails, rigging, rudder, anchors, etc.

As to the date of the re-invention of sea-going sailing ships, it no doubt closely followed the rise of prices and renewal of commerce stimulated by the Arabians. The instance mentioned by Hazlitt is conclusive as to the re-appearance of sailing ships in the ninth century, and I am inclined to ascribe it to a much earlier date, say the seventh century.

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