

“LOGICALLY RIGOROUS BUT HISTORICALLY MUTE”.
NAPOLEONI ON SRAFFA’S *PRODUCTION OF COMMODITIES*
BY MEANS OF COMMODITIES

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ABSTRACT

This paper analyzes the problem that long dominated Claudio Napoleoni’s thinking on the “Sraffa problem”, or the judgement on the “real theoretical scope” of the propositions contained in the Sraffa’s 1960 book, *Production of Commodities by Means of Commodities*. Thus, the paper enquires into Napoleoni’s view of the book’s epistemological significance, from his review in the *Giornale degli economisti* (1961) and *Il pensiero economico del 900* (1961), to *Valore* (1976), up to *Il Discorso sull’economia politica* (1985) and other papers representing the main passages in Napoleoni’s thinking. According to Napoleoni, Sraffa’s book is the final outcome of the modern critical reflections on economic science that started with Vilfredo Pareto and Gustav Cassel at the beginning of the twentieth century. But, Napoleoni maintains, abandoning the category of value, or reducing it to the category of price, means renouncing a principle of judgement, which implies that economic theory loses relevance.

Keywords: Claudio Napoleoni, Piero Sraffa, *Production of Commodities by Means of Commodities*.
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PROLOGUE

In 1960, when Piero Sraffa’s *Production of Commodities by Means of Commodities* was published, Claudio Napoleoni wrote to Raffaele Mattioli – an important Italian banker, intellectual, and cultural promoter who helped Sraffa prepare the Italian edition of the book¹ – that it seemed to him to be

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¹ Like Sraffa, Raffaele Mattioli had been a pupil of the Torino School economists Luigi Einaudi and Attilio Cabiati in the early 1920s (see MARCHIONATTI 2020, Chapter 6.3).

“a bewildering book, in the sense that I find it difficult to understand the real theoretical scope of its propositions” (Napoleoni 1960).

Sraffa’s book, which indeed appeared rather puzzling to economists at the time of its publication, was a watershed in the development of Napoleoni’s thought. It was the culmination of his reflection on modern economic science, which originated from his remarks in his 1956 *Dizionario di Economia Politica* regarding an epistemological crisis in 20th-century economic science arising from the failure to address the “economic problem”, or, which he saw as equivalent, the theory of value, the heart of pre-20th-century economic theory, whose vicissitudes “reflect [...] the key developments of the history of political economy itself” (Napoleoni 1956: 574). According to Napoleoni, the crisis of twentieth-century economic science stemmed from marginalist and neoclassical thought’s evolution from Vilfredo Pareto’s criticism of the hedonistic conception, with the recognition that a cardinal concept of utility was not necessary to explain consumer behavior, to Gustav Cassel’s reduction of the science of maximizing satisfaction to a mere science of prices, and to the contributions to Paretian ordinal theory by Allen and Hicks in the 1930s. As a result of these theoretical changes, Napoleoni writes,

of the two parts that made up Marshall’s theory of value, only one remains standing: the examination of the forces behind supply and demand is eliminated and we are limited to studying the price formation process by assuming supply and demand as primary data. In this way the theory of value is entirely absorbed in the theory of the immediate determinants of prices and thus in essence dies as an autonomous and fundamental part of economic science (Napoleoni 1956: 1711).

Classical theory had undergone a similar evolution, Napoleoni writes. Here, too, the Marxian difficulties in forging a labor theory of value on Ricardian lines, thus making the classical theory rigorous, proved insuperable: Marx’s problem of the transformation of values into prices of production – or the labor theory of value’s powerlessness to explain prices, as Napoleoni says – seemed to bring the path blazed by Ricardo to an end. But an economic theory reduced to the determination of prices is not “well-founded”, Napoleoni maintains. What it needs, he thinks, is an “ontology of man”, to use the words of Herbert Marcuse, a philosopher who looms large in Napoleoni’s thinking. In other words, he believes that economic categories must be philosophically grounded. From this perspective, Napoleoni’s approach to economic thought consists of a rigorous examination of existing theories, linking analytical difficulties to the theories’ underlying limits, or lack of foundation. His aim here is to put political economy on a new, firmer footing by making it a fully theoretical

instrument at the service of the politics of man's liberation from the alienation which has historically been his lot.

In his reconstruction of twentieth century economic thought, Napoleoni assigns a central role to the Walrasian theory of general economic equilibrium: his 1961 book *Il pensiero economico del Novecento* puts it at the beginning of the development of modern economic thought. Though Walrasian theory is historiographically important, however, this does not mean it is free from analytical shortcomings. In particular, it fails to provide an understanding of the problem of development and imperfect competition (topics for which the traditional instruments of static analysis were inadequate), and is also unable to account consistently for phenomena relating to capital. From the early 1960s onwards, Napoleoni saw this as the crucial limit of Walrasian theory.² However, he felt that the Walrasian approach's problems might be overcome with the contributions of John von Neumann in 1937 and Piero Sraffa in 1960, who offered a representation of the economic system as a circular process, by contrast with the neoclassical-marginalist linear representation. Thenceforth, Sraffa's contribution was to be the major issue dominating Napoleoni's thinking on the economic problem for twenty-five years. This paper analyzes the structure of this thinking, over and above the differing emphasis he assigned with the passage of time.

It should be stressed that, though Napoleoni's and Sraffa's lines of thought diverge radically, they share a common reference and a common tension. Indeed, both are to be understood as classical approaches, not only in the sense of reflections on classical political economy, but above all as reflections nourished by classical categories, albeit in a dramatic manner, because of the problems and contradictions of that conceptual structure. The structure's tensions reappear in Sraffa's and Napoleoni's writings, both in Sraffa's cold and "Wittgensteinian" language in describing the spectral world of commodities, and in Napoleoni's more "human" language in trying to re-propose, after Sraffa, a subject-object relationship beyond the "scientific" failures of the theory of value.

² Agreeing with the contemporary thesis put forward by Pierangelo Garegnani in *Il capitale nelle teorie della distribuzione* of 1960, Napoleoni argued that economically meaningful solutions to the Walrasian system of general economic equilibrium exist only if the production of capital goods is not considered. All neoclassical versions of the theory struggle to incorporate capital phenomenon into the general economic equilibrium, even those of Böhm-Bawerk and Wicksell. The problems of Walras's capitalization theory fueled a lengthy debate, though Napoleoni paid little attention to it from the 1970s onwards.

1. THE SRAFFA PROBLEM

Over the years, Napoleoni outlined a clear and thorough analysis of Sraffa's book which was truly important in defining Sraffa's place in the history of economic thought. In general terms, according to Napoleoni, *Production of Commodities by Means of Commodities* is Sraffa's reformulation of the critique of Marxian political economy in rigorous analytical form. In one of his last papers, presented at a conference held in 1988 and dedicated to Piero Sraffa, Napoleoni offered his own description of this Sraffian cultural project:

A project is always both a political and a theoretical thing [...] Sraffa was above all a communist [...] in the sense of an ongoing critique of the given historical process. This is what he was and always wanted to be; but, at the same time, he was a communist who was convinced that the criticism of the historical process in progress had to be done all over again, because what had once been done was no longer sufficient. Not that it was radically wrong, but it was insufficient compared to the adversary's theoretical production [...] The weapons of criticism by a communist who had recalled tradition were no longer sufficient. It was therefore necessary to change (Napoleoni 1989: 29-30).

Given this general premise, Napoleoni's aim was to determine whether Sraffa achieves his objectives, that is, whether *Production of Commodities by Means of Commodities* fulfills what Napoleoni saw as the Sraffian project. After reading it in draft form, Napoleoni reviewed Sraffa's book in early 1961 in the *Giornale degli economisti* and then treated it extensively in *Il pensiero economico del Novecento*, published in the same year and then, in a revised edition, in 1963 (and again in an enlarged edition co-authored with Fabio Ranchetti and published after his death in 1990). Sraffa's book appeared to him to be:

the first explicit and conscious attempt to present an economic analysis that takes the radical inadequacy of the modern approach for granted (Napoleoni 1963 [1961b]: 194).

We must bear in mind, Napoleoni writes, that:

Sraffa's work starts from the idea that the crisis of modern theory is definitive, while that of classical theory is not, to the point that it makes sense to resume research firmly in the classical tradition (Napoleoni 1961a: 5).

As is well known, Sraffa's model takes the form of a circular production scheme, like that of John von Neumann's 1937 model. Unlike von Neumann's model, however, the problem of determining

the quantities produced is sidestepped by assuming means of production and products as given. By making such an assumption, Sraffa can avoid hypotheses about the nature of technology – no assumptions are made about returns of scale – and can thus work, at least formally, outside the neoclassical approach. Thus, we simply have a “given productive configuration”, in reference to which a net product is defined (i.e., a set of goods each of which is the difference between the quantity with which the good itself appears among the products and the quantity with which it appears among the means of production), which may or may not exist. The conditions for reproducing this productive configuration are then defined. In correctly defining these conditions, this surplus between wages and profits is distributed at the same time commodity prices are determined.

The theoretical interest of this book lies, Napoleoni writes, in the explicit return to classical economic categories – profit as residual, wages freed from any connection to the productive contribution made by workers, productive consumption. However, he continues, Sraffa’s work poses a series of crucial questions, each of which Napoleoni addresses in turn: is it possible to avoid the contradictions of neoclassical economics by returning to the classical approach, over and above the difficulties of the labor theory of value as price theory? How does Sraffa’s book relate to Robbins’s definition of economic science? And above all, what is its meaning and place in the history of economic thought?

2. SRAFFA, THE CLASSICS AND MARX

Sraffa’s book is based on the revival of categories of classical political economy, but, Napoleoni asks, how is it possible that while taking up the classical tradition, Sraffa manages to construct a theory free from the formal contradictions of Ricardo’s and Marx’s theories? Napoleoni’s answer is that Sraffa’s analysis “completely avoids the labor theory of value”:

While Sraffa’s scheme shares the idea of surplus with the classical approach, it differs from it in that the determination of prices takes place outside the labor theory of value (Napoleoni 1961a: 17).

Sraffa’s schemes, in fact, abandon the Marxian attempt to link the formation of prices to the quantities of labor objectified in commodities, and thus eschew the labor theory of value, considered incapable of accounting for the exchange value of commodities. Sraffa’s work is, as

Napoleoni writes in *Valore* (1976),³ “the conclusion (but in the sense of the suppression) of the Marxian problem of transformation” (Napoleoni 1976: 161).⁴ With Sraffa, Napoleoni notes:

We have the confirmation in rigorous terms, not only of the fact that prices can be determined independently of the overall quantities of labor contained in commodities, but also of the fact that it is impossible to determine them on the basis of these quantities (Napoleoni 1976: 169).

This impossibility is clear, Napoleoni writes, if we bear in mind that the reduction to dated quantities of labor equation in Chapter VI of Sraffa’s book shows that the price of a commodity depends not only on the quantity of labor contained in it, but also on the distribution of this quantity over periods of time. Napoleoni writes:

It follows that [...] the terms of exchange between commodities do not coincide with the relations between the quantities of labor contained in them, and that, as the wage and hence the profit rate change, those terms of exchange change, although the quantities of labor remain unchanged (*ibid.*).

³ *Valore* is Napoleoni’s major theoretical work from the 1970s. These were his Torino years, a particularly fertile period of his thinking (see GUZZONE and MARCHIONATTI 2022 and in this symposium).

⁴ The problem of transformation, as is well known, originated with Marx in Book III of *Das Kapital* when he alluded to the (in his opinion negligible) problems that arise should the transformation of values into production prices be formalized beyond the point at which Marx himself had arrived. Although Marx’s critics immediately foregrounded the problem, in the form of the relationship between the law of value and the uniform rate of profit, as appears from Engels’s introduction to the third book of *Das Kapital*, it was only with Ladislaus von Bortkiewicz in 1907 that the problem was addressed seriously and systematically. Following Marx’s suggestion that the “left-hand side” of the price equation should also be transformed, Bortkiewicz also converted the values of constant and variable capital employed in the various sectors into prices. In this way, the profit rate can no longer be determined *a priori*, as Marx did by means of a ratio of labor quantities, but, since it too depends on production prices, it must be among the unknowns. The Austrian-born English economist Francis Seton correctly solved the problem in a 1957 article by performing – something Bortkiewicz had not done – a complete disaggregation of the system into n industries, deriving a system similar to Sraffa’s, the only difference being that the coefficients used were labor coefficients. But, as some authors – Napoleoni first and foremost – later pointed out, if we consider the unit of measurement of commodity i as that quantity which contains a unit of labor, changing the unit of measurement enables us to write the system starting from the physical quantities of the commodities, thus determining production prices and profit rates in a manner identical to that adopted by Sraffa. This eliminates the misunderstanding that arose in the transformation debate of the 1940s, a misunderstanding that consisted in taking the labor value scheme as the necessary starting point of the transformation process. Sraffa’s approach, from a theoretical standpoint, is strictly connected with this literature, in particular with the Neo-Ricardian research program launched by Bortkiewicz (and others) at the turn of the twentieth century and taken up in the 1920s in Berlin and Cambridge (see MARCHIONATTI 2019, 2020 and 2024).

Technically, then, though it is still formally possible to use labor in price equations, it has lost its theoretical significance because, as Napoleoni points out, labor no longer has a primary role in price determination. The “most interesting” theoretical question posed by Sraffa’s work is: what is the significance of abandoning the labor theory of value? This theory, Napoleoni notes, sought to take into account the fact that exchange, before being a transfer of commodities from one hand to another, is “a relationship between men”, that is, a way in which men take part in a market society. The labor theory of value accounted for this by “bringing the relations of exchange between commodities back to the relations between the quantities of labor contained in the commodities themselves”. “Abandoning the labor theory of value”, Napoleoni writes, “therefore entails, in some way, abandoning the attempt to restore economic values to a market reality” (Napoleoni 1963 [1961b]: 200).

With respect to Ricardo, Sraffa takes up the concept of surplus, but eliminates the category of labor value. In his 1961 review, Napoleoni notes that Sraffa interprets the Ricardian labor theory of value in his introduction to the first volume of *The Works and Correspondence of David Ricardo* (Sraffa 1951) as a simple theory of measurement, rejecting content which transcends the problem of measurement. While in 1961, Napoleoni felt that this was true for Ricardo but not for Marx, by 1977 he had come to consider this interpretation doubtful for Ricardo as well (Napoleoni 1977). It should be noted that in Sraffa, solving the Ricardian problem of the invariable measure of value⁵ is possible thanks to the simultaneous determination of

⁵ Ricardo introduced the invariable measure of value in the *Principles* to obviate the problems of deviations from the labor-value principle in reality: that is to say, he wanted to find a measure capable of accounting for changes in the values of commodities in relation to changes in their production technique and, at the same time, invariable to changes in distribution. In Chapter IV of *Production of Commodities by Means of Commodities*, Sraffa constructs a commodity, called a standard commodity, whereby the price movements of a commodity can be isolated so as to observe the changes in its value as in a *vacuum*: this is a composite commodity having the technical characteristic of consisting of the same commodities combined in the same proportions as the aggregate of its means of production. The industry of which it is the product has the “critical” balance proportion, which means that this commodity is not subject to price changes as distribution varies. This construction solves the Ricardian problem of the invariable measure if it is understood as that of finding a measure of value invariant to changes in the distribution between wages and profits. Sraffa advocated this interpretation in his introduction to the first volume of Ricardo’s *Works and Correspondence*: there, in opposition to the interpretation of Marx and other classical economists such as Thomas De Quincey, Sraffa had written that “Ricardo was not interested for its own sake in the problem of why two commodities produced by the same quantities of labour are not of the same exchangeable value. He was concerned with it only in so far as thereby relative values are affected by changes in wages.” He went on to note that “the problem of value which interested Ricardo was how to find a measure of value which would be invariant to changes in the division of the product” (SRAFFA 1951: 180-181).

the profit rate and prices, but is at the same time superfluous. In fact, the standard commodity constructed by Sraffa solves the Ricardian problem of the invariable measure – interpreted as that of finding a measure of value that is invariable with respect to changes in the distribution between wages and profits – but this solution is in fact unnecessary since Sraffa’s model steers clear of the circular reasoning that Ricardo wanted to avoid by determining the profit rate and prices simultaneously, given the wage.⁶ All this, Napoleoni writes, means that “in Sraffa one does that part of Ricardo’s thinking which will be taken up and developed by Marx” (Napoleoni 1976: 170). Consequently, “in Sraffa there is nothing more of Marx’s theory of value and what is drawn from this theory as a consequence” (*ibid.*: 175).

3. SRAFFA AND MODERN OR NEOCLASSICAL THEORY

Sraffa’s book is subtitled “Prelude to a Critique of Economic Theory”, where economic theory refers to marginalist or neoclassical theory, i.e., the so-called modern theory. From the outset, the literature has emphasized Sraffa’s anti-marginalist approach, and at Cambridge in particular a program of criticism was developed by Sraffa’s disciples, notably Pierangelo Garegnani, Luigi Pasinetti and Geoffrey Harcourt. The central issue of this program was the so-called “re-switching of techniques”, discussed by Sraffa in the third part of his book, where he investigates the relationship between prices and distribution by considering the case in which changes in distribution lead to changes in the methods of production: contrary to neoclassical capital theory, Sraffa shows that capitalist intensity of production is not necessarily an inverse function of the profit rate. The

⁶ Napoleoni emphasizes that the standard commodity has the merit of making the conflicting relationship between wages and profit transparent. The standard system makes it possible to define the following relation: $r = R(1-w)$, where R is the standard ratio between net profit and means of production and corresponds to the value that the profit rate takes on when profit appropriates all the surplus. Since it is a relationship between quantities of commodities, i.e., defined in physical terms, just as in the Ricardian example of wheat in the *Essay on Profit*, it is independent of prices. If it is divided into two parts, wages and profits, each maintaining the same composition as the total net product, the profit rate is still determined in physical terms. It follows that by reducing wages, the profit rate increases in direct proportion to that reduction. According to Napoleoni, the virtue of this “purely auxiliary” construction is thus exclusively that of highlighting the inverse wage-profit relation in a simple way. But since, as Napoleoni wrote in his letter to Mattioli in 1960, “what is important is the possibility of arriving at a functional relation between the profit rate and the wage, and not the form of this relation”, and since the Sraffian schemes achieve this “with any unit of measurement and not only with the standard system”, Napoleoni never felt that the standard system’s theoretical relevance was particularly great.

problem of this proposition’s validity gave rise to the so-called Cambridge controversy which confirmed Sraffa’s findings (for an account of the controversy see Marchionatti 2024, Chapter 9.3).

Napoleoni by no means neglects the anti-marginalist results of Sraffa’s work, but he offers a broader and more complex analysis of Sraffa’s relationship to the modern theory of value. He emphasizes two important points. On the one hand, “there can no longer be any doubt that Sraffa provides the definitive confirmation of the failure of the so-called neoclassical theory”: the reduction to dated quantities of labor in Chapter VI of *Production of Commodities by Means of Commodities* calls into question the Böhm-Bawerkian theory of capital and the claim that capital is a factor of production and profit is thus the price of its service.⁷ In fact, the reduction equation shows why the “average period of production” cannot be taken as a measure of the quantity of capital. It is, of course, possible to determine an average period (which is the arithmetic average of the periods, weighting each by the quantity of labor belonging to it) for each commodity, but its price is no more bound up with this average period than it is with the quantity of labor contained in it as a whole. Thus, as the rate of profit changes, the relations between the prices of capital goods vary, and so the value of capital varies in general, even though all the average periods of production remain unchanged.

On the other hand, Napoleoni writes in *Valore*, “neoclassical economics is only one of the two ways in which the theory of value has shown itself to be an expression of maximizing behavior”. The other is that of the models of accumulation which can be traced back to von Neumann’s model.⁸ According to Napoleoni, von Neumann’s conception of economy is consistent with the conception presented in Robbins’s 1935 *Essay*:⁹ prices

⁷ In critiquing Ricardo’s theory of profit in his *Kapital and Kapitalzins*, Böhm-Bawerk attempts to show that profit is not a residue, arguing that interest derives from the fact that indirect methods of production are more productive than direct ones, i.e., that the longer the average period of production, the more units of labor employed will give rise to a product – a measure of the amount of capital employed in production.

⁸ The reference is to John von Neumann’s essay of 1937.

⁹ Lionel ROBBINS’s 1935 *An Essay on the Nature and Significance of Economic Science*, which defines economics on Walrasian lines as a science that studies human action as a relationship between ends and scarce means applicable to alternative uses, is considered by Napoleoni “one of the most rigorous attempts to establish economics as a science in the proper sense”, as he wrote in 1956 in the *Dizionario di economia politica*. However, Napoleoni regards Robbins’s definition to be severely limited due to its “value neutrality” (or “value freedom”, Weber’s *Wertfreiheit*): economic science in Robbins’s conception cannot express value judgements concerning how economic activity is carried out in the various economic systems that have succeeded one another in history. Consequently, Napoleoni believes that Robbins’s definition does not cover the entire nature of economic science. NAPOLEONI discusses Robbins’s *Essay*

are indices of scarcity and there are both the process of maximization and the means-end relationship – although the nature of the means as well as that of the ends is not the same as in the neoclassical approach, as the means are entirely homogeneous with the ends: “it is always the capital, which is taken at two different moments or functions, namely, as the wealth inherited from the past or as the outcome of current production”. Such models, Napoleoni emphasizes, do not show internal contradictions and are not “affected by Sraffa’s scheme” whose results are compatible with them (see Napoleoni 1976: 133-143 and 176-178).

4. THE SIGNIFICANCE OF SRAFFA’S WORK

Sraffa’s book marks the end of an epoch, Napoleoni maintains. Faced with the crisis of classical and neoclassical economic theory, Sraffa’s position is very clear to Napoleoni from the outset:

the crisis is overcome through the pure and simple suppression of the terms in which it arises, that is, through the refusal to consider that the problems from which it arises are relevant. It may well be said, therefore, that *Sraffa closes an epoch in the history of economic thought* (italics mine): there is no doubt that if we remain within the traditional categories of economic science, that crisis can be suppressed but cannot be resolved, and therefore Sraffa’s position is the only possible one. In this sense, the blow that Sraffa deals today to the old vessel of economic theory is much harder than the one, serious though it was, dealt in 1926: no Mrs. Robinson¹⁰ will be able to come along today and pick up the pieces and glue them together (Napoleoni 1961a: 21-22).

Napoleoni returns frequently to this thesis. The most complete formulation is expressed in 1976’s *Valore*. Here Napoleoni writes that Sraffa’s model is the first price theory formulated outside of a known theory of value. Where traditional theories had encountered insurmountable difficulties – the classical theory in attempting to establish a coherent logical transition between absolute value and exchange value, and the neoclassical theory between distributive shares and original resources – Sraffa overcomes these problems through “a liberation from all non-empirical assumptions”. By this, Napoleoni meant that the problem of the essence of value addressed by classical and neoclassical economists from Walras to Marshall disappears in Sraffa. As Napoleoni remarks in the last essay he wrote on the subject:

extensively in several places: in particular in the *Dizionario di economia politica*, which we have mentioned here, in *Valore* of 1976, and in his 1985 *Discorso sull’economia politica*.

¹⁰ The reference is to SRAFFA’S 1926 essay and to Joan ROBINSON’S 1933 book.

It is certainly not by chance that, with such a proposal, a full formal coherence is achieved in the theory of value: that is, coherence is to be considered as the consequence of making economic discourse a strictly scientific discourse (Napoleoni 1989: 19).¹¹

Sraffa’s formal coherence and rigor, however, comes at a price: “logically rigorous but historically mute” as Napoleoni called it from the early 1960s. In fact, the object of Sraffa’s economic discourse is a reality, Napoleoni writes, in which the market is not essential, unlike in the classics: hence prices “cannot be said to be market prices or account prices” and no explanation is given for the existence of a general profit rate. This is the consequence of the Sraffian approach: his production schemes constitute a theory of prices formulated totally outside a theory of value. But, Napoleoni asks:

What is a price theory unrelated to a theory of value? [...] the concept of value is the necessary expression of the way in which the economy is conceived [...] This would mean, then, that Sraffa’s theory of prices is not included in an economic theory (Napoleoni 1976: 177).

This “exit from the theory of value”, Napoleoni asserts, is equivalent to an “exit from economics”. Napoleoni’s judgement of Sraffa’s contribution is thus radically negative, and characterizes his thinking for some twenty years, until the end of the 1970s (his Torino period). Actually, this judgement is to some extent modified in his last book, the *Discorso sull’economia politica*, published in 1985. Here Napoleoni suggests a different interpretation of Sraffa’s theory: it could be interpreted not, as Sraffa’s followers claim, as a continuation of classical-Marxian tradition and a break the neoclassical approach, but as compatible with the essences of all previous theories of value, even if “it is incompatible with the incidental aspects of many”. Napoleoni thinks that the concept of surplus, understood as a set of commodities – as it is in Sraffa – cannot be regarded as “an exemplary theoretical nucleus” from which a new theoretical edifice can be constructed, and at the same time containing all the critical value towards capitalism implicit in Ricardo’s theory and explicit in Marx’s theory. On the contrary, the surplus thus defined can be considered “neutral with respect to any economic theory”, “compatible with any theory” (Napoleoni 1985: 16), implying nothing about any economic theory, and implying nothing about its origin (e.g., exploitation):¹² “nothing is known” about it.

¹¹ On the significance of the absence of non-empirical assumptions in Sraffa see MARCHIONATTI 1993b and 1994.

¹² For Napoleoni’s critique of the neo-Ricardian thesis that the category of exploitation persists even in Sraffian models, see NAPOLEONI 1967. Several criticisms of NAPOLEONI 1989

Indeed, the problem of meaningfully defining the concept of the exploitation rate (or surplus value) is a key theme of the post-Sraffian literature. Whether this concept can be retained after the transformation debate rests on the claim that its formulation is independent of the validity of the labor theory of value as a theory of prices – a thesis with Sraffian foundations in the *Production of Commodities by Means of Commodities* but which had already been advocated by the Marxist revisionism at the time of the Second International (see Marchionatti 1998). One formulation of this thesis seems to have originated with Sraffa himself. Writing to Sraffa in July 1967 (Napoleoni 1992), Napoleoni returned to an earlier discussion between the two men in which Sraffa had argued that it would appear from his book that there is no other possible origin of profit than the fact that wages are less than the net product, i.e., profit should be interpreted as a minus wage. In support of Sraffa's formulation, Garegnani (1986) expressed an opinion that was widespread among neo-Ricardians: "If we say with Sraffa that there is no other possible origin of profit beyond the fact that the wage is less than the net product, is this not saying that the origin of profit is exploitation?" (Garegnani 1986, p. 206). As Garegnani (1981) writes, it can thus be deduced that:

The proposition concerning the existence of exploitation of labor in a capitalist society does not in any way depend on the validity of the labor theory of value. Rather, it depends on the validity of the theoretical approach based on the notion of social surplus, from which there is no basis for profits other than the simple fact that the existing economic order does not allow workers to appropriate the entire product (Garegnani 1981: 88).

In his letter, Napoleoni countered Sraffa's argument with a complex line of reasoning presenting an effective critique of Sraffa's logic. Napoleoni writes:

In order to decide whether or not a zero wage is conceivable, it seems to me that the distinction in the total wage between the part that covers subsistence and the part that exceeds subsistence is important. In fact, only the first part is essential, while the second part may well be nil. If the net product is defined net of subsistence goods – as Sraffa himself claims is the most rigorous way to proceed – we can certainly admit that profit absorbs the entire net product. Thus, at least for the part that exceeds subsistence (but which is the only part of the wage that

which attempted to show that the category of exploitation could still be meaningfully defined with Sraffian models are examined by MARCHIONATTI 1993a, who reasserts the validity of Napoleoni's thesis of the non-significance of the Marxian concept of surplus value in the Sraffian theoretical framework.

must necessarily be taken into account when examining the distribution of the net product), the claim that the wage is a minus profit is at least as significant as the claim that profit is a minus wage (Napoleoni 1992: 24).

On the basis of this logical argument, Napoleoni holds, it cannot be said that the existence of the surplus *per se* proves exploitation, and the thesis that exploitation is the origin of the net product holds true only if there is a labor theory.

More generally, Napoleoni’s conclusion in the *Discorso* is that:

The relevance of Sraffa’s work does not lie at all [...] in the resumption of a certain strand of economic history, but in the fact that after him each alternative [...] must be reformulated (Napoleoni 1985: 18).

Sraffa’s approach could then serve as the “accounting premise” for a rigorous reformulation of the explanations of the crucial question that remains open after Sraffa: the origin of surplus.¹³ To explain this origin, Napoleoni returns to a long-held opinion, stating in the *Discorso* that it is necessary to reconnect with the foundations of both neoclassical and Marxian thought – “to make use of neoclassical elements and Marxian elements”.¹⁴ On the one hand, the neoclassical explanation of the causes of surplus “is based on the interaction of two original faculties, labor, seen essentially in terms of indirect relationship with nature, and the capacity to defer consumption, linked to the mediated character of consumption itself”; on the other hand, the Marxian explanation “is based on the separation of labor from the worker” (Napoleoni 1985: 58). Together, Napoleoni suggests, the two explanations complete each other.

CONCLUDING REMARKS

Claudio Napoleoni’s reflections on Piero Sraffa’s *Production of Commodities by Means of Commodities* are part of his examination of the epistemological crisis of twentieth-century economic theory. Napoleoni maintains that Sraffa’s book reveals the scientific unsustainability of the marginalist-neoclassical and classical-Marxian theories of value, and

¹³ Napoleoni writes that for Sraffa “the problem of the nature and origin of surplus-value was a standing problem, but one that existed in an area dominated by controversy, where the controversy could not be resolved except by acts of will (which he would perhaps have said was ‘above my head’)” (NAPOLEONI 1986: 217-218).

¹⁴ For a discussion of the differences and similarities of Napoleoni’s position on the synthesis between neoclassical and Marxian theory see 2024 [1991], Ch. 4.

therefore the impossibility of re-proposing some of these theories' central propositions. In this sense, it is the end of the road that brought the problem of value to the center of political economy – “that principle from which all science unfolds” as Napoleoni stated in *Valore*. Sraffa's operation – his “tabula rasa” as Napoleoni wrote (Napoleoni 1978) – however, entails an undesired consequence: even Sraffa's theory is not “well-founded” because it is “socially mute”: something essential for understanding the world is thus lost. With Sraffa, one could say, economics frees itself of that dualism, present in it since its Smithian foundation, of analysis and judgement, to the detriment of the possibility of judgement. If this is the outcome of the theoretical path of economic science, then it cannot fulfill its task of critiquing and judging that which exists. In other words, Napoleoni believes that economic theory loses the specificity that made it important for a politics of human liberation. Sraffa's demonstration that economic theory is irrelevant would not seem to leave much opportunity for its refoundation. But, if in the failed attempts of economists “there are problems that must not be allowed to fall by the wayside”, the problem of identifying a “locus of criticism” cannot go away, Napoleoni believes. However, economic science no longer seems able to address this after Sraffa. Hence Napoleoni's growing interest in philosophical discourse, especially in the 1980s.

However, regardless of the specific results and suggestions of Napoleoni's unfinished reflection on Sraffian work and its meaning in the last phase of his life, we must emphasize that his general message forcibly reminds us of the need to focus on the underpinnings of economic science, to recognize its historicity and the ideological illusion of formal rigor that affects much contemporary economics.

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