ON VARIOUS FORMS OF QUESNAY'S TABLEAU ECONOMIQUE*

—— In Commemoration of the Bicentenary of François Quesnay's Tableau Economique ——

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I. *Introduction*

It has been two hundred years since the first edition of *'Tableau Oeconomique'* by François Quesnay was printed in December, 1758 at the palace of Versailles. The second edition, consisting of only three copies, was printed in the spring of 1759. Both editions, which had long been thought lost beyond hope of recovery, were discovered in 1889, the first edition in manuscript form[1] (see Appendix) and the second in proof form among the *Papiers de Mirabeau* in possession of the *Archives de France.* The second edition was reprinted by the British Economic Association in 1894 in commemoration of Quesnay's bicentenary birthday.[2] Figure 1 is the table shown at the commencement of the second edition, which, with some minor modifications, can still be considered to take the same form as the table in the first edition. The third edition was printed at the end of 1759. It had also long been regarded as lost, but, reportedly, fell by chance into the hands of Gustave Schelle. He utilized it by comparing it with other editions, but this edition itself, except for a part of it, has not been reprinted as yet.[3] Though the tables in these editions indicate some variation in numerical and other particulars, they all have the same composition and take the same form; and they

* This paper is a draft of the author's lecture delivered in commemoration of the Bicentenary of François Quesnay's *Tableau Economique* at the annual meeting of the Association of History of Economic and Social Doctrines held at Rikkyo University, Tokyo, May 10, 1958.

[1] The first edition ran to very few copies, and it is believed that none remain. Only the manuscript was discovered by Stephan Bauer of Austria in 1889 among the *Papiers de Mirabeau* in possession of the *Archives de France* in Paris, together with the revised print of the second edition. The first edition consists of a sheet of table and its annex *'Remarques sur les variations de la distribution des revenus annuels d'une nation'*, but only the table has been made public up to the present. (Cf. S. Bauer, Studies on the Origin of the French Economists, *Quarterly Journal of Economics*, Vol. V, No. 1, 1890, pp. 104–105. Id., Zur Entstehung der Physiokratie auf Grund ungedruckter Schriften François Quesnays, *Jahrbücher für Nationalökonomie und Statistik*, Neue Folge, 21. Bd., 1890, S. 132.) The overall manuscript of the first edition is shown as an appendix at the end of this paper. We should hereby express our special thanks for the favor extended by the relevant people of the *Archives de France*, above all by Mr. Charles Braibant, President, through whose efforts we were able to make the manuscript public. Cf. *Quesnay's Tableau Economique*, translated into Japanese with explanations and texts: *Les variations du Tableau Economique* and *Les étapes de l'évolution des Remarques aux Maximes* by Taro Sakata, Tokyo, 1956, pp. 2–7.

[2] *Tableau Oeconomique* by François Quesnay, first printed in 1758 and now reproduced in facsimile for the British Economic Association, London and New York, 1894.

[3] Cf. G. Schelle, Quesnay et le tableau économique, *Revue d'économie politique*, 19e année, 1905, pp. 502-503. Id., *Le docteur Quesnay*, Paris, 1907, pp. 260–261.

are together called *'tableau fondamental'*, or 'zigzag', because of their form.

In view of the fact that Quesnay's conception expressed in the *Tableau Oeconomique* had not been dealt with and also had caused much misunderstandings because of its strange form and complicated contents, Victor Riqueti, marqui de Mirabeau, his disciple, tried to explain it with the help of his master in *'Tableau Oeconomique avec ses explications'* which was published in 1759 as the sequel to the sixth part of "l'Ami des hommes", his famous work, but this explanation was also unpopular. Therefore the disciple, in collaboration with his master, again tried to make a systematic and detailed explanation of it in the anonymous and voluminous book, *"Philosophie Rurale, ou économie générale et politique de l'agriculture, réduite à l'ordre immuable des lois physiques et morales, qui assurent la prospérité des Empires"*, 1763.[4] The *"Elémens de la philosophie rurale"* published in 1767, is a condensed edition of the *Philosophie Rurale* for use as a text-book. These books include various sorts of zigzag, in which numerical and some other particulars are altered. On the other hand, the *Philosophie Rurale* utilizes a number of abridged and outlined forms of zigzag for explanation in the terms of *'petit tableau en précis'* or *'tableau abrégé'*. (Cf. Figure 3) And the *Elémens* has in it, too, for the purpose of explanation, *'formule abrégée du Tableau Economique'* (Figure 4) which seems to be an expanded form of the aforementioned abridged tableau. From the viewpoint of mere form, the said abridged formula is not different from *'formule du Tableau Economique'* (Figure 5) used by Quesnay in the *'Analyse du Tableau Economique'* written by himself for the explanation of *Tableau Economique*[5]. However, the explanatory conception indicated in the *Analyse* by means of the said formula, is not always the same as that in the *Elémens*.

Thus several kinds of tables were used as a means of explanation, from the first edition of *Tableau Oeconomique* through a few explanatory books to the said *Analyse*. The change in the form of the tables is considered to be closely related to the transition of the explanatory conception of the *Tableau*. However, it is a well-known fact that the *Analyse* has previously been considered the main clue to the research of *Tableau Economique*, and therefore the formula has been treated as representative of all other tables: it is not easy to find, either in this country or abroad, any monographic research concerning the zigzag and other forms except the formula. The main reasons for this are, firstly, that the various editions of the *Tableau* by Quesnay himself remained unavailable until the end of the 19th century and so the relevant researchers were compelled to take the

[4] The title of the original manuscript of this book was *'Grand Tableau Economique'*. (Cf. G. Weulersse, *Le mouvement Physiocratique en France de 1756 à 1770*, tome 1, Paris, 1910, p. 86.)

[5] *'Analyse du Tableau Economique'* was originally published in the *"Journal de l'agriculture, du commerce et des finances"*, June, 1766, but no formula was used in it; the actual use of the formula, except as the *'tableau de la distribution'* in the *'Problème Economique'*, appeared for the first time when the *Analyse* was inserted by Dupont de Nemours in the *"Physiocratie ou constitution naturelle du gouvernement le plus avantageux au genre humain"*, 1767, together with the other works of Quesnay. Unlike the other explanatory books, the *Analyse* did not make use of any zigzag.

Analyse as the sole basis for their research, and secondly, that the explanations in several anonymous explanatory books are so inconsistent, containing a number of contradictions and ambiguities, that the researchers were perplexed. But the explanation in the *Analyse* by Quesnay himself is not clear-cut either. As a result, the attempt to explain fully the *Tableau Economique*, particularly the formula, as a consistent whole—the aim which almost all the researchers had in mind—brought about different and sometimes opposite interpretations. In fact, there are diverse interpretations even of the formula, developed from the description in the *Analyse*. In this connection, we quote Schelle's remark: '*nous n'entreprendrons pas d'en (du Tableau Economique) donner une explication complète; où Quesnay, où Mirabeau, où Baudeau ont échoué, il serait dangereux de s'aventurer.*'[6]

Similarly the author's intention in this paper does not lie in giving a complete explanation of the *Tableau*. Rather he aims at tracing the transition of the explanatory conception of the *Tableau* revealed in connection with the change in its form from the first edition to the *Analyse* through the intermediate explanatory books. It goes without saying in this case that Quesnay's own works are taken as the primary data, and the aforementioned three explanatory books are used as secondary ones, though they are all works by Mirabeau through the guidance and cooperation of Quesnay. But among them, the part which '*appartient tout entier à Quesnay exclusivement*'[7], viz., the important Chapter VII of *Philosophie Rurale*, is of course taken as the primary datum.

II. *Zigzag*

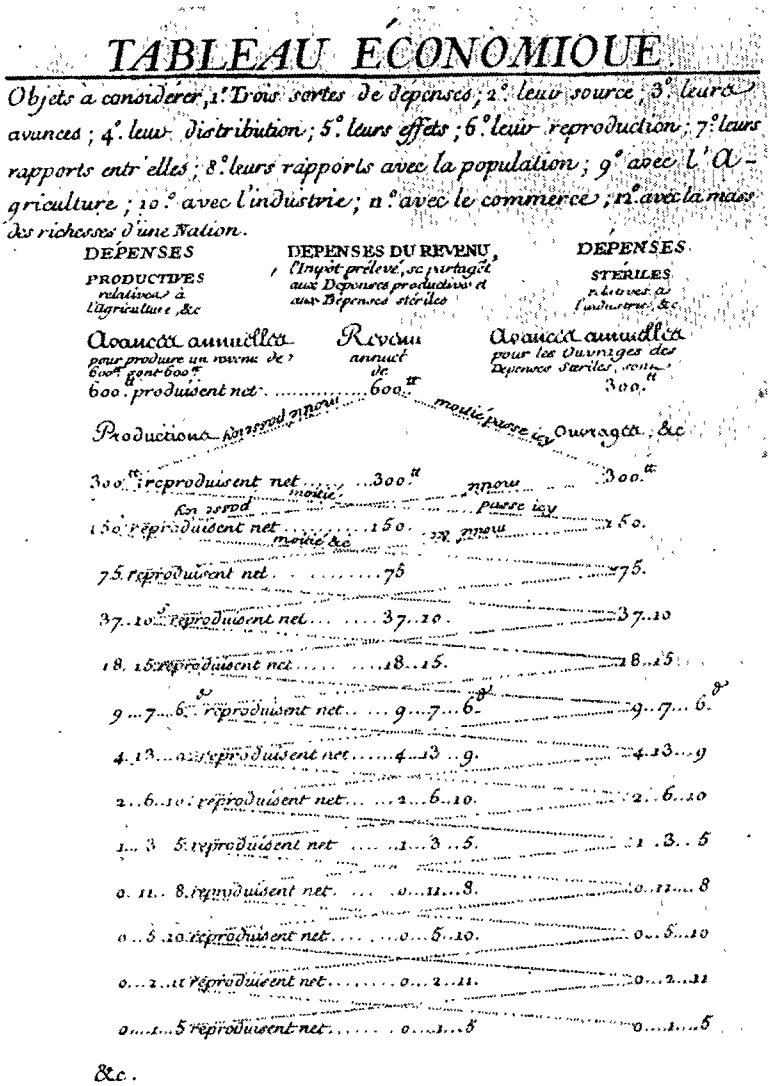
Tableau Economique is intended to indicate 'physiologically and anatomically'[8] the simple reproduction of capital, i.e., to denote how the human economic life is yearly repeated on the same scale. As regards its construction, the column in the middle indicates the *revenu annuel* received by the landlord class containing the sovereign with government officials and churches as *décimateurs*, the columns arranged to the right and left of the foregoing one, respectively, showing their *dépense productive* to the farmers who are the productive class, and their *dépense stérile* to the merchants and manufacturers who are the unproductive class. Thus these columns indicate how the landlords' payment to the other two classes, circulating among these classes, makes it feasible to repeat the same scale of economic life among the three classes every year. In other words, the aim is to get the quantitative depiction of the simple reproduction of capital by denoting mutually regulative relations between production and consumption

[6] G. Schelle, *Le docteur Quesnay*, p. 262.

[7] G. Weulersse, *op. cit.*, p. 80, note.

[8] J. Schumpeter, *Epochen der Dogmen- und Methodengeschichte*, Grundriss der Sozialökonomik, 1. Abt., 1. Teil, Tübingen, 1924, S. 40.

Figure 1 Zigzag in the Second Edition



REPRODUIT TOTAL ..... 600 liv. de revenu; de plus, les frais annuels de 600 liv. et les interets des avances primitives du Laboureur, de 300 liv. que la terre restitue. Ainsi la réproduction est de 1500 liv. compris le revenu de 600 liv. qui est la base du calcul, abstraction faite de l'impôt prélevé, et des avances qu'exige sa reproduction annuelle, &c. Voyez l'Explication à la page suivante.

through the process of distribution of the landlords' revenue that is the *produit net*, viz., the surplus value produced by the *avance annuelle* of the productive class. And the zigzag can be said to attempt to explain the process of the reproduction of individual capital among a landlord, a farmer and a merchant or manufacturer, representing the respective class.

In the fundamental idea of *Tableau Economique*, it is assumed that the annual advance or annual circulating capital of the farmer accounts for all of the net produce of 100%; and whereas in the first edition this advance is estimated at 400 livres (see Appendix), the relevant amount in the second edition is increased to 600 livres (Figure 1). Accordingly, the annual revenue of the landlord, which is the basis of circulation, has the same order of increase and changes from 400 to 600 livres. And the annual advance of the unproductive class, which is half the amount of the productive class, is increased as well. Of course, it is presupposed that the productive class has invested, besides the annual advance, the *avance primitive* of 3,000 livres which is equivalent to five times the amount of the former.[9] Therefore, the total amount of reproduction must include the yearly sum of reimbursement which is called interest, equivalent to 10% on the primitive advance or fixed capital, i.e., 300 livres, in addition to the collected sum of annual advance and the same sum of net produce; hence the said total amount becomes 1,500 livres. It is one of the features of the second edition of the *Tableau* that the interest on the fixed capital was taken into consideration. And it is worth while noting that the yearly amount of reproduction of 1,500 livres, including interest, amounts to 250% of the annual advance of the farmer. Thus we can easily notice a considerable difference in detail between the first and second editions even through a cursory comparison; but there seems to be no fundamental change in the concept of zigzag between the two editions.

However, there is a good deal of difference in the interpretation, on the part of researchers, with respect to the character of the annual advance, in particular,

[9] The annual advance, i.e., the working capital, in both the case of productive and of unproductive class, obviously contains the respective agents' or workers' foodstuffs, provenders for cattle, seeds and raw materials etc. to be consumed in each production period. On the other hand, the primitive advance is the *fonds de l'établissement* or the capital for equipment; this is described in the *Explication du Tableau Economique* in the second edition as follows: *'le premier fond des dépenses en bestiaux, instrumens, semense, nourriture, entretien, salaire, &c, dans le cours du travail de deux ans, avant la première récolte.'* Though the foregoing description may make for some ambiguity in regard to the primitive advance, namely, whether or not it has the character of capital for equipment, the cahracter is fairly clear in the explanation of that of unproductive class reading *'avances primitives de cette classe pour établissement de manufactures, pour instrumens, machines, moulins, forges ou autres usances, &c.'* That is to say, the means of transference of the value of its consumed part into output, on the part of primitive advance, is gradual, as against that on the part of annual advance, and accordingly its collection is done not in one production period but over several periods. (Nevertheless, in the *Tableau*, the primitive advance of the unproductive class is not taken into account.) From the foregoing consideration, we could look upon the annual advance as circulating capital and the primitive advance as fixed capital. In reality, it was Quesnay's valuable contribution to economics that he established the distinction between the annual and primitive advances according to the difference in the way in which the value of a certain amount of advance as productive capital is incorporated into the value of output, though there were some ambiguous elements in his analysis.

as to whether it is to be interpreted as commodity or as money. In the author's opinion, it will be in accord with the idea of Quesnay to interpret it as commodity in the first stage, judging from the fact that under the figures of the annual advance of the productive and unproductive classes the words *productions* and *ouvrages etc.* are respectively inserted, as we see in Figure 1 and other kinds of zigzag. Though no one can deny that the landlord's revenue, which is the outcome of production in the foregoing production period and the starting point of circulation in the appropriate period, is money, and the orderly process of circulation indicated in the table begins with the expenditure of this monetary revenue, yet the fundamental idea is the way in which the advances of the productive and unproductive classes are transformed successively from the commodity form to the monetary form and vice versa through the process of circulation. In this, we can see evidence of the attempt to understand the process of reproduction of capital by the medium of monetary circulation; in other words, it is here obvious that the circulation of capital conducted by means of money is made the essential moment of the process of reproduction of capital.

Needless to say, the *Tableau Economique* is a kind of abstract model. As described in the *Analyse*, there is the assumption of a great kingdom in which the land is cultivated on a scale of *grande culture* in general, and accordingly attains the highest degree of development in agriculture, bringing about an amount of reproduction of 2,000,000,000 livres (5,000,000,000 livres in the *Analyse*); and the permanent continuity of such reproduction is feasible on the assumption of *prix constant*. Constant price is the price which is to prevail among the commercial countries where free competition in commerce and the ownership of the capital for administration are perfectly guaranteed. This certainly does not depict the status quo of France; it surely indicates a broad model including economic and social conditions that differ from the status quo. However, it is especially emphasized that the natural outcome of circulation and of production of wealth under such assumptions, and certain requisites for producing such a model, are not unrealistic at all, but '*fidèlement copiés d'après la nature*'. This will be directly endorsed by several examples in England and at the same time Quesnay's relevant researches prior to *Tableau Oeconomique*, particularly some political arithmetic ones developed in the article '*Grains*' and others contributed to (or written to contribute to) the "*Encyclopédie*".

At the same time, we should not neglect the practical design of the *Tableau*, namely, that it serves as a tool to measure any deviation of the status quo from the model case. For instance, the landlord's revenue, according to the *Tableau*, is divided into two halves, one of which is paid over to the farmer, the other to the merchant or manufacturer. But, if one makes survey of reality on the basis of this order, he will clearly see that the amount of annual production of revenue (net produce) will be modified according to whether the amount of productive and unproductive expenditure is more or less deviated, as reading '*selon que celui* (*le propriétaire*) *que les* (*dépenses*) *fait se livre plus ou moins au luxe de subsistance,*

ou au luxe de décoration.' Such being the case, we should not overlook the practical meaning of the *Tableau* where is depicted the state in which the productive expenditure repeats the simple reproduction, i.e., the model case in which same amount of revenue is renewed every year.

When we want to investigate the fundamental idea of zigzag by the *'Explication du Tableau Economique'* in the second edition of *Tableau* as the main clue, we should first pay attention to the revenue of 600 livres (this number is taken from the second edition), the starting point of circulation. In regard to this, we have the description reading, *'la vente du produit net que le cultivateur a fait naître l'année précédente, par le moyen des avances annuelles de 600 liv. employées à la culture par le fermier, fournit au propriétaire le payement d'un revenu de 600 livres.'* (See the part where the annual advance of the productive class and the revenue is connected by dotted line at the top of the table.) We can understand by the foregoing description that the revenue is money which has been paid as land-rent by the farmer who got this amount by selling his net produce of the preceding year. It is also obvious from the same description that the said net produce is the outcome of the preceding year by means of annual advance.

Then, the monetary amount of 600 livres is expended by the landlord, *'moitié à la classe des dépenses productives en pain, vin, viande, &c. & l'autre moitié à la classe des dépenses stériles en vêtemens, emmeublemens, ustensiles, &c.'* There we can see the transfer of money of 300 livres each from landlord and the transfer of commodity of 300 livres each from farmer and merchant or manufacturer. This is indicated by the dotted lines parting to the left and right at the point of the revenue of 600 livres seen in the middle column of the table.

In this way, half of money paid by farmer to the landlord as land-rent, 300 livres, will return to the farmer, and this amount is expended by him, *'moitié en consommation de productions fournies par cette même classe, & l'autre moitié en entretien de vêtemens, ustensiles, instrumens, &c. qu'il paye à la classe des dépenses stériles.'* In other words, half of the money that returns to the farmer, will be expended in the purchase and consumption of foodstuffs and so forth from other farmers belonging to the same class, and the other half will be spent in the purchase of manufactured goods from merchant or manufacturer, like in the case of the landlord, but with more accent on the means of production. This is indicated by the dotted line drawn down obliquely from the received sum of 300 livres mentioned in the left column to the right. However, the case of the purchase from other farmers of the same class is, as it were, the circulation within the same class, and accordingly does not appear in the table. It is especially worth while to note that the table only indicates the circulation between classes.

The disposal of the money of 300 livres in this way, signifying the formation of the capital of production, will bring about products of 300 livres and net produce of the same amount. This is set forth by the statement *'...et elle (ces 300 liv.) renaissent avec le produit net'*, succeeding to the aforementioned quotation. And this process is indicated by the dotted line drawn from the 300 livres in the left column to the middle.

On the other hand, the 300 livres handed over to the merchant or manufacturer, is expended by him '*moitié à la classe des dépenses productives en achats de productions pour la subsistance, pour les matières premières des ouvrages, & pour le commerce extérieur; & l'autre moitié est partagée pour l'entretien, pour la restitution des avances, à la classe même des dépenses stériles.*' These circumstances are designated by the dotted line drawn down obliquely from the 300 livres in the right column to the left. We can see here as well about the same state of affairs as on the part of farmer; i.e., half the amount being transferred to the hands of farmer in exchange for the agricultural products, appears in the table, but the other half entering into the circulation within the same class is not indicated. However, the point which should be noted here is that there is no production of net produce, as compared with the case of farmer. The subsistence commodities, raw materials and the like purchased from farmer, being disposed together with the processed goods procured through the circulation within the same class, merely result in bringing about the industrial products with the equivalent value; and the amount equivalent to the value of the processed goods obtained from people of the same occupation of the same class, will be allotted to the upkeep and repair of the advance.

Then, both the amount of money transferred from the farmer to the merchant or manufacturer and vice versa, are divided into half again and follow the same course as above-mentioned, as we see from the next step in the table. We could sum up the whole course as follows. The farmer will produce, through the circulation of money of 600 livres, products of 600 livres and net produce of the same amount which will of course form the commodity basis of the landlord's revenue. The total amount of reproduction in the first edition is 1,200 livres (according to the number of the first edition, 800 livres) which is the value of products plus net produce. In the second edition, it is increased to 1,500 livres as aforesaid by adding 300 livres which is the interest of primitive advance; but this additional 300 livres as the said interest is not taken into account in zigzag, though it is referred to at the bottom of the table.

On the other hand, we see that the artisan will dispose of products of 600 livres: he will consume products of 300 livres and make up the advance of the same sum. The reason why this disposal is not treated as the production in pregnant sense, is that there is no surplus production in this case. In any case, the value of goods manufactured by artisan is always equivalent to the cost of production and neither more nor less than that in the *Tableau.*

Now we see from the foregoing explanation the circumstances in which the advance of 300 livres on the part of the merchant or manufacturer of unproductive class is compensated for by the industrial products procured from his fellow artisans through the circulation within the same class. And here we are informed that the advance of this class takes nothing but the form of manufactured goods at the beginning of a period. The insertion of the words '*ouvrages etc.*' under the indication of annual advance of the said class in zigzag, as pointed out above'

seems to allow us to interpret it as denoting this state of affairs. As a matter of course, it will be inferred that this annual advance, being disposed together with the products of 300 livres purchased from the farmer, is to make feasible the supply of processed goods of 600 livres: those of 300 livres each to the landlord and the farmer. But this is not the case in the orderly process of circulation in zigzag (cf. the description to follow). We already know that the farmer spends half of his monetary income in the purchase or maintenance of clothing, utensils, tools and so forth; the total amounts to 300 livres.

Considering the matter from this point of view, the advance of the artisan does not seem to have any substantial difference in character from the subsistence commodities or the raw materials for processed goods purchased by him from the farmer by means of his monetary income of 300 livres, even though the former appears more in the capacity of the means of production than the latter. In other words, there seems to be no doubt that the said advance has the character of commodity. But we are led to think as if this annual advance were money as unproductive expenditure according to the description at the beginning of the *Explication* reading, *'les avances annuelles de 300 liv. des dépenses stériles, sont employées pour les fonds & les frais du commerce, pour les achats des matières premières des ouvrages de main-d'oeuvre, & pour la subsistance & autre besoins de l'artisan, jusqu'à ce qu'il ait achevé & vendu son ouvrage.'* Whether the advance means a certain amount of money or products or processed goods, is one of the most important and difficult problems encountered in the interpreting of the *Tableau Economique*.

It seems to us better to investigate well also the circumstances on the part of the farmer before giving the immediate answer to the foregoing question. The outcome of the production on his part will be as follows, as described above: he produces products of 600 livres and net produce of the same amount during one production period. Excluding the interest of primitive advance, his total amount of reproduction becomes 1,200 livres. And out of these products, one part of 300 livres will be allotted to the purchase of the landlord in the next period and another part of 300 livres to that of the merchant or manufacturer; and of the remaining 600 lires, one part of 300 livres will be applied to the domestic use of the farmer in the narrower sense of the word and another part of 300 livres to the breeding and maintenance of cattles, as it is described. Considering the matter solely from the commodity aspect of reproduction, we might be able to understand that the above-mentioned remainder of 600 livres indicates the portion of domestic consumption of the farmer, viz., his expense for production or its collected amount, and the former parts of 600 livres, signifying the net produce, form the commodity basis of the revenue of the landlord; for the products purchased by the landlord are to be finally consumed by him and those purchased by the artisan become the commodity basis of the processed goods he will furnish the landlord. But it is not so easy to determine, in the orderly process in zigzag, what part of reproduction falls under expense or its recovery and net produce

respectively (cf. the explanation of Figure 2 seen later). To return to our subject, it is described in the *Explication* that *'ainsi des 1,200 livres de productions, cette classe (des dépenses productives) en dépense 600 livres (en nature) et ses avances de 600 liv....'* Here we see the state of affairs in which the products of 600 livres to be consumed by the productive class are nothing but its expense, which would naturally mean the annual advance of this class. We have already pointed out the insertion of the word *'productions'* under the figures of annual advance of the productive class in zigzag. Therefore, it will be worthy of paying attention to the fact that the annual advances of productive as well as unproductive classes are treated as commodity in the table.

However, the important matter here is that Quesnay was not satisfied in the least with the depiction of the whole course of circulation and production only from the commodity aspect, but laid stress on the process of mutual transformation between advance as commodity and money. Let us investigate this point more closely. According to the orderly process in zigzag, we know that the products of 600 livres out of the total amount of reproduction in the preceding year are to be sold by the farmer, as described in the *Explication.* And the price of these products, 600 livres of money, is to be paid to the landlord as land-rent at the end of the year. Consequently, there remain only products of 600 livres in the hands of the farmer at the beginning of the current year. Nevertheless, if the farmer is to sell products of 300 livres to the landlord and others of 300 livres to the merchant or manufacturer with the beginning of circulation in the current year, there would be none of them in his hands to be alloted in kind to his domestic consumption. But the *Explication,* succeeding to the aforementioned quotation, reads as *'...et ses avances de 600 liv. lui sont rendues en argent par les ventes qu'elle (la classe des dépenses productives) fait au propriétaire & à la classe des dépenses stériles.'* How should we interpret this explanation?

We know already that the monetary revenue of 600 livres received by the landlord at the end of the preceding year is repaid by half the sum by him to the productive class directly at the commencement of the current year and still more gives the repayment of money totalling 300 livres (150+75+...) to the same class through the circulation both of the above-mentioned half and of the other half transferred to the unproductive class (cf. Figure 2). And this total amount of 600 livres enables the farmer to obtain the agricultural products from other members of his class through the circulation within the same class and the manufactured goods from merchant or manufacturer. In the instance noted above, Quesnay seems to limit the contents of products to be consumed on the part of the productive class to the agricultural products for domestic use, provender for cattles and so forth, but in them, the industrial products to be furnished by merchant or manufacturer, must also be included. At any rate, the annual advance of productive class in the table is determined as that of the previous period of production. The use of it in kind brings about the same amount of net produce as the advance itself and this net produce (this expression is, strictly speaking,

not appropriate), being sold to be transformed into money, forms the landlord's revenue. We see here the denotation of the condition on which the collected amount of productive capital of the preceding period is transformed into commodity form and then into money; in reality, the return of money of 600 livres to the productive class during the current period, causes the transformation of the annual advance of productive class from the commodity form into the monetary one. This will clarify the aforequoted explanation that the annual advance of productive class is returned in money to this class through the selling which it performs to the landlord and unproductive classes; also the following explanation, *'les 300 livres du revenu qui dans l'ordre du tableau ont passé aux dépenses productives, y rendent en argent des avances...'*, should be interpreted on the same line in accord with the fundamental thought of the *Tableau.*

In this way, the compensated amount of the annual advance of productive class of the preceding year, as it takes the form of commodity, forms the starting point of production of the current year, and the capital expenditure of this class in the same year is nothing but its transformation. Thus the compensated annual advance, being transformed into the productive capital through the monetary form, will bring about the same amount of products and further the same amount of net produce; it is needless to say that a part of these products, being sold, will be retransformed from the commodity form to the monetary one during the next year. Half of the amount which seems to be equivalent to net produce from the commodity aspect, being sold to the landlord, will be finally consumed by him; and another half to be purchased by the merchant or manufacturer, being disposed together with the industrial products to be procured from members of his trade through the circulation within the same class, will bring about manufactured goods of 600 livres. And a part of these manufactured goods, viz., the part to compensate the annual advance, should be regarded as forming the premise of production as in kind in the following year, but according to the order of circulation, we can not help interpreting that it is sold to the landlord to be transformed into money at the beginning of circulation. This seems to be alluded to by the description in *Explication* reading *'...& les avances (de la classe des dépenses stériles) sont égales aux 300 liv. du revenu qui passe à cette même classe de dépenses stériles.'* In this way, the part which compensates the advance, is to be finally consumed by the landlord as in the commodity form in the following year. Needless to say, the other part of manufactured goods of 600 livres, being purchased by the farmer, is to become a component of his productive capital. Such being the case, we can clearly see the collected or compensated amount of annual advance at the end of the preceding year, both in productive and unproductive classes, transforming into the monetary form at the beginning of the current year and then going through by turns the forms of productive and commodity capital (though the use of these terms is doubtful in the case of the annual advance of unproductive class), retransforms into the monetary form. It seems to us, the foregoing investigation will clarify the questionable point mentioned before, viz.,

that the annual advance of unproductive class is explained as the monetary expenditure. The reason why the annual advance of unproductive class is taken here as of the current year, is because there is no indication of the preceding year's in the *Tableau* and also there is no reason to take it as of the same year, even though the advance of productive class is expressly explained as of the previous year. Here we could see an instance of carelessness in denoting the symmetry of economic quantities in *Tableau;* in the respect that there is a time lag between the two annual advances.

Further, we should pay our full attention to the fact that the advance which is transformed into the monetary form, can produce the surplus only by its being retransformed into the productive capital. *'L'argent n'engendre pas de l'argent'*[10] was Quesnay's firm belief. Therefore, it should be said to be strikingly against the principle of physiocracy to explain that the advance in the monetary form, as it is, becomes the revenue to be received by the landlord, or brings about the net produce which is its commodity basis. (Such interpretation might be caused by the dotted line drawn from the left column to the middle, even if such explanation be given in order to expound the circumstances briefly.) While it is true that various misunderstandings come from the contradictory and ambiguous statements of Quesnay or Mirabeau, some loose explanations by Oncken and others, must also be held responsible for them. It is natural that Voelker reproached Oncken on that account.[11]

If there is no much mistake in the above-mentioned consideration, the whole outcome of circulation and production in one period in zigzag could be summarized as follows (cf. Figure 2). While the preceding production period should be considered to be ended with the farmer's paying the landlord money of 600 livres as land-rent, which he procured by selling the net produce of 600 livres of the previous period (according to the order of zigzag, the half of the collected amount of annual advance of the farmer (A) and the amount to compensate the advance of the unproductive class (B)), just the expenditure of this monetary income on the part of the landlord is the starting point of circulation in the current year and the beginning of a new production period. It will be needless to repeat here that the landlord expends his income, one half to the farmer and the other half to the merchant or manufacturer; consequently, while the farmer delivers to the landlord products of 300 livres (D), half of the remainder in his hands out of total reproduction of 1,200 livres in the preceding period, he regains half of the money of 600 livres he paid to the landlord as land-rent at the end of the same period. Thus, we could deem that half of the collected amount of his annual advance of the preceding period is transformed into the monetary form; for the farmer, dividing this 300 livres into half, purchases agricultural products of 150

[10] *Note sur les Maximes, Oeuvres économique et philosophiques de F. Quesnay*, publiées avec une introduction et des notes par A. Oncken, Francfort s/M et Paris, 1888, p. 349.

[11] Cf. A. Oncken, *Geschichte der Nationalökonomie*, Leipzig, 1922, S. 395. A. Voelker, Der Tableau économique Quesnay's und seine Erklärung, *Schomollers Jahrbuch für Gesetzgebung, Verwaltung und Volkswirtschaft im Deutschen Reiche*, 55. Jahrg., S. 848.

livres from his fellow men of the same occupation and processed goods of 150 livres from the merchant or manufacturer. In this way, the advance in money of 300 livres in the hands of the farmer, transforms into productive capital, and through the function as such capital, recovers itself and brings about the same amount of net produce. (Reproduction of 600 livres.)

About the same circumstances are seen on the part of the merchant or manufacturer who belongs to the unproductive class; that is to say, the money of 300 livres he obtained from the landlord at the beginning of the current year, could be thought of as the monetary form of the compensated amount of his annual advance of the preceding year. He, dividing this money into half, uses one half to purchase products from the farmer, and the other half to obtain processed goods from persons of his trade; thus in this case as well, the annual advance taking once the form of money, is transformed into the productive capital. However, the amount of reproduction in this case does not bring about net produce, but merely collects the value of productive capital. (Reproduction of 300 livres.) In such a way, both farmer and merchant or manufacturer, pay each other half of the money they received respectively from the landlord, and the amount of money they receive from each other is divided into half again to repeat the same order of circulation.

As a result, the farmer will have money of 600 livres (300 livres from the landlord and 300 livres in total from the merchant or manufacturer), which is transformed into the productive capital of the same amount (F and F') consisting of agricultural products of 300 livres obtained through the circulation within the same class (A) and of processed goods of 300 livres procured from the merchant or manufacturer (the half of G+G', i.e., transformation of C). And as this productive capital of 600 livres brings about products of the same amount and still more net produce of the same amount (A' B' C' D'), the total amount of reproduction will be 1,200 livres. What we should devote our attention to here is that as a result of the above-mentioned circulation, the money which the farmer obtained from the landlord and the merchant or manufacturer, is not left in his hands. That is also the case with the money which the merchant or manufacturer received from his customers. The relevant money in the hands of the farmer is wholly transferred to the other party of his transaction within the class, i.e., his fellow farmers from whom he purchases products of 300 livres. We see about the same state of affairs on the part of money received by the merchant or manufacturer. It comes wholly to the hands of his fellow artisans too. In the case of merchant or manufacturer, money of 600 livres in his hands transforms into the productive capital of the same amount (G and G') consisting of processed goods of 300 livres obtained through the circulation within the class (B) and products of 300 livres procured from the farmer (C). And it goes without saying that the said productive capital will produce processed goods of the same amount (the half of G+G' to be purchased by the productive class and E'). Therefore, the total amount of reproduction on both sides seems to be 1,800 livres. (So far as the number

is concerned, this calculation coincides with the author's. Cf. IV. 'Formule'.) But Quesnay's calculation is different from the author's.

What we should note here, is that the value of the manufactured goods is merely the transfer of the value of raw materials and the worker's living wage. Therefore, manufactured goods are nothing but the transformation of various products consumed for production; accordingly, the total amount of reproduction in one period is said to be no more than products of 1,200 livres in the net total. But this net total is doubtful. The reason is this: although the mutual relation between products and processed goods looks somewhat complicated as illustrated in Figure 2, it is easily recognizable that the products of 1,200 livres on the part of the farmer and processed goods of 300 livres on the part of the artisan at the end of a period, are to be reproduced in the following period, and consequently the net total for smooth proceeding of the order of circulation is to be the totalling of the two, i.e., 1,500 livres except the interest of primitive advance. This view will be confirmed later in the *Philosophie Rurale*. (Therefore, if the said interest is added, the total will be 1,800 livres.)

However, our analysis should go further; for the net total of 1,500 livres of products and processed goods contains products and processed goods valued at 300 livres each, which are purchased by the farmer and the merchant or manufacturer respectively through the circulation within the same class. Where do they come from? If this point is left unquestioned, there will remain yet ambiguous points in the volume of simple reproduction in commodity aspect. On the other hand, if we look at the matter carefully, we will notice that it remains unknown what has become of the products of 600 livres sold by the farmer to pay the land-rent. If we could succeed in combining and making consequent these ambiguous two points, the volume of reproduction according to the order of circulation would manifest clear contents and connection in its commodity aspect. It is needless to say in this case that the clarification of these two points should be deeply related to the pursuit of the course of money as the medium of circulation.

The author has tried to clarify the order of circulation and production set forth in zigzag taking the *Explication* in the second edition as a main clue and referring to other works, but has been often perplexed by the discord existing sometimes between explanations in these writings and the constitution of zigzag as well as by contradictions and ambiguities in these explanations themselves. Nevertheless, he has endeavored to make the order clear in conformity to the explanations as far as possible; as the case stands now, it will be instructive to us to consider the meaning of zigzag before arriving at a conclusion. No doubt, the constitution of zigzag was not intended to indicate the reality as it was, but it meant nothing else than an attempt to denote the order of economic circulation modelling after Harvey's theory of circulation of the blood and to systematize and schematize the proceeding of production along this order of circulation in an idea of one production period.[12] Unquestionably, Quesnay's view must have

[12] William Harvey, *Exercitatio anatomica de motu cordis et sanguinis in Animalibus*, 1628.

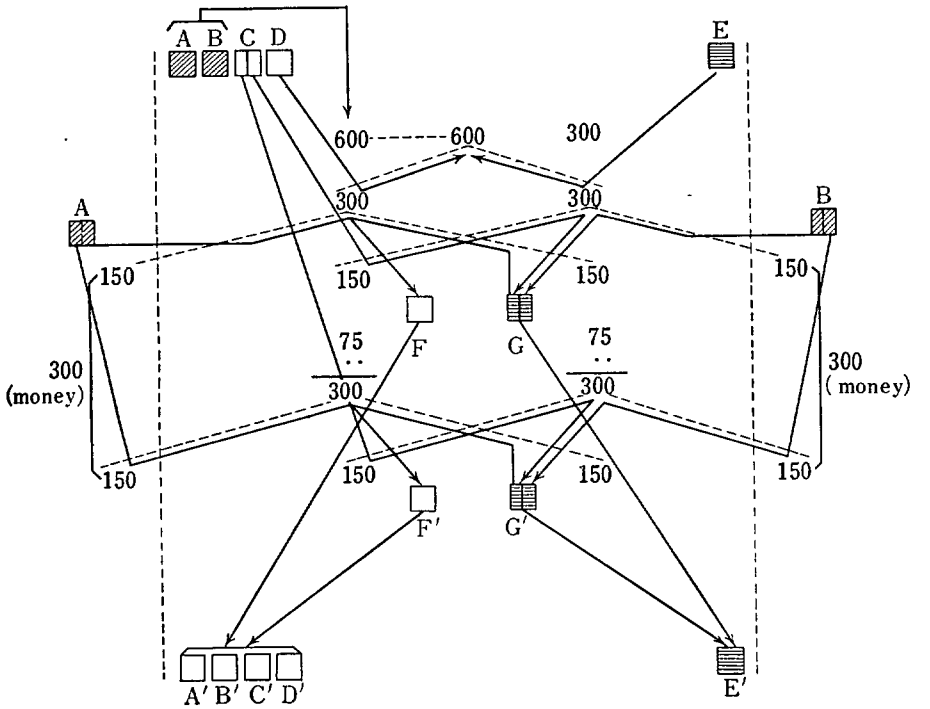
been such that a landlord's purchase of products and processed goods was not of a temporary nature at the beginning of a period but of a continuous one over one period, and the activities of a farmer and a merchant or manufacturer were shown in parallel with it; he seems to have tried, however, to schematize the landlord's purchase en bloc with the intention of symbolizing the economic function of the landlord's expenditure of revenue, and accordingly of the landlord himself. Therefore it is not likely that he considered that circulation and production in fact proceeded just as the orderly process in zigzag. Further, it will become necessary for us to give our consideration to the statement that the quantitative indication in the table denoting a gradual decrease is merely fictitious.[13]

But, on the other hand, we should not overlook the fact that even admitting it is a fiction, it has its own logic. The zigzag, in its form, indicates the order of circulation of money. The merits of Harvey's theory are said to consist in the amendment of old theory since Galenus. Harvey, holding the function of heart to be active, clarified the order of ceaseless circulation of blood which is pushed forward into the arterial-vessel by the powerful expansion and contraction of heart, and after circulating in every part of human body, returns to heart again through the vein-vessel. Furthermore, this fact is said to have been ascertained by quantitative calculation. The organ which is compared to heart in zigzag, is, as a matter of form, the landlord class. (Of course, the blood producing function is to be attached to the farmer who belongs to the productive class.) Money, like the blood, is pushed out by this organ and circulates among farmers and merchants or manufacturers; this circulation makes possible the transformation of capital, mediating in the process of its reproduction. But, according to the order of zigzag, as pointed out above, money which is copied from the blood, stays eventually in the hands of some other members of the productive and unproductive classes than the relevant farmer and artisan; in short, this figure of circulation does not give a full indication of the process of reflux in which the money returns to heart circulating through vein-vessel.

Such being the case, if the author's view is not incorrect, the transactions between the farmer and the artisan and within their classes result in transfer of all money to other persons of their classes than them. This amount of money totalling 300 livres each has the counterpart of agricultural products and manufactured goods of 300 livres each procured by the farmer and the merchant or manufacturer respectively within the same class. But here we shall not be able to evade the following question: where the genealogy of these agricultural products and manufactured goods is to be traced back in the order of circulation. On the other hand, we have already known that the sum of money which the farmer obtained by the sale of products of 600 liv. at the end of the preceding year, was spent for payment of land-rent; but it is not obvious to whom the products were sold. Therefore, if we are allowed to interpret that the products of 600 livres sold by the farmer in the previous year are equivalent to the products of 300 livres pur-

[13] Cf. (Mirabeau); *Elémens de la philosophie rurale*, La Haye, 1767, p. 45.

Figure 2 An Explanatory Figure of Zigzag



chased by him within his class in the current year plus the processed goods of 300 livres purchased by the merchant or manufacturer from other persons of his trade, this interpretation could mediate the above-mentiond two questionable points without resorting to much artifice. Though one may indeed easily understand the explanation that the products of 300 livres purchased by members of unproductive class from the farmer, being finished by them, is purchased by the merchant or manufacturer, one may feel it unnatural that the farmer buys as foodstuffs, provender and so forth, the products of 300 livres which he sold to his fellow farmers. However, it seems to us, the matter to which great importance is attached in the zigzag, is not necessarily the connection between various deeds, but the correspondence or symmetry of economic quantities; in fact, the symmetry in zigzag would not be impaired by the aforesaid interpretation.

Anyway, if the said interpretation is permissible that the farmer sold products of 600 livres to his fellow farmers and other persons of unproductive class than the relevant artisan at the end of the preceding period, we shall be able to see clearly the commodity basis of the purchase by the farmer and the merchant or manufacturer within the same classes in the current year, and to have the insight that the money falling into the hands of the farmer by his sale at the end of the preceding year is nothing but the money which was kept in the hands of

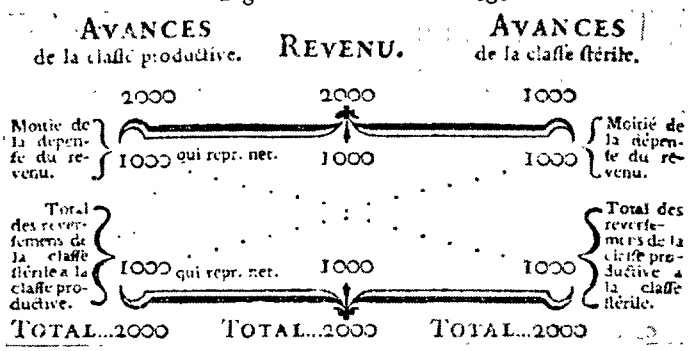
members of the productive and unproductive classes during the same year. In these circumstances, we shall be able to see the whole symmetry aimed at in zigzag exhaustively and to have a clear idea of the style and scale of simple reproduction.

Figure 2 is an explanatory figure of zigzag indicating the circulation of money (dotted lines) and that of commodity (real lines) correlatively and clarifying the circulation within the same class. A, B, C and D signify the amount of reproduction of a farmer who belongs to the productive class at the end of the preceding year, and E the compensated annual advance of a merchant or manufacturer who belongs to the unproductive class. They indicate a unit of 300 livres respectively. Among them, A and B are the amout sold for the payment of land-rent at the end of the preceding year. The preceding period is terminated with the payment of money of 600 livres as land-rent by a farmer to a landlord. Of course this money fell into the hands of the farmer through his sale of A and B to the fellow farmers and other members of unproductive class than the artisan as the other party of interclass transaction; and the current period is commenced with a landlord's expenditure of his above-mentioned revenue of land-rent. The landlord buys first of all the processed goods (E) for one half of his revenue or 300 livres from a merchant or manufacturer. Needless to say, these processed goods are finally consumed by the landlord. The merchant or manufacturer, dividing this 300 livres into half, purchases for one half or 150 livres the half of the products (C) from the farmer and for another half or 150 livres the processed goods (the half of B) from other persons of his trade; thus, he makes the processed goods (G) valued at 300 livres of these two kinds of goods. Therefore, G is the productive capital of this class and a merchandise as well. On the other hand, the farmer, too, dividing the money acquired from the landlord into half, purchases for one half or 150 livres the processed goods (the half of G) from the merchant or manufacturer and for another half or 150 livres the agricultural products (the half of A) from his fellow farmers; thus, these two kinds of goods purchased constitute his productive capital (F). About the same course is repeated under the next step, as indicated in zigzag. If in this case the money which farmer and merchant or manufacturer get from one another subsequently totals 300 livres each, the result will be summarized as is seen at the central part of the figure. And the total amount of reproducton to sum of 1,200 livres of the farmer at the end of the period, is signified by A', B', C' and D' to be produced by his productive capital F and F'. On the other hand, the annual advance of the artisan is compensated by the half of G and G' each and becomes E'; the compensated amount in this case is, of course, 300 livres. From Figure 2, we would be able to say that among the total amount of real reproduction valued at 1,500 livres in the preceding year, A and C are actually allotted to the compensation of annual advance of productive class, B is allocated to the compensation of annual advance of unproductive class and D and E substantially signify the net produce. This figure will also explain the process through which money of 300 livres remains respectively in the hands of other members of the productive and unproductive classes than the relevant farmer and artisan. The author must say here in addition that this figure was made by getting hint from the abridged tableau which he is going to treat in the next chapter.

III. *Intermediate Forms*

The fundamental idea of zigzag revealed in the first and second editions of *Tableau Economique* and treated in the preceding chapter, is modified in the *Philosophie Rurale*, 1763 and in the *Elémens de la philosophie rurale*, 1767. To investigate this modification is considered as essential for clarifying the difference between the explanatory conception of the zigzag and of the *formule* in *Analyse du Tableau Economique*. But one may feel it somewhat questionable to treat the *formule abrégée* in the *Elémens* and the *tableau abrégé* in the *Philosophie Rurale* together as intermediate forms between the zigzag and the formula in the *Analyse*, because the *Elémens* was published in 1767 and the first publication of the *Analyse* was done in the *Journal de l'agriculture, du commerce et des finances*, June, 1766.

Figure 3 Tableau Abrégé



However, the formula was not used in the *Analyse* given in the *Journal,* but first appeared in the writing inserted in the *Physiocratie* published in 1767, and moreover the publication of *Elémens* was done in March and that of the *Physiocratie* in November,[14] though both were published in the same year, 1767; therefore, we might be permitted to assume that the *Elémens* was an earlier writing than the *Analyse* in *Physiocratie.* The next problem would be that the same type of table as the formula was already used in the name of *'tableau de la distribution'* in the *'(Premier) Problème Economique'* published in the *Journal,* August, 1766. But this article, as is well known, furnishes an example of the application of the *Tableau Economique* as a tool of economic analysis, and does not indicate any development of its explanatory conception. For this reason, it would be permissible to leave it unquestioned here. One might further suspect that the abridged formula and the formula have the same form; with regard to this problem, it will be undeniable that the idea of the former was conceived earlier than that of the latter, as will be pointed out later. The fact that both *Philoposhie Rurale* and *Elémens* insert zigzag, while they give explanation by means of abridged tableau or abridged formula (the *Analyse* includes no zigzag), would endorse, to some extent, an intermediate character of the ideas developed in these writings. At any rate, the author found the explanation in *Philosophie Rurale* so contradictory and unclear as compared with other writings that it was very difficult for him to understand it. He did the best he could in studying it in connection with the *Elémens* to get the following result. (*Elémens* was used merely as a subsidiary datum.)

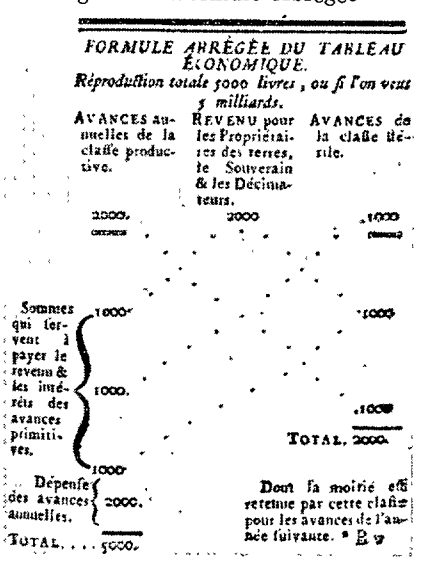
The edition of three volumes of the *Philosophie Rurale* published in Amsterdam in 1764, which the author could utilize, contains not only zigzag at the end of each volume, but also twenty-seven abridged tableaux in the text. Though these abridged tableaux are all inserted for the purpose of explanation and must be considered as abridged or outlined forms of zigzag or its parts in their constitution, we should pay attention also to the fact that they bring forth a character different from zigzag (cf. Figure 3) as we can not imagine any circulation within

[14] G. Weulersse, *op. cit.,* pp. 126, 128.

the class from the tableau only. In zigzag this was merely suggested instead of being plainly indicated. It is entirely omitted in these tableaux. Therefore, we must not hastily and carelessly apply the interpretation of zigzag when interpreting the abridged tableau. Thus, the abridged tableau has commenced to change in its character from the indication of circulation between a landlord, a farmer and a merchant or manufacturer, each representing the class, to the indication en bloc of circulation between these classes. Accordingly, it can be said to represent a transitional stage from the denotation of the process of reproduction of the individual capital to that of the aggregate social capital. However, there is no doubt that the abridged tableau in *Philosophie Rurale* is still intended to outline the zigzag, and there reappears the symmetry of zigzag not only in the form of the expenditure divided in half of the landlord's revnue, but also in the form of the mutual payment of money expended by the landlord, between the productive and unproductive classes. The thing which draws our attention here is that whatever the intention may be, the result conceives an undeniable possibility of transition.

On the other hand, the *Elémens* inculdes an abridged formula as well as the zigzag, The thing which attracts our attention in this abridged formula is that the symmetry is expressed in the form of mutual expenditure of annual advances of both productive and unproductive classes, as well as in the form of expenditure divided in half of the landlord's revenue. Furthermore, in the abridged formula, a clear indication is given to the expenditure for the compensation of annual advance of the unproductive class which was not denoted both in zigzag and abridged tableau (cf. Figure 4). In this way, we can see an important change in form even between the abridged tableau and abridged formula. (It might be pointed out that the difference in framework between the zigzag and the formula is revealed concentrated in the difference in form between the abridged tableau and the abridged formula, which has a deep relation to the transition of explanatory conception.) However, even in the *Elémens*, there are certainly found the same explanations as offered in zigzag, but we must ascertain not merely the distance of these two aforesaid tables and the explanations of them from the cases of zigzag and formula, but also the correlation and difference between the two, in making researches in these two tables which are worth paying attention as the intermediate forms between the zigzag and the formula.

Figure 4 Formule Abrégée



One of the features seen posterior to *Philosopie Rurale* is that the revenue of 600 livres (1,050 livres to add the tithe and other taxes) in the second edition of *Tableau* is about doubled, that is, increased to 2,000 livres (2,000,000,000 livres to total the revenue of 1,000,000 families of landlord). If a unit of wealth previously was 300 livres, equivalent to the half of revenue, the total amount of reproduction, including the interest on primitive advance, was 1,500 livres or five units. In this case, one unit is 1,000 livres, and so the said total amount of five units is to be 5,000 livres. The *Observations* in the *Philosophie Rurale* reads as follows:[15] *'la classe productive dépense toutes ses avances de 2000 liv., lesquelles lui sont restituées en entier par la reproduction, & de plus 1000 liv. pour ses intérêts, & elle paie 2000 de revenu....'* The total of these items represents the total amount of reproduction of 5,000 livres. According to the principle of physiocracy, the productive consumption is fundamentally limited only to that of the advance of 2,000 livres of the productive class, and its expenditure is not only to recover itself but to produce net produce (revenue)of 100% and the interest at 10% on primitive advance. But these circumstances are sometimes described as follows: *'...par la dépense de ces 5000 liv. (de la reproduction totale) qui reviennent en totalité à la classe productive, renaissent 5000 liv. par l'emploi productif des avances mêmes de cette classe.'* Therefore, we find the explanation that the expenditure of the total amount of reproduction of 5,000 livres will bring about the same amount of annual reproduction.

Furthermore we can see such explanation as follows: there are three kinds of wealth to be expended every year, namely, the wealth of annual advance of the productive class valued at 2,000 livres, the wealth of net produce or revenue valued at 2,000 livres and the wealth of annual advance of the unproductive class valued at 1,000 livres; the total of these wealths of 5,000 livres represents the contents of annual consumption and its expenditure reproduces the wealths of the same value. Discerning readers will see that the foregoing explanation is about the same as the conception to be drawn from Figure 2 mentioned before. However, the point which perplexes the readers is that the annual advance of 2,000 livres of productive class or the recovery of this annual productive expenditure and the revenue of the same amount or the net produce which is its commodity basis, are both out of question, as the component parts of total reproduction of 5,000 livres, but the remainder of 1,000 livres is made the interest on primitive advance or its amortization at one place and is made the compensated advance of unproductive class at the other place. According to the foregoing researches in zigzag, the total amount of reproduction was 1,500 livres (5,000 livres according to the number of *Philosophie*) having the compensated annual advance of productive class, the net produce and the compensated annual advance of unproductive class as its component parts, and was 1,800 livres including the interest on primitive advance. This problem constitute a riddle which can not be solved by the

[15] (Mirabeau): *Philosophie Rurale, ou économie générale et politique de l'agriculture,* tome 1, Amsterdam, 1764, pp. 124—5, 329.

description of Quesnay and Mirabeau in the *Philosophie*. How shall we solve this on our part? In order to proceed to the solution, we would like to follow up the route of circulation depicted there.

According to the abridged tableau of *Philosophie* and the abridged formula of *Elémens*, the current year begins with the expenditure of revenue of 2,000 livres by the landlord class. The point which attracts our attention in the *Elémens* is the definition of the advance of 2,000 livres of productive class shown at the top of the left column in the table, reading '*...la somme des avances de la classe productive, qui ont été dépensées l'année précédente pour faire renaître la récolte actuelle.*' Moreover, the underline drawn below this sum is clearly indicated as the line which serves to distinguish the sum from the total amount of money which the productive class is to receive in the current year. These matters which were clearly defined in the case of zigzag, are repeated here. But after the abridged tableau of *Philosophie* and the abridged formula of *Elémens*, the dotted line connecting the annual advance of productive class and the revenue in zigzag are cut off.

At any rate, it will be natural that the expenditure of revenue of 2,000 livres is to be interpreted as the monetary one. The amount of this expenditure, being divided into half, is spent for the purchase of products and manufactured goods from the productive and unproductive classes. Thus, money in the amount of 1,000 livres falls into the hands of the two classes each in the same way as in the original zigzag, but the mutual transaction between the two classes is indicated en bloc, abstracting the circulation within the same class. Therefore, with regard to the money of 2,000 livres to be expended by the landlord, it seems rather to be difficult to form the interpretation that a member of the productive class received this money by the sale of two units of his products to other members of his class and members of the unproductive class and paid it to the landlord as land-rent at the end of the preceding year, as is the case with zigzag. It must rather be so understood that the productive class secured reproduction of 5,000 livres at the end of a production period, and simultaneously collected money in the amount of 2,000 livres and paid the money as land-rent to the landlord. Therefore, since the *Philosophie*, the annual advance of productive class, without being transformed into money, is appropriated as in kind, and this feature indicates a remarkable transition of explanatory conception of *Tableau*.

Nextly, with respect to the mutual transaction between the productive and unproductive classes, 1,000 livres to be paid by the unproductive class to the productive class in the right column in the abridged tableau, is the amount which is '*employé pour la subsistance de ses agents (des agents de la classe stérile)*', i.e., the amount to be spent in purchasing foodstuffs and others from the productive class. On the other hand, 1,000 livres to be expended by the productive class to the unproductive class in the left column, needless to say, denotes the amount to be spent in the purchase of processed goods from the unproductive class; and what calls our attention in this case is the description that this amount for the

purchase of processed goods is equivalent to the interest at 10% on primitve advance. This amount is *'la réserve qui est déstinée à la réparation des avances primitives, au dédommagement des accidents auxquels les récoltes sont exposées, &c.'*

In the case of zigzag, as we have seen before, the processed goods to be purchased by the productive class from the unproductive one forms a component part of its productive capital together with the products to be purchased within the same class. However, in the writings subsequent to *Philosophie*, the annual advance of productive class does not indicate such composition. Instead, whereas the amortization of primitive advance was only taken into consideration and was not included in the calculation in zigzag, the processed goods to be purchased by the productive class is put into the calculation as interest on primitive advance after the *Philosophie*.

In this way, of the total amount of reproduction of 5,000 livres in the previous production period, one unit of 1,000 livres is transferred to the landlord class and another one of 1,000 livres to the unproductive class, except two units of 2,000 livres to be consumed in kind by the productive class as annual advance. The unit transferred to the landlord class is finally consumed by them; and the other one transferred to the unproductive class can be understood to be transformed into processed goods of 1,000 livres which this class sells to the productive class. The aforesaid *Observations* reads, *'les matières premières des ourvages que l'on (la classe productive) paie à la classe stérile, ne sont que des rachats des mêmes productions que la classe productive lui a vendues'*; this means that *'...la classe stérile, dont la dépense annuelle à la classe productive fait naître les intérêts du capital des avances primitives du cultivateur'*, and it is also expressed as reading *'...ce sont les achats, payés par les 1000 liv. d'avances stériles (de la classe stérile) à la classe productive, qui font renaître à cette classe les intérêts des avances du cultivateur.'* The expenditure of the unproductive class in this case, is of course for the purchase of foodstuffs and other essentials; but if it is explained as being the pruchase of raw materials which are to make up the advance, it would be indicated how the expenditure for the amortization of primitive advance on the part of the productive class is made possible by the expenditure for the compensation of annual advance on the part of the unproductive class, and thus we could perceive an idea to explain the expenditure for making up the capital of both classes correlatively and symmetrically. The contents of circulation in the abridged tableau, only signifying the foregoing circumstances, are summed up by the total of 2,000 livres each to be received by the productive and unproductive classes. For this reason, money of 1,000 livres each is kept in the hands of both classes (cf. Figure 3).

To be sure, this would mean a sufficient preparation for reproduction on the part of the productive class; it has the advance of 2,000 livres and the interest on primitive advance of 1,000 livres, thus making it possible to procure reproduction of 5,000 livres. Besides, this class has a surplus of one unit of products which is not yet decided of its use among five units of production of the preceding year. The subject for consideration will be that they keep only half of the amount of

money they must pay to the landlord class as land-rent at the end of the year. On the other hand, the preparation for reproduction remains unsatisfactory on the part of the unproductive class; for, in this class, the compensation of the advance has not been completed as yet. Therefore, it is necessary that the money of 1,000 livres kept in the hands of unproductive class, is appropriated for the purchase of the last unit of products in the hands of productive class, which is to compensate the advance of unproductive class, before the production period is completed. But this process seems to have been omitted in the abridged tabeau which attempted to regain the symmetry of zigzag.

Such being the case, the contents of consumption of the total amount of production of 5,000 livres would be as follows: (1) two untis of 2,000 livres to be appropriated for the advance of productive class, (2) one unit of 1,000 livres to be finally consumed by landlord class as foodstuffs and others, (3) one unit of 1,000 livres being first used for the livelihood of unproductive class, then transformed into processed goods to be bought back by productive class and to amortize the primitive advance as interest, and (4) one unit of 1,000 livres to compensate the advance of unproductive class. Accordingly, if the aforementioned interpretation in the case of zigzag to the effect that the advance of unproductive class is an outcome of the preceding production period and is sold to landlord class as manufactured goods at the beginning of circulation in the current period, could be applied also to this case, we can get the view that the foregoing items (2) and (4) compose the net produce in commodity aspect (cf. the explanation of Figure 2). Thus the total amount of reproduction of 5,000 livres will be appropriated for the advance of 2,000 livres of productive class, for the net produce or the revenue of 2,000 livres and for the interest of 1,000 livres on primitive advance of productive class. It is double accounting to calculate the advance of unproductive class as an independent item, for it can be regarded as being included in the net produce.

Nevertheless, in the *'Précis des résultats de la distribution'* mentioned in the *Philosophie Rural*, Vol. 1, the contents of the total amount of wealth in the *Tableau* are enumerated as follows: (1) the total amount of reproduction of 5,000 livres, (2) *l'argent du revenue*, i.e., the monetary revenue of 2,000 livres, and (3) the advance of unproductive class of 1,000 livres kept always by the workers of this class, thus totalling 8,000 livres. And we can find an explanation for such a method of totalling, which is as follows: *'ainsi la masse des richesses qui circulent entre les deux classes, est de 8000 l., savoir, 5000 liv. de productions que la classe productive a fait naître; 2000 liv. de richesses pécuniaires qui ont payé le revenu, & qui rentrent constamment dans la circulation pour les ventes & les achats des 5000 liv. de productions; & 1000 liv. d'avances qui sont fournies par la classe stérile, & qui lui sont rendues par la circulation des 2000 liv. de richesses pécuniaires.'*[16]

This totalling and its explanation seem to be in discord with the explanation quoted before and our calculation, too. According to the previously quoted

[16] An explanation of the same kind is found in the *Elémens* too. Cf. *Elémens*, p. 51.

explanation and our calculation, the advance of unproductive class is to be included in the total amount of production of 5,000 livres, though not as an independent item; but it is counted separately in this case, not being included in the total amount of production. However, the same *Précis*, also describing that *'la reproduction totale est égale à toutes les sommes qui se réunissent & se dépensent à la classe productive'*, calculates as follows: the advance of productive class... 2000; *la portion du revenu qui passe immédiatement à la class productive,* i.e., in commodity aspect, the portion of reproduction purchased by landlord class from productive class as foodstuffs and others...1000; *total des reversements de la classe stérile à la classe productive,* i.e., the portion purchased by unproductive class from productive one as foodstuffs and others...1000; *les avances de la classe stérile employées pour les achats des matières premières à la classe productive,* i.e., the portion bought by unproductive class from productive one for making up the advance... 1000; total...5000. The contents of this calculation are quite clear and coincides perfectly with our account. Then, what does the advance of 1,000 livres mean, which is not included in this total of 5,000 livres and is said, as above mentioned, to be always kept by the workers of unproductive class, or to be supplied by the same class and returned to them through the circulation of money of 2,000 livres? This advance is sometimes defined as reading, *'...elles (ces avances) sont rendues annuellement à cette classe (stérile) par la distribution même des dépenses annuelles du revenu'*, or *'c'est un fond que cette classe (stérile) remplace continuellement; elle ne fait, pour ainsi dire, que se la prêter & se la repayer annuellement à elle-même, en le reprenant chaque année sur les 2000 liv. qu'elle reçoit.'*

From the foregoing explanation, the annual advance of unproductive class treated in this case, can not but mean that the advance in the hands of the same class at the beginning of a period, falls into the hands of landlord class as commodity with the commencement of circulation as in the case of zigzag, but this lost capital is returned to the unproductive class in the form of money which the same class receives by the sale; in other words, it indicates how the commodity-capital is transformed into money-capital. Therefore, the aforesaid advance of 1,000 livres, counted separately from the total amount of production of 5,000 livres, leaves no room for other interpretation but that it constitutes an advance in monetary form. Accordingly, it seems to be double accounting to include it in the total amount of reproduction.

Surely this is double accounting according to the net calculation in physiocratic way. But when we consider the order of circulation, we are forced to presuppose the existence of compensated advance on the part of unproductive class at the beginning, in addition to the total amount of reproduction on the part of productive class. This is same as the case of zigzag. The starting point of circulation in the abridged tableau is, as before, the expenditure of monetary revenue of 2,000 livers by the landlords; for this expenditure, the third unit of products, except the first two units as advance among the production of the preceding year, is transferred from productive class to landlord class and one unit of compensated

advance is transferred from unproductive class to landlord one as commodity. Further, the unproductive class obtains the fourth unit of products as foodstuffs and others from productive one by means of the money of 1,000 livres received, and in contrast to this, the productive class buys one unit of processed goods from unproductive one by means of the money of 1,000 livres received. This is the portion to be appropriated for the interest on primitive advance (sometimes on annual advance) of this class. Although the mutual transaction between the two classes in the abridged tableau denotes only these contents, it is required for the sake of completion of production that the unproductive class buys the fifth unit of products from the productive one as raw materials by means of the money of 1,000 livres received and makes up its annual advance with it. By fulfillment of this requisite, the productive class will be able to get the money of 2,000 livres to pay to the landlords as land-rent, while securing five units of reproduction valued at 5,000 livres by two units of annual advance, and the unproductive class will be in a position to complete the compensation of its annual advance. It goes without saying that a production period is ended with the payment of land-rent in money by the productive class. For this reason, it should be noted that the existence of the compensated annual advance on the part of unproductive class must be presupposed at the beginning of a production period in addition to the total amount of reproduction of 5,000 livres on the part of productive class, notwithstanding the said compensated advance is to be included in the total amount of reproduction, though not as an independent item, according to Quesnay's net calculation. The above-mentioned advance of 1000 livres not included in the total amount of reproduction of 5,000 livres, supplied (to the customers) by the unproductive class and returned to the same class through the circulation of money of 2,000 livres, would be nothing but this compensated advance. It is transformed, instantly, on sale to the landlord, into money. Therefore, the author's calculation to sum up the total amount of reproduction (except the interest on primitive advance) at the end of a production period, to five units in the case of zigzag, seems to become confirmed by the explanation in the *Précis* which sums up the total amount of wealth including two units of money to eight units. But we should give heed to the fact that, in the *Précis* too, the compensated advance of unproductive class to be presupposed at the beginning of a production period, is not included in the amount of reprouduction, but contained in the total amount of wealth.[17]

We have seen above the explanation as to how the expenditure for the purchase

[17] Hard effort made by Quesnay and Mirabeau for the explanation of these circumstances will be recognized by the following descriptions reading: *'nous ne comptons pas non-plus les dépenses de rachat des matières premières des avances de la classe stérile (comme un article de la consommation annuelle de productions de 5000 liv.) qui avec les 5000 liv. dont nous venons de parler, font paraître dans le tableau 6000 liv. de dépenses; c'est en effet au moyen de l'argent circulent, 6000 liv. de dépenses, mais non pas 6000 liv. de consommation; ...Ainsi les avances de la classe stérile présentent une double dépense; celle des matières qui s'y consomment annuellement, & celles (de l'argent) du rachat de pareilles matières qui le replacent.' Philosophie Rurale,* tome 1, p. 351.

of living materials on the part of unproductive class makes possible the procuration of the interest on primitive (and sometimes annual) advance on the part of productive class. Nevertheless, we find some explanations to the effect that the said expenditure is for the purchase of raw materials with a veiw to make up the annual advance of unproductive class, not for the purchase of living materials. An example is found at the beginning of § IV, chapter VII of *Philosophie* reading, '*...ces avances (de la classe stérile) ne renaissent point de leur dépense qui se fait à la classe stérile (qui en fournit le fond primitif), et...elles sont rendues annuellement à cette classe par le distribution même des dépenses annuelles de revenu. Cependent ce fond n'est pas anéanti par sa dépense'. il passe annuellement à la classe productive pour les achats des matières premières qui se tirent de cette class...la dépense de ce fond portée à la classe productive n'y est pas stérile; car c'est de ce fond de dépense même que naissent annuellement les intérêts des avances de la classe productive.*'

Are we not coming across with a serious inconsistency now in the foregoing explanations? According to the explanation we have hitherto followed, the advance of the unproductive class is transformed from commodity form into monetary form by means of the landlords' purchase from the former class, and this transformation makes it possible for the same class to buy foodstuffs and others from the productive class and consequently makes it feasible for the productive class to buy from the unproductive one manufactured goods as the interest on primitive advance. But now here, the expenditure on the part of unproductive class for the purchase of raw materials from the productive class with a view to make up its advance, is explained as enabling the productive class to secure the interest on its advance. Seeing from the commodity aspect, the raw materials or its manufactures obtained by the unproductive class signifying the compensation of its advnace, does not fall into the hands of the landlord class as commodity at the beginning of the following period, but into the hands of the productive class in the mutual transaction between the productive and unproductive classes and is approriated for the amortization of the former's advance. Accordingly, the manufactured goods to be obtained by the landlord class at the beginning of the following period can not but mean the transformation of the products in the form of foodstuffs and the like to be bought by the unproductive class from the productive one. Though this presents an unnatural course as the turn of circulation, it will bring about approximately the same result as in the foregoing case, in commodity aspect.

An important point here is the accentuation on the circumstances in which the compensation of advance on the part of unproductive class makes possible the secure of the interest on primitive (and annual) advance on the part of productive class, accordingly the amortization of its advance, in defiance of the change of the turn of circulation. Here the intent of this is to denote the compensation of capital in both classes correlatively and in contrast. This idea is clearer in the *Elémens*. It defines the said mutual transaction between the two classes as follows: '*...les achats que la classe productive fait à la classe stérile (pour satisfaire*

aux intérêts des avanecs), sont balancés par les achats que la classe stérile fait pour renouvellement de ses avances à la classe productive, & qui égalent ordinairement la valeur des intérêts des avances primitives de celle-ci.'[18]

Is it not possible to conseive that the difference in form between the abridged tableau of *Philosophie* and the abridged formula of *Elémens* is originated here? That is to say, the former represents the symmetry of zigzag again in the form of mutual payment of the amount of money which each of the productive and unproductive classes received in equal sum from the landlord class, as seen in the *Précis* of *Philosophie*; but in the latter and the subsequent formula, symmetry is expressed not only in the expenditure divided into half of the landlords' revenue, but in the expenditure of the advances of both classes, viz., the purchase on the part of unproductive class of raw materials for the compensation of its advance from productive class on one side, and the purchase on the part of productive class of processed goods for the obtaining of the interest on primitive advance from unproductive class on the other (cf. Figure 4). The author's view is that such a notable change in form came not only from the intent to supplement the shortage of indication in zigzag and abridged tableau, but concurrently from the transition of explanatory idea, and this transition appears in *Philosophie* primarily as an inconsistency in the explanation.

In fact, the compensation of annual advance of the unproductive class is wanting in indication and the return of money to the productive class is not completed both in zigzag and abridged tableau. Further, as regards the former in particular, the amortization of primitive advance, being merely referred to, is not included into account. These shortcomings are removed from the abridged formula. But, on the other hand, are the other shortcomings not found in this table? First of all, it seems to be meaningless from physicoratic point of view to denote the compensation of capital in the productive and unproductive classes correlatively and in contrast, for the reason why, from this view-point, the qualification as the real productive expenditure is given only to the annual advance of productive class, and even if it is ventured to denote correlatively and in contrast the expenditure for the compensation of annual advance of unproductive class and that for the amortization of primitive advance of productive class, it will have merely an indirect relation to the yielding of net produce. Moreover, after the *Philosophie*, not only the interest on primitive advance, but sometimes the interest on annual advance of the productive class is taken into consideration; in this case as well, the interests on the two different kinds of capital are calculated in gross at 10% on the annual and primitive advances, without any analysis of the relation between the two interests. Therefore, it is illogical to indicate the expenditure for the amortization of primitive advance by the oblique line drawn from the annual advance. Further, according to the explanation in *Elémens*, the annual advance of productive class denoted at the top of the table, represents, as before, the amount expended in the preceding year for the purpose of yielding

[18] (Mirabeau), *Elémens*, pp. 49–50.

net produce or revenue of the current year, and is, in this sense, separated from the receipts of the same class in the current year by the underlining below; such being the case, this form of denotation is deemed to be more and more unnatural. But the fatal point is that the annual advance of productive class, which is to be applied as in kind without any transformation after the *Philosophie*, takes the form of monetary expenditure for the compensation of primitive advance in the abridged formula.

However, it is worth while to pay attention to the fact that this abridged formula afforded an opportunity to change the form of representation after the *Elémens* to a considerable extent. The zigzag was intended originally to denote the process of reproduction of individual capital, or strictly speaking, of social aggregate capital on social average, and accordingly the order of circulation is developed in the table among a landlord, a farmer and a merchant or manufacturer representing respective class; but in the abridged tableau in *Philosophie*, the circulation within the same class which was suggested in zigzag, being wholly effaced from the table, the object of denotation is shifting towards the circulation in the lump between classes. Nevertheless, the number used in it, indicates yet the volume of individual capital as it was in the case of zigzag (revenue of 2,000 livres). On the other hand, while we find, in the abridged formula, a remarkable change in the form of representation, it is expressly stated in *Elémens* that the total amount of reproduction could be supposed to be 5,000 liv., 5 millions or 5 milliards, according to the scale of economic life which is the object of our research, and consequently the amount of revenue could also be assumed to be 2,000 liv. or 2 milliards, provided the former number is utilized for the sake of simplification.[19] We could see here too, as regards the number to be utilized, a clear hint to move towards depiction of the process of reproduction of the aggregate social capital.

The foregoing consideration is intended to follow up to see how the zigzag ran the course of change to the abridged tableau in *Philosophie* and how the abridged tableau to the abridged formula in *Elémens* as well. The author's research is not yet complete enough, because he could not fully make use of inedited manuscripts of Quesnay and Mirabeau, especially *Papiers de Mirabeau* in the possession of the *Archives de France*.[20] However, as a resulf of his research, though provisional it may be, he can not help repeating the aforesaid observation that the difference in constitution between the zigzag and the formula is, in some respects, revealed concentrated in the difference between the abridged tableau and the abridged formula, both of which play interesting roles as mediators between the two authorized tables.

[19] (Mirabeau), *op., cit.*, pp. 45, 48.

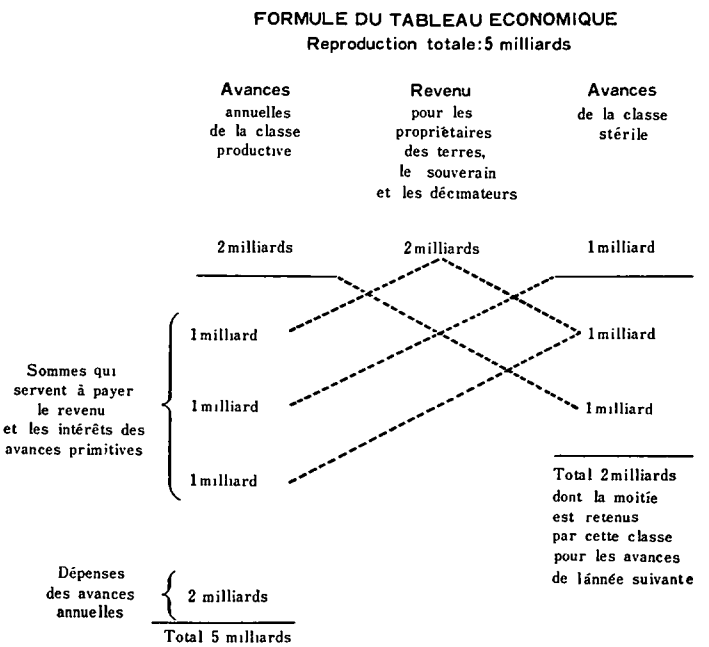
[20] Recently the author was able to obtain a copy of the relevant manuscripts through the kind offices of the *Archives de France*, but had no chance to review it before writing this paper.

IV. *'Formule' or Formula*

In 1766, Quesnay published an article entitled *'Analyse du Tableau Economique'* in the aforesaid magazine, which explained his *Tableau Economique.* It was because of the unfavorable reputation with respect to the explanations done by Mirabeau in a few explanatory writings before. This article was reproduced in the *Physiocratie* in 1767, where Quesnay used for the purpose of explanation a 'formule' or formula very similar to the abridged formula in *Elémens* (Figure 5). (Though applied forms of this formula had already been used in (*Premier*) *Problème Economique* published in 1766 and *Second Problème Economique* published in 1767.) Therefore, as far as form is concerned, it is almost impossible to distinguish this formula from the abridged formula, but it should be pointed out that there is some noteworthy difference between the explanations developed in *Elémens* and *Analyse* respectively. In fact, the only difference in form between the two tables is that the total amount of reproduction at the top of the table is specified as 5 milliards in the formula; but as a result of this slight difference, we can appreciate the decided intention of formula to depict the circulation between classes en bloc and accordingly the process of reproduction of the aggregate social capital. (Compare Fig. 4 and 5.)

According to the explanation in *Analyse* (see *'Résumé'*), there is indicated

Figure 5 'Formule' or Formula



at the top of the left column the annual advance of two milliards of productive class expended in the preceding year for the purpose of securing harvest, and below this sum, there is a line which separates it from the receipts of the same class in the current year. This explanation is the same as in the case of the abridged formula, and in so far as the same explanation is given, we can not but comprehend the character of the advance in the same way as in the case of the abridged formula. But this is not the case with the annual advance of unproductive class. To be sure, there is no difference between the abridged formula and the formula (except the number utilized) in the particulars that the total amount of reproduction of five milliards is yielded by means of the annual advance of two milliards of productive class, while the money of two milliards flows back to the same class, and a production period comes to an end with the payment of this money to the landlord class as land-rent. Similarly the landlord class divides the received money into half, using one half to purchase one unit of products valued at one milliard from the productive class and using the other half to purchase one unit of processed goods valued at one milliard from the unproductive class. Thus the order of circulation begins with this expenditure on the part of the landlord class. But the purchase from the unproductive class does not take the same form as before, viz., the compensated advance of the unproductive class as manufactured goods are not transferred in kind to the landlord class; for the annual advance of the unproductive class is not commodity in this case but money. (Indeed, a sign of the idea to lay emphasis on the monetary form of advance could be seen already in *Philosophie* as a sort of inconsistency of explanation of the abridged tableau.) This monetary advance of one milliard on the part of the unproductive class goes into the hands of the productive class as an expenditure to purchase raw materials. As a result, the second unit of products valued at one milliard which is in the hands of the productive class is transferred as raw materials to the unproductive class. Therefore, the object of the transaction between the landlord and unproductive classes, is nothing but the manufactured form of the raw materials which fall into the hands of the unproductive class. According to the description in *Analyse*, the unproductive class does not seem to possess anything but the advance in monetary form at the beginning of a period. Of course, this would make the turn of circulation somewhat unnatural.

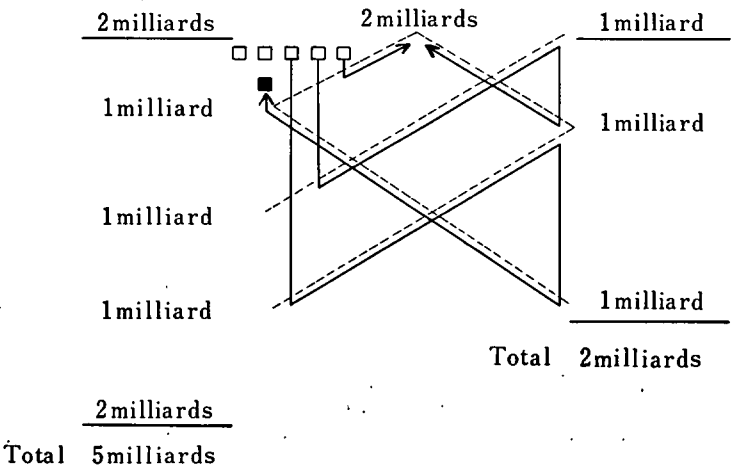
Thus the unproductive class is in the possession of money in the amount of one milliard received from the landlord class, which is spent in the purchase of the third unit of products valued at one milliard from the productive class as foodstuffs and the like for the livelihood of the workers of the unproductive class. In this way, the total amount of reproduction of five milliards of the preceding period in the hands of productive class, except two units of two milliards to be consumed as the advance of this class, is all transferred to other classes. As the result of the aforesaid transaction, the productive class will be in possession of money in the amount of three milliards; *'de ces trois milliards reçus par la classe productive pour trois milliards de productions qu'elle a vendues, elle en doit deux*

milliards aux propriétaires pour l'année courante du revenu, et elle en dépense un milliard en achats d'ouvrages pris à la classe stérile'; in other words, *'...les trois milliards que la classe productive a reçus pour les ventes qu'elle a faites aux propriétaires du revenu et à la classe stérile, sont employés par la classe productive au payement du revenu d l'année courante de deux milliards, et en achats d'un milliard d'ouvrages qu'elle paye à la classe stérile.'* These manufactured goods, in commodity aspect, should be regarded as the transformation of the third unit of products which the unproductive class purchased as foodstuffs and others from the productive class, and it is appropriated for the amortization of primitive (and annual) advance of productive class as its interest in the same way as explained above.

On the other hand, what shall become of the money of one milliard which falls into the hands of the unproductive class in the foregoing way? The unproductive class *'retient cette somme pour le remplacement de ses avances, qui ont été dépensées d'abord à la classe productive en achats des matières premières qu'elle a employées dans ses ouvrages.'* In other words, *'ce milliard est réservé pour le remplacement de ses avance qui, l'année suivante, seront employées de nouveau à la classe productive en achats de matières premières pour les ouvrage que la classe stérile fabrique.'* It is obvious here that what remains in the hands of unproductive class at the end of a production period is not commodity but money. It goes without saying that the total amount of reproduction of five milliards is yielded by means of annual advance of two milliards in possession of the productive class. The current period of production is ended with the obtaining of this amount of reproduction and the payment of land-rent to the landlord class.

Figure 6 will furnish a diagram of the order of circulation described previously. (Dotted lines indicate the circulation of money and real lines the circulation of commodity.) This figure is not the same as the formula. (Compare Fig. 5 and 6.) In fact, a figure which will denote the order of circulation in accordance

Figure 6. Order of Circulation in the 'Formule'



with Quesnay's explanation in *Analyse*, will naturally be different from the formula. It looks in the case of formula as in that of abridged formula, as if the annual advances of productive and unproductive classes are located in correlative position and the compensation of capital of both classes as well as the expenditure divided into half of the landlord class are expressed symmetrically. But, in actuality, the formula takes over only the form of the abridged formula, and there is no such idea as to consider the compensation of capital of both classes correlatively and in contrast. For this reason, it is of no significance in this case to borrow only the form of the abridged formula. Moreover, we can find such difficulties in the formula as aforementioned in the abridged formula. In the first place, the annual advance of the productive class in the formula must be such as consumed in kind, and so its expenditure can not take such monetary form as indicated in it. In the second place, the annual advance of the same class in the table represents the amount expended in the preceding year, according to the *Résumé*. If that is the case, the oblique line drawn from this advance, signifying its expenditure in the current year, would be meaningless. Thirdly, the formula was designed to indicate the purchase of processed goods from the unproductive class for the purpose of making up primitive advance by the oblique line drawn from the annual advance of the same class. In this respect, it substitutes the monetary expenditure for the purpose of amortization of primitive advance for the expenditure in kind of annual advance. Thus, while the oblique line drawn from the annual advance of unproductive class is quite significant, because this annual advance is expended in money for the purchase of raw materials from productive class with a view to make up itself, the oblique line drawn from the annual advance of productive class, shown in contrast with the former, is not at all in accord with the explanation in the *Analyse*. Before the abridged formula, emphasis was placed on the explanation that the compensation of the advance of unproductive class makes possible the amortization of primitive (and annual) advance of productive class, and the idea of embossing the making up of capital of both classes correlatively and in contrast was transparent. Therefore, the form of abridged formula could be said to have still significance.

We now turn our attention to another point, that in the formula the amount of circulating money is raised to three milliards, which is a sum equivalent to 150% of the revenue. This means that at the end of a period, the productive class is in possession of the total amount of reproduction of five milliards yielded by means of annual advance of two milliards and primitive advance of ten milliards (five times the annual advance) and, in addition, money in the amount of two millards to be paid to the landlord class as land-rent. On the other hand, the unproductive class retains money of one milliard as annual advance. Though, even in *Philosophie*, there are some parts which are open to doubt as to whether the annual advance of the unproductive class at the end of a period is commodity, as in zigzag, or money, the qualification of advance as money becomes decisive in formula. According to the principle of physiocracy, the quantity of money

in a state should be correspondent to the quanity of net produce. Though it is naturally admitted that the velocity of circulation of money complements its quantity, the quantity of money has been decided to be equal in value to the revenue, namely net produce, since the zigzag. That is the case also with the abridged formula in this respect.[21] Therefore, the change which the formula shows us in this respect, can be said to be notable.

As already stated, Figure 6 is a diagram revising the order of circulation in formula in accordance with the explanation in *Analyse*; it is almost identical with the explanatory figure, i.e., the revised formula drawn by Dr. Sambe. Though the author's explanation regarding the turn of circulation may not always be the same as Sambe's, the turn itself is considered to have little importance. Sambe has stated that this table (modified by him) is made precisely in accordance with Quesnay's explanation. Hence, it is his opinion that in so far as Quesnay's explantion is correct, this table should not be amended.[22] This statement is indicative of his great confidence in his revised formula and the author agrees with him in this respect.

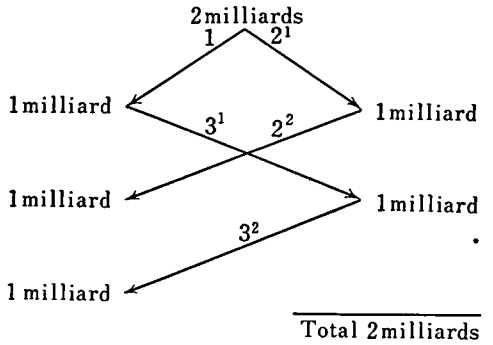
Besides Sambe's, we are to mention the explanatory figure or revised formula of Stephan Bauer, who is famous as the discoverer of the manuscripts of the first edition of *Tableau Oeconomique* and of proofs of its second edition (see Figure 7). According to his explanation, the process of circulation begins by the landlord class obtaining two milliards in money as revenue from last year's reproduction, and (1) upon receipt the landlord class purchases agricultural products valued at one milliard from the productive class. Thus one milliard in money is circulated towards the productive class. (2) The landlord class spends its remaining milliard of money in buying manufactured articles from unproductive class, the latter thus receiving one milliard in money. The unproductive class spends the same amount of money to buy provisions for its agents from the productive class, which thus receives a second milliard in money. (3) The productive class buys one milliard worth of tools and manufactured articles from the unproductive class; the same amount of money flows back by the purchase of raw materials, which the unproductive class obtains from the productive class.[23] Bauer's explanatory figure certainly resembles to the abridged tableau, and its purpose is considered to append the compensation of the annual advance of the unproductive class which is not indicated in the abridged tableau. At any rate, its resemblance to the abridged tableau would perphas lead one to believe that its purpose is to revive the symmetry of zigzag in formula. But what we should give heed to concerning this figure is that the advance of unproductive class is assumed not to be money but commodity, and also the amount of circulating money to be two milliards instead of three. The line 3^2 in this figure, which is drawn in

[21] Cf. (Mirabeau), *op. cit.*, p. 51.

[22] Kinzo Sambe, An explanation of Tableau Economique (in Japanese), K. Horie et al., *Studies of Economic Theories*, Tokyo, 1924, p. 347.

[23] Bauer, Quesnay's Tableau Economique, *Economic Journal*, Vol. V, pp. 16–18.

Figure 7 Bauer's Explanatory Figure



2milliards

Total 5milliards

a different way from that in Figure 6, would have probably been drawn in order to make it accord with the assumption that the advance of unproductive class is not money but commodity. Nevertheless, neither this assumption nor the one relative to the circulating money totalling two milliards instead of three, coincides with the explanation in *Analyse*. For all its questionability, we can not but pay our respects to Bauer's explanatory figure, when we think of the shortcomings of formula. To be frank, the author himself can not help approving of Bauer's view to understand the advance of unproductive class as commodity and to make the quantity of money two milliards, taking into consideration the spirit of zigzag.

Marx, too, interpreted the formula on similar assumptions to Bauer's; in his case as well, the quantity of circulating money is not three milliards but two in accordance with the idea of zigzag or the principle of physiocracy. Moreover, it is assumed in his case that there are processed goods of two milliards in the hands of the unproductive class in addition to the total amount of reproduction of five milliards of the preceding period in the hands of productive class at the beginning of a period. Therefore, he, like Bauer, understands the advance of unproductive class at the beginning of a period as commodity, but it is worth noting that its quantity is different from Bauer's case. In fact, in order to understand precisely the order of circulation and production in the table, we must be able to distinguish the consumption of unproductive class from that of landlord class and accordingly to recognize that the consumption of the former during a period results in the amount of manufactured goodn totalling two milliards worth. This state of things will be easily understood from the total amount indicated at the bottom of the formula (Figure 5). In addition, Marx seems to have tried to interpret rationally the form of formula by taking the annual advance of productive class as of the current year, despite the explanation in *Analyse*.

(There are precedents for such interpretation since Baudeau.[24])

Marx's explanation is based on the following presupposition. In order to achieve production of five milliards, the productiove class has to lay out annual advance of working capital amounting to two milliards. The landowners are to receive the revenue to sum of two milliards which is the net produce. The unproductive class finally makes a capital advance of one milliard for raw materials and consumes means of subsistence amounting to one milliard during the process of production in order to make manufactured goods of two milliards. In addition to the total amount of production of five milliards, the productive class also possesses at the beginning of the process of circulation a stock of money of two milliards. At the beginning of circulation, (1) the farming class pays, directly in money, two milliards to the land-owning class as land-rent; (according to Marx, the payment of land-rent is done at the beginning of a period instead of the end of the preceding period. This seems to have adopted Baudeau's interpretation[25]); with this amount the latter purchases from productive class means of subsistence valued at one milliard; one milliard in money therefore flows back to the productive class, while one-fifth of the total amount of production is disposed of, passing out of circulation into consumption. Next, (2) the land-owning class purchases, with one milliard of money, a milliard of industrial commodities from the unproductive class; thus the manufactured commodities of one milliard falling into the hands of the former are to be finally consumed there and money of one milliard is now in the hands of the latter. (3) The unproductive class buys with it means of subsistence from productive one. In this way, the second unit of money of one milliard which the productive class paid to the landlord class flows back to the former. On the other hand, the second fifth of the total amount of production of the productive class has gone out of circulation into consumption. At the end of this movement, therefore, we see the money of two milliards again in the hands of the productive class. (4) To replace one half of its annual capital advances, in so far as they consist partly of implements and partly of manufactured goods to be consumed by the productive class during the period of production, this class now buys, with money of one milliard, manufactured goods from the unproductive class; thus the second unit of processed goods of the unproductive class is disposed of. (From this explanation only, one may feel that Marx includes the compensation of annual advance as well as that of primitive one in the replacement of advances in the sum of one milliard on the part of productive class, but we are informed form the supplementary part of explanation that the compensation means ultimately the interest on primitive advance.) (5) On the other hand, the unproductive class once again employs the money of one milliard, which it has received for the second unit of manufactured goods, to buy means of production, raw materials,

[24] L'abbé Nicolas Baudeau, Explication du Tableau Economique à Madame de ***, *Physoicrates*, éd. par Eugène Daire, 2e partie, Paris, 1848, pp. 822–867.
[25] Baudeau, *op. cit.*, pp. 857–858.

etc.; therefore, the money of one milliard flows back to the productive class, and the third fifth of the total production of the same class is disposed of in the form of making up the annual advance of unproductive class. Thus agricultural products of three milliards out of the total amount of production of five milliards and industrial goods of two milliards have been circulated between the classes. Two-fifth of the former products now remain over; they represent products which agriculture itself consumes, i.e., the productive class appropriates in kind for the livelihood of its workers as annual advance; so these do not circulate between classes. At the end of the period, therefore, we find in the hands of productive class, agricultural products valued at two milliards and industrial goods with a value of one milliard, which respectively represent the elements of its circulating capital and the renewal of the fixed capital used up in the previous year. The annual reproduction of five milliards will be yielded by means of these elements of productive capital. On the other hand, we see in the hands of the unproductive class raw materials valued at one milliard as well as means of subsistence of another milliard; the former of course means the compensation of annual advance of this class, and the productive capital of these two kinds of goods makes it possible to produce manufactured goods valued at two milliards. In this way, simple reproduction on the same scale is assured up to the coming year.[26] We can find in *"Anti-Dühring"* similar explanations, where of the above-mentioned transactions (2) and (3) being put together to be marked (2) and also (4) and (5) brought together to be marked (3), (1) and (3) are called imperfect circulation and (2) perfect circulation modelling after Baudeau's explanation[27] (cf. Fig. 7).

V. *Conclusion*

The author has attempted to depict, as aforesaid, the conception and its transtition as they are of Quesnay and Mirabeau concerning *Tableau Economique*, passing through varied experiences on inconsistency and ambiguity in the explanation, inconsistency of explanation with the table and the fact that the explanation contradicts the fundamental view-point and so forth. In *"Anti-Dühring"*, where Engels compared *Tableau Economique* to the *Sphinxrätsel*, Marx stated as follows: *'die physiokratische Schule hat uns bekanntlich in Quesnays "ökonomischem Tableau" ein Rätsel hinterlassen, an dem die bisherigen Ktiriker und Geschichtsschreiber der Oekonomie sich umsonst die Zähne ausgebissen haben.'* This statement will be regarded as an expression of our feeling of difficulty in having even a consistent image in accordance with explanations of Quesnay and his disciples, because of the complication of their explanations. In addition to

[26] K. Marx, *Theorien über den Mehrwert*, hrg. von Karl Kautzky, 1. Bd., Stuttgart, 1919, SS. 86–89.

[27] F. Engels, *Herrn Eugen Dührings Umwälzung der Wissenschaft*, Bücherei des Marxismus-Leninismus, Bd. 3, Berlin, 1953, SS. 306–308. Baudeau, *op. cit.*, pp. 864–866.

their explanations, the author has referred to those by Bauer and Marx. Though the explanations by these two interpreters leave, in some respects, room for review, space limitations do not permit them to be discussed at this time.

Though Marx treats only the formula and not the zigzag and other forms (the second edition of *Tableau Oeconomique* was reprinted after his death. The zigzag had been known chiefly through Mirabeau's works before this reprint), we could see that in his interpretation some ideas of zigzag are adopted. For example, the quantity of circulating money, some explanations to the effect that manufactured goods constitute a component part of annual advance, etc. However, what is the most significant thing about his interpretation, is considered to be that he interprets *Tableau Economique* as the *Formel* of cycle of commodity-capital; *'W'...W' (die Formel des Kreislaufs des Warenkapitals) liegt dem Tableau économique Quesnays zugrunde und es zeigt grossen und richtigen Takt, dass er im Gegensatz zu G...G', der isoliert festgehaltenen Form des Merkantilismus (der Form des Kreislaufs des Handelskapitals) diese Form und nicht P...P (die Formel des Kreislaufs des produktiven Kapitals) wählte.'*[28]

The starting point of circulation in a period in *Tableau Economique* is, as we have seen, the expenditure of landlords' revenue. This idea remains unchanged from the zigzag to the formula. We find that much importance is attached to the monetary expenditure in writings of Quesnay and Mirabeau: *'il faut donc que les dépenses précédent partout la reproduction des dépenses que les hommes font renaître & perpétuer par le travail.'*[29] Therefore, it will never be wrong to interpret the *Tableau* as a diagram of the order of circulation of money. Nevertheless, the author has called our attention to the fact that the annual advances of the productive and unproductive classes are respectively agricultural products and industrial goods as commodities, availing himself of the indication in zigzag. Marx's interpretation, too, seems to be based on this point. That is to say, he lays emphasis on the circumstances that the commodity-capital in the form of the total amount of products constitues the starting point in *Tableau*. Therefore, the products and processed goods as commodities which are the outcome of the preceding period and are in the hands of the productive and unproductive classes, constitute the starting point of circulation of capital, and then this commodity-capital is transformed into money-capital through the transactions between classes to be subsequently transformed into productive capital. The advance transformed into productive capital, completes its formula of cycle with the transformation from productive capital into commodity-capital.

The above-mentioned interpretation of Marx is deeply connected with his motive to clarify the confrontation of the physiocracy with the mercantilism. The mercantitlism has as its theoretical basis the following formua: G—W—G', i.e., the form of movement of commercial capital which, as a leading actor of

[28] Marx, *Das Kapital*, besorgt von Marx-Engels-Lenin-Institut, Moskau, 1933, II. Buch, S. 95.

[29] (Mirabeau), *Philosophie Rurale*, tome 1, p. 2.

revolution, undermined the old system of feudalistic production. According to this standpoint, the circulation of capital is a sort of cycle consisting of only two processes of circulation, namely G—W and W—G'. It takes the form of simple cycle of money containing no process of production in it; in other words, this standpoint sees the origin of profit and accordingly of wealth in general only in the field of circulation. The formula characterizing the physiocratic standpoint which is confronted with that of mercantilism, is the formula of the cycle of commodity-capital. This standpoint does not take, as mercantilism does, transactions of merchandises as the means of multiplication of capital. The process of production must be the proper field in which to increase capital. But this standpoint, on the other hand, is to be distinguished from the mere formula of the cycle of productive capital in the respect that it lays emphasis on the importance of circulation. To lay emphasis on the importance of circulation means to take its function seriously as a continuous process which combines individual economies into a unified national economy. For the formula of the cycle of commodity-capital contains the part of products which replaces the productive capital as well as the part which constitutes surplus produce and which is on an average either spent as income or employed as an element of accumulation in the case of extended reproduction. In so far as the expenditure of surplus produce in the form of income is included in this cycle, the individual consumption is likewise included; thus, as this formula contains the individual consumption as well as the productive one in it, it can not but suggest the connection of the metamorphoses of individual capitals with each other and with the part of total products which is intended for individual consumption; in this way, it could be said to have its peculiarity in implying more than the isolated cycle of mere individual capital, namely the cycle of the aggregate social capital.[30]

It is well known that Marx interpreted *Tableau Economique* from the aforesaid point of view, and no one could deny that his interpretation stands unrivalled in its depth in the history of interpretation. To be sure, Spann interpreted the *Tableau* as a diagram of the circulation of commodities; he said, *'sehr wichitg ist endlich, dass das Tableau die wirtschaftlichen Vorgänge rein von der Warenseite her ohne Rücksicht auf das Geld, betrachtete—ein Grundsatz, den ich auch heute jedem Anfänger sehr einprägen möchte.'*[31] There will be no need here to say that such interpretation is a superficial view failing to touch the core of *Tableau*. On the other hand, we find a dominant tendency to interpret the *Tableau* as a table indicating the order of circulation of money, and its oldest classical representative is Mirabeau himself. He said, *'c'est donc à bon droit que le Tableau économique ne considere & ne représente la circulation que par l'argent.'*[32] Certainly, we might say that this interpretation parallels the *Tableau* to a great extent, as mentioned above. However, such an interpretation, attracted by the appearance of mone-

[30] Cf. Marx, *op. cit.*, II. Buch, 3. Kapitel.
[31] O. Spann, *Die Hauptttheorien der Volkswirtschaftslehre*, Leipzig, 1923, S. 45.
[32] (Mirabeau), *op. cit.*, tome 1, p. 52.

tary circulation represented in the table, misses the key point that the core of the conception of *Tableau* lies in the representation of the process of reproduction of capital through its circulation and transformation, and accordingly takes the annual advances of the productive and unproductive classes as money expenditures to consider the *Tableau* to be merely a diagram of simple monetary circulation. The author can not help finding the insufficiency of such interpretation in this respect as well as in its failure to seize the meaning of confrontation of physiocracy with mercantilism.

After all, the problem might be whether stress is to be laid on the expenditure of revenue in money by the landlord class as the starting point of circulation or on the disposal of advances by the productive and unproductive classes. If the core of the problem lies in the latter point, the formula (strictly speaking, the abridged formula) which is intended to indicate symmetrically the formation of capital of the two classes as well as the expenditure divided into half of revenue, seems to funrnish more adequate footing for Marx's interpretation to be based than the zigzag which simply denotes in symmetrical form the equally divided expenditure of the landlords' revenue and the mutual repayments dependent upon the former between the two classes. Certainly, the zigzag has the following defects: it fails to indicate (1) the primitive advance and its amortization on the part of productive class and (2) the compensation of annual advance of the unproductive class. These defects are removed in the formula. But, in the formula, there are other faults, i.e., while the zigzag suggests the circumstances in which the annual advance of productive class as productive capital consists of agricultural products procured within the same class and maufactured goods purchased from the unproductive class, the contents of the advance of productive class in the formula is limited to agricultural products retained in the hands of the same class. Therefore, as far as the said advance is concerned, the formula W'—G—W' no longer applies. Moreover, in the formula, the unproductive class does not in the least consume the processed goods they produce; here we remember, for instance, Baudeau's strained attempt to eliminate such absurdity.[33] On the other hand, in the zigzag, the unproductive class procures manufactured articles through the circulation within the same calss, which constitute a part of its productive capital. Therefore, it will be meaningless to ask which of the two tables is superior to the other, comparing the zigzag and the formula without fixed standards. It is certainly a noteworthy characteristic of formula to have attempted to denote the process of reproduction of the aggregate social capital through the process of circulation of capital, and particularly the circulation of money as the essential moment of circulation of capital. But the zigzag, too, has the same intention and is not a mere diagram of the movement of indivudual capital. It is also intended to express the reproduction of aggregate social capital, provided that it attempted to indicate the process of its simple reproduction on social average and as an anatomical section, as it was quite suitable for a physiologist such as Quesnay.

[33] Cf. Baudeau, *op. cit.*, pp. 852–854.

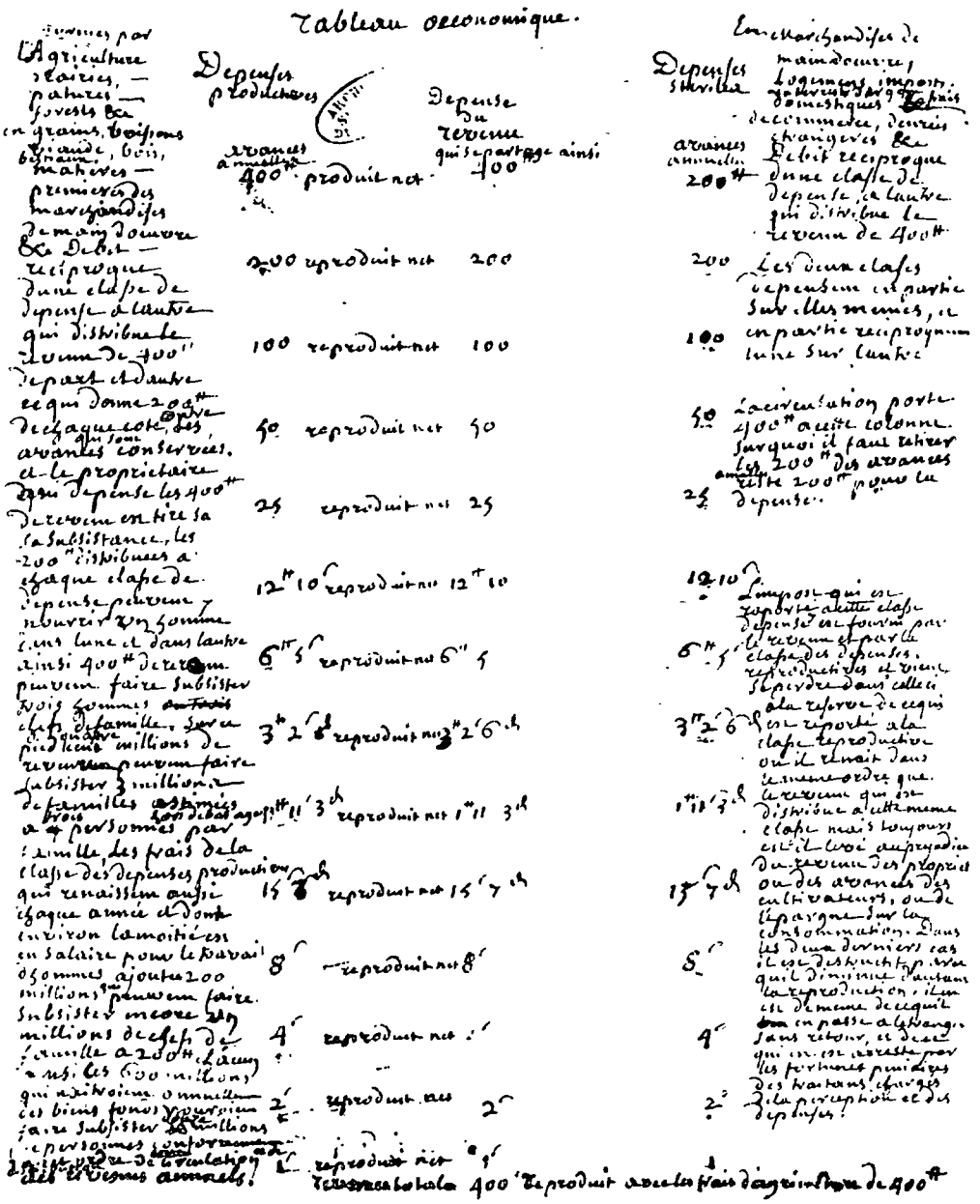
(It might have been impossible to indicate the process of reproduction in its overall course, as the zigzag was nothing but a sort of section.) If such an observation were permissible, we would be able to regard the zigzag as a diagram which has a composition quite suitable for Quesnay, a physiologist, and therefore be able to say it is indeed the very *'tableau fondamental'*, while the formula as well as the intermediate forms of *Tableau* are nothing but its explanatory figures and in particular, the formula is at most an improved form of these intermediate tables as explanatory figures.[34]

Finally we have to say in addition that for Quesnay, money has its significance in serving as a medium in the process of circulation of capital from a starting point of production to another and in this way in serving as a means of bringing the expenditure and production into a close relationship. Therefore, one must take precautions against tendencies that the money turns round only inside the field of circulation and accumulates enormous *'richesses pécuniaires'* which might arrest the flowing back of money to the starting point of production. (But, neither the zigzag nor the formula indicates the completion of this flowing back.) It is for this reason that *'was zunächst an diesem Tableau zu bemerken ist und den Zeitgenossen imponieren musste, ist die Art, wie die Geldzirkulation bloss bestimmt erscheint durch die Warenzirkulation und Warenreproducktion, tatsächlich durch den Zirkulationsprozess des Kapitals.'*[35] However, to attain such perspective, we have to recognize the importance of money as the means of circulation and of payment, which, separating and combining sales and purchases, makes feasible and accelerates the transformation of wealth or capital; and to comprehend this theoretically, we must presuppose the existence of the general relation of equivalent value forming the basis of various forms of wealth and their metamorphoses. But in Quesnay, the existence of such a relation meant nothing more than that of *'prix commun'* in the field of international trade. It is well known that Quesnay assumed a decided critical attitude towards mercantilism as *'Monetarsystem'*, joining the agriculturist movement of the times. Neverthless, he fully appreciated the importance of circulation of money, rejecting the agriculturist view which held money in contempt and placed primary emphasis on the commodity-character of wealth, and sometimes attributed productivity to foreign trade in articles prior to *Tableau Oeconomique.* (The author once called this the vestige of mercantilism. However, the foreign trade is abstracted in *Tableau.*) This seems to have paved the way for Quesnay to get to the conception of the order of circulation as outlined in *Tableau,* preventing him to go back to pre-mencantile way of thinking.[36]

[34] Cf. Oncken, *op, cit.*, S. 396.
[35] Marx, *Theorien,* 1. Bd., S. 87.
[36] Taro Sakata, Quesnay's 'Agricultural System' (in Japanese), *Hitotsubashi Review,* Vol. XXVI, No. 4.

Appendix

Manuscript of the First Edition



Remarques sur les variations de la distribution des revenus annuels dune nation.

Les quatre cens millions s'obtiennent au moyen de 600 millions d'avances et se distribuent annuellement

On voit dans le tableau precedent que dans lordre de la circulation regulière de 400 millions de revenu annuel il y a quatre millions de chefs de familles ~~proprietaires~~ il y a un million de proprietaires dont la depense est estimée du fort au foible 400 ₶ pour chacun, et trois millions de chefs de familles occupés aux travaux ou emplois lucratifs qui chacun du fort au foible retire 200 ₶ pour sa depense. Mais dans cette distribution on supose 1° que la totalité des quatre cens millions de revenu ~~annuel~~ entre dans la circulation annuelle et la parcourt dans toute son etendue quil ne se forment point de fortunes pecuniaires, qui arrêtent le cours dune partie de ce revenu annuel de la nation et qui ~~augmentent~~ retiennent le pecul ou la finance du royaume au prejudice de la reproduction du revenu, et de laisance du peuple 2° quaucune partie de la somme du revenu ne passe pas chez letranger sans retour en argent ou en marchandises 3° que la nation ne souffre pas de perte dans son commerce reciproque avec letranger, quand meme ce commerce seroit fort profitable aux commerçans en gagnant sur leurs concitoyens dans la vente des marchandises quils rapportent; car lacroissement de la fortune de ces commerçans est un retranchement dans la circulation des revenus, qui ~~diminue~~ est prejudiciable a la distribution et a la reproduction. 4° Quon ne soit pas trompé par un avantage apparent du commerce reciproque avec letranger, en en jugeant simplement par la balance des sommes en argent, sans ~~examiner~~ examiner le plus ou le moins de profit qui resulte des marchandises memes que lon a vendues et de celles que lon a achetées; car souvent la perte est pour la nation qui recoit un surplus en argent, et cette perte tourne au prejudice de la distribution et de la reproduction des revenus 5° que les propriétaires ~~et~~ et ceux qui exercent les professions lucratives ne retranchent de la circulation et de la distribution par une epargne sterile, une partie de leurs revenus et de leurs gains. 6° que ladministration des finances, soit dans la perception des impots, soit dans les depenses du gouvernement, noccasionne point de fortunes pecuniaires qui derobent, une partie des revenus a la circulation a la distribution et a la reproduction. 7° que limpost ne soit pas destructif, ‡‡ que son augmentation suive laugmention du revenu de la nation. quil soit etabli immediatement sur le revenu des proprietaires et non sur les denrees où il multiplieroit les frais de perception et prejudiciero. au commerce; quil ~~ne prenne~~ ne prenne pas sur les avances des fermiers des biens fonds dont les richesses doivent etre conservees pretieusement pour les depenses de la culture. 8° Que les avances des fermiers soient suffisantes pour que les depenses de la culture reproduisent (+) cent pour cent; car si les avances ne sont pas suffisantes les depenses de la culture ~~les [illegible]~~ sont plus grandes et produisent peu de revenu = net (+) 9° que les enfans des fermiers

‡‡ ou disproportionné a la masse du revenu de la nation;

(+) en france elles reproduisent un profit net d'environ trente pour cent

Setablissent dans les campagnes pour y perpetuer les laboureurs car si quelques vexations leur font abandonner les campagnes et les determinent a se retirer dans les villes ils y emportent les richesses de leurs peres qui etoient employés a la culture 10° Quelon evite la desertion des habitans qui emportent leurs richesses hors du Royaume 11° Quelon empeche point le commerce exterieur des denrées du cru car tel est le debit telle est la reproduction 12° Quon ne fasse point baisser le prix des denrees ~~du cru~~ et des marchandises dans le Royaume car le commerce reciproque avec letranger deviendroit desavantageux a la nation 13° Quelon ne croye pas que le bon marché ~~b~~ des denrees son profitable au ~~bas~~ menu peuple car le bas prix des denrées fait baisser leur salaire diminue leur aisance, leur procure moins de travail ou doccupation lucrative et diminue le revenu de la nation 14 Quon ne diminue ~~pas~~ laisance du bas peuple, car il ne pouroit pas assez contribuer a la consommation des denrées qui ne peuvent etre consommees que dans le pays, et la reproduction et le revenu de la nation diminueroit. 15 Quon favorise la multiplication des Bestiaux, car cest eux qui fournissent ~~les engrais~~ aux terres les engrais qui procurent les riches moissons. 16° Que lon ne provoque point le luxe de decoration, parce quil ne se soutient quau prejudice du luxe de subsistance qui entretient le debit et le bon prix des denrees du cru et la reproduction des revenus de la nation. 17 Que le gouvernement ~~[illegible]~~ economique ne soccupe qua favoriser les depenses productives et du commerce exterieur des denrées du cru, et quil laisse aller delles memes les depenses steriles. 18 Quon nespere des ressources pour les besoins extraordinaires de letat que de la prosperité de la nation et non du credit des financiers, car les fortunes pecuniaires sont des richesses clandestines qui ne connoissent ni Roi ni patrie 19° Que letat evite les emprunts qui forment des rentes financieres qui occasionnent un commerce de finance ou dagiot, par lentremise de papiers commercables ou lescompte augmente de plus en plus les fortunes pecuniaires steriles; car on prefere ces rentes et ces gains usuriers aux revenus de lagriculture que lon abandonne par ce que lon prive des richesses necessaires pour lamelioration des biens fond et pour la culture des terres. ~~[illegible]~~ 20° Qu'une nation qui a un grand territoire a cultiver et la facilité dexercer un grand commerce de denrees du cru, ~~[illegible]~~ netende pas trop lemploy de largent et des hommes aux manufactures et au commerce de luxe, au prejudice des travaux et des depenses de lagriculture car preferablement a tout le royaume doit etre ~~[illegible]~~ bien peuplé de riches laboureurs. ++ ~~[illegible]~~

Il y a sans doute des royaumes ou aucune de ces conditions n'existe; et on dit que tout ~~[illegible]~~ va bien; cela est vray, car independemment de ces conditions un grand etat peut etre egal aux petit, ~~ses conditions du petit~~, et avec ces conditions un petit etat seul etre egal au grand; Delanait cet equilibre de puissances entre les nations, et richesse dans lordre politique.

++ 21 Que le gouvernement soit moins [illegible] des soins depargner que des operations necessaires pour la prosperité du Royaume; car de trop grandes depenses peuvent cesser detre excessives par laugmentation des richesses. 22 Quon soit moins attentif a laugmentation de la population qua laccroissement des revenus; car laisance que procurent de grands revenus est preferable aux besoins de subsistance [illegible] une trop grande population [illegible] il y a plus de [illegible]