

# Sraffa, Wittgenstein, and Gramsci

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## 1. Introduction

When, in February this year, the Accademia Nazionale dei Lincei had a large conference in Rome on the twentieth anniversary of the death of Piero Sraffa,<sup>2</sup> they were celebrating the memory of an extraordinary intellectual, one who published remarkably little but significantly influenced contemporary economics, philosophy, and the social sciences. Sraffa's intellectual impact includes several new explorations in economic theory, including a reassessment of the history of political economy (starting with the work of David Ricardo).<sup>3</sup> He also had a critically important influence in bringing about one of the major departures in contemporary

philosophy, namely Ludwig Wittgenstein's momentous movement from his early position in *Tractatus Logico-Philosophicus* (Wittgenstein 1921) to the later *Philosophical Investigations* (Wittgenstein 1951).<sup>4</sup>

The "economist Sraffa" is often separated out from his other roles. This is partly because Sraffa was professionally an economist, but also because his economic contributions seem, at least superficially, to stand apart from his philosophical ideas. Even though he published only a few articles and one book, apart from editing David Ricardo's works, Sraffa is also a much-cited author in economics.<sup>5</sup> His economic contributions, particularly his one book, *Production of Commodities by Means of Commodities: Prelude to a Critique of Economic Theory* (Sraffa 1960), have generated major controversies in economics. Sraffa's works initiated a substantial school of thought in economic theory, and yet other economists have argued that there is nothing much of substance in his writings, and still others (most notably Paul Samuelson) have

<sup>1</sup> Sen: Trinity College.

<sup>2</sup> "Piero Sraffa: Convegno Internazionale," Accademia Nazionale dei Lincei, February 11–12, 2003. This essay draws on a longer essay ("Piero Sraffa: A Student's Perspective") presented there, which will be published by the Accademia. For helpful discussions over many years, I am greatly indebted to Kenneth Arrow, Kaushik Basu, Christopher Bliss, Nick Denyer, Maurice Dobb, Pierangelo Garegnani, Frank Hahn, Geoff Harcourt, John Hicks, Heinz Kurz, Brian McGuinness, James Mirrlees, Robert Nozick, Luigi Pasinetti, Suzy Payne, Hilary Putnam, Joan Robinson, Emma Rothschild, Robert Solow, Luigi Spaventa, and Stefano Zamagni, and of course to Piero Sraffa himself. I am also grateful to the editor and referees of this journal for useful suggestions.

<sup>3</sup> On this see Pierangelo Garegnani (1960, 1998); Alessandro Roncaglia (1978, 1999); Luigi Pasinetti (1979, 1988); Nicholas Kaldor (1984, 1985); John Eatwell and Carlo Panico (1987); Paul Samuelson (1987, 2000a,b); Paolo Sylos Labini (1990); and Bertram Schefold (1996), among other writings.

<sup>4</sup> See also Wittgenstein (1953, 1958) for issues related to this transition.

<sup>5</sup> See, for example, the widely used *The New Palgrave: A Dictionary of Economics* (Eatwell, Milgate, and Newman 1987). Books in English on Sraffa's life and contributions include, among others, Ian Steedman (1977, 1988); Roncaglia (1978); Jean-Pierre Potier (1987); Schefold (1989); Krishna Bharadwaj and Bertram Schefold (1990); Terenzio Cozzi and Roberto Marchionatti (2000); and Heinz Kurz (2000).

argued that Sraffa is partly profound and partly just wrong.<sup>6</sup>

The temptation to examine “the economist Sraffa” separately has certainly been strong. And yet there is something to be gained from seeing Sraffa’s different contributions together. No less importantly for the history of philosophical thought, it may be important to reexamine Sraffa’s interactions with Wittgenstein, whom Sraffa strongly influenced, in the light of Sraffa’s relationship with Antonio Gramsci, the Marxist theorist, who had a strong influence on Sraffa. Indeed, these dual relations also provide an opportunity to explore a possible “Gramsci connection” in the transformation of “early Wittgenstein” into “later Wittgenstein.”

## 2. Wittgenstein and Sraffa

Ludwig Wittgenstein returned to Trinity College, Cambridge, in January 1929, after having left Cambridge in 1913, where he had been a student of Bertrand Russell. Wittgenstein’s return was quite an event, given his already established reputation as a genius philosopher. John Maynard Keynes wrote to his wife, Lydia Lopokova: “Well, God has arrived. I met him on the 5:15 train.”

Piero Sraffa, who did not know Wittgenstein earlier, had moved to Cambridge from Italy a little over a year before Wittgenstein’s return. Even though Sraffa was only 29 years old at that time (he was born in Turin on August 5th, 1898), he was already well-known in Britain and Italy as a highly original economist. He had obtained a research degree, (*testi de Laurea*) from the University of Turin in late 1920, with a thesis on monetary economics, but it was an article on the foundations of price theory which he published in 1925 in *Annali di Economia* (a journal based in Milan) that made him a major celebrity in Italy and Britain. In this essay

Sraffa demonstrated that the foundations of ongoing price theory developed by Alfred Marshall (the leader of the then-dominant “Cambridge school”) were incurably defective. A significant extension of this essay in English appeared the next year in the *Economic Journal* (Sraffa 1926) and was extremely influential.

Sraffa also had deep political interests and commitments, was active in the Socialist Students’ Group, and joined the editorial team of *L’Ordine Nuovo*, a leftist journal founded and edited by Antonio Gramsci in 1919 (it would later be banned by the fascist government). Indeed, by the time Sraffa moved to Britain in 1927, he had become a substantial figure among Italian leftist intellectuals, and was close to—but not a member of—the Italian Communist Party, founded in 1921 and led by Gramsci. While Sraffa had obtained the position of lecturer at the University of Perugia in 1923, and a professorship in Cagliari in Sardinia in 1926, he considered a move to Britain, as fascist persecution became stronger in Italy.

Already in 1922, Piero Sraffa’s father, Angelo, who was the Rector of Bucconi University, had received two telegrams from Mussolini, demanding that Piero should retract a critical account of Italian financial policies he had published in the *Manchester Guardian* (as it happens, on John Maynard Keynes’s invitation). It was “spreading mistrust” and was “an act of true and real sabotage,” Mussolini complained. Angelo Sraffa, a courageous and resolute academic, replied that the article stated only “known facts” and there was nothing in particular to be retracted. Piero Sraffa had several other altercations with the Italian government in the years following, and warmed to an invitation conveyed in a letter from John Maynard Keynes in January 1927 to take up a lectureship in Cambridge. He moved to Cambridge in September that year. By the time Wittgenstein returned to Cambridge in January 1929, Sraffa had already established

<sup>6</sup> See Samuelson (1987, 2000a,b). See also Frank Hahn (1982).

a legendary reputation in Cambridge as one of the cleverest intellectuals around.

The influence that Sraffa had on Wittgenstein's thinking came through a series of regular conversations between the two.<sup>7</sup> What form did the influence take? It concerned a change in Wittgenstein's philosophical approach in the years following 1929—a change in which conversations with Sraffa evidently played a pivotal role. In his early work (particularly in the *Tractatus Logico-Philosophicus*), Wittgenstein used an approach that is sometimes called “the picture theory of meaning,” which sees a sentence as representing a state of affairs by being a kind of a picture of it, mirroring the structure of the state of affairs it portrays. There is an insistence here—it can be said at the risk of some oversimplification—that a proposition and what it describes must have the same logical form. Sraffa found this philosophical position to be altogether erroneous, and argued with Wittgenstein on the need for him to rethink his position.

According to a famous anecdote, Sraffa responded to Wittgenstein's claim by brushing his chin with his fingertips, which is apparently readily understood as a Neapolitan gesture of skepticism, and then asked, “What is the logical form of *this*?” Sraffa (whom, later on, I had the privilege of knowing well—first as a student and then as a colleague—at Trinity College, Cambridge) insisted that this account, if not entirely apocryphal (“I can't remember such a specific occasion”), was more of a tale with a moral than an actual event (“I argued with Wittgenstein so often and so much that my fingertips did not need to do much talking”). But the story does illustrate graphically the nature of Sraffa's skepticism of the philosophy outlined in the *Tractatus*, and in particular how social conventions could

contribute to the meaning of our utterances and gestures.

The conversations that Wittgenstein had with Sraffa were evidently quite momentous for Wittgenstein. He would later describe to Henrik von Wright, the distinguished Finnish philosopher, that these conversations made him feel “like a tree from which all branches have been cut.” It is conventional to divide Wittgenstein's work between the “early Wittgenstein” and the “later Wittgenstein,” and the year 1929 was clearly the dividing line separating the two phases. Sraffa was not, in fact, the only critic with whom Wittgenstein had to reckon. Frank Ramsey, the youthful mathematical prodigy in Cambridge, was another. Wittgenstein (1953, p. x<sup>e</sup>) thanked Ramsey, but recorded that he was “even more” indebted to the criticism that “a teacher of this university, Mr. P. Sraffa, for many years unceasingly practised on my thoughts,” adding that he was “indebted to *this* stimulus for the most consequential ideas of this book.”

Wittgenstein told a friend (Rush Rhees, another Cambridge philosopher) that the most important thing that Sraffa taught him was an “anthropological way” of seeing philosophical problems. In his insightful analysis of the influence of Sraffa and Freud, Brian McGuinness (1982) discusses the impact on Wittgenstein of “the ethnological or anthropological way of looking at things that came to him from the economist Sraffa” (pp. 36–39). While the *Tractatus* tries to see language in isolation from the social circumstances in which it is used, the *Philosophical Investigations* emphasizes the conventions and rules that give the utterances particular meaning. The connection of this perspective with what came to be known as “ordinary language philosophy” is easy to see.

The skepticism that is conveyed by the Neapolitan brushing of chin with fingertips (even when done by a Tuscan boy from Pisa, born in Turin) can be interpreted only in terms of established rules and conventions—

<sup>7</sup> On this see Brian McGuinness (1982); Ray Monk (1991); Paolo Albani (1998); and John Davis (2002), among other writings.

indeed the “stream of life”—in the Neapolitan world. Wittgenstein (1953, p. 5<sup>e</sup>) used the expression “language-game” to illustrate how people learn the use of language and the meaning of words and gestures (even though, ultimately, there is much more in any actual language than what can be seen as just language-games).

We can also think of the whole process of using word ... as one of those games by means of which children learn their native language. I will call these games “language games” and will sometimes speak of a primitive language as a language game.

### 3. *Reservation and Rift*

Was Sraffa thrilled by the impact that his ideas had on, arguably, the leading philosopher of our times (“the God” whom Keynes met on the 5:15 train)? Also, how did Sraffa arrive at those momentous ideas in the first place? I asked Sraffa those questions more than once in the regular afternoon walks I had the opportunity to share with him between 1958 and 1963. I got somewhat puzzling answers. No, he was not particularly thrilled, since the point he was making was “rather obvious.” No, he did not know precisely how he arrived at those arguments, since—again—the point he was making was “rather obvious.”

Sraffa was very fond of Wittgenstein and admired him greatly.<sup>8</sup> But it was clear that he was not convinced of the fruitfulness of conversing ceaselessly with the genius

<sup>8</sup> Wittgenstein not only admired Sraffa, but also relied on Sraffa for the safekeeping of some of his philosophical papers. Sraffa wrote to von Wright, on August 27, 1958 (copy of letter in Sraffa’s handwriting in the Wren Library of Trinity College):

On comparing my copy of the Blue Book [of Wittgenstein] with the recently published edition [Wittgenstein 1958] I find that it contains a number of small corrections in Wittgenstein’s handwriting which have not been taken into account in the printed version. I suppose that he made these corrections when he gave me the book which was shortly after the death of Skinner [in 1941], to whom it had originally belonged.

philosopher. When I arrived in Trinity in the early fifties as a student, shortly after Wittgenstein’s death, I was aware that there had been something of a rift between the two. In response to my questions, Sraffa was most reluctant to go into what actually happened. “I had to stop our regular conversations—I was somewhat bored,” was the closest to an account I ever obtained. The events were described, however, by Ray Monk (1991), in rather greater detail, in his biography of Wittgenstein (p. 487):

In May 1946 Piero Sraffa decided he no longer wished to have conversations with Wittgenstein, saying that he could no longer give his time and attention to the matters Wittgenstein wished to discuss. This came as a great blow to Wittgenstein. He pleaded with Sraffa to continue their weekly conversations, even if it meant staying away from philosophical subjects. “I will talk about anything,” he told him. “Yes,” Sraffa replied, “but in *your* way.”

There are many puzzling things in the Sraffa-Wittgenstein relations. How could Sraffa, who loved dialogues and arguments, become so reluctant to talk with one of the finest minds of the twentieth century? Even initially, how could the conversations that were clearly so consequential for Wittgenstein, which made him feel “like a tree from which all branches have been cut,” seem “rather obvious” to this economist from Tuscany? I doubt that we shall ever be sure of knowing the answers to these questions. As far as the later rift is concerned, Sraffa might have been put off by Wittgenstein’s domineering manners (caricatured in a poem of a student, Julian Bell, the son of Clive Bell: “who, on any issue, ever saw/ Ludwig refrain from laying down the law?/ In every company he shouts us down,/ And stops our sentence stuttering his own”).

Sraffa might have also been exasperated by Wittgenstein’s political naivete. Sraffa had to restrain Wittgenstein—with his Jewish background and his constitutive outspokenness—from going to Vienna in 1938,

just as Hitler was holding his triumphant procession through the city. Also, even though both had left-wing political convictions, Sraffa (as a seasoned political realist) could see little merit in the odd eccentricities of Wittgenstein's social beliefs, which combined a romantic longing for the arduous life of a hard-working manual laborer with the hope that the communist revolution would lead to a rejection of the adoration of science, which Wittgenstein saw as a corrupting influence on contemporary life.

There remains, however, the question of why Sraffa was so reserved about the depth and novelty of his conversations with Wittgenstein even at the beginning (in 1929 and soon thereafter), and why the ideas that so influenced Wittgenstein would have seemed to Sraffa to be rather straightforward. Sraffa himself did not publish anything whatsoever on this subject, but there is considerable evidence that what appeared to Wittgenstein as new wisdom was a common subject of discussion in the intellectual circle in Italy to which Sraffa and Gramsci both belonged. That issue I take up next.

#### 4. *The Gramsci Connection*

Antonio Gramsci was less reticent than Sraffa about writing down his philosophical ideas. When John Maynard Keynes wrote to Sraffa in January 1927 communicating the willingness of Cambridge University to offer him a lecturing position, Gramsci had just been arrested (on November 8, 1926, to be precise). After some harrowing experiences of imprisonment, not least in Milan, Gramsci faced a trial, along with a number of other political prisoners, in Rome in the summer of 1928. Gramsci received a sentence of twenty years in gaol ("for twenty years we must stop this brain from functioning," said the public prosecutor in a statement that achieved some fame of its own), and was sent to a prison in Turi, about twenty miles from Bari. From February 1929 Gramsci was engaged in writing essays and notes that

would later be famous as his *Prison Notebooks* (Gramsci 1971, 1975).

These notes give us considerable understanding of what Gramsci and his circle were interested in. Sraffa was very keen that Gramsci should write down his thoughts, and to help him, Sraffa opened an unlimited account with a Milan bookshop (Sperling and Kupfer) in the name of Gramsci, to be settled by Sraffa. As was mentioned earlier, Sraffa was a part of the editorial team, led by Gramsci, of *L'Ordine Nuovo*. Sraffa joined the team in 1921, but he had known Gramsci from earlier on, and was writing for *L'Ordine Nuovo* from 1919 onwards (mainly translating works from English, French, and German). Working together on this distinguished journal had brought Sraffa and Gramsci even closer together than they already had been, and they had intense discussions over the years.<sup>9</sup> Even though they disagreed from time to time, for example in 1924 when Sraffa criticized the party line (the Communist Party "makes a terrible mistake when it gives the impression it is sabotaging an alliance of opposition movements"), there can be no doubt about the intensely productive nature of their interactions.

Since the *Prison Notebooks* were, in many ways, a continuation of Gramsci's long-standing intellectual pursuits and reflected the kind of ideas that the circle of friends were involved in, it is useful to see how Gramsci's notes relate to the subject matter of Sraffa's conversations with Wittgenstein, including the part played by rules and conventions and the reach of what became

<sup>9</sup> On the friendship between Gramsci and Sraffa, see Nerio Naldi (2000). Their intellectual interactions involved a great variety of subjects, and John Davis (1993, 2002) has illuminatingly investigated the impact of Gramscian notions of "hegemony," "caesarism" and "praxis" on Sraffa's thinking, and how these ideas may have, through Sraffa, influenced Wittgenstein. These possible connections are more complicated than the interactions considered in this essay, which are concerned with the most elementary issues of meaning and communication which lie at the foundation of mainstream philosophy.

known as “ordinary language philosophy.” In an essay on “the study of philosophy” Gramsci discusses “some preliminary points of reference,” which include the bold claim that “it is essential to destroy the widespread prejudice that philosophy is a strange and difficult thing just because it is the specific intellectual activity of a particular category of specialists or of professional and systematic philosophers.” Rather, argued Gramsci, “it must first be shown that all men are ‘philosophers,’ by defining the limits and characteristics of the ‘spontaneous philosophy’ which is proper to everybody.”

What kind of an object, then, is this “spontaneous philosophy”? The first item that Gramsci lists under this heading is “language itself, which is a totality of determined notions and concepts and not just of words grammatically devoid of content.” The role of conventions and rules, including what Wittgenstein came to call “language-games,” and the relevance of what has been called “the anthropological way” which Sraffa championed to Wittgenstein, all seem to figure quite prominently in the *Prison Notebooks* (Gramsci 1975, p. 324):

In acquiring one’s conception of the world one always belongs to a particular grouping which is that of all the social elements which share the same mode of thinking and acting. We are all conformists of some conformism or other, always man-in-the-mass or collective man.

The role of linguistic convention was discussed by Gramsci with various illustrations. Here is one example (Gramsci 1975, p. 447):

One can also recall the example contained in a little book by Bertrand Russell [*The Problems of Philosophy*]. Russell says approximately this: “We cannot, without the existence of man on the earth, think of the existence of London or Edinburgh, but we can think of the existence of two points in space, one to the North and one to the South, where London and Edinburgh now are.” ... East and West are arbitrary and conventional, that is, historical constructions, since outside of real history every point on the earth is East and West at the same time. This can be

seen more clearly from the fact that these terms have crystallized not from the point of view of a hypothetical melancholic man in general but from the point of view of the European cultured classes who, as a result of their world-wide hegemony, have caused them to be accepted everywhere. Japan is the Far East not only for Europe but also perhaps for the American from California and even for the Japanese himself, who, through English political culture, may then call Egypt the Near East.

How exactly Sraffa’s ideas linked with Gramsci’s, and how they influenced each other, are subjects for further research.<sup>10</sup> But it is plausible to argue that, in one way or another, Sraffa was quite familiar with the themes that engaged Gramsci in the twenties and early thirties. It is not very hard to understand why the program of Wittgenstein’s *Tractatus* would have seemed deeply misguided to Sraffa, coming from the intellectual circle to which he belonged. Nor is it difficult to see why the fruitfulness of “the anthropological way”—novel and momentous as it was to Wittgenstein—would have appeared to Sraffa to be not altogether unobvious.

### 5. Capital Valuation and Social Communication

What bearing do these philosophical ideas (including the so-called anthropological

<sup>10</sup> I should, however, point briefly at two issues on which the correspondence—or dissonance—between Gramsci’s and Sraffa’s ideas deserve much further investigation. The first concerns what Saul Kripke (1982) calls “the Wittgensteinian paradox,” citing Wittgenstein’s claim that “no course of action could be determined by a rule, because every course of action can be made to accord with the rule.” Since the “later Wittgenstein” is so focused on relating meaning and communication to following rules, Kripke identifies this “paradox” as “perhaps the central problem of [Wittgenstein’s] *Philosophical Investigations*” (p. 7). The second issue concerns how far one should stretch the “anthropological way” of seeing philosophical issues, in particular whether “custom” has to be invoked only to understand how language is used, or also to go as far as David Hume did when he argued, in a passage quoted approvingly by Keynes and Sraffa (1938), that “the guide of life” was not reason “but custom” (p. xxx). Further discussion of these two issues can be found in my longer paper, cited earlier, “Piero Sraffa: A Student’s Perspective,” to be published by the Accademia Nazionale dei Lincei.

way) discussed by Sraffa, Gramsci, and Wittgenstein have on Sraffa's work in economic theory? In his early work, particularly the much-acclaimed essay published in Italian in 1925 and in its English variant in the *Economic Journal* in 1926, which initially established Sraffa's reputation, he demonstrated that the tendency in ongoing economic theory, led by Alfred Marshall, to interpret market outcomes as having resulted from pure competition involves an internal contradiction when there are economies of large scale in the production of individual firms. Sraffa's analysis led to considerable follow-up work about the nature of economies of scale as well as the working of not fully competitive market forms, beginning with Joan Robinson (1933) and Edward Chamberlin (1933). These early economic contributions do not appear to turn critically on the kind of philosophical issues addressed later by Wittgenstein, or by Sraffa or Gramsci.

However, in Sraffa's book, *Production of Commodities by Means of Commodities: Prelude to a Critique of Economic Theory* (Sraffa 1960), the interpretational issues are centrally important. Let me try to illustrate this with two issues discussed in this elegant book. The first of these two concerns the aggregation of capital and the idea of capital as a factor of production. Mainstream economic theory, often called "neoclassical economics," can be formulated at different levels of aggregation. Capital goods such as machinery and equipment are, of course, quite diverse, and any aggregative account that invokes "capital" as a general factor of production must involve some aggregative "modelling" which is comprehensible and discussable in social communication. Also, there is a much-discussed claim that it is the productivity of incremental capital (called the "marginal product of capital") that can be seen as governing the value of the rate of return on capital (such as the rate of interest or profit).

Sraffa's critique disputes these claims. He shows that capital as a surrogate factor of production cannot be defined, in general, independently of the rate of interest, and the so-called marginal productivity of capital can hardly be seen as governing the interest rate. Indeed, techniques of production cannot even be ranked in terms of being more or less "capital intensive," since their capital intensities, which are dependent on the interest rate, can repeatedly reverse their relative ranking as the interest rate is lowered.<sup>11</sup>

This is a powerful technical result. We can ask: what difference does it make? Aggregative neoclassical models with capital as a factor of production are irreparably damaged. But neoclassical economic theory need not be expounded in an aggregative form. It is possible to see production in terms of distinct capital goods and leave it at that. Also, the kind of practical insight for policy that one may try to get from arguing in aggregative terms (such as the case for using less capital-intensive techniques when labor is cheap and the cost of capital is high) is neither dependent on how interest rates are actually determined, nor conditional on any very specific model of capital valuation.<sup>12</sup>

Yet, at the level of pure theory, the idea that interest is the reward of the productivity of capital rather than, say, the result of exploiting labor (or simply the passive residual that is left over between the output value and input costs, including wage payments) can play—and has often been made to play—quite a major part in political and

<sup>11</sup> There have been substantial controversies on the exact significance and reach of these and related results; see, among others, Robinson (1953–54); Robert Solow (1955–56); Garegnani (1960, 1970, 1990); Samuelson (1962, 1966); Pasinetti (1966, 1974); Harcourt (1972); Dobb (1973); Christopher Bliss (1975); Steedman (1977, 1988); Edwin Burmeister (1980); Vivian Walsh and Harvey Gram (1980); Bharadwaj (1990); Bharadwaj and Schefold (1990); Mauro Baranzini and Geoffrey Harcourt (1993); Cozzi and Marchionatti (2000); Kurz (1990); and Avi Cohen and Geoffrey Harcourt (2002).

<sup>12</sup> Discussed in Sen (1974), reprinted in Sen (1984).

social debates about the nature of the capitalist system. Thus, the political and social context of Sraffa's demolitional critique of capital as a factor of production is not hard to see once the *subject matter* of the critique is fully seized and interpreted in line with a classical debate stretching over several centuries. Sraffa's findings have to be seen as a response to a particular descriptive account—with normative relevance—of the capitalist system of production, and that is where the potential social relevance of these technical results lies.

I must confess that I find it altogether difficult to be convinced that one's skepticism of unrestrained capitalism must turn on such matters as the usefulness of aggregate capital as a factor of production and the productivity attributed to it, rather than on the mean streets and strained lives that capitalism can generate, unless it is restrained and supplemented by other—often nonmarket—institutions. And yet it is not hard to see the broad social and political vision of Sraffa's analysis and its argumentative relevance for debates about taking the productivity of capital as explication of profits.

#### 6. *Prices and Two Senses of Determination*

I turn now to a second example. Sraffa considers an economy in equilibrium to the extent of having a uniform profit (or interest) rate. He shows that if we take a snapshot of the economy with a comprehensive description of all production activities, with observed inputs and outputs, and a given interest rate, from this information alone we can determine (in the sense of figuring out) the prices of all the commodities as well as distribution of income between wages and interest (or profit).<sup>13</sup> And, if we consider a higher and higher interest—or profit—rate,

then the wage rate will be consistently lower and lower. We can, thus, get a downward-sloping wage-profit relationship (an almost tranquil portrayal of a stationary “class war”), for that given production situation, and the specification of either the interest (or profit) rate or the wage rate will allow us to calculate all the commodity prices.

The dog that does not bark at all in this exercise is the demand side: we go directly from production information to prices. There is no need, in this mathematical exercise, to invoke the demand conditions for the different commodities, which are, for this particular analytical exercise, redundant. In interpreting this very neat result, the philosophical foundation of meaning and communication comes fully into its own. It is extremely important to understand what is meant by “determination” in the mathematical context (or, to put it in the “anthropological way,” how it would be understood in a mathematical community), and we must not confound the different senses in which the term could be used. There has been a strong temptation on the part of the critics of mainstream economic theory to take Sraffa's “critique” as showing the redundancy of demand conditions in the *causal* determination of prices, thereby undermining that theory since it makes so much of demands and utilities. Robinson (1961) is not the only commentator to display some fascination towards taking that route (p. 57):

...when we are provided with a set of technical equations for production and a real wage rate which is uniform throughout the economy, there is no room for demand equations in the determination of equilibrium prices.

However, since the entire calculation is done for a given and observed picture of production (with inputs and outputs all fixed, as in a snapshot of production operations in the economy), the question as to what would happen if demand conditions change—which could of course lead to

<sup>13</sup> The result holds in this simple form in the case in which there is no joint production, the presence of which would make the relationship more complex but not in fact untractable. See Bertram Schefold (1989).



different amounts of production—is not at all addressed in this exercise.<sup>14</sup> The tendency to interpret mathematical determination as causal determination can, thus, cause a major misunderstanding.<sup>15</sup>

### 7. Value and Descriptive Importance

If Sraffa's results do not have anything much to say on causal determination, then what gives them interest? That question can be answered by considering the nature of social communication to which Sraffa's work contributes. First, analytical determination—not only causal determination—is a subject that interests people a good deal. Sraffa's demonstration that a snapshot picture of just the production conditions of the economy can tell us so much about possible prices is not only a remarkable analytical diagnosis, it is also a finding of considerable intellectual interest to people who want to think about the correspondence between quantities produced and prices charged. Gramsci has argued that everyone is a

<sup>14</sup> I have discussed the distinctions involved in Sen (1978). See also Salvadori (2000) for a textual analysis of what Sraffa does—and does *not*—claim regarding the role of demand. Given the nature of Sraffa's exercise (with *given* commodity production), it is also clear why Sraffa (1960, preface) claims—rightly—that there is no specific assumption of constant returns to scale that needs to be invoked for his analysis. The internal characteristics of the observed snapshot picture may, of course, themselves reflect particular market relations (and even some underlying equilibration), especially for the observed uniform profit rate and universal wage rate to have come about. But Sraffa is undoubtedly right that no further assumption (for example, of constant returns to scale) need be added to what is already entailed by the observed snapshot picture (without any counterfactual changes being considered).

<sup>15</sup> Sraffa discusses a corresponding distinction in an unpublished note (D3/12/15:2 in the Sraffa collection, Wren Library, Trinity College, italics added) written in 1942 (I am very grateful to Heinz Kurz for drawing my attention to it):

This paper [the forthcoming book] deals with an extremely elementary problem; so elementary indeed that its solution is generally taken for granted. The problem is that of ascertaining the *conditions* of equilibrium of a system of prices & the rate of profits, *independently of the study of the forces which may bring about such a state of equilibrium.*

philosopher at some level, and perhaps an exactly similar thing can be said about the fact that analytical—and even mathematical—curiosity is widespread, and influences our social thinking. The idea that it is possible to find out what the commodity prices are merely by looking at the given “production side” (inputs and outputs), along with the interest rate, is a powerful analytical result.

A second reason for being interested in Sraffa's results is to understand them in terms of the idea of value and the political content of that concept. In classical thought, “value” has been seen not merely as a way of getting at prices (Smith, Ricardo, and Marx all discussed problems in going from values to prices), but also at making a descriptive statement of some social importance. To many economists the idea of “value” appears to be thoroughly wrongheaded. For example, Robinson invoked positivist methodology (she could be described as a “left-wing Popperian”) to dismiss any real relevance of the idea of value in general and its invoking in Marxian economics in particular. In her *Economic Philosophy*, Robinson (1964) put her denunciation thus (p. 39):

On this plane the whole argument appears to be metaphysical; it provides a typical example of the way metaphysical ideas operate. Logically it is a mere rigmarole of words, but for Marx it was a flood of illumination and for latter-day Marxists, a source of inspiration.<sup>16</sup>

“Value will not help,” Robinson concluded. “It has no operational content. It is just a word.”

The philosophical issues raised by Gramsci and Sraffa, and of course by Wittgenstein, have considerable bearing on this question. Just as positivist methodology pronounces some statements meaningless when they do not fit the narrow sense of “meaning” in the limited terms of

<sup>16</sup> Robinson (1964), p. 39.

verification or falsification, the *Tractatus* too saw little of content in statements that did not represent or mirror a state of affairs in the same logical form. This has the implication, as Simon Blackburn (1994) put it, of denying “factual or cognitive meaning to sentences whose function does not fit into its conception of representation, such as those concerned with ethics, or meaning, or the self” (p. 401). In contrast, the philosophical approach pursued by the “later Wittgenstein,” partly influenced by Sraffa himself, sees meaning in much broader terms.<sup>17</sup>

The interpretation of value and its descriptive relevance have been well discussed by Maurice Dobb (1937, 1973), the Marxist economist, who was a close friend of Sraffa and his long-term collaborator in editing David Ricardo’s collected works. Dobb pointed to the social and political interest in a significant description of economic relations between people. Even such notions as “exploitation” which have appeared to some (including Robinson) as “metaphysical,” can be seen to be an attempt to reflect, in communicative language, a common public concern about social asymmetries in economic relations. As Dobb (1973) put it (p. 45):

“exploitation” is neither something metaphysical nor simply an “ethical” judgement (still less “just a noise”) as has sometimes been depicted: it is a factual description of a socio-economic relationship, as much as is Marc Bloch’s apt characterisation of Feudalism as a system where feudal lords “lived on labor of other men.”

Sraffa’s analysis of production relations and the coherence between costs and prices

<sup>17</sup> There is a related issue in epistemology as to the extent of precision that would be needed for a putative scientific claim to be accepted as appropriate. For this issue too, the nature of Sraffa’s analysis has a direct bearing, in line with Aristotle’s claim, in the *Nicomachean Ethics*, that we have “to look for precision in each class of things just so far as the nature of the subject admits.” On this issue, see Sen (1982), essay 20 (“Description as Choice”), and Coates (1996), along with the references cited there. I shall not, however, pursue this question further here.

(within a snapshot picture of the economy), while different from a labor-based description in the Marxian mould, is also an attempt to express social relations with a focus on the production side, rather than on utility and mental conditions. We can debate how profound that perspective is, but it is important to see that the subject matter of Sraffa’s analysis is enlightening description of prices and income distribution, invoking only the interrelations on the production side.

Closely related to this perspective, there is a further issue which involves addressing the classical dichotomy between “use-value” and “exchange-value,” as it was formulated by the founders of modern economics, in particular Adam Smith and David Ricardo. Sraffa and Dobb, who collaborated in the editing of Ricardo’s collected works, had significant interest in this question,<sup>18</sup> and to that issue, I now turn.

### 8. Use, Exchange and Counterfactuals

David Ricardo’s foundational book, *On the Principles of Political Economy and Taxation*, published in 1817, begins with the following opening passage:

It has been observed by Adam Smith, that “the word Value has two different meanings, and sometimes expresses the utility of some particular object, and sometimes the power of purchasing other goods which the possession of that object conveys. The one may be called *value in use*; the other *value in exchange*. “The things,” he continues, “which have the greatest value in use, have frequently little or no value in exchange; and on the contrary, those which have the greatest value in exchange, have little or no value in use.” Water and air are abundantly useful; they are indeed indispensable to existence, yet, under ordinary circumstances, nothing can be obtained in exchange for them. Gold, on the contrary, though of little use compared with air or water, will exchange for a great quantity of other goods.

<sup>18</sup> See particularly Ricardo (1951–73), edited by Sraffa with the collaboration of Dobb, and Dobb (1973).

There is a puzzle here that is of some interest of its own, and can also tell us something about how we may think about prices and values in general. There are two alternative ways of perspicuously explaining how gold can come to command a higher price than water, despite being so much less important for human life. One answer, based on the utility side of the picture, is that given the large amount of water that is generally available and the shortage of gold, the so-called “marginal utility” of water (the incremental benefit that a consumer gets from an additional unit of water) is small, compared with the marginal utility of gold. The other answer is that the cost of production—or of mining—of gold is much higher than that of water, in the situation in which we examine the economy.

Neither explanation is an attempt at causally explaining why and how the prices and quantities that exist have actually emerged. They are, rather, answers to the Smith-Ricardo question: How can people understand why gold “though of little use compared with air or water” exchanges “for a great quantity of other goods”? The cost-based explanation and the utility-based explanation are, thus, alternative ways of explicating what we observe, by invoking ideas like costs of production and marginal usefulness, which can serve as means of social communication and public comprehension.

While Sraffa himself did not publish much that relates *directly* to this interpretational question (except to comment on a distinction involving the use of “counterfactual” concepts, on which more presently), we can get some insight into the issues involved from the writings of Maurice Dobb, Sraffa’s friend, collaborator and exponent. Indeed, in a classic paper on “the requirements of a theory of value,” included in his book, *Political Economy and Capitalism*, Dobb (1937) had argued that a theory of value must not be seen

only as a mechanical device that has merely instrumental use in price theory. Even as theories of value address the “Smith-Ricardo question” regarding a coherent understanding of the dual structure of value in use and value in exchange, they attempt to make important social statements of their own on the nature of the economic world by focusing respectively on such matters as the incremental usefulness of commodities, the satisfaction they can generate, the labor that is used in making them, or the costs that have to be incurred in their production.

The inclination of classical political economy, including classical Marxian economics, to expect from a theory of value something much more than a purely mechanical “intermediate product” in price theory is, of course, well-known. Indeed, this inclination is often taken to be special pleading, for largely political reasons, in a contrived justification of the relevance of labor theory of value. However, this diagnosis does the classical perspective less than justice, since the importance of perspicacious explanation and communication is part and parcel of the classical approach. Indeed, it is important to recollect, in this context, the significance that has typically been attached, in the perspectives of classical political economy and Marxian economics, not just to labor and production, but also to the idea of “use value” (and to its successor concept in the form of satisfaction—or “utility”—that commodities may generate). The comparison between the two rival value theories in the form of labor theory and utility theory was taken to be of interest precisely because both made socially engaging statements; there is no attempt here to deny the nature of social interest in utility theory as a theory of value.

Indeed, in 1929, in a prescient early critique of what would *later* develop into the “revealed preference” approach (led by

Samuelson 1938), Dobb (1929) regretted the tendency of modern economics to downplay the psychological aspects of utility in favor of just choice behavior (p. 32):

Actually the whole tendency of modern theory is to abandon ... psychological conceptions: to make utility and disutility coincident with observed offers on the market; to abandon a “theory of value” in pursuit of a “theory of price.” But that is to surrender, not to solve the problem.<sup>19</sup>

Indeed, “the problem” to which Dobb refers, and to which utility theory of value, like the labor theory, caters, is to make “an important qualitative statement about the nature of the economic problem” (Dobb 1937, pp. 21–22). Dobb went on to distinguish between these two social explanations by noting that “the qualitative statement [utility theory] made was of a quite different order, being concerned not with the relations of production, but with the relation of commodities to the psychology of consumers” (p. 21). In contrast, the picture of the economy presented by Sraffa concentrates precisely on “the relations of production,” and in explicating Sraffa’s contributions, Dobb (1973) pursues exactly this contrast.

There is much evidence that this contrast was of particular interest to Sraffa himself. But in this comparison, Sraffa saw another big difference which was methodologically important for him (though I know of little evidence that it interested Dobb much), given Sraffa’s philosophical suspicion of the invoking of “counterfactual” magnitudes in factual descriptions. Sraffa noted that in

opting for a cost-based explanation (in line with Sraffa 1960), we can rely entirely on “observed” facts, such as inputs and outputs and a given interest rate, without having to invoke any “counterfactuals” (that is, without having to presume what would have happened had things been different).<sup>20</sup> This is not the case with the utility-based explanation, since “marginal utility” inescapably involves counterfactual reasoning, since it reflects how much extra utility one *would have* if one had one more unit of the commodity.

The philosophical status of counterfactuals has been the subject of considerable debating in epistemology. I see little merit in trying to exclude counterfactuals in trying to understand the world.<sup>21</sup> But I do know—from extensive conversations with Sraffa—that he did find that the use of counterfactuals involved difficulties that purely observational propositions did not. It is not that he never used counterfactual concepts (life would have been unbearable with such abstinence) but he did think there was a big methodological divide here. Whether or not one agrees with Sraffa’s judgement on the unreliability of counterfactuals, it is indeed remarkable that there is such a methodological contrast between the utility-based and cost-based stories (in the Sraffian form). The difference between them lies not merely in the fact that the former focuses on mental conditions in the form of utility while the latter concentrates on material conditions of production (a contrast that is easily seen and has been much discussed), but also in the less-recognized distinction that the former has to invoke counterfactuals, whereas the latter—in the Sraffian formulation—has no such need.

<sup>19</sup> Dobb (1929), p. 32. It is also of interest to note that in a letter to R. P. Dutt, another Marxist intellectual, Dobb wrote on May 20, 1925 (as it happens, shortly after his first meeting with Piero Sraffa): “the theory of marginal utility seems to me to be perfectly sound, & as explanation of prices & price changes quite a helpful advance on the classical doctrine, framing it more precisely & forging a more exact tool of analysis.” On this see Pollit (1990).

<sup>20</sup> See Sraffa (1960), pp. v–vi.

<sup>21</sup> Indeed, the reach of economics as a discipline would be incredibly limited had all counterfactual reasoning been disallowed, as I have tried to discuss in Sen (2002); see also Sen (1982), essay 20 (“Description as Choice”), pp. 432–49.

### 9. Concluding Remarks

The critical role of Piero Sraffa in contributing to profound directional changes in contemporary philosophy, through helping to persuade Wittgenstein to move from the *Tractatus* to the theory that later found expression in *Philosophical Investigations*, is plentifully acknowledged by Wittgenstein himself (as well as by his biographers). What may, however, appear puzzling is the fact that Sraffa remained rather unexcited about the momentous nature of this influence and the novelty of the ideas underlying it. However, the sharpness of the puzzle is, to a great extent, lessened by the recognition that these issues had been a part of the standard discussions in the intellectual circle in Italy to which Sraffa belonged, which also included Gramsci.

As a result, the weakness of Wittgenstein's view of meaning and language in *Tractatus* would have come as no surprise to Sraffa, nor the need to invoke considerations that later came to be known as "the anthropological way" of understanding meaning and the use of language. There appears to be an evident "Gramsci connection" in the shift from the early Wittgenstein to the later Wittgenstein, though much more research would be needed to separate out, if that is possible at all, the respective contributions of Sraffa and Gramsci to the ideas that emerged in their common intellectual circle.

Turning to Sraffa's economic contributions, they cannot, in general, be divorced from his philosophical understanding. After his early writings on the theory of the firm (and his demonstration of the need to consider competition in "imperfect" or "monopolistic" circumstances), his later work did not take the form of finding different answers to the standard questions in mainstream economics, but that of altering—and in some ways broadening—the nature of the inquiries in which mainstream economics was engaged. I have

argued in this essay that it is possible to interpret Sraffa's departures in terms of the communicational role of economic theory in matters of general descriptive interest (rather than seeing them as attempts at constructing an alternative causal theory of the determination of prices and distribution).<sup>22</sup>

Sraffa used analytical reasoning to throw light on subjects of public discussion in political and social contexts. In particular, he demonstrated the unviability of the view that profits can be seen as reflecting the productivity of capital. More constructively, Sraffa's work throws light on the importance of value theory in perspicacious description. The contrast between utility-based and cost-based interpretation of prices belongs to the world of pertinent description and social discussion, and the rival descriptions are of general interest; these have been invoked in the past and remain relevant today. The inquiry into alternative descriptions differs from the subject of causal determination of prices, in which *both* demand and supply sides would tend to be simultaneously involved.

There is an obvious similarity here with John Hicks's (1940, 1981) classic clarification that while utility and costs are *both* needed in a theory of price determination, when it comes to "the valuation of social income," utility and costs provide two *alternative* ways of interpreting prices, with respectively different implications on the understanding of social or national income. The measurement of social income "in real

<sup>22</sup> Since Sraffa's (1960) classic book has the subtitle "Prelude to a Critique of Economic Theory," there has been some temptation to presume that once the "critique"—to which that book is a "prelude"—is completed, Sraffa would have expected it to yield an alternative theory of prices and distribution. If the arguments presented in this essay are correct, this presumption is mistaken. Sraffa was, in this view, trying to broaden the reach and scope of economic inquiries, not just trying to find different answers to the questions standardly asked in mainstream economic theory.

terms may mean valuation in terms of utility, or in respect of cost, and that these two meanings are in principle different" (Hicks 1981, p. 142).<sup>23</sup>

In pursuing the descriptive distinction between utility and costs, Sraffa attached importance to the demonstration that his account of the cost-based story (as in Sraffa 1960) draws exclusively on *observed* information, rather than having to invoke any *counterfactual* presumptions. This differs from the utility-based picture, since the concept of marginal utility is constitutively counterfactual. How methodologically significant this distinction—between descriptions *with* or *without* counterfactuals—in fact is remains an open question (I confess to having remained a skeptic), but it is a subject to which Sraffa himself attached very great importance. It also relates to other methodological features of Sraffa's analysis, including his strenuous—but entirely correct—insistence that his analysis does *not* need any assumption of constant returns to scale.<sup>24</sup>

The temptation to see Sraffa's contribution as a causal theory of price determination

<sup>23</sup> The extensive reach of the Hicksian contrast between the two alternative perspectives are among the subjects explored in Sen (1979). In commenting on his earlier 1940 paper, Hicks (1981) remarks that "I now think that in my 1940 article I claimed too little for the cost measure" (p. 143). A pioneering exploration of the production-based, rather than utility-based, evaluation of national income can be found in James Mirrlees (1969). Since that evaluation involves investigation of production possibility for real income comparisons (a quintessentially counterfactual exercise), Mirrlees's analysis goes in a very different direction from Sraffa's investigation of the internal relations on the cost side, for a given production situation. The point of similarity lies only in (1) the fact that a complete theory of causal determination of prices is not needed either for evaluation of social income or for using value theory for social description of utility or costs, and (2) the fact that the separation of the cost story from the utility story is involved in both the exercises.

<sup>24</sup> See Sraffa (1960), pp. v–vi. Sraffa notes that "when in 1928 Lord Keynes read a draft of this paper, he recommended that, if constant returns were *not* to be assumed, an emphatic warning to that effect should be given" (p. vi). That "emphatic warning" can be found in the preface to Sraffa (1960).

(managing, mysteriously, without giving any role to demand conditions) must be resisted. Everything here turns on the meaning of "determination" and the usage of that term on which Sraffa draws. The sense of "determination" invoked by Sraffa concerns the mathematical determination of one set of facts from another set. To illustrate the point (with a rather extreme example) a sundial may allow us to "determine" what time it is by looking at the shadow of the indicator (gnomon), but it is not the case that the shadow of the indicator "causally determines" what time it is. The value of a clock does not lie in its ability to "fix"—rather than "tell"—the time of day.

It would have been very surprising if, in his economic analysis, Piero Sraffa were not influenced by his own philosophical position, and had stayed within the rather limited boundaries of positivist or representational reasoning commonly invoked in contemporary mainstream economics. In addressing foundational economic issues of general social and political interest (some of which have been discussed over two hundred years), Sraffa went significantly beyond those narrow barriers. It is, I suppose, comforting to know that there were not many Piero Sraffas, but one.

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