The Physiocratic Analysis of Money: A Reappraisal*

Maxime MENUET and Patrick VILLIEU

Laboratoire d'Economie d'Orléans, LEO, Université d'Orléans, France

Abstract

Few studies have focused specifically on the physiocratic analysis of money. Most historians and economists consider that the Physiocrats were concerned with money as a medium of exchange alone, and neglected its function as a store of value. However, that neglect was enigmatic because, for the Physiocrats, money was metallic and therefore storable. This article defends the argument that the Physiocrats' monetary analysis concealed an internal contradiction between (i) their vision of the circulation of riches, in which money was neither the object of trade nor even a necessary utensil, and (ii) their doctrine of natural law, which made commodity money the necessary element for the equality of trade. As a simple means of exchange, Quesnay and his followers recognised that money could be replaced by paper. However, in order to comply with the "value for equal value" principle of exchange, money had to be made of precious metal, as Le Trosne, the main architect of the physiocratic monetary doctrine, forcefully asserted. The Physiocrats therefore disregarded the role of money as a store of value not because they were unaware of this function, but because the contradiction could only be overcome by deliberately ignoring this function. For the Economists, it was a question of making the holding of money undesirable and excluding it from their model.

Keywords: physiocracy, money, mercantilism, cartelism, metallism

* Correspondence may be addressed to maxime.menuet@univ-orleans.fr. The usual disclaimer applies. No potential conflict of interest was reported by the authors.

Introduction

It is now universally accepted that the physiocratic school played a leading role in the emergence of political economy in the second half of the eighteenth century. As early as 1861, going against the tide of opinion at the time, Walras characterised Physiocracy as "the largest, and at the same time the first school of economists that ever was" (Walras 1987: 139). In his *History of Economic Analysis* Schumpeter (1954) referred to the members of the "*Secte des Economistes*"[1] as the founders of modern political economy, in that they were the first to conceive of economics as a system of "general equilibrium", anticipating the views of Walras and Keynes. Other authors went so far as to consider François Quesnay to have been "the first economist" (Schachter 1991).

Nevertheless, as Faccarello and Steiner (2012) argue, it is striking that this impetus was given to political economy in France "without money being a central object". Indeed, while the physiocratic school is well-known for its defence of competition and free trade, for its theory of taxes and its analysis of the circulation and reproduction of wealth, its monetary doctrine is often overlooked. Evidence of this is that there is not a word about the Physiocrats in Charles Rist's *Histoire des doctrines relatives au crédit et à la monnaie* (1938).[2] According to Robert Legrand, the study of money was "unimportant" for the Physiocrats; his evidence being that "they will say in many passages that a well-regulated and limited paper money would be as good as numéraire" (Legrand 1900: 66).[3] According to Louis Salleron, Quesnay was "very hostile to money and very not clear about the role of money" (*François Quesnay et la Physiocratie*… 1958, II, footnote 14: 447), and his "anti-mercantilism led him to underestimate the role of money" (ibid, footnote 19: 809).

Even if these comments are excessive, it remains true that Quesnay's position that money was merely the instrument of exchange – a simple "utensil of commerce" (Quesnay 1757b: 527) – contrasted markedly with the views of influential authors like John Locke (1632–1704) or Richard Cantillon (1680–1734), who, a few years earlier, had placed monetary phenomena at the heart of their analyses. Moreover, in France, the controversies surrounding Law's System and its bankruptcy in 1720 had stimulated considerable interest from doctrinal and political perspectives alike. Between 1734 and 1761 there were no fewer than eight editions of the *Essai politique sur le commerce* by Jean-François Melon (1675–1738), which Voltaire

[1] In this paper we follow Schumpeter (1954) by defining the Economists as the small group of François Quesnay's (1694–1774) followers, namely Victor Riquetti de Mirabeau (1715–1789), Pierre-Paul Le Mercier de la Rivière (1719–1801), Guillaume-François Le Trosne (1728–1780) and Pierre Samuel Du Pont de Nemours (1739–1817). They were "all disciples, nay, pupils of Quesnay in the strictest and most meaningful sense these terms will bear" (Schumpeter 1954: 270). Authors such as Anne Robert Jacques Turgot (1727–1781) and Abbot André Morellet (1727–1819), although sympathisers, did not belong to the Sect *stricto sensu*.
[2] Rist refers succinctly to Quesnay on only two occasions, notably to mention that "money is nothing" for the leader of the Sect (Rist 1938: 85).
[3] However, this opinion will have to be revised, as shall be seen.

praised; and the lively discussions between Nicolas Dutot (1684–1741) and Joseph Pâris-Duverney (1684–1770) undoubtedly inspired the Physiocrats' thinking.

The Economists' position on money was largely based on their criticism of the defenders of Law's System and more broadly of the mercantilist or neo-mercantilist arguments that took money to be the condition for – if not the source of – the wealth of nations. For the Physiocrats, money was merely a means of making riches circulate. With the *Tableau Economique*, they developed a circular vision of reproduction, through the notion of expenditure that anticipated Marx's "simple reproduction",[4] and even ideas developed by Keynes (1936) in his *General Theory* (see, in particular, Spencer 1945a).

In the *Tableau Economique*, Quesnay modelled an economy in which exchange was monetary, meaning that money was not unimportant for the Physiocrats. Nevertheless, while emphasising the monetary conditions for the circulation of riches, the School minimised the role of money by turning it into a simple intermediary of exchanges. This paradox gave rise to divergent views about the Physiocrats' analysis. Most economists, like Faccarello and Steiner (2012),[5] interpret Quesnay's thought in terms of real analysis. On the contrary, in his *History of Economic Analysis* (1954), Schumpeter, followed by Cartelier (1984), asserts that the School belongs to the "interlude of monetary analysis (1600–1760)". Goutte (1989) goes even further by considering Quesnay a "cartalist", namely a follower of the sign-money doctrine, whereas Weulersse (1910, I) presents the Sect's leader as a strict apostle of the commodity-money doctrine.

Was the Physiocrats' thinking related to real analysis or monetary analysis? Was it a cartalist or a metallist theory? The scarcity and vagueness of studies on the monetary writings of the Physiocrats show that further investigation is required. This reassessment is particularly necessary considering the silence that has fallen on the thought of the School's main contributor to monetary issues, Guillaume-François Le Trosne (1728–1780). Indeed, while Quesnay gave little scope to discussions of monetary doctrines:

> There is, however, a Physiocrat [...] who has, more explicitly than most, and especially in a much clearer and simpler style, set out his views on money: views which are those of the whole School's, faithfully reproduced, and most often in the terms, almost sacramental, that Physiocrats transmit to each other; but with a too rare ease relative to these pretentious, obscure, solemn and sometimes ambiguous writers. This is the case of Le Trosne, the king's lawyer and adviser to the Presidial Court of Orleans. (Gonnard 1936, II: 142)

As a student and enthusiastic disciple of Quesnay, Le Trosne was one of the school's most active supporters.[6] For example, he was the architect of Abbot Baudeau's "conversion" to

[4] Marx considered Quesnay's *Tableau Economique* to be "the most brilliant idea of which political economy had hitherto been guilty" (quoted by Sweezy, 1942: 75).
[5] "The *Philosophie économique* takes from this the path to a real analysis of economic activity and is followed in this by classical political economy" (Facarello and Steiner 2012: 352).
[6] For more information on the life of Le Trosne, see Mille (1905).

physiocratic theories, specifically on monetary issues.[7] Until 1775, his works on political economy were published in the form of articles in the *Journal de l'agriculture, du commerce et des finances* and *Les Ephémérides du Citoyen*. In 1777 he published *De l'ordre social*, completed by a second volume (*De l'intérêt social*) that same year. In this volume – written notably in response to Condillac – we find the essence of Le Trosne's economic thinking. In particular, he developed reflections on monetary doctrines in a very original way compared with the other members of the Sect, and for which his legal training was undoubtedly particularly advantageous.

The scant attention paid to Le Trosne's writings on monetary issues since Gonnard's book (1935–1936) is curious. For one thing, among the members of the Sect, Le Trosne was undoubtedly the closest to Quesnay doctrinally: he was for Eugène Daire, "one of the most methodical and learned commentators on the Quesnay system" (Daire 1846, II: 74). For example, Paul Vidonne claims one can "find in Le Trosne's writings an analysis of value similar in every way to that of Quesnay in the article *Hommes*" (Vidonne 1986: 35). For another thing, Le Trosne was the Physiocrat who dealt best with monetary issues. Karl Marx himself noticed this. In *Capital*, Le Trosne was among the most quoted of the Physiocrats (thirteen times in total, compared to six for Mercier de la Rivière, four for Quesnay, and three for Turgot, see Marx 1872 (1867)). Marx referred to the magistrate of Orleans for his reflections on value, exchange and circulation, on his opposition to the definition of money as a simple representation of wealth. More than this, Marx considered Le Trosne as the first framer, before Jean-Baptiste Say, of the "law of markets". Thus, like Turgot, Le Trosne had explored the problem of value (in particular by describing the four causes of value: utility, production cost, scarcity and competition) in relation to the problem of money.

When reading the works of Le Trosne and the other members of the Sect, one feature stands out, namely that money is not regarded as a store of value. Whereas the accumulation of precious metal stocks was the aim of mercantilist policies, the Physiocrats focused instead on money's function as a medium of exchange, considering it to be a flow of expenditure and not a stock of riches.

In this article we claim that the Physiocrats' monetary analysis concealed an internal contradiction between (i) their vision of the circulation of wealth, in which money was neither the object of trade nor even a vital "utensil", and (ii) their doctrine of Natural Order, in which a commodity-money was needed to ensure equality in exchange. Thus, the Physiocrats *disregarded* the role of money as a store of value; not because they failed to recognise this role, but deliberately, because only by ignoring it could they overcome this contradiction. Hence, for the Economists, holding money was an undesirable feature to be excluded from their model.

[7] Baudeau came closer to the Physiocrats' doctrine in March 1766, during a discussion with Le Trosne about his maxim that "money is only the pledge of exchange, and it is itself only used for exchange". See Baudeau's letter published in the *Journal de l'agriculture, du commerce et des finances* in June 1766, as well as Dupont de Nemours ("*Notice abrégée*...", *Éphémérides* 1769, V: 31).

More specifically, the physiocratic analysis of money seemed to involve a threefold rejection: (i) a rejection of mercantilist tenets, (ii) a rejection of cartalism and manipulations of money, and (iii) a rejection of hoarding.

(i) The Physiocrats' view of money was primarily politically motivated. Their goal was to counter mercantilism and its associated "industrialist" ideas (**section 1**). As Faccarello and Steiner (2012) point out, the proposals of the mercantilists or their successors "whose eyes are fixed upon monetary relations", such as, for example, François Véron Duverger de Forbonnais (1722–1800), conflicted with the Economists' ideas. By condemning the errors of mercantilism based on the equating of the stock of precious metal to wealth, the Physiocrats also opposed trade and the nascent industry; and their focus on the circulation of goods (or more precisely on foodstuffs) reflected a return to agriculture as the only real wealth in the kingdom.[8] Indeed, the two main topics developed by the School were that money was not the object of trade – it was not the source of individual or collective wealth, and that it was the circulation of goods that made money move, and not the contrary.

(ii) What then was the role of money in circulation? For Quesnay and his followers, exchange might be equally well ensured by "commercial paper". However, money was necessary, because such paper had no intrinsic value and was merely a representative sign of riches, whereas money had the power to discharge debts. "With money, one pays", Le Trosne (1777) was to claim. In line with the principles of Natural Order and equality in exchange, this power to discharge from a payment obligation (the legal tender of money) could only be ensured by a commodity with intrinsic value of its own, namely metallic money. Hence, the Physiocrats adopted a doctrine of commodity-money, in which money not only "represented" values, but "equalled" them (ibid). It followed that the monarch should not manipulate the currency or even resort to seigniorage lest that equality of exchange be broken (**section 2**).

(iii) The contradiction is striking. From the circulation perspective, money was not wealth and could be replaced by paper to simply represent flows in expenditure. But from the equality of exchanges perspective, money had to be made of precious metal and so be storable. To remove this contradiction, the Economists were to forcefully denounce hoarding and deny money the function of a store of value (**section 3**). Indeed, money, even if formed by precious metals, should only be considered as a flow and not as a stock that could stop circulation. In this way, the Physiocrats built an "ideal" model, from which they eliminated any imbalances although they had clearly perceived the risks of disequilibrium. In this "laboratory model" symbolising the Natural Order, the study of individual motivations for holding money had no place, because introducing money was equivalent to introducing disorder. The physiocratic experiment was therefore the first aborted attempt to "integrate" money into the "real" economy.

[8] Nevertheless, Ware's (1931) claim that physiocratic thought was not the product of "academic" reasoning but only of class interest seems, from our perspective, not completely true. In this paper, we support the idea that the Physiocrats were building a "model" of political economy.

I. A rejection of mercantilist proposals

The term "mercantilist" has the advantage of bringing together under the same heading the heterogeneous economic currents that impelled Europe for almost three centuries (from the sixteenth to the eighteenth centuries), but that is also what limits it. Indeed, mercantilism is multifaceted and includes the experiences of Spanish bullionism, French Colbertism and German cameralism, for example. It is not a coherent set of policies, but "the rather vague name under which an ill-defined set of tendencies or practices peculiar to the economic policy of the great modern states has been designated after the fact"[9] (Harsin 1928: 12). Thus, "mercantilism is not political economy but economic policy" (ibid). If a common doctrine had to be found for this set of ideas, it would be to think of trade as a means of increasing the power of a Nation, and thus sustaining the Prince's policies. Against this background, the possession of precious metals such as gold and silver is of the greatest interest. These metals reflect power and wealth, which, to be increased, required trade surpluses.

However, at the dawn of the eighteenth century, these views were subject to many nuances and changes.[10] In England and Scotland, authors such as Locke and Hume developed the idea of a mutual advantage in trade, and although mercantile ideas were still strongly established in France, notably in Gournay (Tsuda, 1983) and Forbonnais (Faccarello and Steiner, 2012), the equating of wealth with precious metals had long since ceased to be the norm, as evidenced by authors like Law, Melon, Dutot and Montesquieu. For these authors, it was money that mattered, whether it was metallic or made of paper, rather than the stock of precious metals itself. According to Gonnard (1935, I), they still deserve to be called "neo-mercantilists", however, because of the highest importance they continued to attribute to money and the conditions of its circulation. Notwithstanding these developments, Physiocracy was fundamentally opposed to mercantilist proposals, refuting the assimilation of wealth to precious metals and focusing on the circulation of goods rather than that of money.

The critics of bullionism and the distinction between money and wealth

The starting point of the physiocratic theory of money lay in criticism of the bullionist theories developed by the early mercantilists. Although these theories cannot be reduced to the chrysohedonic belief – despite the ways some members of the Sect caricatured them[11] – the goal was firstly to claim that the wealth of nations was not measured by the quantity of precious metal they possessed. Indeed, even if many economists had already recognised that "it is not the great quantity of gold and silver that makes a state rich" (Vauban 1707: 49), this confusion was still very popular in France in the second half of the eighteenth century. As an example,

[9] Often in a pejorative sense, under the influence, in particular, of Mirabeau in 1763 or Smith in 1776.

[10] In his *Précis de l'histoire des doctrines économique*, Dubois (1903) uses the terms "degraded mercantilism".

[11] Forbonnais, in his *Principes et observations économiques* denied the confusion between wealth and precious metals, while Quesnay claimed to take the opposite view: the Doctor's "great art", Forbonnais tells us, is to "create errors in order to combat them" (Forbonnais 1767: 287). Even if bullionism was not advocated in theory, it was nonetheless practised, states having always been keen to secure for themselves large quantities of precious metals.

Mirabeau said in 1755: "Politicians, in their systems, come together to make it a capital point to constantly attract gold and silver into a state and to prevent them from leaving it."[12] However, according to Le Trosne, the ban on exporting precious metals was necessarily based on a false principle because "it would suppose that money is the only wealth, or at least that it is preferable to the others" (Le Trosne 1777: 918). On the contrary, "of all that comes out of the Kingdom, it is gold and silver whose exit is the least pernicious",[13] argued a precursor of the Physiocrats, the Marquis d'Argenson (1694–1747). Seeking to attract precious metals was "to give a reality to the illusory gain of the balance of trade, [and] that a nation gains by selling more than it buys" (ibid: 975).

For the Physiocrats – advocates of free trade – sellers always needed buyers, and surpluses in the balance of trade were neither desirable nor sustainable over the long run. Since the value of money was determined by the price established between trading nations, if a country developed permanent trade surpluses, prices would increase relative to other countries. This argument corresponded to the physiocratic principle that trade was not a source of enrichment: through buying and selling, one exchanged "value for equal value".[14] This equivalence of money and goods was part of the general system of equality in trade, "a principle which the Physiocrats consider to be indisputable" (Weulersse, 1910, II: 260), and which was also recognised by some neo-mercantilist authors.[15] The only advantage to foreign trade, as to trade in general, was to support domestically the right price in agriculture, i.e. the price that ensured sufficient remuneration for producers to maintain and increase production.

Nevertheless, while they highlighted the vacuity of perpetual balance-of-trade surpluses, the Physiocrats sometimes remained unclear about the status of precious metals in the power of nations. Although Quesnay acknowledged that "it is not in the nation's treasury that the prosperity and strength of a state are found" (Quesnay 1767a: 93), he also adopted a position that the mercantilists would not have disavowed: "The more money a kingdom can obtain, the more powerful it is, because money, is the only wealth that can lend itself to all uses and that can decide the strength of nations relative to each other" (Quesnay 1757a: 300). This statement seems to be a Colbertist position,[16] showing that perhaps the Physiocrats had not totally renounced mercantile principles.[17] From the physiocratic perspective, however, this view was

[12] Mirabeau quoted in Weulersse 1910, II: 256. Notice that in 1755 the ban on taking gold and silver out of the kingdom had only just been officially lifted.

[13] Argenson 1858: 367. On the pioneering role of d'Argenson, see Alem (1900) or Conan (1955: 207).

[14] For Marx, the great merit of the Physiocrats was to have placed the origin of the surplus in the sphere of production and not, like the mercantilists, in the sphere of circulation. Since one exchanges "value for equal value", the surplus cannot come from circulation. On Marx and Quesnay, see Bénard's (1958) analysis.

[15] "It is right to give an equivalent of what one receives: this is the essence of commerce, which consists in the exchange" wrote Forbonnais at the very beginning of his article "Commerce" in the Encyclopedia (*see Journal de l'Encyclopédie* 1756, vol. IV, part 2: 20).

[16] "I believe that one will easily agree with this principle, that only the abundance of money in a State makes the difference between its greatness and its power" (Colbert in Clément 1861–1882, II: 259).

[17] That fact that the relative power of states and their domination depended on the stock of precious metals was a leitmotiv in Locke, Cantillon, Hume and Forbonnais: "gold and silver are the true reserve stock of a State, and the larger or smaller the actual quantity of this stock necessarily determines the comparative greatness of kingdoms and States" (Cantillon 1755, book 1, chap. 1: 12).

paradoxical:[18] how could precious metals account for the relative strength of states, when they failed to account for the strength of a particular state? Behind the notion of relative power, it might have been the notion of liquidity that was perceived,[19] making precious metals an asset that could be quickly mobilised and that could "lend itself to all uses" more easily than other forms of wealth.

Beyond the balance of trade, the Physiocrats systematically defended the idea that money should not accumulate in the state to the detriment of the increase in wealth. However, they were often unclear about the distinction between precious metals and riches, as they used the terms "wealth" or "riches" in different ways:[20] "Money is a particular wealth equivalent in purchases at market value of all kinds of tradable wealth" (Quesnay 1757b : 527); "Merchandise is a richness equivalent to money, and money is a richness equivalent to merchandise" (ibid: 537); "Acquiring money is not getting rich, it is only changing wealth" (Mirabeau, *L'Ami des Hommes* 1761, part VI: 92).

In this respect, the distinction between riches and money was made more precise by Le Trosne, for whom riches were made up only of goods that satisfied the double criterion of being "useful or pleasant"[21] objects of enjoyment, and of being tradeable. Utility was necessary, but not sufficient because it was the market value that imparted the quality of wealth to production. Since money did not provide direct enjoyment, "precious metals, used as money, are not the kind of wealth that people seek to satisfy their needs" (Quesnay 1758: 652).

The Physiocrats' views of "true" wealth were well-defined by Le Mercier de la Rivière: "By the term wealth, I mean a mass of available values, values that one can consume according to one's desires, without becoming impoverished, without altering the principle that constantly reproduces them" (Le Mercier 1767: 568). Thus, wealth corresponds to its modern definition: it is that which one can consume without becoming poorer. This contrasts with money, which "is dissipated by your spending, so that you cannot enjoy it without impoverishment", and wealth "which is nourished and perpetuated by consumption itself" (ibid: 573). It was therefore

[18] Louis Salleron, in his *Textes annotés de François Quesnay*, considers that Quesnay's position in "*Grains*" is a "thought that is being sought" in the early writings for the Encyclopaedia (*François Quesnay et la Physiocratie*...II, note 1: 427), and that this error would not be repeated later (note 26: 508). For Weulersse (1910, II: 262), in contrast, Quesnay acknowledged here that the possession of precious metals held particular advantages over other riches. We share the latter view, because Quesnay could not have failed to see this contradiction.

[19] But glimpsed only, because it would have been necessary, in order to develop this notion, for the Economists to accept a patrimonial definition of money, which they refused, as we will see.

[20] The multiple meanings of the term "wealth" are revealed particularly by the following quotation: "Coined money is wealth that is paid for by other riches, [...] which no longer contributes to perpetuating the wealth of a State when it is kept out of circulation and no longer returns riches for riches; then, the more it accumulates, the more it costs in wealth that is not renewed and the more it impoverishes the Nation. Money is therefore an active and truly profitable wealth in a State, only to the extent that it continually returns riches for riches; because money is by itself only a sterile wealth..." (Quesnay 1767a: 93). According to Louis Salleron, although his doctrine on wealth is "perfectly clear" (sic), Quesnay, "like most great intuitive persons", "composes badly" and "constantly contradicts himself" (*François Quesnay et la Physiocratie* 1958, II, note 8: 519).

[21] According to Boisguilbert's Jansenist tradition, for the Physiocrats, the finality of goods was indeed to be found in human enjoyment: "To obtain the greatest possible increase in enjoyment, by the greatest possible reduction in expenditure, is the perfection of economic conduct", said the master of the Sect (Quesnay 1766: 192).

not only the precious metal that appeared here as "sterile wealth", but also all the products of manufacturing industry, which were not replenished by their consumption. From then on, agriculture was the only real source of wealth, as Quesnay proclaimed: "let the sovereign and the nation never lose sight of the fact that the land is the only source of wealth, and that it is agriculture that multiplies it" (Quesnay 1767a: 82).

The term "sterile" was therefore used by the Economists, not only to characterise the "sterile class" – made up of merchants or industrialists who only transformed agricultural products – but also to refer to money. In the Maxims of Economic Government, Quesnay spoke of "sterile pecuniary fortunes" (Quesnay 1767a: 88). For the Physiocrats, therefore, money did not belong with riches – it did not provide enjoyment – but simply served to facilitate circulation.

Money and the issue of circulation

Since the middle of the seventeenth century, concerns had been expressed in France about the obstacles to circulation in a context of latent crisis where the fall in prices seemed to result from the scarcity of precious metals. At the beginning of the following century, in addition to the fear of the "decadence" of agriculture, two main considerations emerged about a possible shortage of numeraire. On the one hand, major leaks of precious metals occurred, particularly to India, due to imports of spices and silk. Although those leaks had been structural for two hundred years, in relation to the deficit in the balance of trade, they were increasing with the revival of a major trade movement, particularly towards the Far East. On the other hand, the rivalries between France, Holland and England gave rise to a "war economy" (Vilar 1974), generating significant precautionary saving behaviour that resulted in a high level of hoarding (this behaviour was amplified in France by the bankruptcy of Law's System).

Here again, the Physiocrats' position on circulation resulted from a questioning of mercantilism, in the more subtle form in which it was embodied at the beginning of the eighteenth century. The renewed version of this mercantilism, personified in particular by Law and Forbonnais, defended the idea that, if the accumulation of money did not constitute wealth in itself, it could nevertheless contribute to increasing wealth by facilitating trade. In his *Principes et observations économiques*, published in 1767, Forbonnais wrote: "the continuous increase of pecuniary wealth is a considerable advantage in accelerating the progress of production" (Forbonnais 1767, II: 142). In his brief to the Scottish Parliament in 1705, Law argued that "what constitutes the power and wealth of a nation is a large population and shops of foreign and domestic goods. These objects depend on trade, and trade depends on numeraire" (Law 1705: 506). In this assertion there was no confusion between money and wealth, but the claim that the level of economic activity depended directly on the amount of money available: money facilitated circulation and exchange, for the enrichment of all. Indeed, as Law stated:

> As money increased, the disadvantages and drawbacks of exchange were removed; the idle and the poor were employed; more land was cultivated; production increased; manufacturing and

trade improved; the owners lived better, and the lower classes of the people were less dependent. (ibid: 471)

Therefore, circulation was the main issue for Law. According to Weulersse (1910), he was the first to borrow this word from physiology, using the metaphor, often taken up again later, of blood circulation: “Money is to the state what blood is to the human body” (Law 1715: 605).[22]

For the Physiocrats, and in particular Le Trosne, circulation was also essential, but this circulation was that of goods, in which the quantity of money did not matter. An increase in the quantity of money did not necessarily lead to an increase in riches. Rather, cause and effect were reversed, since “it is always the abundance and good price of commodities that is the source of money” (Quesnay 1757b: 528). For the Economists, the quantity of money was therefore fundamentally endogenous: it was the ease of circulation and the freedom of trade that would ensure the right price, and thus the inflow of money.

Hence, the abundance or the scarcity of precious metals was not essential. On the one hand, money was not the object of circulation (as Boisguilbert had already pointed out); on the other hand, it could be supplemented by increasing its speed of circulation, notably through the use of paper.

Thus, far from being “the object of trade, money is the ‘makeshift solution’” (Quesnay 1766: 175). For Le Trosne, as “metal money is not a good that provides enjoyment, but a simple tool of commerce; it is not money that is the object of circulation and the goal of exchange, but it is the production that sets it in motion and makes it circulate” (Le Trosne 1777: 915). In this way, conflating money and wealth was similar to the fallacy of the spring and the rope, as depicted by Dupont de Nemours: “as the rope is used to draw the water that the spring produces, poor thinkers do not know how to discern which, from the rope or the spring, gives the water” (Dupont in Rambaud 1909, I: 190). In his *Lettre sur les avantages de la concurrence… en réponse à une lettre de Quimper*, which was published in July and August 1765 in the *Journal de l’Agriculture*, Le Trosne stated:

> You only consider money when you speak of the interest of a Nation, without realizing how poor and miserable a Nation, reduced to this fictitious wealth, would be [...] But Sir, money is the least thing that needs to be taken care of, not because it is necessary to facilitate exchange and to animate circulation, but because there is always enough money in a Nation that is rich by

[22] However, this analogy is older. In his *Leçon sur les monnaies,* Bernado Davanzati (1529–1606) wrote in 1588, forty years before the discovery of the principle of circulation of the blood by William Harvey in 1628: “every state needs a certain amount of money in circulation, just as everybody requires a certain amount of blood to irrigate it” (quoted in Le Branchu 1934: 233). Meyssonnier (1989) shows that the metaphor of blood circulation was taken up again and again by all economists (in particular, Galiani) until the middle of the eighteenth century. For example, Vauban wrote that “the trade of the country serves to facilitate the circulation and movement of money, no less necessary to the politic body than that of blood to the human body” (Vauban 1910: 561). The circulatory metaphor, whether it concerned blood, water, canals or rivers, was often taken up by the Physiocrats (Mirabeau, Quesnay and Le Mercier, in particular), and there is no doubt that Quesnay took inspiration from blood circulation in his *Tableau Economique*. Nevertheless, the analogy can be misleading, because the Economists compared the circulation of blood to that of riches, not that of money.

> the abundance and value of its productions. (continued from the Letter of M. Le Trosne, *Journal de l'Agriculture…*, August 1765: 63-64)

This idea was to be further clarified in *L'Intérêt Social*: "One should never worry about money, there is always enough" (Le Trosne 1777: 915). Indeed, "one can compensate for money, but nothing can compensate for production" (ibid). To compensate for money, one simply needed to increase the speed of circulation, because the "celerity of circulation", according to Quesnay, "is a very advantageous remedy for the abundance of money" (Quesnay 1757a: 293). For Le Trosne, "when the circulation slows down, money disappears, it becomes rare without its mass being diminished, because it stops where it should only pass through" (*Journal de l'Agriculture...,* August 1765: 66). The Physiocrats, like Mirabeau, Quesnay or Le Trosne, lengthily developed the idea that the quantity of money did not necessarily have to equal the value of the goods in circulation. Before them, Boisguilbert and especially Cantillon[23] had already focused on the speed of circulation (which Boisguilbert called "frequency of representation") of money: money "stops, decamps and runs" with consumption, so that "by generating much consumption, little money, through its frequent representation, is equivalent to a very large quantity of cash"; if, on the contrary, consumption decreased, "money stops immediately and makes people say that it has disappeared".[24]

A small quantity of money was enough, then, to meet the needs of circulation. More often, money was used only ideally in commerce, because "the written insurances that represent money are more convenient", said Quesnay in his article *Hommes* (Quesnay 1757b: 528). Indeed, as early as the seventeenth century, commercial paper became widespread, and it is noteworthy "that in Paris, money was so scarce in commerce that, to make a payment, only a quarter was given in cash and three quarters in notes or bills of exchange" (Savary 1742: 259). Boisguilbert claimed that at the fairs in Lyon "one has never seen a *sou* marked with cash" (Boisguilbert 1707a: 398); all transactions were made by exchanging commercial notes.

As early as 1696, Petty had already well understood that paper could increase the speed of circulation, by adding to cash;[25] but for Quesnay and Le Trosne, it was not just a simple addition of paper to circulation, but a substitution. Some years before, Boisguilbert wrote that "a simple piece of paper, which costs nothing, nevertheless replaces all the functions of money" (Boisguilbert 1707a: 376). Bills of exchange could therefore very well substitute for money to facilitate circulation. These three authors went even further by developing the concept of

---

[23] If, with Schumpeter (1954: 301), one can "discern the shadow" of the speed of circulation in Davanzati, Cantillon was the first economist to conceive that an increase in the speed of circulation of money was equivalent to an increase in its quantity: "I have already noticed that an acceleration, or greater speed, in the circulation of money is worth as much as an actual increase in money, up to a certain degree" (Cantillon 1755: 213).

[24] Letter from Boisguilbert of 1 July 1704 – to be read in the *Correspondance des contrôleurs généraux des finances avec les intendants de provinces* (1883), p. 536.

[25] In answer to the 26th question in his *Quantulumcumque concerning money*, Petty says "if we have too little money, [the remedy is] to found a bank which, by good calculation, should almost double the real value of our money" (Petty 1906 [1695]: 484).

solvency,[26] particularly underlined through Quesnay's notion of "written insurances". When a kingdom was flourishing, paper replaced money everywhere, and the diffusion of credit paper was a sign of prosperity, because it was the proof that there were many solid fortunes in the country and therefore many solvent citizens. Thus, "the richer a Nation is, the less it needs a proportionate amount of numeraire, because there is in this Nation a greater number of people whose solvency is well established, and whose promises circulate as money" (Le Trosne 1777: 916).

If commercial paper could so easily substitute for money to increase its speed, could not paper money do the same? Could circulation be ensured by means of a pure sign?

II. A rejection of cartalism and money manipulation

The theoretical debate about money in the first half of the eighteenth century was characterised by the resurgence of the controversy between "cartalism" and "metallism" in the sense of Schumpeter (1954). The scholastic view that the measure of values belongs to the Prince and that money is only a sign, namely a convention instituted by law (*nomos*), had been gradually disregarded, notably under the impetus of the Bullionist movement and the controversy between Bodin and Malestroict in the sixteenth century. However, metallism did not immediately impose itself as an undisputable reference. For example, the Chevalier de Jaucourt devoted most of his article "*Money*" in the Encyclopaedia (1751, X: 644-663) – establishing the state of knowledge in the Age of Enlightenment – to departing from the theory of sign-money. Indeed, although ardently defended by an English and Italian tradition (Child and Galiani, in particular), the doctrine of commodity-money remained controversial in France.[27] In *L'Esprit des Lois* (1748), did Montesquieu not affirm that "money is a sign that represents the value of all things"?[28]

Additionally, Law's System, from 1716 to 1720, revived theoretical discussions on the nature of money. Although, as will be seen, Law himself was, at least from a theoretical perspective, the advocate of the commodity-money principle,[29] many of his successors, such as

[26] The term appears explicitly in Boisguilbert's *Dissertation* (see Boisguilbert 1707a: 405).

[27] The same discussions took place, in a mitigated manner, in England, where Nicolas Barbon asserted in his *Discourse of Trade* in 1690 "that it is absolutely not necessary that the money be of gold or silver, since it is the law that confers its value" (Barbon 1934 (1690): 16-17). Locke, in his *Some Considerations of the Consequences of the Lowering of Interest and the Raising the Value of Money* in 1691, seemed to refute the cartalist doctrine by asserting that the law could not give the metal its intrinsic value. Nevertheless, since money derived its value from the consent of all, he concluded that this value was "imaginary", which Law was to strongly criticise in 1705. On the debates of this period, see in particular Desmedt (2005).

[28] *De la nature de la monnaie*, in Montesquieu (1748), livre XXII, chap. II.

[29] This illustrates the distinction made by Schumpeter (1954) between "practical" or "theoretical" cartalism and metallism. Law could be seen as a theoretical metallist and a practical cartalist.

Melon or Dutot, adopted a conventional definition of money.[30] The Physiocrats were to fiercely combat this theory of sign-money, both doctrinally and politically, by denouncing the practice of monetary manipulations in the form of "mutations".

A doctrine of commodity-money

The Sect was first to seek to invalidate John Law's proposals on paper-money. Indeed, the discussions about Law's System and its failure dominated the debate on money and credit throughout the century. Beyond the attempt to provide France with a bank of issue, Law defended the use of paper-money, for reasons of convenience and modernity. By substituting paper for metallic money, precious metals could be used for purposes other than money. In particular, this would avoid sending royal tableware to the mint, as Louis XIV, like many kings before him, did. From the economic activity perspective, paper could be multiplied at will with no fear of shortage of money. From the balance of trade perspective, paper would overcome the dependence on foreign countries caused by gold or silver shortages.

According to Law (1705), commercial papers were insufficient to fulfil these missions, because as they had to be repaid with money, these papers had to be maintained in a certain proportion with precious metals. This argument opened the way to unconvertible paper-money, namely a paper-money requiring no repayment. The eventual refundable nature of paper would even have adverse effects, since it would limit its circulation (Rist, 1938). However, the acceptance of an unconvertible paper-money was not self-evident, since it relied on public confidence. A follower of Law, Dutot expressed a very modern view on this point:

> There are only two kinds of riches; the real kind, and the trust or opinion kind. Real riches are in the form of commodities, merchandises, lands, buildings, furniture etc. […] Riches of trust or opinion are only representative, such as gold, silver, bronze, copper, leather, banknotes, shells, etc., which are used to evaluate and measure real wealth. These representative riches form credit. […] But to gain confidence, they must be supported by and proportionate to real wealth. (Dutot 1738: 905-906)

Dutot here asserted a principle of limiting quantities, which would be the basis of the value of modern fiat money. But public confidence could not be decreed, and the bankruptcy of the System showed how difficult it was to keep paper money issues reasonable when the kingdom's budget was ruined.[31] This was precisely what the Physiocrats were to decry: paper-money could not be self-sufficient as money, because for money to be accepted as a pledge in trade, it had to remain linked to precious metals.

[30] This conventional definition was illustrated by Melon, in his *Essai politique sur le commerce*: "The convention has given to public credits, i.e. paper-money, the value of money, of which they are only representative" (Melon 1734: 781), so that a banknote, "merely represents a money which, by itself is only a convention, provides an assured pledge for all purposes" (ibid). Similarly, in the *Réflexions politiques sur le commerce et les finances*, Dutot wrote: "A louis d'or, an ecu, etc. are bills whose effigy of the Prince is the signature" (Dutot 1738: 906).

[31] Therefore, Law tried to impose his System at the worst possible moment, when public finances were much deteriorated after the reign of Louis XIV. His mistake was to believe that paper could be the solution to restore the kingdom's finances, when its acceptability could only come from restoration of public finances.

For the Physiocrats, money needed to have an intrinsic value. "Money is received as an intermediate pledge between sales and purchases", said Le Trosne (1777: 910). This notion of "intermediate pledge" – repeated by all the Physiocrats, and in particular Quesnay, Le Mercier or Dupont[32] – established the distinction between money and commercial bills. Indeed, while "writing insurances" could easily replace money in circulation, money retained a crucial role in repaying debts. This was the difference between debts and money, which Le Trosne would detail with precision:[33]

> In the hands of the seller who has received it, money is a pledge or a mandate, with which he can pay anytime and anywhere […] Wherever he goes, he will be sure not to be refused by offering this pledge for value, because those to whom he gives it will be equally sure to convert it at their will. (Le Trosne 1777: 910-911)

Thus, money "is everywhere, without any concern about where it comes from" (ibid), and this is precisely what essentially distinguished money from commercial paper, which "has no intrinsic value and derives its value only from the presumed solvency of the debtor" (ibid). "In short, with debt you promise to pay, with money you pay" (ibid). With this concise formula, Le Trosne clearly stated that money was legal tender, i.e. that it had the capacity to discharge debts.[34] But this power could not be the exclusive prerogative of the Prince, who had to share it with precious metal. Only commercial bills were pure signs of value, whereas the general discharging power of money was based on its intrinsic value: "It is therefore not true to say that money is a sign of riches, and that it represents values. It is not a simple sign, because it is itself riches; *it does not represent values, it equals them*" (ibid: 910, emphasis added).

There was no ambiguity here about the notions of money and riches: silver was wealth, through the uses one could make of it for enjoyment, whereas metal-money was not, since it was not itself an object of enjoyment. Indeed, precious metals were in themselves suitable for various uses, and as such they had value. They were riches. When these metals were used as money, their value was increased by this new use. Thus, in addition to their value as wealth, gold and silver gained an additional value through their use as money. This did not mean, however, that the value of money (its intrinsic value as a commodity and its conventional value as money) should be given a double foundation: the additional value that silver derived from

[32] According to Quesnay: "The coined metal is intended to circulate […] it has no other use than to facilitate the exchange of goods, by serving as an intermediate pledge between sales and purchases" (Quesnay 1766: 202). For Le Mercier: "money can be regarded as an intermediate pledge, by means of which the exchange begins between the buyer and these sellers, and is then consumed by them with other men who, based on this common pledge, supply the goods which the first buyer did not have in his possession" (Le Mercier 1767: 542). For Dupont: "To facilitate [the circulation], an intermediate pledge of great price and little volume is needed [...] This pledge is what is called money, currency, cash, etc." (Dupont de Nemours 1772: 373).

[33] The Physiocrats were not always so precise. For example, in his *Explication du tableau économique…* first published in *Les Éphémérides du citoyen* in November 1767, Baudeau makes no distinction between bonds and money: "We will now consider […] the sum of any money now in circulation in the State as a quantity of bills of exchange, warrants, commercial bills,…" (Baudeau 1767: 856-857).

[34] It also stated, before Marx, the function of money as a means of payment. Le Trosne was here, if not the first at least the clearest of the economists of his time to claim that money alone had the capacity to settle debts.

its use as money resulted from the associated increase in the demand for silver, and not from the seal of the Prince.

In this, the Physiocrats subscribed to the doctrine of commodity-money. Money was a commodity: silver, which – as in any exchange – everyone gave “equal value in order to receive equal value” (Turgot 1769: 86). The price expressed in money was thus “the thing one gives in exchange for another” (ibid: 88). For the Physiocrats, while exchanging for money, one thus exchanged for a commodity.

However, other passages might suggest the opposite view that money might have no intrinsic value. Money was “only the word of convention attached to the tokens and numbers that designate the values of sales and purchases” wrote Mirabeau.[35] For Le Mercier de la Rivière, “money is only a pledge, a representative sign of common things” (Le Mercier 1767: 557). According to Weulersse, “these are only formal mistakes, which misrepresent the true doctrine of the Economists” (Weulersse 1910, II: 264). While this statement was ultimately to prove correct, it seems that these passages reflected some indecision in early physiocratic writings.

The comparison between two texts from Le Trosne reveals this indecision. In his *Lettre à Quimper* published in 1765 in the *Journal de l’Agriculture*, he focused on the conventional role of money: “Money needs to be considered either as wealth or as a sign: as wealth, one cannot have money without buying it with other riches, as a sign, it is only a trading tool that serves to balance purchases and sales, which has no other use than this conventional use” (*Journal de l’Agriculture...* August 1765: 64). In what followed, Le Trosne claimed:

> [money] is more often represented as a sign […] it just slides from one hand to the other without stopping for a moment […] Often it is not sufficient to ensure the speed that is required […] it is substituted by a representative, the paper, which, when the credit is full, fulfils the same function and becomes the sign of a sign. (ibid.)

Trosne might appear here as the apostle of paper-money, because the expression “when the credit is full” meant that he did not here refer to a simple commercial bill, but to a general means of payment. However, any allusion to the sign was removed from the same passage in *L’Intérêt Social*, written eight years later in 1777: here, money “only slides from one hand to the other without stopping for a moment. Often it is not sufficient to ensure the speed that is required […] it is replaced by a paper with which an infinite amount of business is done without the money showing up” (Le Trosne 1777: 915). In this case, there was no longer any question of paper-money, and only commercial bills served as paper. Hence, there was, in Le Trosne, an evolution from the sign-money doctrine to the commodity-money doctrine. He recognised the specific character of money with respect to debts, namely to be a general pledge of exchange, a property that could only come from both the Prince’s effigy *and* the specific characteristics of the metal.

[35] Mirabeau, *L’Ami des Hommes*, 1759, part 6, III: 8

Owing to this doctrine of commodity-money, Physiocrats could only reject the use of paper-money. Thus, no "banknotes or other public papers" as Quesnay claimed (Quesnay 1757b: 566). Why prohibit the state from issuing paper-money when commercial papers could be used as a substitute for money? The answer was simple: because "with money, one pays"! Any unconvertible paper-money would be refundable in itself only. Paper-money necessarily implied the intervention of the Prince to establish its value, thus contradicting a major principle of the Natural Order. "There are points where public authority stops, that of a Nation, like that of a Prince. And one of those points where the power of Nations is most invincibly limited is the fixing of values"[36] asserted Dupont de Nemours in his speech to the National Assembly on 15 April 1790. Paper-money is not a "natural" pledge used in exchange, "but a pledge that requires the guarantee of an authority, an external force" (Morellet 1769: 95). Such papers would never have a natural value, and would thus contradict the principle of equality in exchange. "A purely conventional money is therefore an impossible thing" (Turgot 1766: 28).

In addition, accepting paper-money would be equivalent to accepting that the Sovereign's credit was full, namely that it was worth more than the merchants', which was only a promise to be paid. Accepting paper-money would mean stating that the solvency of the Sovereign could not be questioned. This would be, according to Turgot's Letter to the Abbot Cicé, "putting his fortune at the mercy of the Prince" (Turgot 1749: 99). Beyond the refusal of the sign-money doctrine, it was the confidence in the state that was called into question. The Economists' criticism of sign-money was above all a criticism of the Sovereign's ability to manage the supply of money. This criticism was in line with their conception of the Natural Order, which meant that money did not belong to the Prince, who was no more solvent than other borrowers. Had not the Economists witnessed the bankruptcy of public finances under Law's System? Perhaps their point of view would have been different without that painful experience.

The Economists' hesitation about the nature of money (sign- *vs* commodity-money) reflected the tension that arose in any regime of coinage of precious metal: money was not just a sign; it was *also* a sign. Consequently, the Prince's effigy made it possible to increase the use of the metal and thus to increase its value. However, for the Physiocrats, this added value came not from the effigy itself, but from the increase in the demand for precious metals following their use as a medium of exchange. Hence, money should not circulate for more than its intrinsic value so as not to infringe the principle of equality in exchange, "value for equal value". The Sect then set about keenly criticising currency manipulations.

The fight against the "mutations" of money

From the Physiocrats' perspective, the rejection of the sign-money doctrine was associated, on the political side, with vehement opposition to currency manipulations. The end of Louis XIV's reign was marked by the revival of monetary expedients, with the costly wars

[36] To be read in the *Tableau des opérations de l'Assemblée Nationale*, no. 51: 428.

undertaken against the great European nations, followed under the Regency by the experience of Law. Thus, in the first half of the eighteenth century, a lively doctrinal discussion on the question of manipulating money was reopened. The weakening of specie was notably defended by Melon in his *Essai politique sur le commerce* (1734), because it made it possible to relieve debtors. In particular, the alteration of money made the payment of taxes easier, because the debtors of the Treasury were alleviated, and allowed the king to raise the contributions of his subjects. Money manipulations were thus a painless form of taxation.

This vision was challenged by Dutot in his *Réflexions politiques sur les finances et le commerce* (1738). His analysis is worthwhile here, because it anticipated the physiocratic views on money, both as concerned the effectiveness of mutations and as concerned principles. On the side of efficiency, Dutot stressed the limits of the weakening of specie, since the state only received a weakened currency as a tax collector. The fiscal return of mutations was then doubtful, all the more so because they inhibited circulation: "no confidence, no circulation, and consequently no trade" (Dutot 1738: 851). On the side of principles, any form of mutation needed to be avoided, because "currency must not be altered any more than weights and measures" (ibid: 973). Therefore, the sovereign had to do nothing, but only certify the weight and the denomination of specie. Contrary to medieval usage, the numeraire should not be given an arbitrary value that could be changed at the Prince's discretion.

Moreover, Dutot found no reason, either customary or legal, to favour debtors. Indeed, "who is the one that will want to lend and give his trust to someone, when the debtor will be favoured?" (ibid: 851). In his *Observations sur MM. Jean Lass, Melon et Dutot sur le commerce, le luxe, les monnaies et les impôts* (1738), Voltaire adopted a subtle position (Picard, 1912), denouncing the drawbacks of mutations, along the lines of Dutot, while advocating, in some instances, Melon's principle of alleviating the debtor. But Voltaire was much more explicit about who the debtor was: even if it might sometimes be "the magistrate, the writer, etc.", (Voltaire 1738: 365), it was above all the Prince. Hence, the alteration of money was clearly, for the philosopher, a means of eliminating public debts, when "the chief of the Nation [...] has only a specific amount of money paid out, and some rights that he does not want to increase excessively, for fear of arousing murmurs" (ibid). Already in 1718, the chancellor d'Aguesseau, in his *Considérations sur la monnaie*, understood this subterfuge: mutations favoured debtors, because the state wanted to favour itself. The Prince weakened the specie when he wanted to eliminate his own debts, "so he chooses the system which, while benefiting him, also favours those who are in a similar situation to his own" (Aguesseau 1718: 45). But, unlike Voltaire, who did not seem to mind, d'Aguesseau strongly condemned this practice.

The Economists developed a more uncompromising vision, and particularly Le Trosne, who, among the Physiocrats, devoted "the best pages" to mutations and whose study provided "a complete idea of the views of the School" (Picard, 1912). The jurist focused first of all on economic efficiency. Altering the specie distorted the common measure and disturbed trade, to no advantage. "The sovereign who wanted to deceive is himself caught in his own trap" (Le

Trosne 1777: 912), since taxation was paid in the same currency. If the sovereign intended to repay his debt with this weakened currency, it would be simpler to declare partial bankruptcy. There was no point in trying to change the system of values through mutating money, because money did not create but merely *expressed* value: "The Prince may claim that two equals three, but he cannot make them really equal; it is no more in his power to add value than to create substance" (ibid). For the Physiocrats, as we have seen, money was the general medium of exchange. Beyond specie, goods circulated, and money was only useful as long as it circulated in the opposite direction. The conclusion was simple: money needed to circulate freely. From this point of view, the manipulations of money were "far more disastrous by their consequences, than if one had taken it directly from all wallets" (ibid: 913) because they "remove all confidence from trade, stop circulation and bring uncertainty to all ownership" (ibid).

These principles, as we can see, were not very different from Dutot's a few years earlier. In this respect, Le Trosne's decisive contribution was to place the criticism of money manipulations in the general framework of natural law and tax reform. Hence, the systematic defence of liberties against the Sovereign made the Physiocrats' position more consistent compared to their predecessors. At the time the Physiocrats wrote, the idea that money manipulations were a form of taxation had long been recognised. It was even a very disastrous form of taxation, which the Bishop of Lisieux Nicole Oresme likened to the plague or foreign invasion. Le Trosne's position was hardly different, and was part of the physiocratic fiscal programme to remove indirect taxation. Indeed, the Economists were constantly protesting against all the barriers to trade and fighting against the various taxes, tolls, *tonlieux* and other rights of way that hampered traffic under the *Ancien Régime*. As money was, following Le Mercier de la Rivière, "a kind of river on which one can transport merchantable things" (Le Mercier 1767: 584), mutations, like everything else that hampered circulation, needed to be abolished.[37] Thus, "the circulation of money is not taxable" wrote Dupont de Nemours (1768: 116).

The Physiocrats, however, went further. Whereas in medieval times protests against currency manipulations were not against the principle of the Prince's right but against the misuse of that right,[38] they were to attack the legitimacy of that right. Here the Economists became the heirs to Oresme, who in 1335 had already condemned mutations as counterfeiting practices in his *Traictié de la première invention des monnoies*. Le Trosne said nothing different from Oresme when he claimed that "the operation to lower the denomination [...] is nothing other than manifest theft" (Le Trosne 1777: 913). For Oresme, money "must not be mutated or

[37] In his *Exposé du second problème économique* (1767) on the effect of indirect taxes, Quesnay explicitly likened the rights on the circulation of money to an indirect tax: "there are indirect taxes, simple and inexpensive in their collection […] Others are highly compounded, and result in a very expensive collection. Such are those that would be levied on goods and merchandise, on entries, exits, tolls, customs, or on navigation and carriage of internal and external trade, or on the circulation of money in purchases and sales of all kinds" (Quesnay 1767b: 127).
[38] "If one examines all the protests against the mutation of money, one will see that they are formulated against the abuse and not against the use, against the occasional application of the law and not against the law itself" (Babelon 1909: 316).

changed" (Oresme 1355: 26) except in a case of absolute necessity. But it was the people and not the sovereign who had to decide about such a necessity and to manage the operational details. This was the "modern" doctrine of money, which was to be taken up by the Economists: money belonged to the community and not to the Prince, who was only its guardian, in accordance with the argument of legal despotism theorised in particular by Le Mercier.

Le Trosne then opposed Condillac over seigniorage. Although Condillac followed the principle of commodity-money,[39] he considered that the sovereign could take a profit on top of the costs of producing currency. This right stemmed from the socially useful value added to the money by the sovereign's seal. For Le Trosne, in contrast, "money, not being fit for particular uses [...] belongs to nobody strictly speaking" and "its production must be regarded as part of the public service" (Le Trosne 1777: 914), because the state did not have to charge for each act of its sovereignty. But above all, saying that the sovereign's effigy had a value because of its usefulness and that it had to be paid for would have been to accept an ideal value; it would have been "to attribute to money a value independent of that of metal, a sign value" (ibid: 915).

Consequently, according to Le Trosne, "jurisconsults have done much to blur and distort all ideas by the power they have attributed to the sovereign over the currency" (ibid: 913). They taught us that money was a pure sign and that substance should be disregarded. Since the quality of the sign was determined by the effigy, these jurisconsults concluded that the sovereign could determine the value of that sign, "thus mistaking the value which is a very real thing with the quality of the sign" (ibid). However, for Le Trosne, the word "*livre*" had no other sense than the name given to a particular weight of precious metal.[40] The king could change the meaning of the word "*livre*" – he "may well say that he means that two equals three" – but he could not change the monetary reality, which was of a physical nature. The legitimacy of the mutations was thus undermined at its base because the price of precious metals followed the law of supply and demand on the international market. Under these conditions, the sovereign had to keep the relationship between the quantity of precious metal and the monetary unit unchanged.

These ideas of freedom and of defending the interests of individuals against the sovereign were not specific to the physiocratic school, but were those of the philosophy of the Enlightenment and were shared by most eighteenth century economists. For example, d'Aguesseau, in his *Considérations sur les monnaies* (1718), clearly affirmed, in terms of law, that the only true value of money was that of its substance: "it is this value only that ensures the right of people, to which all that concerns currency belongs" (Aguesseau 1718: 27). Even Law conceded that

[39] "Those who consider coins as signs representative of the value of things express themselves with too little accuracy, because they seem to regard them as signs chosen arbitrarily, and which have only a conventional value. If they had noticed that metals, before being money, were a commodity, and that they have continued to be one, they would have recognised that they are suitable to be the common measure of all values, only because they have one by themselves, and independently of any convention" (Condillac 1776: 290).

[40] Walras took up this idea in a short formula: "the franc is the name of a thing that does not exist" (Walras 1874: 147).

> Since money is liable to be coined, the princes, for the great convenience of the people, established Minting Houses, to subject the money to a denomination and to coin it. In this way, its weight and fineness were known, without the need to weigh it or refine it; *but the coin added nothing to its value*. (Law 1705: 469, emphasis added)

However, the Physiocrats systematised these ideas into a consistent framework that established monetary practices on precise legal principles. Admittedly, at the time of their writing, monetary manipulations ceased for a while, with the recasting of currencies on 26 May 1726, which marked "definitive monetary stabilisation" in France (Vilar 1974: 314), but this ending of mutations was not based on a well-established theoretical foundation. As Roger Picard pointed out, the monetary policy of kings had always been empirical: "money has been altered or mutated without the deep and far-reaching consequences of these operations ever being fully appreciated" (Picard 1912: 366). The same was true of critics of manipulations, who condemned them by invoking in turn ancient canonical doctrine, moral considerations or the disturbances they caused in commerce and business. The main achievement of the Economists, and in particular of Le Trosne, was that they clarified the theoretical foundations of the fight against money manipulations.

III. A rejection of hoarding behaviour

From the Physiocrats' perspective, the adoption of a theory of commodity-money and the diatribe against monetary manipulations derived, as we have seen, from the principle of equality in exchange, and not from the principle of maintaining the value of money over time. Indeed, it is noteworthy that the Sect *ignored* the role of money as a store of value. Not because its supporters were unaware of this role – it was a fundamental aspect in mercantilist thought and had long been recognised, at least since medieval times[41] – not because the Physiocrats did not perceive the reality of the hoarding phenomenon which had been common in Europe since the Middle Ages; but because their system *did not want* money as a store of value.

Admittedly, the definition of money as a pledge of exchange implicitly presupposed that its value was preserved during the period of time between sale and purchase; but this period of time had to be as short as possible, so as not to hinder circulation. The definition of money as an *intermediate* pledge between purchases and sales, which was often reiterated by the Economists, is here fully revealing, especially when compared to that of Aristotle: "money that one keeps in one's hands is like a guarantee that the future exchange can easily take place *as soon as the need arises*",[42] or that of Galiani, for whom "money is a metal coin […] which can be given and received without risk by everyone as a pledge and permanent security of what one

[41] As early as the fourteenth century, Buridan made a clear distinction between the two functions of money, namely to save transport costs ("*ex distantia locorum*") and to preserve values over time ("*ex distantia temporum*"); see on this point Duboit (1903), I: 92.

[42] Aristotle, *Morale à Nicomaque* dans *Morale d'Aristote*, 1856, II: 157, emphasis added.

will obtain from others, *at any moment*, the equivalent of what was given to receive that metal coin" (Galiani 1955 (1751): 70, emphasis added). These two quotations reflect the idea that money should be a commodity with a long shelf life.

This negation of the store of value function among the Economists was first based on a condemnation of hoarding and saving behaviour, which diverted wealth from effective employment. It was then justified by the need to maintain the equilibrium of the *Tableau Economique* and therefore led, finally, to a purely circulatory, and not patrimonial, vision of money.

The sterility of hoarding and saving

Since the Middle Ages, Europe had been characterised by the "passion for precious metals": first a passion for "gold ornaments", then a "new capitalist passion for coined specie" (Braudel 1979, I: 407). At the beginning of the eighteenth century, hoarding behaviour increased, both for precaution and speculation, in the context of the wars that began in the twilight of the *Roi Soleil*'s reign, such that "the France of Louis XIV is full of idle silver" (ibid., II: 351). But this development of hoarding and luxury goods was a general feature in Europe. In 1751, Galiani quantified the stock hoarded in the kingdom of Naples as four times larger than the monetary stock circulating: "Luxury has made all silver objects, watches, snuff boxes, sword and cane handles, cutlery, cups, plates, so common that it is incredible" (*Della Moneta*, quoted in Braudel 1979, I: 407).

The damnation of luxury and hoarding in the seventeenth and eighteenth centuries was first of all a moral disapproval of avarice. From being "valets of commerce"[43] when they remained "within their natural limits", precious metals "set themselves up as tyrants" when they left circulation, proclaimed Boisguilbert in his Dissertation (1707a: 398), whereas "left in a chest, [they] are no more useful than if they were stones" (Boisguilbert 1695: 212). "Avarice keeps gold and silver; because, since it does not want to consume, it loves signs that are not destroyed", Montesquieu would later say in *L'Esprit des lois* (1748, II: 93). In Dupont de Nemours (1770) "avarice is a true mortal sin". For Quesnay hoarding was similar to a psychological disorder: "Greed for money is a lively passion among individuals, because they are greedy for the wealth that represents other riches" (Quesnay 1767a: 94). As we shall see below, it was indeed essential, in the eyes of the Economists, to denounce hoarding as aberrantly avaricious behaviour or an immoderate taste for luxury.[44]

In terms of economic efficiency, this behaviour was also reprehensible. Indeed, hoarding created poverty because money ceased to contribute "to perpetuate wealth when it is kept out of circulation" (Mirabeau, *L'Ami des Hommes,* part V, 1760: 226); "the more it

[43] This expression may have been borrowed from Davenant, who spoke of "servant of trade" in his Discourse on public Revenues, published in 1698. This is notably the point of view of Paul Harsin (1928: 108) and Gabriel Bonno (1948: 151).

[44] According to Quesnay, a distinction should be made here between "luxury of decoration" and "opulence of subsistence". Only the former was reprehensible, because it benefited the "sterile class" of industrialists, while the latter could favour the growth of wealth in agriculture (Quesnay, Deuxième observation sur le Tableau Economique, in Daire 1846, vol 1: 66).

accumulates in the coffers of private individuals, the more it impoverishes the Nation" (Dupont de Nemours 1768: 116). Physiocrats, after Hume,[45] perceived the deflationary nature of hoarding, which did not make it possible to achieve the "right price" of agricultural commodities. Indeed, according to Quesnay, opulence should be sought in "high prices in abundance",[46] which would not be possible by accumulating money, "which would intercept the circulation and lower the prices of products" (Quesnay 1766: 173).

Quesnay particularly insisted on the sterility of savings: "that owners and those in gainful occupations should not be inclined […] to engage in sterile savings, which would remove from circulation and distribution a portion of their income or earnings" (Quesnay 1767a: 100). It was therefore important that public borrowing "which leads to financial trade or traffic" (ibid: 104) should not lead to the formation of "pecuniary fortunes which stop the course of part of the national income" (ibid: 103), these "sterile pecuniary fortunes, which separate finance from agriculture, and which deprive it of the wealth necessary for the improvement and cultivation of land" (ibid). Beyond avarice, it was indeed rent that was to blame. If the "small savings" of the common people were not really in question, although they did harm by restricting expenditure, above all financiers, large landowners or merchants should not amass pecuniary fortunes, "which are gradually pumping out the nation's entire nest egg" (Quesnay 1757b: 566).

The criticism of the "financier", a "lackey of commerce" and a spurned figure of the seventeenth century, was not new (see, on this subject, Bayard, 1986), but the Physiocrats, and in particular Mirabeau, who rebelled against the "devouring finance" of this "rodent order" (Mirabeau, *L'Ami des Hommes* 1760, part V: 228), established it as a principle in the name of economic efficiency.

In his *Essai sur les monnaies* (1746), Dupré de Saint-Maur clearly perceived that rent-owners, through their loans, could generate effective opportunities for borrowers. But at the time they were writing, the Economists observed that money was mainly invested in state rents, to the detriment of investments in agriculture, which was threatened with decay.[47] It was therefore a matter of denouncing both, explicitly, the substitution of financial investment for agricultural investment and, more implicitly, the inefficiency of state borrowing. Behind the condemnation of luxury and avarice lay a criticism of the workings of the state. On the one hand, a criticism of the inefficiency of the monarchy's spending, which was too oriented towards "silverware" and not towards productive spending, such as the improvement of roads and paths for easy circulation. And, on the other hand, a criticism of the taxation system of the

[45] Hume explained, in his chapter *On the Balance of Trade* (1742), that thanks to (the physiocrats would say because of) hoarding, "provisions and labour [in France] still remain cheaper among them, than in nations that are not half so rich in gold and silver" (Hume 1987 [1742], Part II, Essay V: 52).

[46] "*La non-valeur avec l'abondance n'est point richesse ; la cherté avec pénurie est misère ; l'abondance avec cherté est opulence*" (Quesnay 1757a : 300).

[47] In the words of the Irish Physiocrat Henry Pattullo: "the immense profits and rapid fortunes made in France by financiers and all those who deal with the King, or receive his money, disgust any other profession; but above all to buy or make use of land" (Pattullo 1758: 186-187).

old regime, which focused excessively on indirect taxes that destroyed trade, thereby reducing the taxes actually collected by the sovereign and encouraging him to launch sterile loans.

Hoarding as a threat to equilibrium

As we have seen, the Physiocrats considered the economy as a flow, which was perfectly depicted by the use of the fluid metaphor. Like blood, rivers or streams, riches had to circulate like a flow of expenditure. From this point of view, hoarding, as the formation of a stock of money, could only be viewed as a diversion of the flow. It therefore had to be prevented from slowing or even paralysing the circulation of riches. The (neo)mercantilists had already pointed out that money had to be "stirred up" because it was, in trade, "in the hands where it is neither useless nor idle" (Vauban 1707: 47) so as to maintain a "perpetual circulation" that favoured trade and enriched the kingdom (Melon, 1734: 819). As John Law testified in 1719, speaking about money: "Anyone who stops it is a parricide, any man who keeps cash without using it and thereby prevents the gain that would come from its circulation is a bad citizen."[48]

But for the Physiocrats, the challenge was more sensitive; it was vital that money should not stop. It was "an absolute necessity", and "all would be lost if [money] ceased to circulate" (Le Mercier 1767: 541).[49] It was not only a necessity in practice, to ensure the proper functioning of trade, but also an absolute necessity in theory, because the circuit described by the *Tableau Economique* would be broken by the formation of money stocks. After his simplified explanation of the *Tableau Economique* where agents exchanged against "artificial values", Le Mercier added:

> But if, instead of simplifying things by supposing these exchanges made in kind, you accept money as a common means of exchange, as an intermediate pledge that facilitates these operations, you must feel that it is absolutely necessary that this pledge circulates perpetually, that it returns unceasingly to the hands from which it left to come out again. (Le Mercier 1767: 542)

Therefore, in the economic circuit, money should be an instrument of circulation only. This property was immediately apparent in the *Explication du Tableau Economique à Madame…*,[50] in which Baudeau identified money with commercial paper, a paper that was simply exchanged between different classes before returning to the owners who issued it. Such paper, which merely circulated before being destroyed on its return to the issuer, prevented any leakage, it was a simple debt that self-destructed at maturity, and did not allow for any imbalance. The aim here was to prohibit any hoarding. In his Note on *Maxime XIII*, taken from the *Maximes générales du gouvernement* (1767), Quesnay was very clear: "Money embezzled

[48] See Law, 1934, *Œuvres complètes*, III: 92.

[49] "As soon as money becomes the only means of purchase, everything would be lost if it ceased to circulate; it is absolutely necessary that it should only pass through each hand" (Le Mercier 1767: 541). A quotation that can be compared to that of Boisguilbert: "The body of France suffers when money is not in continual movement, which can only be as long as it is movable, and in the hands of the People; but so soon as it becomes immovable, […] one can say that all is lost" (Boisguilbert 1695: 213).

[50] Published in the *Éphémérides du citoyen* by November 1767.

and kept out of circulation is […] idle money which gives illusion to the common people; it is this money which the common people regard as the wealth of the nation", whereas "a great state […] can only be opulent by the net product of the wealth which is born annually from its territory, and which, so to speak, revives money by renewing it and continually accelerating its circulation" (Quesnay 1767a: 94-95). Money must therefore be perpetually mobile. It was on this condition alone that, in the *Tableau Economique*, the circulation of money could be superimposed on the circulation of real wealth, which it merely reproduced in the opposite direction. In this double circulation, money was a simple instrument of exchange; "money is only the means of routing", as Boisguilbert had already stated (1695: 210). Under this requirement only, the *Tableau Economique* would be balanced.

We can note here the proximity with the ideas expressed more than a century later by Jean Baptiste Say:[51] "money only fulfils a transitory function [...]; and, once the exchanges are over, it always turns out that one has paid for products with products" (Say 1803, I: 154). Karl Marx, in *Capital*, notably highlighted this similarity between the Physiocrats and Jean Baptiste Say. He even went so far as to make Le Trosne the inventor of the law of markets: "J. B. Say's most famous aphorism: 'One buys products only with products' has the following form in the original Physiocrat: 'Productions are paid for only with productions (Le Trosne)'" (Marx 1872 (1867), note 2: 69).[52]

However, as Lambert (1952) points out, the formula "products are paid for with products" did not fully reflect the law of markets. To be sure, Le Mercier de La Rivière clearly stated that "the sales that one proposes to make in money can only constantly take place to the extent that one in turn buys in money" (Le Mercier 1767: 540). But these were in the words of Say, only the premises of the law of markets: "From these premises I had drawn a conclusion [...]: since each of us can only buy the products of others with his own products; since the value we can buy is equal to the value we can produce, men will buy all the more as they produce more".[53]

As a principle of circulation, the Physiocrats' analysis nevertheless seems to us to offer more than the premises of that of Say. Indeed, in various passages of the chapter "Outlets" of his *Treatise on Political Economy*, one recognises developments of Le Trosne's thought.[54] Even more striking is the proximity of the passage

> It is worth noting that a finished product offers an outlet for other products for the full amount of its value. Indeed, when the last producer has finished a product, his greatest desire is to sell

[51] This is what was to make Spengler (1945b) say that the Physiocrats were "responsible" for the formulation of Say's law.
[52] As Lambert (1952) points out, although brought to light by Marx, this formula from Le Trosne remained virtually ignored thereafter, so that "neither the great histories of economic thought nor the encyclopaedias do credit to Le Trosne".
[53] *Première Lettre de Say à Malthus*, in Comte et al. 1848: 441.
[54] According to Say: "Whenever people say: 'the sale is not going well, because money is scarce', we take the means for the cause"; "There is always enough money to be used for circulation"; "When money is lacking in the mass of businesses, we easily make up for it", etc. (Say 1861: 136).

> it, so that the value of that product does not fall into his hands. But he is no less eager to get rid of the money he gets from its sale, so that the value of the money does not go out of business either. You can only get rid of your money by asking to buy something. So we see that the mere fact of the formation of a product opens, from the very instant, an outlet for other products. (Say 1861:138)

with the following passage from Le Mercier:

> Thus, by considering commerce as a multitude of sales and purchases made with money, no one is a buyer only as much as he is a seller; and since buying is paying, no one can buy only because of what he sells, because only by selling can he get the money to pay for what he buys. From the fact that every buyer must be a seller, and can only buy as much as he sells, a second axiom obviously follows: that every seller must be a buyer, and can only sell as much as he buys; that thus every seller must, through the purchases he makes in turn, provide others with the money to buy the goods he wants to sell them. (Le Mercier 1767 540-541)

Yet, from this balance of flows, reflecting the identity of trade, the Economists did not derive any "law" arguing that "if some goods do not sell, it is because others are not produced", nor that "it is production alone that provides outlets for products" (Say in Comte et al. 1848: 443). They did not therefore formulate the law of markets, and "it is felicitous for their glory", Lambert (1952) was to say. On the contrary, in contrast to Say, the Physiocrats clearly perceived the risk that savings, assimilated to the holding of money, could create in their system by disrupting the balance of circulation. In his notes on Turgot's *Réflexions…* published in the *Ephémérides* in 1770, Dupont de Nemours was particularly specific about this aspect:

> For everything that is cultivated and manufactured to be sold, all those who receive from nature and from their work, income, [...] must put these means of purchase into circulation. For, in vain would half of the Society put all the fruits of its labour of a year on sale, if the other half refuses to buy, and persists in saving all, or a large part of its means of payment, the first half will not be able to sell everything. (continuation & end of Reflections..., Ephemerides... 1770, I: 127)

In this observation, Dupont recalled the pure physiocratic doctrine, whereas Turgot seemed to depart from it in his *Reflections*, in order to "prevent superficial readers from misunderstanding the meaning of some of his expressions". In this doctrine, savings were not at the origin of the formation of capital. On the contrary, it was by spending "intelligently and profitably" that wealth could be increased. If the circulation was interrupted, the economy could be dragged into a downward spiral:

> The reduction in income will also be a loss for parsimonious owners, who will find it hard to imagine how they managed to ruin themselves by saving, and who will only see it as a resource to increase their savings. This will precipitate the march towards their ruin, until they have come to the point where absolute misery will make it impossible for them to save, and will force them to throw themselves, too late, into the working classes. (ibid: 129)

The Physiocrats therefore understood that if money ceased to fulfil its unique function as a means of exchange, the relationship between buyers and sellers would be disrupted. "From then on, the equilibrium of prosperity is disturbed, and replaced by the equilibrium of poverty and degradation" (Le Trosne 1777: 899). The Economists here anticipated Keynesian theory on the possibility that the equilibrium was achieved at different levels of use of resources. They did not, however, develop this aspect, preferring to pursue their model of a "healthy" economy in which money had no other function than as an intermediary.

A circulatory and not a patrimonial theory of money

In the physiocratic system, there was no place for individual behaviour of holding money. Hoarding had to be eliminated and therefore it had first to be eliminated as rational behaviour. Consequently, holding money could only be the result of unreasonable or fetishist motivations, such as avarice or an irrepressible taste for precious metals.[55] Boisguilbert already announced this alienation of the miser, the hoarder:

> Once again an idol was made of these metals (gold and silver), and leaving there the object and intention for which they had been called in trade, [...] they almost left this service to form deities to whom more and more precious goods and needs were sacrificed and sacrificed every day, and even of men, that the blind ancient world has never immolated to these false deities that for so long have formed the whole cult and religion of the majority of peoples. (Boisguilbert 1707: 395)

For the Sect, money therefore had to be used only as a medium of exchange, hence the rejection of a patrimonial analysis of money, which would justify its conservation over time. Thus, according to Le Trosne, money which failed to circulate was "absolutely useless" (Le Trosne 1777: 917). Moreover, the holding of money cannot be analysed from an individual standpoint, since, far from belonging to individuals, "money belongs to the State[56] and circulates only for general trade" (ibid: 915). Quesnay was even more precise: money had no owner and no one had the right to keep it in reserve, since individual freedom to hold money might conflict with the general interest. Thus:

> It is therefore not as indifferent as one might think for the State, whether the money goes into Peter's or Paul's pocket, because it is essential that it is not taken away from the person who uses it for the benefit of the State. Strictly speaking, the money that is in use in the Nation has no owner; it belongs to the needs of the State, which circulates it for the reproduction of the wealth that sustains the Nation and provides the tribute of the Sovereign. (Quesnay 1767a: 94)

However, this position of the Physiocrats was paradoxical. In their analysis, money was not the source of enrichment, but it could nevertheless, if hoarded, be the cause of the impoverishment of the nation. On the one hand, the circulation of money was only the counterpart of the circulation of goods, therefore "there will always be enough money", as Le

[55] The recognition of the fetishism of money by Quesnay is clearly evidenced in an anecdote reported by Weulersse. In the course of a conversation, Quesnay "had declared that he knew the powder of the perlinpinpin; as everyone was amused by this naivety, he took a few *louis* from his pocket. Everything that exists, he said, 'is printed in these little pieces, which can take you conveniently to the end of the world. All men obey those who have this powder and hasten to serve them ... Long live the almighty perlinpinpin powder'" (Weulersse 1910, II: 262-263).

[56] The fact that money belonged to the state did not mean, here, that it belonged to the Sovereign (which would come down to the feudal theory of money), but that it was a common good that served all citizens.

Trosne stated; but on the other hand, if money stopped, it was made responsible for slowing down the circulation of riches. Here there was a contradiction between their conception of commodity money, which was made of metal and therefore had the properties that made it a desirable asset because of its good preservation qualities,[57] and their approach to the circuit in which money had only to circulate. This contradiction was removed by the negation of the store of value function: money had to be made of metal to be accepted, but should not be stored, even though made of metal. Consequently, money was constantly condemned to wander between two stocks, in the form of flows of income and expenditure.

In fact, the Economists did not see, or rather did not wish to see, that hoarding could be more the consequence than the cause of poor circulation, and the length of time that cash could be held in a portfolio could be the syndrome of frictions in exchange. Money that was not transformed into income had no choice but to remain in the portfolio, in the form of "idle" balances. But these cash balances that slowed down circulation took on the appearance of idleness only because they were waiting for a more profitable use in the future. Even if money had only an intermediary role, it was storable, so it was necessary to explain why its use was deferred. It was because they were dedicated to the elaboration of an ideal system, a "model" that the Physiocrats neglected the viscosity of exchange, the uncertainty or the frictions that alone could justify the rational behaviour of holding money. Behind the disregard for the value reserve function, it was a repression of transaction costs that was at issue.

Long before the Economists, Petty, in his *Political Anatomy of Ireland*, had nevertheless perceived this dimension and envisaged money as a lubricant that facilitated exchanges: "Money is the Fat of the Body-Politick, whereof too much doth as often hinder its Agility, as too little makes it sick […] so doth Money in the State quicken its Action" (Petty 1691, chap. V: 14). "It is the oil which renders the motion of the wheels more smooth and easy", Hume said sixty years later (Hume 1752: 41). As soon as one recognised the viscosities in the circulation, money thus became made of grease and not of blood. It was because the system of the Physiocrats repressed this viscosity that the holding of money had no place in it.

[57] As Turgot clearly described in his "desert island story" to justify the exchange: "Experience teaches our savage, however, that among the objects proper to his enjoyment, there are some whose nature makes them likely to be preserved for some time and which he can accumulate for future needs: these retain their value, even when the need of the moment is satisfied" (Turgot 1769: 81). Le Trosne himself, when comparing exchange (barter) to sale (for money), stated that "one usually prefers sale [...] because often the seller has no current need to fill, and the storage and transport of money is less troublesome" (Le Trosne 1777: 42-43), thus contradicting his assertion on the previous page that "everyone returns the money he has received daily and puts it back into circulation" (ibid: 41).

Conclusion

The Physiocrats described an ideal world where imperfect circulation had no place. They sought to build a scientific model of economic government,[58] as opposed to the sterile game of finance[59] or the commercial practices described by the discredited "mercantilism". In this quest for "economic science", as the members of the Sect called it for the first time,[60] the *Tableau Economique* served as an almost experimental laboratory model, whose ins and outs it might be useful to discuss. Whether in Le Trosne's *De l'utilité des discussions économiques* (1766) or Morellet's *La liberté d'écrire et d'imprimer dans les matières administratives* (1775), "the private space of conversation thus becomes the 'laboratory', the place where ideas are experimented with" (Markovits 2002: 9). For, if they wanted to construct a "science of governing nature", the members of the Sect were often also administrators or jurists, who had to fight to convince their audience, for example, to adopt measures in favour of free trade. This vision of a laboratory model that could be subjected to experimentation anticipated the modern methodological approach of Lucas (1981). They clearly recognised in the France of their time a dysfunctional economy, where hoarding, luxury goods and indirect taxes penalised traffic, but which they sought to bring closer, through the principles of good governance, to their ideal model where Natural Order reigned.

However, in this ideal model, money did not completely find its place. Was the physiocratic world, therefore, a real analysis or a monetary analysis? This question, already debated, as mentioned in the introduction, deserves to be addressed once again.

As we have seen, Schumpeter (1954) characterises Physiocracy as monetary analysis, which may appear surprising, since his definition of real analysis seems to correspond precisely to the method of the Sect. Indeed, "Real Analysis proceeds from the principle that all the essential phenomena of economic life are capable of being described in terms of goods and services, of decisions about them, and of relations between them. Money enters the picture only in the modest role of a technical device that has been adopted in order to facilitate transactions" (Schumpeter 1954: 264). In this functioning, there may be temporary monetary disorders, but in normal mode, the economic process takes place as in a barter economy. This is what the

[58] The search for scientificity was a constant of the eighteenth century. Thus, as a caveat to his work *Elements du Commerce* (1754), which included his various articles in the Encyclopaedia, Forbonnais wrote: "I believe I have done commerce a service, and have made it known as a science in a Nation" (Notice in Forbonnais 1754, I). In the Factum de la France in 1707, Boisguilbert also posed the question of how finance became a science.

[59] Quesnay asserted in the *Tableau économique avec ses explications* (1760) written in collaboration with Mirabeau that "one must not confuse the principles of the science of economic government with the trivial science of the specious operations of finance which have as their object only the nation's nest egg and the movement of money by a traffic in money where credit, the lure of interest, etc., produce, like a game, only a sterile circulation". (Mirabeau, *L'Ami des Hommes*, 1761, suite de la VIe partie: 65).

[60] The term "economic science" was used by many Physiocrats. Dupont de Nemours asserted that "economic science is nothing other than the knowledge of the natural ways of distribution" (Dupont 1772: 375). According to Le Trosne, "each science requires a particular language, so economic science has a ready-made language" (Le Trosne 1777: 934). The same was true of Baudeau, who referred to "economic science" on numerous occasions (Baudeau 1771: 702, 792, 793).

concept of neutral money essentially implies: money is only a veil, which must be removed to show the face it covers. This position corresponds to the Sect's view that money was only a "tool of commerce". For the Economists, as Faccarello and Steiner (2012) point out, although money was an indispensable intermediary, it had to be discarded in order to reveal the true mechanisms of exchange, beyond monetary appearances. For example, when Le Mercier stated his method: "Let us for a moment proscribe the use of money, as well as the terms of sale and purchase to substitute it with the terms of exchange, and let us assume that these are really made in kind" (ibid: 347), did he not precisely make use of the real analysis?

The monetary analysis is only defined by Schumpeter as a counterpoint to the real analysis. Here, monetary processes are constantly at work, even during the normal functioning of the economy, so that it "is essentially what the concept of Neutral Money implies" (Schumpeter 1954: 264). On this basis, Schumpeter makes Quesnay a member of the monetary analysis, because it is "Monetary Analysis in its most significant sense, that is, in the sense of a theory of the economic process in terms of expenditure flows" (ibid: 270). For the Physiocrats, the question of neutrality, in the sense of the implications that a change in the quantity of money might have, did not arise, since the money in circulation was endogenous through changes in its frequency of use. However, money remained "inessential" in the sense of Hahn (1965), since agents could trade indiscriminately with money or with bills of exchange or commercial paper.

It is clear that for Quesnay and his followers, monetary processes did not cease to act; indeed, this was what they observed through the hoarding phenomena they denounced. But they excluded this disturbing observation from their laboratory model, which did not admit any store of value. To paraphrase Hahn (1983), it could be argued that the physiocratic world neither needed nor wanted any un-stored money.[61]

As can be seen, the physiocratic system, by its negation of the frictions of circulation and the expenditure flow approach in the *Tableau Economique*, opened up both real and monetary analyses. This was, moreover, what constituted the richness of the School, whose legacy both Walras and Keynes were be able to take advantage of.[62] The approach of Quesnay and his disciples seems to us, however, to have prefigured, a century before Walras, the first unsuccessful attempt to "integrate" money into a theory of equilibrium.

[61] The original quote from Franck Hahn is: "A world in which all conceivable contingent future contracts are possible neither needs nor wants intrinsically worthless money" (Hahn 1983: 1).

[62]Walras, in his *Elements of Pure Political Economy* (1874), pointed out that there was "a similar Economic Table [to the one he presented], famous in the history of political economy. It is that of Dr Quesnay" (Walras 1874: 324) and that despite "many imperfections", the Physiocrats were "not only the first but the only school of economists in France to have had an original pure political economy" (ibid: 329). Quesnay was also, according to Schumpeter (1946), the precursor of Keynes: "Quesnay, then, is the true predecessor of Keynes, and it is interesting to note that his views on saving were identical with those of Keynes" (1946: 511).

Bibliographie

- Aguesseau, Henri-François d'. 1718. *Considérations sur les monnaies* in *Œuvres de M. le chancelier d'Aguesseau,* 1777, tome 10. Paris: Les libraires associés.
- Alem, André. 1900. *Le marquis d'Argenson et l'Economie Politique au début du XVIIIe siècle. Pratiques mercantiles et théories libérales*. Paris: Arthur Rousseau.
- Argenson, René-Louis de Voyer d'. 1858. *Mémoires du journal inédit du marquis d'Argenson*. 5 vols. Paris: P. Jannet.
- Aristote. 1856. *Morale d'Aristote* translated by J. Barthélemy Saint-Hilaire. Paris: Librairie Philosophique de Ladrange.
- Babelon, Ernest. 1909. *La théorie féodale de la monnaie* in *Mémoires de l'Institut national de France*, tome 38, 1st part: 279-348.
- Barbon, Nicolas. (1690) 1934. *A Discourse of Trade*. Baltimore: Johns Hopkins Press.
- Baudeau, Nicolas. 1771. *Première introduction à la philosophie économique ; ou analyse des états policés* in Daire (1846), II: 657-821.
- Baudeau, Nicolas. 1767. *Explication du tableau économique à Madame…*in Daire (1846), II: 822-867.
- Bayard, Françoise. 1986. "L'image littéraire du financier dans la première moitié du XVIIe siècle". *Revue d'Histoire Moderne et Contemporaine* 33, no. 1: 3-20.
- Bénard, Jean. 1958. "Marx et Quesnay". In *François Quesnay et la Physiocratie* 1948, I: 105-130. Paris: INED.
- Boisguilbert, Pierre Le Pesant, 1695. *Détail de la France, la cause de la diminution de ses biens et la facilité du remède en fournissant en un mois tout l'argent dont le Roi a besoin et enrichissant tout le monde* in Daire (1843): 171-266.
- Boisguilbert, Pierre Le Pesant, 1705. *Mémoire sur l'assiette de la taille et de la capitation*, in *Pierre de Boisguilbert ou la naissance de l'économie politique*, 1966. Paris: INED, II: 663-740.
- Boisguilbert, Pierre Le Pesant, 1707a. *Dissertation sur la nature des richesses, de l'argent et des tributs, où l'on découvre la fausse idée qui règne dans le monde à l'égard de ces trois articles* in Daire (1843): 394-431.
- Boisguilbert, Pierre Le Pesant, 1707b. *Factum de la France* in Daire (1843): 267-351.
- Bonno, Gabriel. 1948. "La Culture et la Civilisation Britanniques devant l'opinion Française de la Paix d'Utrecht aux Lettres Philosophiques (1713-1734)". *Transactions of the American Philosophical Society* 38, no. 1: 1-184.
- Braudel, Fernand. 1979. *Civilisation matérielle, économie et capitalisme, XVe-XVIIIe siècle*. 3 vols. Paris: Armand Colin.
- Cantillon, Richard. 1755. *Essai sur la nature du commerce en général*. London: Fletcher Gyles.
- Cartelier, Jean. 1984. "De l'ambiguïté du Tableau Economique". *Cahier d'Economie Politique* 9: 39-63.
- Clément, Pierre. 1861-1882. *Lettres et instructions de Colbert*. 10 vols. Paris: Imprimerie Nationale.
- Comte, Charles, Daire, Eugène and Horace Say. 1848. *Œuvres Diverses de J.-B. Say*. Paris: Guillaumin et Cie.
- Conan, Jules. 1955. "Les débuts de Dupont de Nemours et la publication de la 'Physiocratie'". *Revue d'histoire économique et social* 33, no. 2: 206-223.
- Condillac, Etienne Bonnot de, 1776. *Le Commerce et le gouvernement considérés relativement l'un à l'autre* in Daire and Molinari (1847), II: 247-445.
- *Correspondance des contrôleurs généraux des finances avec les intendants de provinces*. 1883. Tome 2 from 1699 to 1708. Paris: Imprimerie Nationale.
- Daire, Eugène. 1843. *Economistes financiers du XVIIIe siècle*. Paris: Guillaumin.
- Daire, Eugène. 1844. *Œuvres de Turgot,* nouvelle édition. Paris: Guillaumin.
- Daire, Eugène. 1846. *Physiocrates. Quesnay, Dupont de Nemours, Mercier de la Rivière, L'Abbé Baudeau, Le Trosne, avec une introduction sur la doctrine des physiocrates, des commentaires et des notices historiques*. 2 vols. Paris: Guillaumin.

- Daire, Eugène and Gustave de Molinari. 1847. *Mélanges d'économie politique..* Paris: Guillaumin.
- Desmedt, Ludovic. 2005. "Money in the 'Body Politick': The Analysis of Trade and Circulation in the Writings of Seventeenth-Century Political Arithmeticians". *History of Political Economy* 37, no. 1: 79-101.
- Dubois, Auguste. 1903. *Précis de l'histoire des doctrines économiques dans leurs rapports avec les faits et avec les institutions,* tome 1: *L'Epoque antérieure aux physiocrates*. Paris: Rousseau.
- Dupont de Nemours, Pierre Samuel. 1768. *Physiocratie, ou Constitution naturelle du gouvernement le plus avantageux au genre humain*. Leyde and Paris: chez Merlin.
- Dupont de Nemours, Pierre Samuel. 1772. *Agrégé des principes d'économie politique* in Daire (1846), I: 367-385.
- *Encyclopédie, ou Dictionnaire raisonné des sciences, des arts et des métiers,* 1751. 1st edition.
- *Ephéméride du Citoyen, ou Bibliothèque Raisonnée des sciences morales et politiques.* Paris: Lacombe.
- Dutot, Nicolas. 1738. *Réflexions politique sur les finances et le commerce…* in Daire (1843) : 845-1005.
- Faccarello, Gilbert and Philippe Steiner, 2012. "'Philosophie économique' and money in France, 1750-1776: the stakes of a transformation". *The European journal of the history of economic thought* 19, no. 3: 325-353.
- Forbonnais, François Véron de. 1754. *Eléments du commerce,* 2nd edition. Leyde and Paris: chez Briasson, David l'ainé, Le Breton, Durand.
- Forbonnais, François Véron de. 1767. *Principes et observation Oeconomiques…* Amsterdam: Marc-Michel Rey.
- *François Quesnay et la Physiocratie avec textes Annotés*, 1958. 2 vols. Paris: INED.
- Galiani, Ferdinando. (1751) 1955. *De la monnaie* translated by Bousquet and Crisafulli. Paris: Librairie Marcel Rivière et Cie.
- Gonnard, René. 1935-1936. *Histoire des doctrines monétaires dans ses rapports avec l'histoire des monnaies…* 2 vols. Paris: Recueil Sirey
- Goutte, Pierre-Henri. 1989. "Economie et transitions : l'œuvre de Dupont de Nemours au début de la Révolution Française 1789-1792." In *Idées économiques sous la Révolution (1789-1794)* edited by J.-M. Servet, 145-234. Lyon: Presses Universitaire de Lyon.
- Harslin, Paul. 1928. *Les doctrines monétaires et financières en France du XVIe au XVIIIe siècle*. Paris: Félix Alcan.
- Hahn, Frank. 1983. *Money and Inflation*. Cambridge: MIT Press.
- Hume, David. 1752. *Political Discourses*. 2nd edition. Printed by Fleming.
- Hume, David. (1742) 1987. *Essays: Moral, Political and Literacy.* Indianapolis: Liberty Fund, Inc.
- *Journal de l'Agriculture, du Commerce, et des Finances*. Paris: Knapen.
- *Journal encyclopédique ou universel*, 1756-1793. Liège: Kints.
- Keynes, John Maynard. 1936. *The General Theory of Employment, Interest and Money.* Cambridge: Cambridge University Press.
- Lambert, Pau. 1952. "La loi des débouchés avant J.-B. Say et la polémique Say-Malthus". *Revue d'Economie Politique* 62, no. 1: 5-26.
- Law, John, 1705. *Considération sur le numéraire et le commerce* in Daire (1843): 465-548.
- Law, John, 1715. *Premier mémoire sur les Banques* in Daire (1843): 548-618.
- Law, John, 1934. *Œuvres Complètes* first published by Paul Harsin. 3 vols. Paris: Recueil Sirey.
- Le Branchu, Jean-Yves. 1934. *Ecrits notables sur la monnaie, XVIe siècle, de Copernic à Davenzati*. Parix: Félix Alcan.
- Legrand, Robert. 1900. *Richard Cantillon: un mercantiliste précurseur des physiocrates.* Paris: V. Girard and Brière.
- Le Mercier de la Rivière, Pierre-Paul. 1767. *L'ordre naturel et essentiel des sociétés politiques* in Daire (1846), II: 445-638.
- Le Trosne, Guillaume-François. 1766. *De l'utilité des discussions économiques*.

- Le Trosne, Guillaume-François. 1777. *De l'Intérêt Social par rapport à la valeur, à la circulation, à l'industrie et au commerce intérieur et extérieur* in Daire (1846), II: 877-1023.
- Locke, John. 1691. *Some considerations of the consequences of the lowering of interest and raising the value of Money*. London.
- Lucas, Robert E.. 1981. *Studies in Business-Cycle Theory*. Cambridge: MIT Press.
- Markovits, Francine. 2002. "Introdution Générale". *Corpus* 40 "Nature et société au XVIIIe siècle": 9-22.
- Marx, Karl. (1867) 1872. *Le Capital, traduction de M. J. Roy, entièrement revisée par l'auteur.* Paris: Maurice Lachatre.
- Melon, Jean-François. 1734. *Essai politique sur le commerce* in Daire (1843): 707-835.
- Mercier, Sébastien. 1782. *Tableau de Paris, nouvelle édition*, tome 4. Amsterdam.
- Meyssonnier, Simone. 1989. *La Balance de l'Horloge. La genèse de la pensée libérale en France au 18e siècle*. Paris: Edition de la Passion.
- Mille, Jérôme. 1905. *Un physiocrate oublié, G.-F. Le Trosne (1728-1780).* Paris: L. Larose and L. Tenin.
- Mirabeau, Victor Riquetti de. 1756-1760. *L'ami des hommes, ou traité de la population*. 8 parts in 6 vols. in-12, Avignon.
- Montesquieu, Charles Louis de Secondat de, 1748. *De l'Esprit des Lois*. Genava: Barrilot and fils.
- Morellet, André. 1775. *Réflexions sur les avantages de la liberté d'écrire et d'imprimer sur les matières de l'administration*. London and Paris: chez les Frères Estiennes.
- Morellet, André. 1769. *Prospectus d'un nouveau dictionnaire de commerce*. Paris: chez les Frères Estiennes.
- Oresme, Nicolas, 1355. *De mutatione monetarum ac variatione facta per reges aut principes*r. In Wolovski, 1864. *Traictié de la première invention des monnoies*… Paris: Guillaumin et Cie.
- Pattullo, Henry. 1758. *Essai sur l'amélioration des terres*. Paris: chez Durand.
- Petty, William. 1691. *The Political Anatomy of Ireland...* London: D. Brown and W. Rogers.
- Petty, William. (1695) 1906. *Quantulumcumque concerning money* in *Les œuvres économiques de William Petty*, Paris: Giard et Brière.
- Picard, Roger. 1912. "Les mutations des monnaies et la doctrine économique en France, du XVIe siècle à la Révolution". *Revue d'histoire des doctrines économiques et sociales* 5: 343-367.
- Pothier, Robert-Joseph, 1861. *Œuvres de Pothier… par M. Bugnet*, 2nd edition. Paris: Henri Plon and Cosse and Marchal.
- Quesnay, François. 1757a. Article "Grains" in Daire (1846), I: 252-304.
- Quesnay, François. 1757b. Article "Hommes" in *François Quesnay & La Physiocratie,* 1958, II: 511-579. Paris: INED.
- Quesnay, François. 1758. *Questions intéressantes sur la population, l'agriculture et le commerce* in *François Quesnay & La Physiocratie,* 1958, II: 619-667. Paris: INED.
- Quesnay, François. 1766. *Dialogue sur le commerce et sur les travaux des artisans* in Daire (1846), I: 142-218.
- Quesnay, François. 1767a. *Maximes générales du gouvernement économique d'un royaume agricole* in Daire (1846), I: 81-104.
- Quesnay, François. 1767b. *Second problème économique* in Daire (1846), I: 127-141.
- Rambaud, Joseph. 1909. *Histoire des doctrines économiques*, 3th edition, 4 vols. Paris: L. Larose
- Rist, Charles. 1938. *Histoire des doctrines relatives au crédit et à la monnaie* : *depuis John Law jusqu'à nos jours*. Paris: Sirey.
- Saint-Maur, Nicolas Dupré de. 1746. *Essai sur les monnoies, ou réflexions sur le rapport entre l'argent et les denrées…* Paris: J.-B. Coignard.
- Savary, Jacques. 1742. *Le parfait négociant ou instruction générale*, new edition. Paris: chez la Veuve Estienne.
- Schachter, Gustav. 1991. "François Quesnay: Interpreters and Critics Revisited". *The American Journal of Economics and Sociology* 50, no. 3: 313-322.

- Schumpeter, Joseph. 1946. "John Maynard Keynes 1883-1946". *The American Economic Review* 36, no. 4: 495-518.
- Schumpeter, Joseph. 1954. *History of Economic Analysis. Edited from the manuscript by Schumpeter Elizabeth Boody*. New York: Oxford University Press.
- Say, Jean-Baptiste. 1803. *Traité d'Economie Politique…* Paris: Chapelet.
- Say, Jean-Baptiste. 1861. *Traité d'Economie Politique..,* 7th edition. Paris: Guillaumin et Cie.
- Spengler, Joseph J. 1945a. "The Physiocrats and Say's Law of Markets I". *Journal of Political Economy* 53, no. 3: 193-211.
- Spengler, Joseph J. 1945b. "The Physiocrats and Say's Law of Markets II". *Journal of Political Economy* 53, no. 4: 317-347.
- Sweezy, Paul Marlor. 1942. *The Theory of Capitalist Development*. New York: Monthly Review Press.
- *Tableau des opérations de l'Assemblée Nationale, d'après le Journal de Paris*. 1789. tome II. Lausanne: Hignou.
- Turgot, Anne Robert Jacques. 1749. *Lettre à M. l'Abbé de Cicé, depuis évêque d'Auxerre, sur le papier supplée à la monnaie* in Daire (1844), I: 94-102.
- Turgot, Anne Robert Jacques. 1766. *Réflexions sur la formation et la distribution des richesses* in Daire (1844), I: 7-71.
- Turgot, Anne Robert Jacques, 1769. *Valeur et monnaie* in Daire (1844), I: 75-93.
- Tsuda, Takimi. 1983. "Un économiste trahi, Vincent de Gournay (1712-1759)". In *Traités sur le commerce de Josiah Child avec les remarques inédites de Vincent de Gournay*. Tokyo : Kinokuniya.
- Vauban, Sébastien Le Pestre, 1707. *Projet d'une dixme royale* in Daire (1843): 32-154.
- Vauban, Sébastien Le Pestre, 1910. *Vauban ; sa famille et ses écrits, ses* "*Oisivertés*" *et sa correspondance par le lieutenant-colonel Eugène-Auguste-Albert de Rochas d'Aiglun*, edited by Berger-Lebrault et Cie. Grenoble: Allier Frères.
- Vidonne, Paul, 1986. *La formation de la pensée économique*. Paris: Economica.
- Vilar, Pierre. 1974. *Or et monnaie dans l'histoire*. Paris: Flammarion.
- Voltaire, 1738. *Observations sur MM. Jean Lass, Melon et Dutot, sur le commerce, le luxe, les monnaies et les impôts.* In *Œuvres complètes de Voltaire*, 1873. Paris: Garnier, tome 22: 359-370.
- Walras, Léon. 1874. *Eléments d'économie politique pure, ou, Théorie de la richesse sociale*. Paris: Guillaumin et Cie.
- Walras, Léon. 1987. *Mélanges d'économie politique et sociale.* In *Oeuvres économiques complètes*, edited by C. Hébert et J.-P. Potier, 7 vols. Paris: Economica.
- Ware, Norman J. 1931. "The Physiocrats: A study in economic rationalization". *The American Economic Review* 21, no. 4: 607-619.
- Weulersse, Georges, 1910. *Le Mouvement Physiocratique en France de 1756 à* 1770. 2 vols. Paris: Alcan.