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Political Economy as Theory of Society

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1 Introduction

Political economy is concerned with the material life of the polity. It historically developed by emphasizing the interdependencies between relevant economic units in the polity under consideration and/or the relationship between political (systemic) objectives and the means available to achieve those objectives. James Steuart's definition is clear evidence of the position of political economy between the formulation of blueprints for action and the discovery of objective causal mechanisms. On the one hand, Steuart highlights that '[T]he principal object of [political economy] is to secure a certain fund of subsistence for all the inhabitants, to obviate every circumstance which may render it precarious; to provide every thing necessary for supplying the wants of the society, and to employ the inhabitants (supposing them to be free-men) in such

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a manner as naturally to create reciprocal relations and dependencies between them, so as to make their several interests lead them to supply one another with their reciprocal wants' (Steuart 1966 [1767], p. 21). On the other hand, he also emphasizes that '[e]conomy, in general, is the art of providing for all the wants of a family, with prudence and frugality. *If any thing necessary or useful be found wanting, if any thing provided be lost or misapplied* […] we immediately perceive a want of economy […] What economy is in a family, political economy is in a state […] The statesman […] is neither master to establish what economy he pleases, or in the exercise of his sublime authority, to overturn at will the established laws of it, let him be the most despotic monarch upon earth. The great art therefore of political economy is, first to adapt the different operations of it to the spirit, manners, habits, and customs of people; and afterwards to model these circumstances so as to be able to introduce a set of new and more useful institutions' (Steuart 1966 [1767], pp. 19–21; added emphasis). Steuart's account brings to light the dual character of political economy, which is at the same time instrumental and positive. Its 'principal object' is the pursuit of the effective provision of needs in the light of 'established laws' (the causal mechanism at work at any given time and place). Indeed, pursuing that objective may require the transformation of those laws into 'new and more useful institutions' whenever established laws become a hindrance to effective need provision.

The intertwining of the instrumental and positive points of view has remained a feature of economic reasoning ever since. However, the two points of view entail an emphasis on different features of the economy. This difference led Lionel Robbins to contrast the 'materialist' and the 'scarcity' definitions of the subject matter of economics. The former relates economics 'to the study of the causes of material welfare' (Robbins 1984 [1932], p. 4); the latter relates it to 'human behaviour as a relationship between ends and scarce means which have alternative uses' (Robbins 1984 [1932], p. 16). Robbins acknowledges that the 'materialist' definition 'would probably command most adherents, at any rate in Anglo-Saxon countries' (Robbins 1984 [1932], p. 4), but he finds it wholly inadequate even when considering the material sphere of production. For he argues that in this case too '[t]here is still an economic problem of deciding between the "economic" and the "non-economic"' (Robbins 1984 [1932], p. 11). Robbins's view signals a sharp break from previous treatments, in which economics as 'political economy' is 'the science of economic organisation' (Cannan 1929, p. 40), and the relevant object of study is generally identified with the 'economy of the State' (Cannan 1929, p. 39). In the latter case, what is fundamental is not the relationship between limited available means and human wants but the proportionality conditions turning a collection of activities into a working

system for the provision of human needs. Yet one could argue that in both the 'materialist' and the 'scarcity' views, economic reasoning pinpoints conditions for the effective arrangement of human activities to fulfil individual or collective requirements. The split between the 'materialist' and the 'scarcity' approaches relates to the point of view adopted in addressing that issue. The scarcity approach considers the dispositional activity per se, independently of which specific objectives that activity should achieve (the '*de gustibus non est disputandum*' condition is central to that point of view). The materialist approach identifies a specific objective (how to achieve a self-sustaining economic system) and highlights the material requirements to fulfil that objective. In short, the scarcity approach presupposes but does not investigate material (structural) conditions, while the 'materialist' approach presupposes but does not investigate dispositional activity. This chapter puts forward a view of political economy that brings together the attention for dispositional activity and for the structure of material conditions within the polity.

2 The Dual Character of Political Economy

The dual character of political economy is at the core of a dichotomy that economists such as John Hicks and Luigi Pasinetti consider to be constitutive of economic theorizing.

In Pasinetti's view:

> [T]he concept of trade is, so to speak, a static concept. It is associated with a situation in which a plurality of economic systems (or of individuals) are endowed with particular resources or products and try to gain advantages by exchange. The interest that such a situation arouses in an economist concerns the problem of how to reach the best allocation of given resources, namely of how to make the best use of what one has already … The problem involved is a problem of rationality, which may be expressed by a mathematical function to be maximized under certain constraints. The concept of, and the problems entailed by, industry are quite different. Industry is, so to speak, a dynamic concept. It means production, i.e. the engagement and the application of man's ingenuity to make and shape the products he wants. But since by doing and experiencing man learns, it is implied in the very nature of carrying on a production activity that new and better methods of production will be discovered. Of course, to find new methods takes time, and takes time in a persistent way. The economist is faced here no longer with a problem of rationality, but with a process of learning. (Pasinetti 1965, pp. 574–575)

In a similar vein, John Hicks describes the shift in economic theorizing that occurred in the 1870s when marginalist economic theories raised a challenge against theories of the classical type:

> [t]he economists who led such a revolution are commonly called 'marginalists'; but that is a bad term, for it misses the essence of what was involved. The 'margin' is no more than an expression of the mathematical rule for a maximum (or minimum); any sort of economics is marginalist when it is concerned with maximizing […] The essential novelty in the work of these economists was that instead of basing their economics on production and distribution, they based it on exchange. I therefore propose to make use of a term which was sometimes used, at the time in question, to mean the theory of exchange, it was called catallactics. So I shall re-name the so-called marginalists as catallactists. There is, of course, no doubt that exchange is a basis feature of economic life, at least in a '"free", or what Marx would have called a "capitalist" economy. (Hicks 1976, p. 212)

In Hicks's view, this intellectual development suggests a distinction between two separate sub-disciplines, which he respectively calls 'plutology' and 'catallactics'. The former ('plutology') is the study of national wealth, principally in its association with the flow of production, under the assumption that the flow of production 'is so far homogeneous that it can be greater or less' (Hicks 1976, p. 210; see also Hicks 1976, pp. 215–216, and Hicks 1975). The latter ('catallactics') is the study of dispositional activity bringing individuals (or social groups) to substitute one collection of goods for another, as characteristically occurring in exchange (Hicks 1976, p. 212; see also Hicks 1975). In plutology, there is a concentration of attention on the systemic requirements for the reproduction and expansion of the overall system. This emphasis expresses itself in the analysis of the system's net product (Physiocrats, Classical Economists) and in the consideration of the macroeconomic relationship between the net product and the amount of resources employed in its formation (Pigou 1912, 1920; Keynes 1936). Plutology leads economists to think of wealth as the system's capacity of producing annual product and income flows, and to develop a theory of value whose primary purpose 'is not to explain prices, that is to say, to explain the working of markets', but rather 'to identify the values which are needed for the *weighing* of the social product, the reduction of the heterogeneous commodities which compose it to a common measure' (Hicks 1976, p. 211). On the other hand, catallactics concentrates on the systemic requirements for the coordination of rational choices in view of exchange. This concentration of

attention expresses itself in the analysis of the conditions for market clearing in a perfectly competitive economy (Walras 1874–77; Cassel 1923), the identification of criteria for the efficient allocation of resources in a multi-agent setting (Pareto 2014 [1906]; de Finetti 1998 [1931]) and the analysis of the relationship between competitive equilibrium and efficient allocation (Arrow 1951; Debreu 1954). Catallactics leads economists to think of wealth as a fund and to develop a theory of value whose purpose is primarily to explain prices as tools for coordination in an exchange economy.

Both catallactics and plutology (or, in Pasinetti's terms, the pure exchange and pure production models of the economy[1]) developed into fully fledged theoretical systems that gradually extended to encompass the whole domain of economic actions and structures (Baranzini and Scazzieri 1986). However, 'the differences between the points of departure are as evident as the differences between the priorities accorded to the phenomena studied, and the interpretations of the phenomena themselves are often very different between the two approaches' (Quadrio Curzio and Scazzieri 1986, p. 379). For instance, 'the application of the exchange paradigm to production and distribution [within the general equilibrium framework] created a theory of impressive and comprehensive generality; but it did so by concentrating on some aspects of economic behavior to the exclusion of others' (Hennings 1986, p. 240).[2] On the other hand, the application of the production paradigm to the sphere of exchange went hand in hand with the idea that the organization of production shapes 'the composition of social consumption' (Bharadwaj 1986, p. 353). This highlights that patterns of individual consumption are significantly dependent on the grouping of individuals into larger social units (of which social classes are an example) (Bharadwaj 1986, p. 353).

[1]Pasinetti initially proposed a distinction between maximization models reflecting the 'phase of trade' and production models reflecting the 'phase of industry' opened by the Industrial Revolution (Pasinetti 1965). Subsequently, he described the same duality first by distinguishing between theories of the pure exchange type and theories of the pure production type (Pasinetti 1981) and later by separating the 'pure exchange, or pure preference model' from the 'pure labour model' of the economy (Pasinetti 1986, 2007).

[2]Hennings argues that 'the Austrian emphasis on the structure of production', 'the Marshallian emphasis on firms, on entrepreneurs and on non-perfect competition', and 'the emphasis […] on economic dynamics and disequilibrium situations' raised questions that could not be answered in the canonical version of general equilibrium theory (Hennings 1986, p. 240).

3 Ends, Means and Objective Conditions

It is our contention that, despite the different priorities accorded to economic phenomena and the different questions raised, catallactics and plutology point to complementary aspects of political economy as the study of structurally constrained social action of the means-aims type. Actions of this type presuppose aims, means and objective conditions intertwined within the system of events to which actions belong. This conjunction makes it inadequate to address economic actions by solely looking at those actions as elements of a collection of subjective plans *or* as elements of an objective system of events independent of human intentionality. In fact, means-aims action involves intentional reasoning as well as objective conditions and mechanisms. Tadeusz Kotarbińsky noted in this connection that: '[t]he essential problems of economics have […] a normative character. Economics poses the question how the actions of a human team, engaged in co-stewardship, should be influenced, so that it operates in a rational manner, i.e. in the most efficient manner. But to prepare solutions of this type of problem one should know the dynamics of the spontaneous formation of structures of the team engaged in stewardship, in other words, the relationship between their parts, which are generated independently of the external factors, programmed in advance. Problems of this kind, from the sphere of the science of the laws of these dynamics, have not a normative, but an assertive character' (Kotarbińsky 1965, p. 304; see also Kotarbińsky 1960).

The intertwining of intentional actions and objective structures is a constitutive feature of political economy and is at the root of the descriptive duality of economic actions (see Davidson 1985, for a discussion of the descriptive duality of actions in general).[3] Economists have responded to that duality by moving beyond the 'maze of interconnections' making up the political economy of any given society and building theories 'trying to get down to the fundamentals' (Pasinetti 1986, p. 414). If we look at the foundational problem of economic value, this endeavour led theoretical economists to make a choice between 'the "objective" route of cost-of-production and, more particularly, of a labour theory of value; and the "subjective" route of a "marginal utility" theory of value' (Pasinetti 1986, p. 415). The 'subjective route' is principally associated with the consideration of the sphere of exchange (catallactics), whereas the 'objective route'

[3]Descriptive duality may be one important reason behind the possibility to analyse economic actions in terms of 'objective' or 'subjective' criteria, as discussed below (see also Scazzieri 1993).

has primarily investigated production and its contribution to the formation of national wealth (plutology). However, we argue that both catallactics and plutology include elements of *each* approach and highlight the need for a more comprehensive understanding of political economy at the interface between goals and structural conditions. If we look at the catallactic tradition, Léon Walras explicitly emphasizes the importance of objective elements in his analyses of choice and allocation through exchange: 'any value in exchange, *once established*, partakes of the character of a natural phenomenon, natural in its origins, natural in its manifestations and natural in essence' (Walras 1954 [1874–77], p. 69; emphasis added). Indeed, Walras' work on the general equilibrium of a competitive market economy started from Quesnay (the transition arguably occurred through Isnard, who interpreted Quesnay's *Tableau* from the point of view of market interdependencies; see Isnard 1781 and Jaffé 1969). Subsequent developments of the catallactic tradition also acknowledged the role of objective conditions, and of their unfolding, in determining the character of individual choices and of the corresponding modes of coordination. For example, objective conditions, in Carl Menger's sense of conditions independent of human will (Menger 1981 [1871], Chapter 4), are central in Friedrich von Hayek's theory of the evolution of complex economic systems (Hayek 1967) and in Werner Hildenbrand's discussion of the distributional (systemic) prerequisites for resource endowments compatible with the stability of general competitive market equilibria (Hildenbrand 1989, 1994, 1998). The intertwining of means-ends reasoning with the consideration of the internal structure of material conditions is also manifest in the subsequent developments of plutology. Arthur Cecil Pigou's theory of the 'national dividend' (Pigou 1912, 1920) established modern macro-analysis within the normative framework of welfare economics (see also Hicks 1975). Similarly, Jan von Neumann's analysis of the conditions for growth at the maximum rate compatible with any given production technology highlights the need to address the constraints arising from the internal structure of the production system to solve a characteristic problem of the means-ends type (von Neumann 1945–46 [1935–37]; Champernowne 1945–46; Chakravarty 1989).

Political economy is intrinsically concerned with problems of the means-ends type. Human activities unfold within economic structures (that is, relatively invariant patterns of interdependence), which may themselves change over time as a result of the means-ends problems being addressed. As we have seen, the concern for the 'right' proportions and allocation of means to achieve stipulated objectives is not exclusive to catallactics

(allocation of *given* means to alternative ends by means of exchange). In fact, there is an important element of allocation in plutology as well. For a central concern of the theory of production at systemic level is how to identify 'right' proportions between productive sectors, and thus the appropriate distribution of human activity between different employments in view of systemic conditions (viability) and economic-political objectives. Hence, even models based on pure reproducibility (à la von Neumann and Pasinetti) contain a principle of instrumental rationality: the conditions for the system to achieve an economic objective, such as maximum growth (von Neumann) or full employment and full capacity utilization (Pasinetti). However, addressing means-ends conditions in models of the production type (plutology) takes us a long way from Lionel Robbins's view of production as a special case of the allocation of given resources 'to increase opportunities of consumption' (Robbins 1933, p. 463). In fact, Philip Henry Wicksteed's definition of economics as 'a study of the principles of administration of resources and selection between alternatives, conceived without any formal or conventional limitations' (Wicksteed 1933 [1910], p. 17) may also apply to a political economy of the plutology type. However, this would involve moving beyond Lionel Robbins's definition of economics as 'the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses' (Robbins 1984 [1932], p. 16). For it may require turning back to Wicksteed's general description of economics as a branch of the 'general science of administration of resources' (Wicksteed 1933 [1910], p. 16), which would include Robbins' emphasis on allocation of *given* scarce means as a special case. Means-ends reasoning underlies both the scarcity framework of catallactics and the producibility framework of plutology. The two approaches emphasize different aspects of a nation's wealth: as a *fund* of non-produced resources in catallactics and as a *flow* of produced goods and services in plutology (Pasinetti 1977). In either case, proportionality conditions are of central importance. However, catallactics emphasizes proportionality as the right distribution of 'scarce means' in view of given objectives, whereas plutology highlights proportionality between production processes as a prerequisite for the sustainability (viability) of social production even in the absence of scarcity constraints. The latter point of view recalls the Physiocratic attention for productive linkages between social classes within the polity (Mercier de la Rivière 1767) and emphasizes means-ends problems of the structural type, that is, problems whose solution primarily requires identification of an appropriate system of relative weights between different productive sectors and/or socio-economic groups.

Means-ends reasoning in economic theory developed along two directions. On the one hand, it was extended to the exploration of the general features of agents' dispositional attitudes (Robbins 1933, 1984 [1932]; Mises 1949 [1940], 1960 [1933]), the construction of general objective functions through the attachment of weights to different partial objectives (de Finetti 1952, 1998 [1931]), agents' attitude towards uncertainty (Knight 1921; Keynes 1921; Shackle 1949, 1961; de Finetti 1931, 1964 [1937], 1974–75) and agents' beliefs as the structuring condition of their possibility spaces (Arrow 1982; Bacharach 1986, 1989; Kahneman and Tversky 1979). On the other hand, the consideration of the internal structure of constraints in the economy made it possible to study which individual and collective actions are feasible in the pursuit of a given objective. Quesnay's *Tableau économique* is a seminal contribution in this analytical tradition (Quesnay 1972 [1759]). Quesnay starts with a reconstruction of intermediate and final product flows between different socio-economic groups (agriculturists, manufacturers and the landed classes) in a circular, land-using economy, and outlines a proportionality condition for such an economy to reproduce itself from one period to another without diminishing its productive potential. For this to be possible, intersectoral product flows must allow the reproduction in any given period of the means of production used up for the current production of that period. Intersectoral product flows are also central in Karl Marx's (1983 [1867]) and Piero Sraffa's (1960) studies of the distribution of the economy's net product between social classes, Wassily Leontief's analysis of the interindustry structure of a modern production economy (Leontief 1941), and Jan von Neumann's investigation of proportionality conditions for maximum growth in a 'pure capital' economy (an economy in which all produced goods are inputs to themselves and/or to other goods) (von Neumann 1945–46 [1935–37]).

Despite the alternative emphasis on the visualization of certain opportunities and constraints, or on the internal structure of existing constraints and opportunities, the two political economy traditions closely intertwine. In fact, analysis of means-ends action is necessary to understand which path of structural change is undertaken out of the many that are made possible by a given economic structure. At the same time, understanding relevant structural conditions is necessary for means-ends actions to achieve any given objective.

4 Traditions of Political Economy and Types of Interdependence

Political economy, as construed in this Handbook, deals with how the material sphere makes it possible to satisfy objectives within the polity, considering objectives that are strictly economic, such as systemic viability, as well as the objectives of various actors that are not strictly economic, such as positional goals within power structures (be they within the same polity or relative to other polities). Economic theory suggests different approaches to political economy depending on the route followed in addressing the material needs in the polity. One route highlights dispositional activities associated with a plurality of objectives and a given set of constraints (generally a given distribution of resources between individual or collective actors). The other route highlights dispositional activities associated with a given objective (the provision of material needs) and a variable set of constraints (such as multiple technological structures and a variable distribution of resources between individual or collective actors) (see Scazzieri 2018, this Handbook).

The foregoing characterization of the field of political economy as one that encompasses means-ends action and structural conditions is rooted in its emergence as a distinct field of investigation in the formative period of the early modern state. Antoine de Montchréstien's early use of the term *économie politique* (Montchréstien 1999 [1615]) points to the process by which growing interdependencies between real and financial markets as well as among production activities at the national and international levels came to be constitutive of the political order of society. The new field of political economy expressed the need to systematically address those interdependencies and to encourage consolidation of the political order on a reliable and stable foundation of material resources. Political economy developed from a variety of intellectual sources. The classical tradition of *oikonomia* suggested the idea that one can identify and use rational principles as a benchmark for the allocation of available resources between different uses. As the Renaissance philosopher Augustinus Niphus pointed out: 'The first objective of economic activity is the right stewardship of things pertaining to the household, its ultimate objective is life, as Aristotle and Plato argue, indeed the diligent and industrious life of those living together in the same household' (Niphus, as quoted in Martello 1912, p. 330).[4] Following a different

[4]'Opus autem oeconomicum primum est rerum familiarum recta dispensatio, ultimum autem est vita, ut Arisot et Plato asserunt, atque studiosa vita eorum qui in eadem domo convivunt' (Niphus, as quoted in Martello 1912, p. 330).

conceptual strand, the humanist tradition of writings on 'civil life' suggested that principles governing human sociability could also explain and govern the interconnectedness of individuals and groups in the material sphere (the sphere in which division of labour provides the goods and services needed to the subsistence and welfare of societies). Indeed, this interconnectedness became the foundation of civil life itself: 'Civil Life I define as the life which we enjoy in community with other people, to the mutual benefit or profit' (Lipsius 2004 [1589], I.i.1, p. 261). The interface between *oikonomia* and *vita civilis* opened a new field of social investigation. The quest for rational principles ensuring the right allocation of resources within the household was extended from individual household units to the whole economic-political system. On the other hand, the sphere of *vita civilis* came to include not only general sociability conditions but also the proportionality criteria that should govern the interdependence between productive sectors and/or social groups. The search for the 'law' (nomos) expressing right allocation moved from the individual to the collective sphere, so that the collective sphere itself became the object of a rational investigation concerning the proportionality between activities in the social domain. This transition had important consequences for the type of proportionality criterion to be considered. For the *oikonomia* of individual households is primarily concerned with the right distribution of existing resources between different uses. On the other hand, the switch to the collective sphere entailed that resources that could be considered as given (and limited) from the point of view of each individual household were not necessarily so from the point of view of the whole system of interdependent activities. In fact, the consideration of *vita civilis* as a set of interdependent activities often involved switching from scarcity to producibility, in the sense that the resource thresholds constraining individual households could often be removed, or at least shifted upwards for a significant time. Indeed, the switch to the producibility setting called attention to a dimension of allocation that had previously been overlooked. This is the proportionality condition that must be satisfied by any collection of interdependent activities for those activities to be effectively integrated with one another in the production system. In this case, the allocation problem moves from the distribution of goods of the scarcity type to the effective organization of division of labour in the delivery of goods of the production type. This switch is fundamental for a number of reasons. First, the search for proportionality moves from the individual to the collective sphere. Second, the collective sphere becomes proper object for systematic economic inquiry. Third, this investigation identifies a new approach in which the search for new principles of allocation (the *nomos* of material life)

combines with the quest for context-relevant allocation criteria (e.g. whether scarcity-type goods or production-type goods should be the primary object of investigation) and with the determination of policy principles fitting the configuration of opportunities and constraints characterizing any given context.

A first attempt to portray political economy as a distinctive systematic approach to the study of society may be found in Antonio Serra's *Brief Treatise* (Serra 2011 [1613]). In the opening pages of that work, Serra argues for the need to apply to the study of national wealth the same methodological principles characterizing the study of natural phenomena:

> [The causes of national wealth] may be subdivided into two kinds: proper accidents and common accidents. Accidents are proper when they occur, or may occur, in one particular kingdom and not in others; and they are common when they occur, or may occur, in any kingdom. Of the proper accidents which can make a kingdom abound in gold and silver, there are two main ones. The first is a domestic agricultural surplus, which occurs when the commodities produced by the kingdom exceed the amount required for the needs and comfort of the inhabitants … This accident is proper because it does not, and cannot, occur in every kingdom. It is more important in our Kingdom than in any other part of Italy, as is well known. The second proper accident is geographical position with respect to other kingdoms and parts of the world. This must be numbered among the proper accidents because it is a powerful occasion for, and almost a cause of, vigorous trade, both with other parts of the world and within the kingdom itself, and this trade causes an abundance of gold and silver. […] In this proper accident [the city of Venice] holds the first place, not only in Italy but in Asia and Europe: whereas the Kingdom of Naples is more deficient in this accident than any other region […] The principal common accidents are four in number: a multiplicity of manufacturing activities, an enterprising population, extensive trade and effective government. These accidents may be termed common because they are possible in any kingdom. If all four of them should occur in one place, there is no doubt that, even if there were no domestic agricultural surplus and everything had to be imported, they would still make that place abound in gold and silver even if the country had no mines of those metals. (Serra 2011 [1613], p. 119)

Serra's approach is remarkably close to subsequent analyses in its claim that an 'objective' study of the principles governing the formation of national wealth is possible. Indeed, Serra's causal analysis would fit Henry Sidgwick's description of Adam Smith's *Wealth of Nations* as a study aimed at tracing 'the laws (in the naturalist's sense) by which [the national production and

distribution of wealth] actually *are* governed' rather than at 'recommending laws (in the jurist's sense) by which [those processes] *ought to be* governed' (Sidgwick 1883, p. 18; author's emphasis). Indeed, Serra is even more explicit than many subsequent writers in claiming for political economy the status of a scientific discipline and correspondingly in emphasizing the need to identify conditions that would allow distinguishing between general principles and *ad hoc* circumstances. Serra's treatment of this distinction is in fact one of the earliest analyses of the causal mechanism of national wealth formation and of the plural ways in which this mechanism may work under different historical, institutional and geographical conditions. Against this analytical background, Serra acknowledges the need for economic policy to recognize the fundamental (general) mechanism of wealth formation and the specific conditions of time and place that may require different policy actions.

One important application of Serra's approach to the study of the wealth of nations is his theory of increasing returns and the policy guidelines that follow from it. Serra sees increasing returns as a general possibility associated with subdividing manufacturing activities into increasingly small and simple fabrication stages, thereby generating a cumulative (self-reinforcing) process of improvements in productive efficiency. However, Serra argues that the triggering of increasing returns must be distinguished from the technological and organizational possibility of subdividing manufacturing activities into smaller units. In fact, increasing returns presuppose a plurality of causal factors interacting with one another to generate a process that may become self-reinforcing over time. This process is at work in the economy of Venice:

> [Venice] is […] aided by its multiplicity of manufacturing activities, an accident which attracts a large number of people to the city. Here the determining factor is not the multiplicity of manufacturing activities alone, for if that were the case we would have to attribute the cause to that accident, but a combination of two accidents, each of which lends force to the other. For the number of people attracted by the extensive trade and the geographical position is increased still further by the number of businesses, and the number of businesses is increased by the extensive trade, which is itself increased by the number of people who come to the city. (Serra 2011 [1613], p. 127)

In Serra's analysis, increasing returns are not triggered by any single factor (say, the existence of a manufacturing base or the extent of commerce) but by 'a combination of two accidents'. This remarkable statement points to the interdependence of distinct causal factors in bringing about the cumu-

lative process of increasing returns. It also highlights that increasing returns derive from the mutually reinforcing action of (i) the structural dynamics of manufacturing production that allows increases in activity levels 'at a proportionately lower cost' (Serra 2011 [1613], p. 121) and (ii) the behavioural and institutional dynamics of commerce, which allows the implementation of the structural advantages inherent to manufacturing technology thanks to the overall increase in activity levels. The distinction between the structural conditions allowing economic actions (in this case, manufacturers' decisions to increase activity levels and split manufacturing processes into more elementary fabrication stages) and the causal factors triggering those very actions (the greater extent of commercial opportunities) points to a fundamental characteristic of political economy as it was taking shape in Serra's times. This is the interdependence between structural conditions and the economic actions that take place under those conditions but may in turn influence those very conditions over time. Indeed, Serra's analysis of increasing returns suggests a mutually reinforcing interaction between structures and actions and makes this interaction a cornerstone of the plural causality mechanism at work in his case.

This feedback process explains the context-dependent approach to policy that characterizes Serra's *Brief Treatise*. Serra's assessment of the structural conditions that need to be satisfied for foreign trade to make a positive contribution to the formation of national wealth is a case in point. Here too Serra highlights the plural causality at work behind increasing returns, and the need not to assign the role of sufficient cause to factors that can *only* lead to increasing returns if working in conjunction with other factors. Thus, Serra highlights the positive contribution of openness to foreign trade in the case of Venice but denies that foreign trade would have a positive influence on wealth formation in the Kingdom of Naples. For Venice is a commercial hub in which trade consists 'in importing the goods of foreign countries and exporting them to other foreign countries' (Serra 2011 [1613], p. 219). Here, foreign trade triggers greater activity levels in Venetian manufacturing, which in turn lead to increasing returns. This outcome would not be feasible for the Kingdom of Naples, in which both location and the lack of a manufacturing base would make industrial transformation for export impossible (Serra 2011 [1613], p. 219).

To summarize, political economy in its formative period looks at the interface between structural conditions and economic-political actions by emphasizing the link between plurality of causation, feedback mechanisms and context dependence. Causal plurality highlights the 'contingent' feature of certain paths of structural change (such as the structural changes along

increasing returns paths). This means that, given appropriate technological opportunities, increasing returns may or may not take place depending on whether certain additional conditions (such as geographical location or extent of commerce) are satisfied. On the other hand, once a certain dynamic (such as increasing returns) sets in, the structural conditions determining the feasibility range of policy actions are also likely to change. For example, the environment determining whether a country should adopt a free trade policy or protection is not the same before and after the onset of increasing returns. This conceptual framework makes economic policy highly context-sensitive since policy assessment is rooted in the structural opportunities and constraints of any given situation.

Successive phases in political economy have seen a concentration of attention on different types of interdependence between individuals or social groups. For example, Serra's analysis of increasing returns in manufacturing is closely associated with the consideration of international trade and of the links that export-led growth makes possible both externally (between trading countries) and internally (between fabrication stages of commodities sold in foreign markets). In a later period, political economists also became interested in the interdependencies holding together the different parts of any single economy considered as a collection of production and consumption activities. Pierre de Boisguillebert, who was writing between the close of the seventeenth and the early years of the eighteenth century, called attention to the proportions to be maintained between the different production activities in order to avoid both commodity gluts and scarcity crises. According to Boisguillebert, to keep right proportions between activities is a necessary condition for the formation and persistence of a country's wealth: 'it is thus proportions that make the whole wealth' (Boisguillebert 1707a; see also Boisguillebert 1707b).[5] Boisguillebert's recognition of the circular flow interconnecting the production and consumption activities taking place within any given economic-political system is a stepping stone towards the later discovery by François Quesnay that the proportions ensuring the sustainability (reproducibility) of the system's gross product may be compatible with the formation of a net product over and above what is needed to reproduce the gross product at any given scale. Quesnay's theory of the net product (*produit net*) highlights two related aspects of the proportionality principle: (i) the proportionality between productive sectors required to make the social product sustainable (reproducible) from one production

[5]'Ce sont donc les proportions qui font toute la richesse' (Boisguillebert 1707a).

cycle to another independently of the absolute level of activity of the different sectors; (ii) the effective demand required to make a given level of activity sustainable over time. In Quesnay, there is a close relationship between proportionality conditions on the production side and proportionality conditions on the demand side. Thus, the 'right proportions' within any given economic-political system would reflect both production technology and the social structure of the system. In Quesnay's analysis, the full reproduction of any given set of production and consumption activities at a given scale requires both the availability of appropriate stocks of means of production (Quesnay's *avances*) at the beginning of any given production cycle and the utilization of the whole net product (as unproductive consumption) to allow 'the annual net product to return to the productive class' (Quesnay 2006 [1758], p. 348). This point of view highlights the role of social structures in closing the degrees of freedom provided by net output formation. The subsequent contribution by Jean-Charles-Léonard Sismondi builds on this analytical structure and investigates to what extent specific institutional settings may or may not fulfil the first proportionality condition (technological proportionality) and/or the second proportionality condition (final demand proportionality). Sismondi's contention is that the social structure of industrial capitalism is not suitable to the fulfilment of either condition due to: (i) non-coordinated processes of technical change making technological proportionality difficult to achieve at any given time; (ii) substitution of machines for human work making technological unemployment unavoidable; and (iii) substitution of large-scale production for production in small-sized productive units reducing the purchasing power of large strata of population (Sismondi 1819).

Quesnay's emphasis on the dual proportionality condition and Sismondi's analysis of disproportionalities associated with industrial capitalism are significant building blocks of Karl Marx's political economy of capitalism (Marx 1983 [1867]). Marx draws in a fundamental way on Quesnay's analysis of the circular flow while adapting the formal structure of Quesnay's *Tableau économique* to the technological set-up of an industrial economy.[6] At the same time, Marx develops Sismondi's idea that the internal dynamics of industrial capitalism involve the disappearance of a large body of potential consumers, thereby endangering the fulfilment of the second proportionality condition and thus the reproducibility of the economic system at a given scale.

[6]This is shown by Marx's splitting of the industrial goods sector into two sub-sectors producing means of production for the consumer goods and capital goods sectors, respectively.

Interdependencies take different forms in economic theory. A fundamental difference can be drawn between vertical and horizontal interdependencies (Baranzini and Scazzieri 1990; Landesmann and Scazzieri 1993). Vertical interdependencies highlight the connection between resource ownership and resource allocation. This connection may be direct (resource utilization through consumption) or indirect (resource utilization through the productive transformation of resources into final consumer goods). Vertical interdependencies are central to Adam Smith's representation of a production economy of interdependent and specialized producers connected to one another via division of labour (Smith 1776). They are relevant to David Ricardo's analytical reconstruction of mechanical production as a vertically integrated process leading from the production of tools and machinery to that of the corresponding final consumer goods (Ricardo 1817; see also Hicks 1985; Cardinale 2018a, Chapter 6, this Handbook). The vertical approach is also a distinctive feature of the catallactic models of political economy, which represent society as a collection of resource owners who trade resources with one another (see, for instance, Walras 1874–77; Pareto 2014 [1906]; de Finetti 1952; Arrow and Debreu 1954; Debreu 1959; Allais 1981).

Horizontal interdependencies take a different view of the economy as they primarily emphasize the 'productive utilization' of what is produced, that is, the utilization of commodities as productive inputs to themselves and/or to other commodities. In this case, the economic system is integrated by means of its *internal structure*, and proportionality conditions have to be met by sectoral proportions and by aggregate demand allowing the economic system to reproduce at a given scale. Economic analysis explored horizontal interdependencies along two different analytical traditions. One approach, followed by Boisguillebert and Marx, highlights horizontal interdependencies between productive sectors. The other approach, adopted by political economists such as James Steuart (1966 [1767]) and David Ricardo (1817), emphasizes the interdependencies between socio-economic groups without fully exploring the relationship between changing proportions in the social structure and proportionality conditions in the production sphere. Ricardo's theory of the technological and social dynamics along a decreasing returns trajectory is of special interest in this connection. This theory calls attention to the existence of a dynamic relationship between the transformation of production structures and changes in the distribution of the net product between profits and rents (Ricardo 1817). However, Ricardo's central idea that the rate of profits on the least productive land determines the rate of profits for the

whole economic system and the whole spectrum of the rates of rent on lands of 'superior quality' establishes a connection between production technology and distribution that is prima facie independent of the proportionality conditions holding for the whole economic system. In fact, Ricardo's approach to the relationship between profit and rents is primarily concerned with the distribution of the net product between profit earners (capitalists) and rent earners (rentiers) without explicitly considering which intersectoral product flows make the whole economic system self-sustaining (capable of reproducing itself at a given scale). Ricardo's theory of distribution is a 'hybrid' separating the reproduction conditions of the system (which include the provision of subsistence goods to workers) from the distribution of the net product between capitalists and rentiers. Production technology determines both the proportionality condition for viability (the intersectoral transfers of products needed for the circular flow to reproduce itself from one production cycle to another) and the distribution of the net product between capitalists and rentiers. However, the viability condition may be independent of net product distribution (as highlighted in Sraffa 1960). In short, Ricardo outlines a theory of distribution of the social product in which (similarly to Quesnay) workers' consumption enters the reproduction condition of the circular flow, whereas (differently from Quesnay) the distribution and utilization of the net product is independent of that condition. Ricardo's theory thus entails a break from Quesnay's intertwining of production technology and social structure as components of the circular flow. Marx's analysis of reproduction highlights the implications of this cleavage in view of the fact that the intersectoral proportionality requirements and the aggregate (macroeconomic) requirements are separately determined, and that there is no a *priori* reason why the two conditions should be simultaneously met. The revival of classical political economy in the twentieth century has renewed interest in the analysis of horizontal interdependence between productive sectors, as in Leontief's theoretical analysis of the circular flow (Leontief 1991 [1928]) and empirical investigation of the intersectoral (input-output) structure of the US economy (Leontief 1941) as well as in the discovery of the viability conditions for a system of interindustry relationships expressed as a system of linear production equations (Hawkins and Simon 1949). In a parallel development, Richard Stone, in collaboration with Alan Brown, examined the relationship between socio-economic magnitudes (such as population and national income) and the inner core of interindustry transactions by

means of 'social accounting matrices' providing a double-entry representation of national accounts (Stone and Brown 1962). In either case, production interdependencies and social structures are dependent on each other but not fully complementary to one another. In Leontief, the so-called open model introduces a cleavage between production interdependencies and a residual national income. The macroeconomy is separated from intersectoral relationships and is not a component of the economy's circular flow. In Stone, national income magnitudes become part of a matrix representation of the economy, but they are not directly relevant to the viability of the interindustry core of the economy.

The vertical and horizontal approaches to interdependence highlight different features of a political economy. The vertical approach highlights the possibilities of cooperation or conflict between actors who are structurally independent from one another in their capacities as traders and/or producers. In the pure trading case, cooperation may arise when trade arrangements allow the economy to shift from a sub-optimal to an optimal allocation of resources, while conflict is possible whenever certain allocations privilege one set of actors over another (de Finetti 1952; Allais 1981). In the pure production case, division of labour requires cooperation between producers, while shifting demand structures highlight the possibility of conflict between different sets of producers, as certain producers may be better equipped than others to undertake the required transformation of productive arrangements (Pasinetti 1981, 1993; Bianchi and Labory 2018, this Handbook; Landesmann 2018, this Handbook). The horizontal approach to interdependence highlights different possibilities for cooperation and conflict (Cardinale 2017, Cardinale 2018b, Chapter 21, this Handbook). In this case, the relevant stakeholders (such as productive sectors, or social groups attached to them) are structurally dependent on one another. This means that the very mode of subsistence and operation of each unit of analysis (say, of each industry) presupposes a *de facto* cooperation with other units of analysis (other industries). However, structural interdependence does not exclude conflict (Quadrio Curzio and Pellizzari 1999, 2018, this Handbook). For instance, different industries may be mutually related and yet they may vie with one another for competing shares of total value added (national income). To sum up, vertical and horizontal interdependencies provide alternative heuristics for identifying means-to-end correspondences in a political economy. Context determines which dimensions of cooperation or conflict are the most important under given conditions.

Interdependence analysis straddles production and social relationships and highlights constraints and opportunities for economic and social objectives. A noteworthy feature of interdependence analysis is that it allows addressing the relationships between socio-economic groups in terms of the conditions making any given social structure compatible with the viability of a given production technology (see also Cardinale 2015; Cardinale et al. 2017; Scazzieri 2012; Scazzieri et al. 2015). The interface between production and social structures has been a central feature of the political economy of interdependence since the pioneering works of Boisguillebert (1707a, b) and Quesnay (1972 [1759]) (see also Kubota 1964, 1966). As emphasized in Quesnay's *Tableau économique*, socio-economic groups can be associated with specific positions in the economic-political system. The interface between production and social interdependencies also takes centre stage in the 'material balances' approach at the origin of Wassily Leontief's input–output analysis (Leontief 1963 [1925]).[7] Indeed, this approach was instrumental to the investigation of 'moving social structures' and of the relationship between this dynamic and the reproduction conditions of the economic system.[8]

Structural analysis addresses economic and social objectives highlighting the degrees of freedom compatible with the existing pattern of interdependence. For example, it may highlight that a given objective (say, raising the economic system's growth rate from g to g', with $g'>g$) may be achieved by intervening either in the social sphere (for instance by tilting income distribution towards groups with higher propensity to save) or by introducing production technologies that generate greater net output and thus greater potential investment for any given constellation of saving propensities. This approach to the implementation of economic and social objectives is distinctly different from the type of allocation analysis that highlights the direct relationships between objectives and the means (resources) available to achieve those objectives. For in the latter case the relevant constraints are

[7]Leontief maintains that the purpose of the material balances approach is to measure 'not only the production but also the distribution of the social product, in order to obtain an overall picture of the whole process of reproduction in a kind of *Tableau économique*' (Leontief 1963 [1925], p. 130).

[8]In this connection, Stanislav Strumilin highlighted that 'since the process of reproduction of the productive forces of the country takes place within the framework of a complex social structure, in which the different social forms of the economy and the different social classes associated with them confront one another to enhance their existence, also the balance of the national economy must reflect the equilibrium state generated by these competing social forms, the specific weight of each one of them *within the common system*, and the distribution of these weights, as it may be detected during the time period under consideration' (Strumilin 1963 [1927], p. 114, our emphasis).

restricted to the availability of existing means (resources) and do not include the proportionality conditions associated with the given social and technological structure of the economy. The implementation criterion for any given objective entails identification of the best allocation of means in view of that objective but does not afford the 'screening out' of allocations incompatible with the viability condition.

To sum up, means-ends analysis can follow either of two routes. On the one hand, one can identify the 'best' allocation of any given collection of resources in view of a stipulated objective. In this case, the means-ends problem is simply one of 'screening out' inefficient allocation patterns and of selecting one option out of the efficient set (Allais 1981, 1986; de Finetti 1998 [1931]; Pareto 2014 [1906]). On the other hand, one can focus on the interdependencies between production activities and identify a set of constraints due to complementarities between production processes (von Neumann 1945–46 [1935–37]; Pasinetti 1981; Quadrio Curzio 1986, 1996, Quadrio Curzio and Pellizzari 1999, 2018, this Handbook). In this case, the minimum means criterion is still relevant, but its utilization must follow a stepwise procedure based on a 'nested' structure of constraints. For example, the viability constraint must be met before the capital accumulation constraint and the latter before any constraint due to income distribution targets in a growing economy. Adolph Lowe's investigation of the relationship between structural interdependencies and target-oriented trajectories is especially interesting in this connection (Lowe 1952, 1976). Lowe highlights the hierarchical arrangements of productive sectors and grafts on this hierarchy his analysis of the dynamic paths that are structurally feasible in view of the stipulated objective (such as full employment or growth at maximum rate). Structure makes certain production programmes feasible and others unfeasible under the viability and capital accumulation requirements for the political-economic system in question. In this case, the identification of structural conditions is an essential component of means-ends analysis (Lowe 1965).[9]

[9]Lowe's 'instrumental method' highlights the central role of structures in economic investigation by distinguishing between 'structure analysis', which is the study of constraints and opportunities rooted in existing structures, and 'force analysis', which is the study of motive forces driving the economic system across the structural constraints and opportunities associated with any given dynamic trajectory (Lowe 1965). The combination of structure and force analysis is central in determining the specific tempo of structural change along dynamic trajectories characterized by a given objective and the structural conditions of technology in use (Scazzieri 1998).

5 Towards a Structural Theory of Political Economy

Political economy is characterized in this Handbook as the field comprising objectives within the polity (both material and non-material, and held by different actors at different levels of aggregation) and the internally structured constraints to the achievement of such objectives, deriving from the structure of division of labour. Such characterization requires understanding means-ends action as well as the structures of division of labour within the polity. Traditions in political economy have typically focussed on either of the two aforementioned problems, leaving the other on the background: approaches focussing on means-ends action typically do not investigate the structure of division of labour, whereas approaches that concentrate on division of labour typically have no theory of action. And while both traditions have shed light on constitutive aspects of political economy, doing justice to the field that political economy aims to understand will require further research that unpacks the connections between those aspects. In particular, it will be necessary to envision frameworks that can reconcile both.

One possible direction to study the connection between means-ends action and the structures of division of labour is explored in Cardinale's Chapter 21 in this Handbook (Cardinale 2018b). The aim is to develop a theory that shows how the structures of division of labour and means-ends action taking place within them constitute each other over time, while being relatively autonomous at any given moment. Specifically, such a theory should take into account both the structure of division of labour and the structures of cognition and action (Bourdieu's (1990) *habitus*) that actors develop by operating within it. In fact it is possible to theorize action as depending not only on how actors understand means and ends, but also on how that understanding is shaped by their habitus (Cardinale 2018b). The implication is that actors are embedded in the structure of division of labour at a given moment, which provides means and ends, as well as over time, which shapes their habitus and hence their propensity to pursue certain courses of action out of the many that are possible. In this way, instrumental rationality can be reconciled with a theory of the internally structured constraints and opportunities deriving from division of labour.

Once the time dimension is taken into account, it is possible to conceptualize the relative autonomy of action from structures as well as their mutual constitution over time. In fact, over time, by acting within given positions in the structure of division of labour, actors develop structures of cognition and

action that are attuned to those positions. Division of labour therefore influences action not only by providing opportunities and constraints, but also by shaping the visualization of available possibilities, thereby orienting actors towards some possibilities over others. Actors' structures of cognition and action are therefore the product of embeddedness in division of labour over time, and of the courses of action taken within them. However, despite the influence of division of labour on how actors visualize their opportunities and constraints, action is never fully determined by division of labour. In fact, at any given moment, actors' habitus is relatively autonomous from the structure of division of labour within which they act: action results from the encounter between two relatively autonomous structures. Over time, structures of division of labour depend on the courses of action pursued within those structures, which activate some paths of structural change instead of others.

By doing justice to the autonomy of actors and division of labour, as well as to their mutual constitution over time, approaches such as the one just outlined can provide coordinates to encompass means-ends action and the economic structures of the polity within a comprehensive political economy framework.

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