The Development of the Theory of Money from Adam Smith to David Ricardo

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More than a generation separated the appearance of Adam Smith's "Wealth of Nations" in 1776 from the publication of David Ricardo's "High Price of Bullion" in 1810. Memorable as these years were with events in the industrial life of England, they witnessed but little change in the prevailing body of economic thought. The "Wealth of Nations," despite Hume's lament that the two stately quartos required too much thought and reflection to be popular, reached a tenth edition in 1799.[(1)] In the political world, Grenville in 1800 could remind Pitt of their common conviction as to "the soundness of Adam Smith's principles of political economy."[(2)] In academic circles, Dugald Stewart was Adam Smith's successor in office and in spirit in the University of Edinburgh, attracting from 1800 on a notable group of gifted students to his eloquent exposition of the "Wealth of Nations."[(3)] In the intellectual field, young men like Francis Horner, Lord Webb, James Mill, and Thomas Chalmers were supplementing legal and theological studies by critical reading of Adam Smith's text.

There was some minor dissent from certain of Adam Smith's conclusions:[(4)] Dugald Stewart seems to have been less of the docile expositor and more of the independent critic than he would have us believe. James Anderson stood out vigorously for the utility of corn law bounties. Jeremy Bentham filed a cogent brief against the impolicy of usury laws. Malthus exposed the weakness of Adam Smith's reasoning in the matter of poor-law relief. The Earl of Lauderdale distinguished with much acuteness the concepts of public wealth and private riches, and Tierney, in the Commons debate upon the bill to prevent the forestalling of live cattle, declared that if the poor were to rise in a mass on account of the high price of meat, "the right honorable gentleman would prefer the riot act to all the reasonings of Adam Smith."[(5)]

But, withal, the supremacy of the "Wealth of Nations" remained in 1810 still unquestioned. The influence of J. B. Say's "Traité" -- first published in 1803 -- was not felt in England until a decade later. Malthus, in 1824, used the term "the new school of political economy" to distinguish the doctrines of Ricardo, Mill, and McCulloch from those of Adam Smith;[(6)] but to Lord King, in 1803, the same phrase "old and new systems of political economy" still meant the opinions of the mercantilists, on the one hand, in contrast to those of Hume, the Physiocrats, and Adam Smith on the other.[(7)] Even Francis Horner, independent thinker and critic that he was, declining in 1803 a publisher's invitation to furnish a set of notes for a new edition of the "Wealth of Nations," wrote to Thomas Thomson of "the superstitious worship of Smith's name"; and added, "his popular and plausible and loose hypothesis is as good for the vulgar as any other."[(8)]

But in one particular field -- the theory of money -- there was marked advance. Here as elsewhere Adam Smith's exposition, partial and defective tho it was, prevailed for a score of years without dissent. But in 1797 came the Bank Restriction. The extraordinary series of monetary events leading up to and growing out of the suspension subjected the accepted doctrines to new and unfamiliar tests, and focussed the attention of a remarkable succession of keen minds upon underlying principles. The result was that in the decade from 1797 to 1807 the theory of money underwent substantial modification, and attained the sure outline, if not the full detail, in which it figured in economic thought for the next. half century.

It has been customary to ascribe this reconstruction of monetary opinion to Ricardo and the Bullion Committee, with at best minor acknowledgment of the work of immediate predecessors.[(9)] But as a matter of fact, Ricardo's initial service -- and Ricardo himself was unmistakably insistent as to this -- was as expositor and controversialist, and his earliest pamphlet in 1810 was designed as an explicit restatement of what had been already said and written. In the years that followed, Ricardo made real and distinguished contribution to the development of monetary theory and practice; but his starting point here was not, as in the case of his general economic thought, Adam Smith, but a body of monetary doctrine different from and in advance of that set forth in the "Wealth of Nations."

The purpose of the following pages is to make clear this development of the theory of money from the form in which it was enunciated by Adam Smith to that in which it may be regarded as Ricardo's intellectual heritage.

I

The theories of monetary circulation current in England upon the eve of the Bank Restriction found traceable origin in Locke, detailed exposition in Harris, familiar expression in Hume, critical qualification in Sir James Steuart and Montesquieu, and definitive exposition in Adam Smith. Less familiar writers -- Vaughan, Barbon, Petty, Davenant, North, and Berkeley -- were occasionally cited in confirmation of particular doctrines and in illustration of abstract propositions.[(10)] But serious students like Francis Horner and Lord Webb began with Adam Smith's famous fifth chapter, and thence worked their way back through Sir James Steuart, Hume, and Harris to the eighteenth century liberals.[(11)]

The general features of Adam Smith's monetary doctrine were clearly defined.[(12)] The inconveniences of barter early lead to the use of an interposed commodity in economic exchange. Such a medium, being itself subject to variations in value, cannot be a perfectly accurate measure of value; but experience has shown that the precious metals, by virtue of favorable physical properties, are best fitted to serve as money materials. When both metals are employed one is designated as the standard, and the ratio of the other thereto is fixed either by the market or by public law. The purchasing power of a coin is determined by intrinsic content regardless of its nominal designation, and the concurrent use of two classes of money of unlike quality is prevented by the tendency of the public to hoard the better kind. The value of the standard money varies directly with the number of exchanges to be made and the frequency with which they are effected, and inversely with the whole quantity of money in use and the rapidity of circulation. Foreign commerce causes a distribution of the standard money, and artificial attempts to increase a particular country's stock are useless or mischievous. Variations in the value of money benefit one class of society at the expense of another, appreciation injuring the debtor, and depreciation, the creditor classes. Any substantial difference between the market and the mint price of bullion and any heavy fall in the foreign exchanges is due to the bad state of the coinage and may be promptly rectified by its restoration.

In the matter of paper money, Smith's expressions were no less definite. The more notable of his predecessors -- Hume and Harris -- writing a generation before, when Scotland was menaced with a reckless extension of bank-note issues and circulating credit, had denounced such "counterfeit money."[(13)] But Adam Smith's opinions took shape at a later time, when the fever had run its course and when the disastrous collapse of the Ayr Bank and its consequences- made vivid to him by the heavy involvement therein of the Duke of Buccleugh[(14)] -- threatened to bring all paper issues into popular disfavor. To justify a useful institution and at the same time to emphasize the safeguard essential to its use were Smith's impelling motives, and his very phrases became classic. Money is a part of the circulating capital of a society and its maintenance occasions a corresponding diminution of net revenue. Accordingly, the substitution of paper for gold and silver replaces an expensive with a much less costly and sometimes equally convenient instrument. Of the various kinds of paper money, promissory bank-notes payable on demand are best known and adapted for this purpose.[(15)] But the total amount of paper money which the circulation of a country can absorb never exceeds the metallic money which would circulate in lieu thereof;[(16)] any excess of currency must be followed by an export of bullion.[(17)] This had been clearly exemplified in the early experiences of the Bank of England and the Scotch banks, whereby a continuing policy of excessive note issue had caused a steady loss of bullion and a chronic replacement of the Bank's gold. Sound banking policy therefore required that the note issues of any particular bank should not exceed, either in discount or in cash accounts, that part of its customers' capital which they "would otherwise be obliged to keep . . . unemployed, and in ready money for answering occasional demands."[(18)]

All of this related to convertible paper. Adam Smith probably never conceived it possible that the Bank of England, the stability of which he deemed "equal to that of the British government," should suspend specie payments.[(19)] The most unfavorable cases were such as involved "difficulty or uncertainty of obtaining immediate payment," -- the "optional clause" of the Scotch banking companies, the paper currencies of Yorkshire, and the paper emissions of the American colonies.

[20] In such cases he recognized that the paper money, like so much debased coin, "would, no doubt, fall more or less below the value of gold and silver," and result in an unfavorable exchange with the country or district preserving an intact standard.[21]

The theory of money, as set forth in the "Wealth of Nations," had thus attained notable development. The functions of money as a medium of exchange and a measure of value, the impracticability of a dual standard, Gresham's law, the relation of money to prices, the effect of variations in the value of money upon debtor and creditor classes, the economy of paper money -- were all more or less clearly recognized and enunciated.

II

The serious lapse in Adam Smith's exposition -- the more significant in the light of subsequent monetary happenings- appeared in the inevitable query: How much money ought a country to have and what are the symptoms and measure of excess or deficiency? It was precisely about this point -- the forces determining the normal amount of a country's money supply -- that succeeding controversies raged, -- the repeal of the Bank Restriction in the first quarter of the nineteenth century, the revision of the Bank Charter in the second, -- and it was precisely here that the "Wealth of Nations" was lacking. That there was, at any given time and in the case of every particular country, a customary amount of money which neither design nor circumstance could permanently augment, was a necessary corollary of all argument against mercantilist theory and balance of trade policy, and this proposition Adam Smith, like a succession of writers before him, maintained with great force and abundant illustration. But to the further question, "how much money is it right and sufficient for a country to have?" -- Smith gave no answer, beyond saying vaguely that it was determined by" effectual demand," being always the sum required to circulate and distribute to its proper consumers the annual produce of the land and labor of the country.[22] He did indeed imply that this sum bore some proportion to the whole value of the annual produce circulated by it, but he added[23] that such proportion had been computed by different authors "at a fifth, at a tenth, at a twentieth, and at a thirtieth part of that value," and refrained from venturing upon a formula of his own.

Adam Smith made familiar use of the failure of Spain and Portugal to augment their money supply by accumulation;[24] and he recounted the early experiences of the Bank of England and the Scotch banks, as to a chronic loss of bullion. But such occurrences were cited only in confirmation of his empirical assumption that the amount of money which a country could "easily absorb and employ" was a definite sum, fixed by the interior exchange requirements of that particular country and irrespective of all external conditions.[25] Redundancy -- to whatever cause due, whether mines or banks -- would be followed by an efflux of gold; but only for the reason that the "channel of circulation" must in such event overflow, and this overflow, being too valuable to lie idle, was sent abroad "to seek that profitable employment which it cannot find at home."[26]

The absence of any adequate discussion by Adam Smith of the normal quantity of a country's supply of money and of the test of redundancy is the more surprising in view of the frequency with which the doctrine of the "territorial distribution" of the precious metals had cropped out in earlier economic writing. With some justice Ricardo was able in 1810 to speak of "the most approved writers in political economy" sharing such an opinion. North, Locke, Berkeley, Cantillon, Petty, and Barbon had in turn pointed out the fallacy of the mercantilist accumulation of specie, and had set forth that the amount of money in any particular country tends to a fixed and definite proportion of the nation's resources. In Hume and Harris, casual expressions were replaced by explicit and unmistakable exposition, not indeed as a direct phase of monetary theory but as a final refutation of the mercantilist fallacy of metallic accumulation. Money is like water, Hume declared[27] -- and his argument was developed and amplified by the author of the "Essay upon Money and Coin,"[28] "the judicious and intelligent Harris," in Chalmers's phrase[29] -- tending everywhere to a level through the means of relative prices and international trade, and this not by any physical force but by "a moral attraction arising from the interests and passions of men, which is full as potent and infallible." If four-fifths of all the money in Britain were destroyed in a night, or, conversely, if the supply were multiplied five-fold, a relative level would promptly be restored, and the same causes which would correct these inequalities due to the miraculous "must prevent their happening in the common course of nature, and must forever, in all neighboring nations, preserve money nearly proportionable to the art and industry of each nation."[(30)]

It is true that Hume's opinions, widely circulated and influential as they were, did not pass unchallenged. A few years later Sir James Steuart controverted Hume's position both as to the relation of money to prices and as to the tendency of money everywhere to maintain its level, with a vehemence that in itself might have been expected to arrest Smith's attention. Insisting that it was one of the objects of "a statesman's attention" to maintain "a just proportion between the produce of industry, and the quantity of circulating equivalent, in the hands of his subjects, for the purchase of it,"[(31)] -- Steuart denied with characteristic indirection Hume's "territorial distribution" theory.[(32)] In positive exposition, however, Steuart made little progress beyond asserting that "It is impossible to determine the proportion of coin necessary for carrying on the circulation of a country, especially of one where neither loan, or paper credit, that is the melting down of solid property, are familiarly known."[(33)]

As a matter of fact, however, Adam Smith was neither convinced by Hume nor converted by Steuart. He merely accepted the fact and gave little concern to the theory. Indeed there was little in contemporary monetary experience to emphasize the importance of such an inquiry. England was not then, as a generation later, confronted with the inconveniences of monetary redundancy on the one hand, nor exposed to the evils of monetary scarcity on the other. In so far as the currency of a country might be augmented by metallic accumulation, Smith deemed himself concerned with a worn-out mercantilist fallacy rather than a present monetary problem,[(34)] and was content with the familiar reductio ad absurdum as to Spain's experience. In so far as the source of augmentation might be a note-issuing bank, Smith shared the view that the absorption of such a well-regulated paper money was accompanied by an equivalent displacement of specie.[(35)] In this sense Hume, in 1752, had spoken of paper credit as of public convenience only when issued, as by the Bank of Amsterdam, upon the basis of equivalent bullion, and of which any further emission was harmful in that it expelled a corresponding amount of specie;[(36)] and Harris, writing in 1758, had repeated that any increase of bank-notes much beyond an identical stock of bullion was likely to prove mischievous both by "increasing in effect the quantity of circulating cash beyond its natural level; and by endangering, in a cloudy day, their own credit."[(37)]

In short, the possibilities with which Adam Smith thought he had to deal in the matter of an increase in the country's money supply were, first, a futile accumulation of specie by manipulated trade or colonial exploitation, and, second, an excessive issue of notes payable on demand. It was to these contingencies alone that he confined his argument and directed his theory. That it might be possible for the currency of England to be swollen by a continuing issue of inconvertible bank-notes and that, in consequence, there must be, as the basis for positive legislation, some theoretical determination of the normal money requirement were developments of which Smith and his immediate successors never dreamed.

III

The quiescence into which monetary discussion had sunk in the closing years of the eighteenth century was rudely disturbed by the Bank Restriction of 1797. The ink had barely dried upon the Order in Council suspending the further issue of bullion, before the issues involved had become matters of active discussion in Parliament, and within two decades a controversial literature of extraordinary extent and intensity had developed.

The earliest sentiment reflected Adam Smith's opinions with hardly a change.[(38)] In the House of Commons Sheridan voiced the popular dread that the cash payments once suspended "the paper of this country would ultimately experience the fate of the French" assignats or mandats since "both contained the idea of compulsion."[(39)] Fox asserted that bank-notes were depreciated, but he based the charge solely upon "the extraordinary run upon the bank," and urged in correction that the Bank should "diminish the quantity of paper, and reduce that disproportion which exists between paper and specie."[(40)] Pitt refused assent to Nickoll's proposed limitation upon the further issues of the

Bank,[41] contending that paper was desirable "if restrained within due limits," and if "more should not be issued than the country required." Such "only limits" were- quite in the spirit of the Bank's policy --" the extent of the scale of commerce, and the nature of the securities on which accommodations should be granted."[42] Even Lord Liverpool in the "Treatise on the Coins of the Realm," written at this period altho not published until 1805, went no further than to sympathize with Adam Smith's contention that "there must be some limitation "upon the Bank's issues particularly in the matter of the smaller coin-displacing denominations, -- as against the doctrine that "by a new sort of alchemy, Coins of Gold and Silver, and almost every other sort of property, may be converted into Paper."[43]

Discussion entered upon a new phase with Pulteney's denunciation of the Bank as a national danger which in the hands of an ambitious minister might "become the means of establishing a fourth estate, sufficient to involve this nation in irretrievable slavery." He charged the occasion of the Restriction to the "misconduct" of the Bank, proposed an earlier date (May 6 instead of June 24) for the resumption of cash payments than that recommended by the House Committee of Secrecy, and urged the propriety of establishing an independent bank in case the Bank of England could not resume payments at the time fixed.[44]

Pitt had his majority well in hand and the House refused Pulteney even leave to bring in a bill; but the project continued to excite great public interest, and Macleod indeed ascribes the successful efforts of the Bank Directors in 1800 to secure a renewal of the charter twelve years before its expiration to their alarm at the popular effect of Pulteney's proposal.[45]

The threat of Pulteney's practical efforts, rather than the force of his critical reasoning stirred Sir Francis Baring, -- Erskine's" first merchant in Europe," -- to enlist the force of his name and the persuasiveness of his argument in the Bank's defence. In his "Observations on the Bank of England,"[46] published in the spring of 1797, and in the "Further Observations,"[47] issued some months later, after the policy of restriction had been definitely accepted by the Bank and sanctioned by the Government, Baring justified the original suspension and ranged himself in opposition to such radical proposals as an enlargement of the Bank's capital or the organization of a rival institution. Averse to the Bank's resuming payment during the war, while a possibility existed of being obliged to suspend again, and urging strongly that the notes be made a legal tender for all purposes, Baring nevertheless admitted that some efficient check and control must be put upon the Bank, both as against the self-interest of the proprietors and the influence of ministers. He proposed that this should take the form of limiting the amount beyond which the notes of the Bank should not be suffered to circulate, adding even that this aggregate ought not much to exceed the amount of what was then in circulation.

Baring wrote as an apologist and an advocate, and his pamphlets were without trace of analysis or independent inquiry. His equipment was that technical detail of the banker made rigid and doctrinaire by a fixed and positive bias. He believed that "from long experience, the Directors of the Bank must understand correctly the amount to which their notes can circulate without depreciation or discount"; he advised that country banks should be prohibited from issuing notes payable on demand; and he insisted that the Bank, as a corporate body, should be rendered independent of ministers. Whatever influence his pamphlet may have exerted was in the nature of admonition to the Bank. As a contribution to currency theory its significance was nil.

A very different spirit, however, spoke forth in Walter Boyd's "Letter to Pitt,"[48] written in the closing month of 1800, and published early in the following year. Boyd's career had been remarkable. Established as an important banker in Paris, he had been exiled and his property confiscated in 1793. He then settled in London, and speedily became a prominent figure in the financial life of the capital, a member of Parliament, and an influential adviser of Pitt.[49] The stringency of 1797 found Boyd deeply involved in extensive transactions, and, failing the anticipated restoration of his confiscated French estate, the banking house of which he was a leading figure was forced to suspend. But the reverse was such as to bring no discredit upon the principal nor to delay the reorganization of his affairs. In 1800 Boyd was again, by the range of his experience, the readiness of his pen, and the extent of his connections, a conspicuous figure in English financial circles. Thus the authorship no less than the content of his open letter to the Prime Minister "on the influence of the stoppage of issues in specie at the Bank of England, on the prices of provisions, and other commodities," was calculated to arrest attention and arouse discussion.

The prime purpose of Boyd's pamphlet was to demonstrate that the rise in prices which had gradually been taking place in England during the two years preceding and which had recently become notable had been brought about by an over-issue of the Bank's paper. The actual fact of such a "great and general rise in prices" was accepted, not as in the case of Wheatley a few years later, upon the evidence collected by Arthur Young and Sir George Shuckburgh, but, more vaguely, upon "the concurring testimony of a whole community" evident in that "every man feels, in his abridged comforts, or in his increased expences, the existence of this melancholy truth." In the public controversies which immediately preceded the Restriction, Boyd had been loud in asserting that the contraction in Bank circulation was responsible for the general fall in prices and the widespread distress. Now, with the reports of the parliamentary committees of 1797 clearly revealing the co-existence of the two facts even tho not demonstrating any causal relation, Boyd invoked the same principle of variation in currency supply, in reverse application, to explain the increase in prices. But that which, with respect to the fall of prices in 1797, Boyd had defended as "partiality for a favorite doctrine," at best "confirmed by the general conviction, which arose from the labors of the Committees of both Houses of Parliament," -- he now enunciated, with respect to the rise in prices in 1800 as "a principle universally recognized" as "invariable in its operation, as the law of gravitation." This principle, in its particular application, was "there is the highest probability that the increase of Bank Notes is the principal cause of the great rise in the price of commodities and every species of unchangeable value," and that "the one is, to certain degree, the inevitable consequence of the other." In its more general form it became a dear enunciation of the quantity theory: "the augmentation of the quantity of money, or paper performing the functions of money, in a country, has a tendency to depreciate that money or paper." In actual analysis Boyd was, however, obliged to rest his theory that the rise in prices was due to an increase in the Bank's issues upon what he himself termed "presumptive evidence." At the time the pamphlet proper was written, no public statement of the amount of banknotes in circulation had been made for a date later than February 26, 1797, and, omitting the hypothesis that Boyd had some private information as to the conduct of the Bank -- as indeed he might very possibly have had- the pamphlet in its vigor and confidence is a remarkable piece of inferential reasoning.

Boyd examined in turn the specific causes that had been advanced in explanation of the rise in prices, namely, the real scarcity of grain in consequence of scanty crops, the monopolizing of grain by forestallers and regraters, the great increase in the population of the country and the effect of the war, and denominated them all partial causes incapable of producing a general effect. On the other hand, it appeared that since February 26, 1797, the Bank of England had enjoyed the power of issuing notes without being obliged to pay them; that it was manifestly to the advantage of the Bank to extend its issues; and that the joint effect of such "a positive degradation of the standard, and of a probable augmentation of the quantity of money in the country" would be amply sufficient to account for as considerable a rise in prices as had actually taken place. Boyd fortified his conclusion that the rise in prices was in reality a depreciation of paper, due to relative over-issue, by citation of two positive facts: (a) the premium on gold bullion in the open market, equivalent to 9 1/8 per cent; and (b) the unfavorable character of the foreign exchanges, representing a difference of nearly 9 per cent. He referred in the most positive terms to these two phenomena as the invariable even tho not exclusive symptoms of a relative over-issue of paper.[50]

It is not merely because foreign exchanges are against us, or because bullion is very high, that I suspect there has been a great addition made to our currency (as there unquestionably has been an important change in its composition) but finding these strong symptoms, in common with so many others, I am fully warranted to ascribe them to the same great and general cause. An unfavorable exchange, and a high premium on bullion have existed, and may occasionally exist, from causes not only altogether different from that to which I now attribute them, but of a contrary tendency; yet so inseparably are they connected with an excess of paper-currency, that such excess cannot possibly exist without being accompanied by them. If all the other symptoms of that supposed excess had existed, and our exchanges and bullion had remained unaffected, for any considerable time, I should have doubted the truth of my theory.

Boyd's pamphlet was written early in November, 1800, but was not actually published until two months later. In the interval, the unfavorable exchange with Hamburg had risen from 9 per cent to 14 and the premium on gold had increased to something more than 10 5/12 per cent. Moreover, by the return to an order of the House of Commons, it appeared that the amount of bank-notes in circulation on December 6, 1800, was £15,450,970, which exceeded the sum in circulation in

February, 1797 (£8,640,250), by nearly four-fifths of that circulation. Boyd incorporated these facts in a preface to his pamphlet as finally published, and they served in considerable degree to justify its argument and to extend its influence.

The "Letter to Pitt" elicited various rejoinders, and Sir Francis Baring again became conspicuous as the vigorous but ineffectual champion of the Bank's policy.(51) Assenting in the main to the "well understood and universally admitted "principles enumerated by Boyd, and characterizing the quantity theory as "no new discovery" but "the alphabet or first principle of every financier and merchant for above a century," Baring asserted that the confidence reposed in the paper of the Bank of England "was, and is, unshaken and complete," and that the Bank's circulation had never been of such volume as to produce a high level of prices.

As a result of the controversy all of Boyd's essential contentions may be said to have been established. The generally accepted connection between the supply of money and the range of prices was brought afresh to the public mind. The fact of a large and abrupt increase in the Bank's paper was made clear, and the principle that a rise in the price of bullion and a fall in the foreign exchanges were inevitable symptoms of an excess of paper currency, was enunciated with clearness and emphasis.(52)

The vogue of Boyd's pamphlet and the popularity of its proposals(53) were heightened by the course of external events. In 1802 the Peace of Amiens was concluded and the Bank seemed ready to resume specie payments. But Parliament extended the Restriction until March 1, 1803, and almost at the same time judicial decision was rendered that bank-notes were not legal tender, and that gold might be demanded in redemption of a country bank-note.

It was natural that the Bank's policy of continued restriction should require new defence,(54) and in 1802 appeared Henry Thornton's "Paper Credit."(55) The author, like Francis Baring, was one of the most substantial and respected figures in the financial world. A member of Parliament from Shrewsbury for twenty years past, a proprietor and governor of the Bank, Thornton's position in the community was as "the representative of business among a group which, though small, was a marvellously well-equipped body of men, and of whom W. Pitt was the most prominent."(56)

Thornton's original purpose was "merely to expose some popular errors which related chiefly to the suspension of the cash payments of the Bank of England, and to the influence of our paper currency on the price of provisions." But he succumbed to the ordinary temptation of the man of affairs in economic controversies, and eventually published a book of some three hundred pages. Poorly arranged, awkwardly expressed, -- for Thornton, like Ricardo, probably spoke better than he wrote, -- sometimes obscure and always prolix, Thornton's work was a conscientious attempt to harmonize accurate detail and sound theory with practical bias and unsafe conclusion. His long experience in the money market, his intimate acquaintance with economic writing, and even his intellectual keenness and logical force were handicapped by his partisan espousal of the cause of the Bank and his unqualified defence of its past policy and present conduct. He might have produced either a valuable treatise on the theory of money, or a telling pamphlet on the Restriction controversy. But in attempting to do both, he failed in a measure to accomplish either.

Yet withal, Thornton's work was notable, if not for the practical conclusions which it deduced, for the information it conveyed and the theories it formulated. The mechanism of commercial credit, the technique . of foreign exchange, the procedure of the Bank were described with a fullness of detail and an intelligence of interpretation novel to the economic writing of the day. Francis Homer selected it for his initial review in the first number of the newly established Edinburgh Review in October, 1802, and appraised it as "the most valuable unquestionably" of the publications occasioned by the Bank Restriction. Huskisson declared, "In this work . . . the reader will find the true principles of political economy united with the practical, I might almost say hereditary knowledge of a well informed merchant, and the extensive experience of a great London banker."(57) Even two generations later John Stuart Mill declared it "the clearest exposition that I am acquainted with, in the English language, of the modes in which credit is given and taken in a mercantile community."(58)

Accepting the main outlines of Adam Smith's exposition, with occasional use of Hume, Locke, and Sir James Steuart,(59) Thornton attained a general theory of paper credit by the correction and addition of particulars, in much the cautious manner in which revised economic theories emerged in the early nineteenth century from out the commanding authority of the" Wealth of Nations." He insisted that rapidity of circulation as well as positive amount were factors in the money supply, and for this as for other reasons it was incorrect to assume that there is a certain fixed quantity of paper, supplying the place of gold, which is all that "can easily circulate or that should ever be allowed to be sent into circulation." He made clear that an excessive issue of paper would lead to an export of gold, not by Adam Smith's vague overflow of the "channel of circulation," but by a precise and regular mechanism of rising prices, unfavorable exchanges, diminishing exports and increasing imports. Finally he definitely associated the state of the foreign exchanges with the market price of bullion as the absolute test of the value of paper currency: "It is the maintenance of our general exchanges, or, in other words, it is the agreement of the mint price with the bullion price of gold which seems to be the true proof that the circulating paper is not depreciated."(60) With these modifications, Thornton recognized that successive additions of paper to a currency assuming no increase in trade to absorb the excess would raise general prices and displace equivalent portions of gold, until the circulation consisted entirely of paper. Thereafter, if the quantity of notes should continue to be successively increased, the prices of commodities would continue to rise, exports to decline, foreign exchange to fall, and an excess to appear in the market price above the mint price of gold.

The clear and logical inference from Thornton's principles, with respect to the Bank's past conduct and present position, was that the Bank had come to grief in 1797 by an imprudent reduction of the bullion reserve, that the recurring high price of bullion and fall in foreign exchange since the Restriction were due to an excessive issue of paper, and that the remedy lay either in a reduction of the Bank's notes to a point where these evils would disappear, or in compelling the Bank to resume gold payments. But from these necessary conclusions Thornton shrank, and indeed phrased his dissent in no uncertain tone. He asserted that the Restriction had been brought about neither through the recklessness of the Bank's administration nor the cupidity of the Government, but that it was the unavoidable consequence of an unfavorable balance of trade, aggravated by a sudden alarm of foreign invasions. He added that the subsequent drain of gold was attributable to unfavorable foreign exchanges, "produced partly by our heavy expenditure, though chiefly by the superadded circumstance of two successively bad harvests." He denied that the Bank had materially and unwisely increased its paper issues since the Restriction. He insisted that the prosperity of the nation required that the circulation of the country be maintained at a certain amount and he concluded that any further contraction of bank-notes designed to correct the high price of bullion and the unfavorable exchanges was certain to produce more harm than good.

Much of the obscurity and all of the prolixity that clouded Thornton's work were eliminated in the version in which it attained its greatest vogue and exerted its largest influence- Francis Horner's expository review in the first number (November, 1802) of the Edinburgh Review. "The analysis of Thornton cost me a considerable degree of trouble; but this labor has served to break up the ground in one of the most necessary fields of political economy," Horner wrote in his journal in September, 1802, and added that he had given the review to the press in a very rude form, altho his aim had been to mold the irregular materials of the original work into a useful arrangement. However short of its author's ideal the review may have fallen, it succeeded in laying before an influential public a succinct statement of the theory of paper money and an accurate description of the existing credit mechanism, and at the same time suggested that which it did not expose, -- the defects in Thornton's explanation of the influence of the existing paper currency upon the actual state of prices.

The Treaty of Amiens was concluded in April, 1802, and the Bank professed readiness to redeem its notes forthwith. But the shadow of an insecure peace hung over England and in the very month in which the definitive treaty was signed, Addington, alleging political expediency as its prime justification, carried through a bill for the continuation of the Restriction until March 1, 1803.(61)

By the end of January, 1803, the hope of averting the rupture with Napoleon had gone,(62) and a fortnight later the Government moved for further continuation of the Restriction. This time the debate was distinctly reactionary. The Chancellor of the Exchequer insisted that a period of unfavorable foreign exchange prevented resumption, and even Thornton agreed that "the Bank could not with safety be opened unless the exchange was favorable to this country." Tierney filed a mild caveat, declaring with some justice that "no other ground was laid for the present motion, but that the exchange with Hamburg was at par." Fox contended that" as long as our currency continued bad, the exchange was against us," and proposed a committee of inquiry.(63)

A much more effective stand in opposition was taken by Lord King in the House of Lords.(64) In a strong speech of protest, bristling with striking facts and sound arguments, he insisted that "from the time the restriction was first imposed, the course of exchange began to turn against this country in various proportions to the quantity of paper in circulation."[(65)] Two months later the debate on the Irish Bank Restriction Bill afforded Lord King opportunity for explicit reiteration of his opinions, centering in the contention that the extraordinary increase in the Irish Bank's circulation "was the circumstance which sufficiently accounted for the balance of trade being so unfavorable."[(66)]

In the late spring of 1803, Lord King published the substance of what he had sought to impress upon Parliament, in" a more correct and extended form," -- a loosely printed pamphlet of less than a hundred pages, bearing the title "Thoughts on the Restriction of Payments in Specie at the Banks of England and Ireland."[(67)] In both form and content Lord King's pamphlet was a remarkable contrast to the prolix obscurity of Thornton's essay, and the heated temper of Boyd's performance. Clear and concise in expression, restrained and dispassionate in spirit, persuasive in argument and conclusive in evidence, the" Thoughts on the Restriction "was fitted to become, as it speedily did, the epitome of what had already been written in sound criticism and in reasonable interpretation of the Bank's course, no less than the inspiration of future effort in the same direction.

Starting out by showing the error of Adam Smith and earlier writers in contending that the circulating medium of a country should form a definite percentage of its wealth, and making clear that a paper circulation could not be determined in proper amount either by sound commercial discounting or by mere banking solvency, Lord King summarized his further argument succinctly. The use of paper money is justifiable only if it serve as a just medium of exchange. This involves that it be exactly equivalent to that quantity of the precious metals which would otherwise be employed for such purpose. To preserve this equivalence a paper currency must be "immediately and unconditionally convertible into specie" -- failing which it is in constant danger of being depreciated by excessive issue. A depreciation of currency produces a corresponding effect upon all exchanges and prices. But general prices are subject to serious variation from many causes. Hence the market price of bullion and the state of foreign exchanges may be selected "as furnishing in conjunction the most accurate criterion of the pure or depreciated state of a currency." If the depreciation be considerable, it must in all cases be clearly discovered by these tests.[(68)]

More notable even than the clearness and force with which Lord King enunciated the theory of paper money was the wealth of convincing detail with which he fortified his theory and confirmed its application to contemporary monetary events. He collected and presented in parallel columns the rates of exchange upon Hamburg, Paris, and Dublin, and the market price of standard silver, month by month from 1789 to 1803, together with the amounts of outstanding bank-notes of the Banks of England and Ireland respectively, as reported quarterly from 1797 to 1803, all designed to show that "the advance in price of bullion and the depression of the exchange have corresponded in a very remarkable degree with the increased amount of Bank notes since the restriction of payments in specie." He called attention to the fact that the course of exchange with Lisbon and Dublin had been much in favor of London, tho at the same time in a most unfavorable state with Hamburg and other parts of the Continent. In explanation he added that on the one hand the currency of Lisbon had been for some time composed of a paper circulation issued by the Portuguese Government during the late war; and that, on the other hand, during the period in which the issues of the Bank of England had increased one half, the issue of the Bank of Ireland had quadrupled, and that the currency of Dublin, consisting of notes of the Bank of Ireland, was depreciated in much greater degree than the currency of England. He invited attention to such significant facts as that the difference between the currencies of Dublin (exclusively Bank of Ireland notes) and Belfast (specie or the notes of private bankers payable in specie) had produced an actual exchange between the two places in favor of the latter. And he reminded by specific examples that an unfavorable balance of trade could never occasion any greater difference in the state of the exchange above par than would defray the cost of exporting bullion.

In November-December, 1803, the Government, with the prospect of a long war, moved for a further continuation of the Restriction for a period subsequently fixed as six months after the conclusion of a definitive treaty of peace. Debate in the House of Commons was perfunctory. But in the Lords more spirit was shown, and a little later, in connection with the proposal to extend the restriction to the Bank of Ireland, discussion under the leadership of Lord King reached a new level of candor and discernment. Naturally enough the extravagant performances of the Irish Bank received chief attention, and one practical result of the debate was the appointment in the spring of 1804 of the committee "to inquire into the State of Ireland, as to its Circulating Paper, its Specie, and Current Coin, and the Exchange between that Part of the United Kingdom and Great Britain."

The Committee examined some twenty witnesses and presented to the House in June, 1804, a carefully prepared report with minutes of evidence and statistical appendices.[(69)] Macleod characterizes the Irish Report as "one of the great landmarks of Political Economy," and declares that "in the main subject of its inquiry, and the principal doctrines it lays down," the Irish document anticipates the more famous Bullion Report of six years later.[(70)] Even tho it fall short of this estimate, the Irish Report, both in spirit and in content, was an important and influential record. It established the fact and set forth the extent of the unfavorable exchange between London and Dublin. It stated in the clearest manner that the cause of the unfavorable exchange was the unlimited and over-abundant issue of notes by the Bank of Ireland and their consequent depreciation, and that this in turn had been made possible" by releasing the Bank from performing their engagements, and by taking away from them the former criterion, namely the diminution of their Gold, which they were accustomed to look to for judging when their Paper became excessive." For the correction of these evils, "the great and effectual remedy" would be "the Repeal of the Restriction Act from whence all the evils have flowed"; but inasmuch as the sudden adoption of such a course would under existing conditions involve the Irish banks in extraordinary expense and difficulty, the Report recommended that the Bank of Ireland be obliged "to give Bank of England Notes in exchange for their own on demand, or to make their own exchangeable for them in London, or to give Bills of Exchange on London for them." In even more emphatic terms the Report registered the opinion that even with such provision "it is incumbent on the Directors of the Bank of Ireland, and their indispensable duty, to limit their Paper at all times of an unfavourable Exchange during the continuance of the Restriction, exactly on the same principle as they would and must have done in case the Restriction did not exist; and that all the evils of a high and fluctuating Exchange must be imputable to them if they fail to do so" -- it being understood that any reduction of outstanding paper be done "cautiously and gradually."

A month before the appointment of the Irish Committee, Henry Parnell, a member of the Irish parliament since 1797 and the representative of Queen's County in the first united parliament, published his "Observations upon the State of Currency in Ireland and upon the Course of Exchange between Dublin and London."[(71)] Parnell's pamphlet was a graphic and convincing application to Irish currency affairs of the theories enunciated by Thornton, Hornet, and King. Of these the influence of Lord King's "Thoughts" was paramount. Parnell made uncontrovertibly dear, with respect to the Bank of Ireland, the facts of an automatically regulated note issue prior to the Restriction, of a relatively excessive emission since that time, of a depreciation of paper attested by the premium on gold, by the unfavorable foreign exchanges, and the discount on paper. Interpreting these conditions in the spirit of Lord King's principles, Parnell brought specific charges against the Bank of England "of inundating the country with its paper; of diminishing the value of the greatest portion of the property of the country; of establishing a ruinous rate of exchange; and of bringing upon the state all the calamities attending a depreciated currency." As an effective but conservative remedy for the Bank's power of "fixing the assize of property," Parnell urged Lord King's proposition that the Bank of Ireland be obliged to convert its notes, on demand, into Bank of England paper, thus entailing a gradual diminution of the quantity of Irish paper in circulation, an improvement of the exchanges, and a reduction of the premium on gold.

Altho Parnell's primary concern was with the local circumstances of Irish currency and exchange, he insisted that the conclusions contributed "much to explain the science of currencies in general, and to corroborate the opinions of those who maintain that the currency of England is depreciated." He refuted the "ministerial argument" that the continuation of the restrictions was necessary, in view of unfavorable exchanges with the continent, to prevent gold from being taken out of circulation and exported, and he urged the removal without delay of "the origin of all the evils which are complained of, and are still to be apprehended." A month later Parnell's argument and conclusion were confirmed by the publication of the House Committee Report, and a summary of the evidence was appended to the third edition of his essay.

The presentation of the Irish Report was the occasion of a further series of controversial pamphlets, the most ambitious being John Leslie Foster's "Essay on the Principle of Commercial Exchanges, and more particularly of the Exchange between Great Britain and Ireland: with an inquiry into the Practical Effects of the Bank Restrictions."[(72)] The author, a young Irish barrister who had removed to London and had been admitted to Lincoln's Inn, undertook to examine the system of commercial intercourse between Great Britain and Ireland and as preliminary thereto "to establish fixed and general principles on the subject." As compared with Thornton, King, and Parnell, Foster's paper was prosy, wearisome, and didactic. All his theory was derived from King and all his data had already been used by Parnell. But his very crass didacticism served to emphasize certain sound principles by sheer reiteration: an unfavorable balance of trade cannot explain a continuous unfavorable exchange; an excessive issue of currency is comparable to a debased or seigniorage-charged currency; a metallic currency can never remain excessive, by reason of efflux; an inconvertible paper currency is likely to become excessive; sound discounting of commercial paper is no adequate precaution against over-issue; a premium on gold, a discount on paper, and a continuous unfavorable exchange are infallible symptoms of an excessive and therefore a depreciated currency. Like Parnell, Foster insisted that the reduction of the amount of currency would effect the correction of an unfavorable exchange and would constitute the remedy for its depreciation; he urged the legal requirement to redeem its notes in Bank of England paper as the proper corrective of the Bank of Ireland's condition.[(73)]

Neither the Irish Report nor the controversy that it provoked resulted in legislation and the actual improvement in the Irish circulation grew out of the more discreet conduct of the Bank of Ireland.

Boyd, Thornton, Lord King, Foster, and Parnell -- even Lord Liverpool and the Earl of Lauderdale -- wrote as tractarians and pamphleteers. The nearest approach[(74)] in the period from 1797 to 1809 to an independent expositor of monetary principles was John Wheatley of Shrewsbury. Lightly regarded by contemporaries, completely ignored by successors, the barest details of Wheatley's personal life have been forgotten. His name does not even appear in the "Dictionary of National Biography," and so diligent a student as J. D. Rogers has been obliged in an interesting appreciation in Palgrave's" Dictionary of Political Economy" to dismiss his biography in a parenthetical "fl. 1803-1822."[(75)]

Wheatley's title to distinction in the development of monetary theory rests upon two works. The first of these, "Remarks on Currency and Commerce," a loosely printed octavo, was offered to the public in 1803, in the train of Thornton's "Paper Credit" rather as" the prospectus of a future work than as a distinct treatise." The more ambitious "Essay on the Theory of Money" saw light four years later as a dignified quarto of some 380 pages, with a second volume then promised but not actually realized until 1822, and then only as a reflex of new controversies.[(76)]

In literary manner Wheatley was ponderous, archaic, and prolix, suggesting the stilted formalism of Sir James Steuart in striking contrast to the crisp readableness of his pamphleteer contemporaries. As critic he was unsympathetic and acrid, his estimates of men and doctrines being often hypercritical and sometimes vitriolic. But his theory of money was positive and explicit, its fundamental doctrine being enunciated not as an incident to or corollary of any general discussion, but as a central, dominating principle. Upon it he based all his criticisms of earlier monetary opinions and from it he derived all of his practical proposals.

Taking up the thread, with a characteristic disregard of intervening writers, virtually at the point at which Adam Smith had permitted it to drop, Wheatley insisted that in the commercial intercourse between nation and nation money is "the measure of equivalency," that is, its value or general purchasing power is everywhere identical- subject only to the friction of conveyance costs and trade restrictions.[(77)] It is to this "great principle of the level of money," that we must turn for the solution of "almost every other mystery in which the science of financial economy has been hitherto involved."[(78)]

The value of money in any one country being determined by its amount, the greater the quantity in circulation the lower will be its standard and the higher will be the price of all things. Accordingly it follows:[(79)]

that no one nation can possess a greater or less currency than its due proportion, than that proportion which is competent to circulate its produce at par with other countries; that in whatever instance it should be augmented above this proportion, foreign produce would be attracted by the advance in its market, and take off the surplus currency; that in whatever instance it should be reduced below this proportion, foreign bullion would be attracted by the cheapness of its market, and supply the requisite addition; and that no permanent variation can be effected in the value of money to prevent its universal agency as a common measure of equivalency.

High prices in a particular country are therefore a passing phenomenon; universal high prices are in reality only a test that the aggregate currency of the world has increased in a greater proportion than its aggregate produce.[(80)] The course of exchange registers the relative value of money in different countries. If all countries could at all times accurately employ the several amounts necessary to preserve uniform correspondence in respective prices, the exchange between them would invariably be at par. The fact that the course of exchange departs from par, at least by a greater margin than is represented by the expense of transit, indicates a disproportionate increase in the local currency and a depreciation in its value.

If such relative excess of currency be caused by the accumulation of specie, the course of exchange becomes unfavorable, and by leading to the efflux and distribution of the surplus specie, it maintains inviolable the level of money.[(81)] If the excess be due to an over-issue of bank-notes convertible into specie at the option of the holder, the course of exchange causes its return to the banks till the equivalence of money value is restored. So long, therefore, as the currency of a nation consists of a paper convertible at option into specie, no permanent excess can be effected; as the course of exchange will invariably prevent any given amount, expressive of a given sum, from measuring less value than the same sum in other countries, and will present an insuperable bar to its increase beyond the correct proportion.[(82)] But if the paper of a country be not convertible into specie at the option of the holder, and a relative excess of currency ensue from its over-issue, being neither like specie qualified for exportation, nor like paper convertible into specie obnoxious to a forced contraction, the course of exchange has no other means of causing the same sum to express in that country the same value which it expresses in others, than to reduce it to a discount in proportion to its excess.

More than this, a premium on gold was associated by Wheatley with a fall in the exchanges as an unmistakable symptom of the fact of monetary depreciation and the measure of its extent:[(83)]

the price of a foreign bill was an accurate criterion of the value of money in the country upon which it was drawn, and distinctly demonstrated to what extent a given sum abroad would purchase a greater quantity of produce than a similar sum at home. Specie, therefore, would bear a premium commensurate with the premium on a foreign bill, and no longer participating in the degraded condition of the paper, would resiliate to its level, and be maintained at the same value with the value of money in other countries.

Wheatley's practical proposals for the correction of prevailing monetary ills -- the withdrawal of issue powers from the country banks and the redemption of the Bank of England's notes of less than £5 denomination -- were distinctly feebler than his theoretical analysis, and this is doubtless the real explanation of his minor role in subsequent currency debate. But the effect of his theoretical writing was, by fulness of detail and sequence of argument, to establish that which he contributed as well as that which he merely restated. From 1807 on, the propositions (a) that the normal supply of a country was the amount which would keep its price level on a par with that of other countries, (b) that any addition effected redundancy and depreciation, (c) that the proof and measure of such depreciation was the fall in the foreign exchanges and the premium upon gold bullion, (d) that inconvertible paper would circulate without depreciation and concurrently with specie, if the aggregate amount of such paper and specie did not exceed the normal monetary supply -- could be described as definite and familiar monetary doctrines.

In the two years from 1807 to 1809 currency discussion was again relatively inactive. The Bank, in part restrained by the temper of parliamentary debate and the quality of public opinion, in part affected by the coincidence between its rate of discount and the market rate of interest, followed a policy at first such as it might have adopted in a period of cash paymerits. But new conditions were preparing. The close of 1807 found England not only excluded by the events of the war from commercial intercourse with continental Europe, but limited by orders in council and non-intercourse acts and embargoes in trade with the United States. The reduction and in some cases the total failure of foreign supplies were aggravated by a succession of unfavorable seasons and deficient crops, resulting in a rapid advance of prices and feverish speculation and hazardous over-trading. The extravagances of South American trade in 1808 and the tempting gains of contraband trade with continental ports attracted a host of speculative adventurers and gave a reckless tone to the whole English world of commerce.[(84)]

In the financial field the results were those inevitably attendant upon highly speculative periods -- "a great briskness in the general circulation; a rapidity in the interchange between goods and money or credit"; an increase of credit transactions; an enlargement of private country bank paper, and an extension of Bank of England notes.[(85)] The Bank expanded its issues uninterruptedly through 1808 and 1809, the total circulation increasing from £17,467,170 in November, 1808, to £18,646,880 in May, 1809, to £19,811,330 in August, 1809. The Hamburg exchange fell from 30s. 8d. in January, 1809, to 27s. 8d. in December, 1809, and the price of gold bullion fluctuated from £4 9s. to £4 12s. per oz. -- the market price at £4 10s. being about 15 ½ per cent above the Mint price.[(86)]

These were conditions certain to attract attention anew to currency matters. On August 29, 1809, Ricardo appeared as an earnest but timid contributor of an unsigned paper on "The Price of Gold" to The Morning Chronicle. Comment elicited response, and further criticism excited rejoinder -- culminating in the publication early in 1810 of Ricardo's tract on the "High Price of Bullion, a Proof of the Depreciation of Bank Notes." With it the development of monetary theory entered, in external form at least, if not in doctrinal content, upon a new stage, the study of which lies beyond the scope of the present paper.

IV

A final question remains to be considered: why should the phase of monetary theory, whose development has thus been reviewed, figure in the history of economic thought as a distinctively "Ricardian" doctrine? It would appear that parallel with the course of monetary events from 1776 to 1810 ran a current of criticism and comment tending more and more to clear understanding and exposition, and that what are commonly regarded as Ricardo's important currency contributions were neither new and independent analyses of contemporary monetary events, nor fresh deductions from general economic principles.

As a matter of fact, Ricardo's early currency pamphlets represent a discriminating acceptance of prevailing monetary theories, made precise by faultless logic and intimate knowledge of monetary affairs, and made forcible by an effective literary manner. There was little in the positive content of the "High Price of Bullion" that had not been said before and even said better. The theory of the distribution of the precious metals had been successively presented by Locke, Hume, Steuart, Foster, and Harris. The theory of inconvertible paper money and "the unerring tests" of inconvertibility had been made clear by Lord King and John Wheatley, and Ricardo undertook indeed to "add but little to the arguments which have been so ably urged"[(87)] by the former vigorous writer. The policy of the bank had been arraigned with varying emphasis by Boyd, Horner, Thornton, Foster, and Parnell, and Ricardo's expressions only renewed and confirmed such judgments.

The clear forcible restatement of these theories, in association even the not in sequence, together with the admirable illustrative and confirmatory equipment which the monetary events of the latest years afforded, the unequivocal form in which legislative termination of the Restriction was urged as the remedy for existing disorders -- would have made Ricardo's performance, emanating as it did like Baring's, Boyd's, and Thornton's writings from a distinguished member of the financial community, an interesting, even a notable tract of the times. But it is unlikely that there would have been other results than this.

It is to the controversial paragraphs, the most characteristic parts of the essay -- and even more, of its sequel, the "Reply to Bosanquet" -- that we must turn to appreciate the larger influence exerted by Ricardo's tracts, as compared with the work of predecessors and contemporaries. It was because, not content with restating a positive theory, Ricardo set up in succession and demolished in turn, sometimes completely, always plausibly, every opposed argument in written criticism or current opinion, that the doctrines of the "High Price of Bullion," reiterated and amplified a few months later in the report of the Bullion Committee, were associated thereafter in exclusive authorship with the name of Ricardo. A theory which had a dignified parentage was refurbished, defended from doctrinal attacks, justified by contemporary events, vitalized by urgent timeliness, and vindicated against current criticism. A standard was planted, the field cleared, and an alert and resourceful champion held the lists.

NOTES:

1. Rae, *Life of Adam Smith* (1895), pp. 285, 293.

2. G. B. Smith, *Grenville* (quoting Stanhope's *Life of Pitt*) in Palgrave, *Dictionary of Political Economy*.

3. Veitch, A *Memoir of Dugald Stewart*, in Stewart's *Works* (ed. Hamilton, 1858),

vol. x, p. lv.

4. Hollander, *David Ricardo* (1910), pp. 20-21.

5. *Parliamentary History*, vol. xxxlii, 825 (June 29, 1797).

6. *Quarterly Review*. January, 1824; cf. Bonar, *Malthus and his Work* (1885), pp. 275-281.

7. *Thoughts on the Restriction of Payments in Specie at the Banks of England and Ireland* (1803), pp. 38-39.

8. Horner (ed.), *Memoirs and Correspondence of Francis Horner* (1843), vol. i, p. 229.

9. Thus Hoffmann, *Kritische Dogmengeschichte der Geldwerttheorien* (1907), Kap. ii; Whitaker, The Ricardian Theory of Gold Movements. in *Quarterly Journal of Economics*, February, 1904. More surprising is the statement (J. F. Johnson. *Money and Currency*, 1905, p. 292) that Ricardo was a member of the Bullion Committee, being selected as a representative economist!

10. Lord Liverpool and the Earl of Lauderdale alone displayed any larger acquaintance with the early pamphlet literature on currency and banking

11. Horner (ed.), *Memoirs and Correspondence of Francis Horner* (1843), vol. 1, pp. 164-169.

12. *Wealth of Nations* (1776), Book I, chap. v. (Of the real and nominal price of commodities).

13. Hume, *Essays, Moral, Political, and Literary* (Of Money); Harris, *Essay on Money and Coin* (1757) Part. I, p. 101. In the same strain is Lord Elibank, *Essay on Paper Money and Banking* (1755), reprinted in Lord Overstone's *Scarce and Valuable Tracts on Paper Currency* (1857). Hume's opinions were disputed (the more notes the Banks can circulate in this way, the more will industry and trade be promoted) -- in Wallace, *Characteristics of the Present Political State of Great Britain* (1756. section on Paper Money and Banking, reprinted in Lord Overstone, op. cit. -- a paper which certainly does not justify McCulloch's verdict of "both liberal and ingenious," Ibid.. x). Bishop Berkeley's acute observations, *Querist*, (1910 reprint, ed. Hollander), Part I, § § 35-37, 199-286 et passim. seem to have excited considerable interest but to have exerted little influence. The author of *Thoughts on Money, Circulation and Paper Currency* (Edinburgh. 1758) altho admitting (p. 19) in the spirit of Petty and Hume that "Paper credit multiplies money, and more than a certain quantity of money is unnecessary," relapsed into the old heresies that increase in the money, supply reduced interest, increased employment, and augmented population.

14. Rae, *Life of Adam Smith* (1895), pp. 253-255; also Mr. Cannan's note to his edition (1904) of Wealth of Nations, vol. 1, p. 296.

15. *Wealth of Nations* (1770), vol. 1, pp. 345. 350.

16. Ibid., vol. i, p. 377.

17. Ibid., vol. i, p. 352.

18. Ibid., vol. 1, pp. 364, 367, 371.

19. Ibid., vol. i, p. 387.

20. Ibid., vol. i, p. 394.

21. Ibid., vol. i, pp. 394-395. As early as 1739 the author of *A Discourse concerning the Currencies of the British Plantations in America* -- undoubtedly the "honest and downright Doctor Douglas," upon whom Adam Smith placed full reliance -- declared as to the colonial currencies, "The repeated large Emissions of Paper Money are the Cause of the frequent rise of the Price of Silver and Exchange" (*Discourse*. 1897 reprint, ed. Bullock, p. 325; in Lord Overstone, op. cit., p. 21).

22. *Wealth of Nations* (1776), vol. ii, p. 10, and vol. i. p. 352,; of. also vol. i, p. 372, as to the issues of the Scotch banks.

23. Ibid.. vol. i. p. 356; more curious was Petty's estimate in *Quantulumcunque*, Query 25, in *Works* (ed. Hull, 1899), vol. ii, p. 446.

24. *Wealth of Nations* (1776), vol. ii, p. 10.

25. Ibid., vol. i, p. 363.

26. Ibid., vol. i, p. 352.

27. *Essays* (Of the Balance of Trade).

28. Part I, ch. 2, § xvii, "the quantity of money everywhere, will naturally find a certain level or proportion."

29. *Essay on Commerce* (2d. ed., 1811), p. 39.

30. *Essays* (Of the Balance of Trade).

31. *An Inquiry into the Principles of Political Economy* (1767), vol. i, p. 375.

32. Ibid., vol. i. p. 416.

33. Ibid., vol. i, p. 376.

34. *Wealth of Nations* (1776), Book IV, chap. i.

35. Ibid., vol. i, pp. 388-400.

36. *Essays* (Of the Balance of Trade).

37. *Essay upon Money and Coins*, Part I, p. 101.

38. The *Wealth of Nations* was cited repeatedly in the course of parliamentary debate upon the Restriction bills; see *Parliamentary History*, vol. xxxili, 353, 386, 522, 548--549, 563.

39. Ibid., vol. xxxiii, 64.

40. Ibid., vol. xxxiii. 44, 74.

41. Ibid., vol. xxxiii, 357.

42. Ibid., vol. xxxiii, 356-357.

43. *A Treatise on the Coins of the Realm* (1805), p. 228.

44. Parliamentary History, vol. xxxiii, 370, 393.

45. *Theory and Practice of Banking* (2d. ed., 1866), vol. i, p. 405. Immediate resumption was urged in *New Circulating Medium: being an Examination of the Solidity of Paper Currency, and its Effects on the Country at this Crisis* (1797), An addition of ten millions to the Bank's capital for the reduction of note circulation was proposed by Sir John Sinclair in *Letters to the Governor and Directors of the Bank of England* (1797). The author of *A Method of Increasing the Quantity of Circulating Money upon a New and Solid Plan* (1799) suggested that there be issued to any fund holder transferring his stock to the Bank as trustee circulating "stock notes" to the amount of one fourth of the nominal sum so deposited. In the very much abler *The Iniquity of Banking: or, Bank Notes proved to be an Injury to the Public, and the Real Cause of the Present Exorbitant Price of Provisions* (1800), it was proposed to retire the Bank's notes and to supply the gap with an equal quantity of "national paper currency," the proceeds to be applied in the first instance to the reduction of the national debt; see also Tierney's speeches in the Commons debate of March, 1800, on the Bank Charter Renewal Bill (*Parliamentary History*, vol. xxxiv, 1). Allardyce, *Address to the Proprietors of the Bank of England* (1798), and *Second Address to the Proprietors of the Bank of England Stock* (1801) were influential as affecting the Bank's relation to the public (cf. Ricardo's *Proposals for an Economical and Secure Currency*, 1816, pp. 93-95); but they contained no contribution to monetary theory. Among the best of the pamphlets called forth by the high prices of 1800 were two by an anonymous author (Common Sense): *The Cause of the Present threatened Famine traced to its Real Source* (1800), and *The Discharge of £37,000,000 of the National Debt* (1800).

46. *Observations on the Establishment of the Bank of England, and on the Paper Circulation of the Country* (1797).

47. *Further Observations on the Establishment of the Bank of England, and on the Paper Circulation of the Country* (1797).

48. *A Letter to the Right Honourable William Pitt, on the Influence of the Stoppage of Issues In Specie at the Bank of England; on the Prices of Provisions, and other Commodities* (1801; 2d. ed. corrected, 1811).

49. In 1796 Boyd came to the fore as the author of a plan, approved by influential London merchants and submitted to the Government, for the relief of the prevailing stringency by the appointment of an unsalaried board who should issue, in discount of bills of exchange, short time interest-bearing notes, convertible into Bank of England paper. The plan was shelved by Pitt in favor of a proposed funding of the floating debt as recommended by the Bank; but for some time thereafter it engaged public attention.

50. *Letter to Pitt*, pp. 31-32.

51. *Observations on the Publication of Walter Boyd, Esq., M. P*. (1801). In the anonymous *Brief Observations on a late Letter addressed to the Right Hon. W. Pitt, by W. Boyd. Esq*. (1801), disapproval of Boyd's doctrines was mingled with resentment at their publication "in the present critical situation of the country."

52. In the Third Report of the Commons Committee of Secrecy (April 21, 1797; see *Parliamentary History*, vol.. xxxiii, 441), in the Lords Report on the Affairs of the Bank (April 28, 1797; see ibid., vol. xxxiii, 449), and in the Commons Report on the State of the Bank (November 15, 1797; see xxxiii, 1026) -- the state of the exchanges had been discussed in connection with the Restriction, but no definite theory had been set forth. Similarly Tierney, in debate, had said "whether the course of exchange be unfavourable or favourable," the Restriction would be continued (ibid., vol. xxxlii, (1032).

53. See the Earl of Suffolk's speech in the House of Lords upon the motion respecting the paper currency of country banks (*Parliamentary History*, vol. xxxv, 1264).

54. In Considerations on the propriety of the Bank of England resuming its payments in specie at the period prescribed by the act 37th, George III (1802), Jasper Atkinson (whose authorship appears from his Letter to a member of Parliament, 1810, p. 1), had presented a turgid vindication of the Bank's conduct braced by a denial of the fact of inflation and a proposal that the mandatory date of resumption be extended with discretionary power on the part of the Bank to act in the interval. *The Utility of Country Banks Considered* (1802) -- a tract which McCulloch praised highly and reprinted in the Overstone Tracts on Paper Currency -- contained many interesting details of the economic usefulness of the interior banks but repeated almost verbatim Adam Smith's theory of the automatic limit upon paper circulation. Guineas an unnecessary and expensive incumbrance on commerce; or, the impolicy of repealing the Bank restriction bill considered (1802; 2d ed., with appendix, 1803) was a pretentious advocacy of paper circulation, anticipating the cheapest sophistry of the later restrictionists.

55. *An Enquiry into the Nature and Effects of the Paper Credit of Great Britain* (1802).

56. Palgrave, *Dictionary of Political Economy*. sub Thornton.

57. *The Question concerning the Depreciation of our Currency stated and examined* (1810), p. 100, note.

58. *Principles of Political Economy* (1848), Book III, chap. xi, §4, note.

59. Boyd's contribution, altho surely familiar, was dismissed with such incidental comment as might be expected from a Bank governor, a colleague of Baring and a champion of Pitt

60. *Paper Credit*, p. 191.

61. *Parliamentary History*. vol. xxxv, 541.

62. Smart, *Economic Annals of the Nineteenth Century*, 1801-1820 (1910), p. 64

63. *Parliamentary History*, vol. xxxv, 1149, 1155.

64. The Earl of Moira alone concurred with Lord King; Pelham and Sheffield echoed Addington.

65. *Parliamentary History*, vol. xxxv, 1157

66. *Parliamentary History*, vol. xxxv, 1247.

67. As late as 1877 Francis A. Walker assented to Senior's opinion that, "It contains so full and, in the main, so true an exposition of the theory of paper money, that after more than forty years of

discussion, there is little to add to it or correct" (*Money*. p. 352). A "second edition enlarged, including some remarks on the coinage," was published in 1804 under the title Thoughts on the Effects of the Bank Restrictions. and was included (pp. 47-161) in Earl Fortescue's edition of *Lord King's Speeches and Writings* (1844). The original edition, like Thornton's *Paper Credit*. was reviewed by Francis Horner in the Edinburgh Review (July, 1803)

68. "This great law which we have designated Lord King's *Law of Paper Money*, because he bore the most conspicuous part in establishing it" (Macleod, "Banking in England" in Banking in all Nations, 1896. vol. ii, p. 20). Elsewhere Macleod asserts that it is to Boyd, Lord King, and Thornton, that "the merit is due of establishing this principle, which is as important in the subject of currency as the Newtonian law of gravity is in astronomy" (*Theory and Practice of Banking*, 2d ed., 1866, vol. ii, p. 4); and in still another connection the same writer hesitates as to "whether strict justice does not demand that it should be attributed to John Law" (*Dictionary of Political Economy*, 1863, p. 96).

69. Report, Minutes of Evidence, and Appendix, from the Committee on the Circulating Paper, the Specie, and the Current Coin of Ireland; and also, on the Exchange between that Part of the United Kingdom and Great Britain [May and June. 1804; reprinted May, 1826].

70. *Dictionary of Political Economy* (1863) sub. Banking Works and Bullion Report; Sumner's opinion is similar, see *History of American Currency* (1884), p. 283

71. London and Dublin, 1804.

72. London, 1804.

73. So too. in *Thoughts on the Alarming State of the Circulation, and on the Means of Redressing the Pecuniary Grievances of Ireland* (1805), the Earl of Lauderdale placed himself in emphatic agreement with the contentions of the Irish Report that the unfavorable exchange and the premium on gold were proofs of the depreciation of the Bank of Ireland's notes, and that excessive issue was the sole cause of such depreciation; going farther than the half-hearted palliatives of the Report, Lauderdale insisted that the reduction of the quantity of Bank paper was the only remedy for the existing evil

74. Despite its pretentious title, Thomas Smith's *Essay on the Theory of Money and Exchange* (1807; 2d ed., 1811) was a dull defence of the Restriction. evoked by the Irish Report, and of interest solely for the extravagance of its expressions ("the Restriction Bill was one of the wisest acts that ever was passed;... if the Directors have erred at all, it has been in issuing too few Notes.") The book was reviewed by James Mfil in the *Edinburgh Review* of October, 1808, and indirectly influenced the subsequent course of monetary discussion (cf. Hollander, *David Ricardo*, 1910, p. 44).

75. Of modern writers on money, Professor H. S. Foxwell has in various places recognized Wheatley's doctrinal importance.

76. A part at least of this second volume was sent by Wheatley to Ricardo, and Ricardo's acknowledgement (Brit. Mus. Add. Mss. 29,764, f. 44) is reprinted in Bonar and Hollander (ed.), *Letters of Ricardo to Trower* (1899), pp. 159-160.

77. *Essay*, pp. 45-46

78. Ibid., p. 97.

79. Ibid., p. 48.

80. Essay, p. 51.

81. *Essay*, pp. 66-67.

82. *Essay*, p. 69.

83. *Essay*, p. 70.

84. Tooke, *History of Prices* (1838), vol. 1, p. 273 et seq.

85. Tooke, *Thoughts and Details on the High and Low Prices of the last thirty years* (1823), p. 103.

86. Report, together with minutes of evidence, and accounts from the Select Committee on the High Price of Gold Bullion (1810), pp. 1, 189. 207.

87. *High Price of Bullion* (1810), Introduction,