

# ANALYTICAL MARXISM

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Abstract: This paper provides a comprehensive survey of the debate on Analytical Marxism. First, the methodological tenets of this approach are critically discussed. Then, John Roemer's (1982, 1988) fundamental contributions on the theory of exploitation and class are analysed. An original interpretation of Analytical Marxism in general and of Roemer's theory in particular is provided, which suggests various directions for further research.

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## 1. INTRODUCTION

Born in the late 1970s, during the decline of structuralist Marxism and the renaissance of liberal egalitarianism,<sup>1</sup> in the following three decades, Analytical Marxism has provided one of the most controversial, analytically sophisticated, and thorough interpretations of Marx's theory – and one of the last “schools” of Marxist thought. By emphasising the need to use the tools of contemporary mainstream sociology, economic theory, analytical philosophy, and political science, Analytical Marxism (hereafter, AM) has critically re-considered some of the core issues in Marxist theory. Analytical Marxists have thus proposed original interpretations of Marx's philosophy (Elster, 1982A, 1985), economic theory (Roemer, 1980, 1981; van Parijs, 1983), theory of international relations (Roemer, 1983A), theory of class stratification (Wright, 1984, 1994, 2000; van Parijs, 1986), and theory of class conflict and political struggles (Przeworski, 1985A).

The relevance of AM can be readily measured by its large interdisciplinary impact in the social sciences and by the vast literature it has generated. Many AM contributions have provided original and provocative insights on core substantive and methodological issues in the social sciences, of interest to Marxists and non-Marxists alike. Moreover, thanks also to the adoption of a mainstream methodology, AM has significantly contributed to the increased interest in Marx's theory in the English-speaking academia. Yet, both the main methodological propositions of AM – in particular, the emphasis on “methodological individualism” – and the reformulation (and often the rejection) of core Marxist concepts have been subjected to substantial criticism.

As concerns methodology, the debate has focused mainly on the role of methodological individualism and rational choice theory in the social sciences in general and in Marxist theory in particular. Critics have rejected the claims that all relevant social phenomena should be explained starting from the beliefs and actions of individual agents, and that the latter should be analysed with the tools of rational choice theory. Two main sets of critiques have been advanced. Some critics have argued that the debate on methodological individualism is far from settled in the philosophy of science and thus the methodological tenets of AM are far from uncontroversial in general. Other scholars have argued that Marxism is distinguished by a specific methodology based on dialectics (and, possibly, methodological holism), which is simply incompatible with methodological individualism and rational choice theory.

The methodological debate has heavily influenced the analysis of the substantive issues raised by AM. Most critics have rejected AM *a priori* on methodological grounds, arguing that the mainly negative conclusions that Analytical Marxists reach on Marx's propositions, finding the latter inconsistent or unwarranted and often plain wrong, are not surprising: they follow from the adoption of a methodology that is inconsistent with Marx's theory.

An excellent example is the vast debate on John Roemer's interpretation of the Marxian notions of exploitation, inequality, and classes (Roemer, 1982A, 1982B, 1982C, 1982E, 1986A, 1988A). Roemer's theory is the most significant AM contribution in economic theory. Methodologically, it is the most forceful application of the microfoundational approach to Marxian economics. The concepts of class and exploitation are modelled as the product of individual

optimisation, and the full class and exploitation structures of a society are derived from agents' constrained rational choices. From a substantive point of view, Roemer rejects Marx's definition of exploitation based on surplus value as a relevant normative concept. According to him, all relevant moral information is conveyed by the analysis of differential ownership of productive assets (hereafter, DOPA) and the resulting welfare inequalities. Roemer develops an alternative game theoretical definition of exploitation based on DOPA, which is meant to generalise Marx's theory and to capture its essential normative content.

The aim of this paper is twofold. First, it provides a thorough review of the debate on AM, both in general and focusing on Roemer's theory. Although most contributions have focused on the relevance of AM in the context of Marxist theory, the methodological and substantive issues analysed raise deep questions for all researchers in the social sciences. Second, it proposes an original interpretation of AM based on the idea that the emphasis on individual rational choices is important, but that structural constraints on individual's behaviour and endogenous preferences should be taken into account and can be incorporated in a more general AM approach. Yet, structural constraints and endogenous preferences make the distinction between methodological individualism and methodological holism less significant and suggest some areas for further research that may be interesting for Analytical Marxists and critics alike.

The rest of the paper is organised as follows. Section 2 outlines the main features of AM. Section 3 analyses the debate on methodological issues. Section 4 focuses on the literature on Roemer's theory of exploitation and classes. Section 5 is devoted to conclusions.

## 2. ANALYTICAL MARXISM

Given the theoretical, methodological, and even political heterogeneity of Analytical Marxists, it is difficult to define the boundaries of AM, either theoretically or in terms of membership (Wood, 1989; Wright, 1989). However, one of the main tenets of AM and its main departure from classical Marxism is the denial of a specific Marxist methodology<sup>2</sup> and the emphasis on the adoption of the tools of mainstream analytical philosophy, sociology, and economic theory. More precisely, Erik Olin Wright identifies four commitments that characterise AM.

DEFINITION 1. (*Weak AM*) AM is defined by (Wright, 1989, pp.38-9)

C1. “A commitment to *conventional scientific norms* in the elaboration of theory and the conduct of research.”

C2. “An emphasis on the importance of *systematic conceptualisation* [...]. This involves careful attention to both definitions of concepts and the logical coherence of interconnected concepts.”

C3. “A concern with a relatively *fine-grained specification of the steps in the theoretical arguments linking concepts*.”

C4. “The importance accorded to *the intentional action of individuals* within both explanatory and normative theories.”

Definition 1 encompasses all Analytical Marxists; it is so general, however, that it hardly identifies AM as a specific approach.<sup>3</sup> For instance, in principle all mathematical analyses of Marx’s theory – by such diverse authors as Desai, Morishima, Steedman, etc. – could be included in AM. Definition 1 does not capture the originality of AM and cannot really explain the controversy it has

generated.<sup>4</sup> In fact, in order to identify the minimum common denominator of all Analytical Marxists, it does not include the most controversial axioms of AM, endorsed by its most prominent exponents, in particular Jon Elster and John Roemer. Instead, the definition of *strong AM*, also known as *rational choice Marxism* (Carling, 1986; Wood, 1989; Carver and Thomas, 1995; hereafter RCM), can be summarised as follows.

DEFINITION 2. (*Strong AM*, or *RCM*) RCM is defined by C2 and C3 plus

C1'. A commitment to the use of "state of the arts methods of analytical philosophy and 'positivist' social science" (Roemer, 1986D, pp.3-4).

C4'.(i) A commitment to *methodological individualism* as "the doctrine that all social phenomena – their structure and their change – are in principle explicable in ways that only involve subjects – their properties, their goals, their beliefs and their actions" (Elster, 1985, p.5);

C4'.(ii) A commitment to *rational actor models*.

Definition 2, and in particular C4', does not apply to all Analytical Marxists: Cohen's (1978, 1983A) reconstruction of Marx's theory of history is *functionalist*;<sup>5</sup> Van Parijs (1982, 1983) supports the search for microfoundations, but questions the "absolutism" of C4' admitting the possibility of alternative explanations; the weak methodological individualism endorsed by Levine, Sober, and Wright (1987) in line with Definition 1, has arguably little in common with C4'. Definition 2, however, captures the essential elements of originality of AM, – more precisely, RCM, – and it clarifies the main terms of the controversy.

First, the main *methodological* corollary of Definition 2 is that methodological individualism is the only legitimate foundation for the social sciences (Elster, 1982A, p.463). Consequently, in a RCM perspective, the only parts of Marx's theory which "make sense" (Elster, 1985) are those that can be analysed within a methodological individualist perspective or, more narrowly, with standard "rational choice models: general equilibrium theory, game theory and the arsenal of modelling techniques developed by neoclassical economics" (Roemer, 1986C, p.192). Elster argues that Marx was "committed to methodological individualism, at least intermittently" (Elster, 1985, p.7). Yet, largely due to the influence of Hegelian philosophy, he was not a consistent methodological individualist throughout his writings. Elster reads various passages (especially those in the *Grundrisse* on the movement of capital and the subordinate explanatory role of competition) as an "explicit denial of methodological individualism" (Elster, 1985, p.7). Then, he concludes that Marx was methodologically inconsistent or, more strongly, intellectually weak, since "it is difficult to avoid the impression that he often wrote whatever came into his mind, and then forgot about it as he moved on to other matters" (ibid., p.508).

Second, by adopting methodological individualism, AM typically reaches two kinds of *substantive* conclusions concerning Marxian propositions and concepts: some are considered either wrong or impossible to conceptualise in a rational choice framework, and thus are discarded. Roemer (1981) disposes of the labour theory of value, the theory of the falling rate of profit, and the theory of crisis (see also Elster, 1985). After a long journey through Marx's writings, Elster concludes that "Today Marxian economics is, with a few exceptions, intellectually

dead” (Elster, 1986, p.60).<sup>6</sup> Przeworski (1985A) and Elster (1982A) challenge the Marxian theory of the class struggle and the theory of the state.

Other concepts and propositions, instead, can be analysed in a rational choice framework, but need a substantial re-definition (this partly explains the emphasis on C2 and C3). Some intuitions on the symbiotic interaction between classes can be analysed in a game-theoretic framework (Elster, 1982A, pp.463-478; Przeworski, 1985A), although at the cost of a substantive shift in both meaning and political implications (see Burawoy, 1989, 1995). The concepts of class and exploitation can be derived as the product of agents’ constrained optimisation (Roemer, 1982A); but this leads to the rejection of Marx’s surplus value definition of exploitation, as a relevant positive and normative concept, in favour of the analysis of asset inequalities. Similarly, Roemer provides microfoundations to a Marxist theory of unequal exchange (Roemer, 1983A) and outlines a micro-based Marxist political philosophy (Roemer, 1988B), thanks to (and possibly at the cost of) a reduction of Marx’s theories to an almost exclusive emphasis on DOPA.

Given the scope and relevance of the issues analysed, it is not surprising that AM has generated a vast literature both on methodology and on substantive propositions.

### 3. METHODOLOGICAL ISSUES

A first set of methodological objections to AM concern the use of mathematics. According to some critics, mathematical models are inherently associated with bourgeois science and politics. In the struggle for socialism “any



means-ends or cost-benefit calculation would tend to produce reformist solutions” (Kieve, 1986, p.574): the real issue is “not a question of quantitative, individualistic means-ends or petty cost-benefit calculations, but a question of life and death” (ibid.).<sup>7</sup> This critique is not wholly convincing: as shown by Smolinski (1973), Marx studied pure mathematics and was convinced about the opportunity to apply it to the social sciences. Furthermore, the objection relies on the rather arbitrary claim that there is no mathematical object (in a potentially infinite set) that can be used to analyse any part of Marx’s theory. This view seems as one-sided as the “mathematical fetishism” often attributed to Analytical Marxists.

More subtly, post-modern Marxists (Ruccio, 1988; Amariglio, Callari, and Cullenberg, 1989) do not reject the use of mathematical models *a priori*, but deflate their explanatory power – and their usefulness in general – to the vanishing point. According to them, mathematics is a “form of ‘illustration.’” For Marxists, mathematical concepts and models can be understood as metaphors or heuristic devices” (Ruccio, 1988, p.36). It is unclear though that this argument can be supported by Marx’s writings: Ruccio (1988) provides no textual evidence, whereas as noted above Smolinski’s (1973) detailed analysis suggests a somewhat different view. Actually, rather than a specific interpretation of Marx, this view seems to reflect the adoption of a general post-modern epistemological stance, which reduces mathematical language, and indeed *all* (scientific) languages to mere “discourse.” This position seems quite problematic because it is unclear how competing hypothesis and theories can be rationally evaluated, let alone tested.<sup>8</sup> Finally, the interpretation of mathematics as “illustration” reflects the post-modern anti-essentialist denial of the explanatory power of theoretical (and not

only mathematical) abstractions. The emphasis on rather elusive “historically concrete social processes”, as opposed to the AM formalism, however, does not seem to lead beyond either a focus on infinitesimally small phenomena or the formulation of vague, if not empty, general statements, such as the claim that “in order to be individuals (and individual needs), there has to be an infinity of other social processes that constitute their ‘species-being’” (Ruccio, 1988, p.42). Or the claim that Marxian classes “can be analysed as the determinate result of the entire constellation of social processes that can be said to make up a society or social formation at any point in time; in turn, it will be only one of the myriad determinants of those nonclass social processes” (ibid., p.38).

A different critique of the use of mathematics is based on the idea that the essential concepts of Marxian social science cannot be fully captured by formal models. An emphasis on formalism can obscure the more important theoretical and political issues and “enervate Marxist theory in the name of rigor” (Anderson and Thompson, 1988, p.228). Some critical facts about capitalist societies “can be established without mathematical proof” (Wood, 1989, p.466).

This objection is forceful, as acknowledged by Roemer (1981, pp.2-4), and cannot be dismissed *a priori*, but it does not necessarily entail a rejection of mathematical models. Actually, AM is generally consistent with a methodological approach that acknowledges the usefulness of mathematics, but that at the same time assigns no exclusive role to formal models and advocates a rigorous interpretation of assumptions and results, of their scope and limitations, based on the idea that a model just “says what it says”.<sup>9</sup> “‘Mathematics,’ or models, cannot capture all that is contained in a theory. A model is necessarily one schematic

image of a theory, and one must not be so myopic as to believe other schematic images cannot exist. Nevertheless this is not a reason not to use mathematics in trying to understand a theory: for ... the production of different and contradicting models of the same theory can be the very process that directs our focus to the gray areas of the theory” (Roemer, 1981, p.3). From this perspective, the choice of the appropriate modelling tool seems more important than the *a priori* discussion on the use of mathematics.

Indeed, a second set of objections focus on the *neoclassical models* set up by AM, both general equilibrium (e.g., Roemer, 1981, 1982A, 1983A) and game theoretic models (e.g., Elster, 1982A; Roemer, 1982A, 1982C). The basic argument is that neoclassical models necessarily lead to neoclassical, or at least non-Marxian, conclusions and thus AM’s mainly negative results are not surprising (Anderson and Thompson, 1988; Wood, 1989). This objection is relevant, because it is grounded in the difficulty of *inter-theoretic reduction*, a problem that is well-known in the philosophy of sciences (Sensat, 1988; Weldes, 1989). Indeed, its relevance is indirectly confirmed by the mainly negative results reached by AM. Yet, although it may be forcefully raised against specific models set up by Analytical Marxists, its generality is less evident as it relies on a rather narrow, if unrealistic, description of neoclassical economics.<sup>10</sup> For instance, even the Marxian labour/labour-power distinction, whose absence is widely considered one of the main limits of Roemer’s theory of exploitation, can be modelled within a broadly defined neoclassical framework (see Bowles and Gintis, 1990, 1993). Moreover, game theory represents a vast and flexible arsenal of techniques that do not require any individualistic assumptions and that can be fruitfully applied to

Marxian economics, as suggested also by various critics of AM (e.g., Lebowitz, 1988, pp.195-7; Sensat, 1988, p.215; Weldes, 1989, p.374).

Thus, although the objections concerning the non-neutrality of techniques and the problems of intertheoretic reduction are important, they do not seem sufficient to reject *a priori* all attempts at cross-fertilisation, especially if one considers neoclassical economics as a vast, heterogeneous arsenal of tools. In Veneziani (2005, 2006), it is argued that the specific model set up by Roemer – a version of the Walrasian model, – may be inadequate to analyse Marx’s concepts, and that it is unclear that the standard “neoclassical model of a competitive economy is not a bad place for Marxists to start their study of idealized capitalism” (Roemer, 1986C, p.192). No general impossibility result is proved, though. Instead, the analysis suggests alternative assumptions and formalisations, including within a broader neoclassical framework.

Despite the relevance of the previous issues, the main methodological debate on AM focuses on C4’ and on its role in Marxist theory. Although the AM critiques of teleological arguments and functionalism<sup>11</sup> are rather persuasive, both methodological individualism *cum* rational choice and Elster’s critique of Marx’s theory on methodological grounds have been put into question. As for the latter issue, it should be noted that “nowhere does Elster show Marx committed to views that in principle deny microfoundational accounts” (Levine, 1986, p.726). Elster (1985) finds Marx guilty of functionalism and teleological reasoning based on an arguably objectionable piecemeal reading of Marx’s texts, with a propensity to extrapolate relevant passages from the context (as shown, e.g., by Levine, 1986, pp.725-6; Sensat, 1988, pp.206-7; Wood, 1989, pp.475-6; Carver and Thomas,

1995, p.4); or, as in the case of the theory of history – which generated the first debate on methodology within AM (see the special issue of *Theory and Society*, 1982), – based on the identification of Marx’s theory with Cohen’s functionalist interpretation of it.<sup>12</sup> At most, Elster’s (1985) analysis shows that Marx does not support methodological individualism *cum* rational choice, and more specifically the neoclassical variant of the latter approach, hardly a startling result and arguably not enough to reject Marx’s theory. Actually, Levine (1986, p.723) suggests that Elster’s (1985) main methodological propositions would not stand up to his own procedure of critical assessment. Warren (1988) argues that Elster (1985) does not provide a single consistent definition of methodological individualism and often slips from one to another without proper justification.

As concerns methodological individualism *cum* rational choice, the AM critiques of functionalism do not automatically provide support for C4’, and in particular its neoclassical variant: basically all critics of AM – including post-modern and post-structuralist Marxists,<sup>13</sup> – have rejected *both* functionalist arguments *and* the rather reductionist RCM view of individuals and of social science.<sup>14</sup> C4’ should be evaluated *per se* as the proper explanatory strategy in the social sciences, rather than in opposition to functionalism and teleological reasoning, which sometimes appear in AM writings just as a rhetorical “straw man” (Foley, 1993, p.301). Neither AM arguments nor the debates in the philosophy of science, however, provide decisive support for C4’.

C4’.(i) encompasses two separate assumptions: the first one postulates the possibility of *intertheoretic reduction*, namely the reduction of macro-level theories to micro-level theories, without loss of meaning or explanatory content.

A thorough analysis of this important issue in the philosophy of science goes beyond the scope of this paper. However, as forcefully shown by Sensat (1988) and Weldes (1989, p.363-6), even setting aside all doubts about methodological individualism, intertheoretic reduction is in general extremely problematic and may lead to “the complete *replacement* of the secondary theory, including its ontology, with the primary theory due to the transformation of both the meanings and the content of the secondary theory” (Weldes, 1989, p.365). As noted above, this is an important warning to identify the “hard core” (ibid., p.372) of Marx’s theory when evaluating the adoption of neoclassical tools in Marxian economics.

The second assumption states that “ultimate ontological and explanatory priority is accorded to the individual” (ibid., p.356).<sup>15</sup> This is considered as a defining principle for all good science, and thus it is often simply asserted with an appeal to an alleged state-of-the-art scientific methodology. “The tension between individual and structural explanations is thus resolved (or dissolved), by fiat, by denying ontological and explanatory status to social structures” (Weldes, 1989, p.356; see also Howard and King, 1992, p.353, fn.38).

Yet, this assumption, too, is quite problematic. At the ontological level, it is unclear why the process of reduction should end at the level of the individual: first, individuals can be understood as structures liable of further decomposition in more elementary parts (e.g., cells; Howard and King, 1992, p.346). Second, even neoclassical economics admits supra-individual units, by only requiring that they be well-defined decision makers (e.g., the household). Tellingly, Elster himself has moved from a definition of methodological individualism as “the doctrine that all social phenomena – their structure and their change – are in principle

explicable *only in terms of individuals*” (Elster, 1982A, p.453, italics added) to C4’.(i), where the emphasis is instead on more generic *subjects*.

More importantly, “ontological reducibility (decomposability without remainder) does not *entail* explanatory reducibility” (Levine, 1986, p.724). Macro-level theories might provide a satisfactory answer to some questions, and it is unclear that the provision of a micro-mechanism always improves the understanding of a given phenomenon. “World War II was, in the sense in question, just an aggregation of subatomic particles in motion. But knowing all there is to know about these subatomic particles would not help us, in all likelihood, in knowing, say, the causes of World War II” (ibid., pp.724-5, fn.12).<sup>16</sup>

However, the most problematic aspects of methodological individualism concern the role of structural limits to individual choice and the atomistic conception of agents. The former issue relates to the problem of generalising individual-level predicates to group-level predicates: as is well-known in logic, if the individual property is not generalisable, a fallacy of composition may arise. As noted by Elster (1978, 1985), fallacies of composition are central to social science: “economic agents tend to generalize locally valid views into invalid global statements, because of a failure to perceive that causal relations that obtain *ceteris paribus* may not hold unrestrictedly” (Elster, 1985, p.19), leading to counterfinality and social contradictions (Elster, 1978, chapter 5). Fallacies of composition and counterfinality, however, imply that “the group as a whole faces a constraint that no individual member of the group faces” (Lebowitz, 1994, p.167), which suggests at least that methodological individualism should be refined. First, in general both individual and structural constraints shape agents’

choices. From this viewpoint, Przeworski's (1989) emphasis on abstract atomistic individual choice in the analysis of classes and social conflict in advanced economies seems rather misleading and arguably misses Marx's point. In Roemer's (1982A, 1988A) theory, "a person acquires membership in a certain class by virtue of choosing the best option available subject to the constraints she faces" (Roemer, 1988A, p.9). Veneziani (2005, 2006) suggests that Roemer (1982A) can adopt a purely individualistic perspective, while retaining some crucial Marxian insights, only by focusing on a rather special case of general equilibrium in a static quasi-Walrasian economy where individual constraints severely limit agents' choices. Thus, it is unclear whether the emphasis should be placed on the agents' free choice, or rather on the constraints they face.

Second, the existence of structural constraints implies that the analysis of the whole cannot be strictly reduced to the analysis of its parts. In the context of Marx's theory, this issue forcefully emerges in Cohen's (1983B) analysis of the structure of proletarian unfreedom. Cohen rejects the idea that proletarians are forced to remain in their class and stresses that they are individually free to improve their social conditions. To generalise such individual freedom, however, would involve a fallacy of composition: because it is impossible for all proletarians to exit their class in a capitalist economy, each proletarian "is free only on condition that the others do not exercise their similarly conditional freedom" (Cohen, 1983B, p.11). Individual freedom coexists with collective unfreedom.<sup>17</sup> But then, knowledge of group-level properties and constraints "is prior in the explanatory order to understanding the conditional and contingent state of the individuals" (Lebowitz, 1994, p.167).



The second problem of methodological individualism (at least in the stronger versions) is that it requires an *asocial* view of agents, whereby individuals are logically prior and individual attributes are not socially determined (Sensat, 1988, pp.197-9), or else structural features would play a fundamental explanatory role, via their effect on preferences and beliefs.<sup>18</sup> However, the very distinction between individual and social predicates is problematic, because at a general methodological level, “the individual-level predicates relied on by the individualist have built into them salient features of the relevant social context” (Weldes, 1989, p.361). Arguably, many AM assumptions, such as utility or profit maximisation, and the existence of enforceable property rights and of the institution of labour exchange, presuppose certain social relations. More specifically, even within given social relations, many individual attributes are socially determined, as acknowledged by Analytical Marxists’ own emphasis on endogenous preference formation (see, e.g., Elster, 1978, 1979). For instance, Roemer rebuts the traditional neoclassical defence of DOPA based on differential rates of time preference, because “it is a mistake to consider those differences to be a consequence of autonomous choices that people have made... Attitudes toward saving are shaped by culture, and cultures are formed by the objective conditions that their populations face” (Roemer, 1988A, p.62).

Analytical Marxists acknowledge the importance of the social determination of individuals, and the limits of individual rationality. Actually, much of Elster’s work – most notably, Elster (1978, 1979) – “rather paradoxically, shows the limitations of a rational choice paradigm” (Howard and King, 1992, p.347). Yet, these issues are essentially neglected in AM models, which are instead based on a

conventional view of individual agents and of instrumental rationality as in C4'.(ii) (see Levine, 1986, pp.726-7; Howard and King, 1992, pp.347-8).<sup>19</sup> According to critics, this leads to a potential inconsistency: Elster and Roemer “use models founded on neoclassical principles, and make claims about Marxism on this basis, but they do not believe that these principles are true” (Howard and King, 1992, p.349). Besides, recent research suggests that a standard interpretation of economic agents and of their interaction may be unsuitable to analyse Marx’s theory. Veneziani (2005, 2006) argues that Roemer provides Walrasian microfoundations to Marxian economics only by significantly moving away *both* from the Walrasian framework, since in his static models agents have a severely limited set of choices and their optimum is basically determined by their constraints; *and* from the Marxian framework, since the agents’ constraints and their interaction are unexplained, and their class and exploitation status has no inherently social dimension.

The analysis of endogenous preferences (and structural constraints) seems a promising line for further research, which may depart from existing AM models, but is consistent with a more general interpretation of AM. To acknowledge that individuals are inherently social beings whose preferences, beliefs, and constraints are socially determined blurs the dichotomy between holism and methodological individualism and may provide some ground for dialogue between alternative approaches. More importantly, the incorporation of structural constraints and endogenous preferences might lead to a more realistic and less one-sided (also, but not solely, from a Marxist viewpoint) relational conception of individuals as part of a social context (see Weldes, 1989, pp.373-4). Indeed, as suggested among

the others by Sensat (1988), Burawoy (1989, 1995), Weldes (1989), and Bowles and Gintis (1990), it might lead to a more satisfactory microfoundation of Marx's theory, based on a concept of individual choice which escapes the dichotomy between abstract atomistic free choice and complete social determination of individual behaviour (Howard and King, 1992, p.348; Wood, 1989, pp.468-9).

Although the normative analysis of exploitation is based mainly on the analysis of the historical processes generating DOPA, at the end of *Free to Lose*, Roemer notes that "there is a key dimension along which the autonomy of persons in capitalist society could be challenged; this I have not exploited. For if people's conceptions of welfare are themselves determined by the economic structure in which they live, then a welfare distribution might stand condemned for the further reason that the structure shaped those conceptions. Having a theory of how capitalism (or any economic structure) shapes preferences would add to the story" (Roemer, 1988A, p.177).

#### 4. ROEMER ON EXPLOITATION AND CLASS

The debate on AM has not focus solely on methodological issues. Various critiques have been expounded on Cohen's (1978) analysis of forces and relations of production in Marx's theory of history (Foley, 1993); on Przeworski's (1985A) analysis of class conflict and the political process (Burawoy, 1989; Przeworski, 1989; Wood, 1989; Burawoy, 1995); and on Elster's (1982A, 1985) analysis of class alliances, revolutionary motivations, and social change (Weldes, 1989). Roemer's theory of exploitation and classes (Roemer, 1982A, 1982B, 1982C, 1988A), however, has definitely had the biggest impact in the social sciences. This

is explained partly by the central relevance of the concepts of exploitation and class in Marx's theoretical construction and by the provocative and original results obtained by Roemer on both; and partly by the fact that Roemer's theory is the most rigorous and consistent application of the AM methodology.

Consider *A General Theory of Exploitation and Class* (Roemer, 1982A). Roemer assumes that there are  $N$  agents with identical preferences and equal access to the production technology of  $n$  goods. Production requires capital that is, in principle, unequally distributed. *Marxian exploitation* is defined as unequal exchange of labour: agent  $i$  is *exploited* (an exploiter) if she works more (less) time than is embodied in her consumption bundle. First, a pre-capitalist subsistence economy is analysed in which agents minimise labour, subject to a minimum consumption requirement, and there is no labour market, - only physical goods, inputs and outputs, are traded. In equilibrium, aggregate labour is equal to the labour time embodied in the aggregate subsistence requirement, but labour time is not equally distributed if there is DOPA: asset-rich agents are exploiters while asset poor agents are exploited (ibid., Theorem 1.6, p.38). Hence, Roemer concludes that exploitation can exist without exchange of living labour and thus without domination at the point of production.

Next, a labour market is introduced in the subsistence economy. This allows Roemer to define classes in Marxian terms, based on "the way in which an agent relates to the means of production – hiring labour power, selling labour power, working his own shop" (ibid., p.70). In this economy, classes emerge as the product of individual optimisation (ibid., Theorem 2.5, p.74): in equilibrium asset-rich agents are capitalists (net hirers of labour power), asset-poor agents are

proletarians (net sellers of labour power), and there is a class of self-employed, petty bourgeois. Finally, asset-rich agents are exploiters, asset-poor agents are exploited, and the *Class Exploitation Correspondence Principle* holds (ibid., Theorem 2.7, p.79): capitalists are exploiters, proletarians are exploited, and the petty bourgeois have an ambiguous exploitation status.

Roemer also proves the functional equivalence of credit and labour markets. The subsistence economy with a labour market is isomorphic to an identical economy with a capital market: asset-rich agents are net lenders and exploiters, asset-poor agents are net borrowers and exploited. Roemer concludes that “there is nothing in the institution of the labour market intrinsically necessary for bringing about the Marxian phenomena of exploitation and class. ... competitive markets and private, differential ownership of the means of production are the institutional culprits in producing exploitation and class” (ibid., p.93).

According to Roemer, these results – which can be extended to accumulation economies with revenue-maximising agents (ibid., chapter 4) – prove the positive and normative priority of DOPA, and suggest that Marx’s theory of exploitation be interpreted as “a kind of resource egalitarianism” (Roemer, 1994A, p.2). Yet, the Marxian definition of exploitation as unequal exchange of labour faces analytical and conceptual problems. In an economy with a more general convex technology, labour values cannot be defined prior to prices (Roemer, 1982A, chapter 5). Moreover, if agents’ labour endowments and/or preferences over leisure are heterogeneous, “it is possible for some very wealthy producers to be exploited and for some very poor producers to be exploiters” (ibid., p. 175). Hence, Roemer concludes that Marx’s definition of exploitation as unequal labour

exchange should be abandoned as a problematic proxy for the normatively relevant phenomenon, namely DOPA and the resulting welfare inequalities. He provides an alternative, game-theoretic definition of exploitation based on DOPA which aims to generalise Marxian exploitation and to capture its essential normative content – which is interpreted as requiring “an egalitarian distribution of resources in the external world” (Roemer, 1994A, p.3).

Roemer’s property relations definition of exploitation can be summarised as follows.<sup>20</sup> In an economy  $N$  characterised by private property, for any coalition  $S$  of its members, and its complement coalition  $S'$  in  $N$ ,  $S$  is *capitalistically exploited* by  $S'$  if (i)  $S$  would improve by withdrawing from the economy with its per capita share of alienable property, (ii)  $S'$  would be worse off.<sup>21</sup>

Both Roemer’s definitions and his models have been criticised, mainly based on issues of interpretation of Marx’s theory. Lebowitz (1988) argues that Roemer incorrectly gives logical priority to property relations over capitalist relations of production, whereas in Marx’s theory the former are determined by the latter. Thus, Roemer does not realise that, according to Marx, “the situation in which the purchase of labor-power did not occur was explicitly pre-capitalist” (Lebowitz, 1988, p.206). For instance, in the subsistence economy with a capital market, what Roemer calls exploitation should be defined as usury (see also Kieve, 1986, p.563).<sup>22</sup> In addition, Lebowitz (1988) argues that by assuming perfect information, perfectly enforceable contracts (especially in the purchase of labour-power), and no restrictions to the use of any technology, Roemer effectively assumes away all possible effects of the relations of productions on the production function, and thus on profits and exploitation.

Anderson and Thompson (1988) also stress Roemer's neglect of the labour/labour-power distinction, which is equivalent to assuming that workers do not resist being exploited, and note that profits in his models are just a scarcity rent. Moreover, by overlooking the actual features of the labour process, Roemer's models cannot properly capture the concept of class: lacking any direct social relation among workers, or between them and the capitalists, it is unclear how a sense of class comradeship might arise.

Foley (1989) criticises Roemer's concept of class as nothing more "than a static typology of equilibrium labor allocation and an associated inequality in control over social resources and consumption of social product" (Foley, 1989, p.191). He rejects Roemer's definition of exploitation as "private and ahistorical" (ibid., p.189), – a feature that has been emphasised, to various degrees and extent, by many critics (see, in particular, Burawoy, 1990, pp.790-2; and Wood, 1989, Section 3). Instead, according to Foley, "the important historical aspect of class societies is that exploiting classes, through their control over social surplus production, shape the reproduction of the society and in particular the directions in which change can take place" (Foley, 1989, p.191). Based on this interpretation of Marx's theory, Foley finds Roemer's emphasis on the normative aspects of exploitation as an abstract measure of injustice misplaced (see also Wood, 1989, p.465). Moreover, the exclusive stress on DOPA inverts the roles of exploitation and inequalities in Marx's theory, wherein "exploitation is in the first instance an injury to the life of direct producers, because it removes from them ... the control over a part of the fruits of their energies, talents, and efforts (Foley, 1989, p.192), and it is for this reason that it gives rise to inequalities."<sup>23</sup>

Dymsky and Elliot (1989) and Wood (1989) note that Roemer defines exploitation as unjust advantage, a form of inequality, – secondary rather than primary exploitation, according to Marx – and thus his conclusion that only DOPA matters is not surprising.

These critiques raise important questions, but they do not seem decisive. To be sure, exegetical and definitional issues are crucial in the evaluation of Roemer's approach, especially as an interpretation of Marx's theory. Most critics provide considerable textual evidence against Roemer's reading of Marx, which would suggest that his models – albeit interesting – are not suitable to evaluate Marx's theory. Yet, as shown by various endless debates, few issues in Marxist thought can be satisfactorily settled uniquely at the level of definition and interpretation. Besides, fidelity to Marx's writings is not a major constraint for Roemer, who substantially revises Marx's concepts and definitions. So, a critique entirely based on textual evidence arguably misses the point. For instance, Anderson and Thompson (1988) argue that Roemer's subsistence economy with a labour market is equivalent to another economy in which the only non-produced input is a natural resource, say coal, and nobody works. But then, "we are forced by Roemer's logic to say that those who must sell coal-power are coal-exploited" (ibid., p.220). This is true; but the *Generalised Commodity Exploitation Theorem* (e.g., Roemer, 1988A, p. 53) is precisely one of Roemer's arguments to prove the irrelevance of the labour theory of value, and *a fortiori* of Marxian exploitation.

*A priori* critiques of the abstract and static nature of Roemer's models are not *per se* conclusive either. Roemer repeatedly acknowledges the static nature of his models and the importance of disequilibrium and dynamics (most explicitly in



Roemer, 1982D). Yet, “constructing a model of capitalism that would reveal its essentially dynamic features is a different task from what mine was” (Roemer, 1992, p.150). The logical structure of Roemer’s argument is different: “in the real world we observe  $X$  (DOPA),  $Y$  (coercion in the labour process), and  $Z$  (class and exploitation). We have, if you will, an ‘empirical proposition’ that  $X + Y \Rightarrow Z$ . Now I construct a model in which the following theorem holds:  $X + \text{not } Y \Rightarrow Z$ ; from this I say that  $X$  is the ‘fundamental’ cause of  $Z$  in the real world, not  $Y$ ” (ibid.).

But then a forceful critique of Roemer’s core logical argument cannot be limited to noting that his models and definitions are ahistorical; that many empirically relevant features of the capital/labour relation are neglected; that the labour/labour-power distinction is not considered; that money, hard uncertainty, and institutions, including firms, are absent (Hodgson, 1989); or that unemployment and coercion in production are neglected, and that in general the description of production processes is simplistic (Devine and Dymisky, 1991). Arguably, these objections prove that “Roemer’s inference is irrelevant for capitalism, because ‘not  $Y$ ’ is false for capitalism” (Roemer, 1992, p.150), a point that does not challenge the basic logical argument. Moreover, given the lack of a formal analysis of Roemer’s models, it is often *a priori* unclear whether the suggested changes would lead to significantly different conclusions.<sup>24</sup>

From a methodological viewpoint, the adoption of an abstract model, and indeed of the most abstract model in neoclassical economics, the Walrasian model, is explained by Roemer’s attempt to provide *general* microfoundations to exploitation and class. In his comment on Bowles and Gintis (1990) which aims to

provide microfoundations to Marxian economics based on the concept of contested exchange (which incorporates issues of contractual incompleteness and conflicts of interest between the parties to the exchange), Roemer (1990) explicitly argues that market imperfections are a “thin thread” to provide general microfoundations to Marxian economics.<sup>25</sup>

Our basic claim is that critics would profit from a serious analysis of Roemer’s theory on its own ground. Moreover, an *a priori* rejection of Roemer’s models can lead to “throw the baby away with the dirty water,” both methodologically, as argued above, and from a substantive viewpoint. Indeed, a detailed critical analysis of Roemer’s models may suggest interesting directions for further research. In Veneziani (2005, 2006), *a priori* issues of interpretation are left aside and Roemer’s core logical argument is directly examined. Various dynamic extensions of Roemer’s models are set up in order to evaluate the theoretical and analytical robustness of his methodological and substantive claims at the appropriate level of abstraction. Roemer’s models are essentially static: they can be interpreted as describing either a succession of one-period economies or an infinitely lived generation, but in either case there are no intertemporal trade-offs: *intertemporal* credit markets and savings are ruled out, and the latter assumption in particular seems unduly restrictive. Thus, they do not seem suitable to analyse the persistence of exploitation and classes.

Instead, from a methodological viewpoint, a formal dynamic model proves extremely useful in the analysis of the possibility of providing neoclassical (more specifically, Walrasian) microfoundations to Marxian economics. In particular, a model that aims to provide microfoundations to Marx’s concepts of exploitation

and class must be able to account for their persistence, since, according to Marx, they are inherent features of a capitalist economy (see, Roemer, 1982A, p.6). From a substantive viewpoint, a dynamic model allows one to assess the causal and moral relevance of DOPA, focusing on its role in generating exploitation and classes as persistent features of a competitive economy in which agents can save and the distribution of productive assets can change over time.

The advantage of this strategy is twofold. First, the robustness of Roemer's core arguments can be directly evaluated at the appropriate level of abstraction. Thus, the results derived in Veneziani (2005, 2006) can be interpreted as follows. Let  $D$  denote the dynamic features of the economy (agents living for more than one period, savings, intertemporal choice). Roemer proves that  $X + \text{not } Y + \text{not } D \Rightarrow Z$  as a *persistent phenomenon*; instead Veneziani (2005, 2006) prove that  $X + \text{not } Y + D \Rightarrow Z$  is *not persistent*. Second, by avoiding an *a priori* rejection and focusing on specific issues arising from Roemer's models, this dissertation provides ground for dialogue and for further cross-fertilisation, and it suggests various interesting lines for further research.

## 5. EXPLOITATION AND DISTRIBUTIVE JUSTICE

Based on this taxonomy of exploitation Roemer suggests an original interpretation of historical materialism, according to which "history progresses by the successive elimination of dynamically socially unnecessary forms of exploitation" (Roemer, 1986B, p.146).<sup>26</sup> Thus, for instance, when feudal exploitation becomes a fetter to the development of the forces of production, class

struggle leads to its elimination and to the passage from a feudal to a capitalist mode of production.

More importantly, for the purposes of this dissertation, this theory naturally leads to an original normative approach by defining an *historical materialist ethical imperative* which requires the elimination of (socially unnecessary) exploitation in order to promote the self-actualisation of men and of man as the “unquestionable good” (ibid., p.147).<sup>27</sup> But also on distributive grounds, since the exploitation-free society provides a natural egalitarian benchmark, with an unequal distribution of transferable resources to compensate for unequal endowments of skills and needs. Nevertheless, Roemer’s asset-based theory of exploitation is not a complete theory of distributive justice: “The injustice of an exploitative allocation depends upon the injustice of the initial distribution [of alienable and inalienable assets]” (Roemer, 1988A, p.57). While the moral arbitrariness of the distribution of feudal privilege is rather clear, the same is not true for skills, needs, and most importantly, physical assets (see, e.g., Nozick, 1974).

In *Free to Lose* (1988A), Roemer explicitly discusses the morality of DOPA (and *a fortiori* of capitalist exploitation) and suggests that it is morally objectionable since it is typically the product either of immoral original accumulation - “robbery and plunder” (ibid., pp.58-9) - or of morally arbitrary factors, such as socially determined differential rates of time preference and entrepreneurial abilities or sheer luck (ibid., pp.60-9). In the latter case, even if asset inequalities have arisen in morally respectable ways, Roemer briefly suggests that the resulting exploitation can still be condemned on grounds of

*equality of opportunity* (ibid.), even though no comprehensive discussion is provided. From this perspective, Roemer's asset-based theory of exploitation can be seen as an equality of opportunity approach *in nuce*, which suggests the (fairly controversial) view that the Marxist ethical imperative requires the progressive elimination of different forms of exploitation *in order to equalise opportunities*.<sup>28</sup> This establishes an interesting unexplored link between AM and the modern theories of equality of opportunity which are the object of the next section.

## 6. CONCLUSION [TO BE COMPLETED]

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<sup>1</sup> G.A. Cohen's *Karl Marx's Theory of History* appears in 1978 and the annual seminars of the group in London start in 1979. See Carling (1986) and Wright (1989).

<sup>2</sup> "Orthodox Marxism ... does not imply the uncritical acceptance of the results of Marx's investigations. It is not the 'belief' in this or that thesis, nor the exegesis of a 'sacred' book. On the contrary, orthodoxy refers exclusively to method" (Lukacs, 1971, p.1).

<sup>3</sup> As noted by Wright (1989, p.39), "it would be arrogant to suggest that Marxism lacked these elements prior to the emergence of Analytical Marxism as a self-conscious school".

<sup>4</sup> Basically all critics focus on the *strong definition* given below. In his review of Wright, Levine, and Sober (1992), who adopt instead the weak definition, Foley simply notes that the conclusions "are on the whole mild, sensible and, as the options are presented, persuasive" (Foley, 1993, p.298). He objects mostly to "the authors' addiction to philosophic and sociological jargon, extreme caution in the formulation of hypotheses, involuted prose, and painfully slow movement toward minimally exciting conclusions" (ibid.).

<sup>5</sup> In a functionalist approach social phenomena and institutions can be explained independently of individual choice. Elster distinguishes a *weak functional paradigm*, according to which "an institution or behavioural pattern often has consequences that are (a) beneficial for some dominant economic or political structure; (b) unintended by the actors; and (c) not recognized by the beneficiaries as owing to that behavior" (Elster, 1982A, p.454); and a *strong functional paradigm*, according to which "all institutions or behavioural patterns have a function that explains their presence" (ibid.).

<sup>6</sup> The main exception is the theory of technical change (Elster, 1986, p.188). According to Elster, scientific socialism, dialectical materialism, and the theory of productive forces and relations of production, too, are dead (ibid., p.186-200).

<sup>7</sup> Kieve (1986, p.574) quotes Rosa Luxemburg (1970, p.189): "in every individual act of the struggle so very many important economic, political and social, general and local, material and physical, factors react upon one another in such a way no single act can be arranged and resolved

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as if it were a mathematical problem.” Then, Kieve argues that formal models and rational choice theory are inherently petty-bourgeois and counter-revolutionary.

<sup>8</sup> Unsurprisingly, econometrics, too, falls under Ruccio’s (1988, p.18) axe.

<sup>9</sup> “If we are going to be rigorous we should be rigorous, not rigorous about the proof and extremely sloppy about its range of applications” (McCloskey, 1991, p.10).

<sup>10</sup> Neoclassical models “seem ill-suited to modeling anything but supply, demand, and technical relationships” (Anderson and Thompson, 1988, p.225).

<sup>11</sup> Especially in its *strong* variant; see fn. 8 above for a definition.

<sup>12</sup> For a critique of Cohen’s functionalist interpretation, see Sayers (1984).

<sup>13</sup> Post-modern Marxists have turned the accusation of functionalist reasoning against AM: “the reason why a full-blown functionalism is not needed is that the agents who comprise the economic structure are endowed initially with attributes which are functional to the system of exchange that AM imagines to constitute ‘the economy’” (Amariglio, Callari, and Cullenberg, 1989, p.362).

<sup>14</sup> Sensat (1988) and Weldes (1989) thoroughly discuss alternative approaches to Marxist methodology from a general philosophical viewpoint.

<sup>15</sup> Weldes argues that C4’.i) also requires the additional assumption that “individuals should be construed as intentional actors” (Weldes, 1989, p.356).

<sup>16</sup> See also Sensat (1988, pp.201-3) and Howard and King (1992, pp.346-7).

<sup>17</sup> Cohen (1983B) uses the famous example of ten workers in a locked room with a key on the floor that is assumed to work only once: each of them is free to exit the room, but only one can do it, and thus nine workers will remain in the room in any case.

<sup>18</sup> Sensat (1988, pp.195-6) identifies other three attributes of individualism: *psychologism* (“individual-level explanations of social phenomena must appeal to the operation of cognitive and motivational dispositions in specified settings” (ibid.)); *generality* (“the individual level must bring a transsocial generality to explanations of behavior in social settings” (ibid.)); and *cardinality* (“there is a small number  $n$  such that all social-scientific laws are derivable as applications to specific situations of (general, psychological) laws of interaction among  $n$  or fewer individuals” (ibid.)).



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<sup>19</sup> According to Weldes, C4'.(ii) is not a necessary requirement of methodological individualism but it is implied by the AM adoption of a conventional positivist and empiricist epistemology whereby “social scientific explanations must be deductive in order to achieve adequate predictive and explanatory power” (Weldes, 1989, p.357).

<sup>20</sup> In Roemer’s *general* theory, other forms of exploitation can also be identified (see Roemer, 1986B). An agent has four types of endowments: feudal privileges, alienable and inalienable assets (e.g., skills), and needs. Coalition *S* is said to be *feudally exploited* at a given allocation if there is an hypothetically feasible alternative such that *S* would be better off by withdrawing with its own assets and needs, and by eliminating feudal privileges. Coalition *S* is *socialistically exploited* if it would be better off by withdrawing with its per capita share of all assets, alienable and inalienable, and by eliminating feudal privileges. Coalition *S* is *needs exploited* if it would be better off by withdrawing with its per capita share of all endowments, including needs. The abolition of socialist exploitation implies equality of income (skills are socialised *ex-post*). The abolition of needs exploitation requires an unequal distribution of income to compensate for different needs, as in the famous dictum: “To each according to his needs.”

<sup>21</sup> Roemer analyses exploitation mainly from a normative viewpoint, however exploitation also plays an important role from a positive viewpoint, e.g., in Roemer’s interpretation of historical materialism (Roemer, 1982A, 1986B, 1988A, 1989).

<sup>22</sup> More generally, Kieve (1986) claims that Roemer’s subsistence economies are models of advanced capitalism where some “theoretically troublesome” features “such as surplus value, surplus labor, capitalist class relations” (ibid., p. 561) have been abstracted away.

<sup>23</sup> A general critique of Roemer’s interpretation of Marxian exploitation along similar lines is advanced by Sensat (1984) and Reiman (1987).

<sup>24</sup> For instance, as shown in Veneziani (2005), contrary to Anderson and Thompson’s (1988) claim, Roemer’s assumption of *non benevolent capitalists* is not crucial for his results.

<sup>25</sup> In one of the (surprisingly) few economic models in the AM tradition, Yosihara (1998) attempts to provide a synthesis of Roemer (1982A) and Bowles and Gintis (1990). However, the model is

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not entirely convincing given some *ad hoc* assumptions (for instance, he assumes a competitive economy with only one firm hiring labour).

<sup>26</sup> For a discussion of the notion of statically and dynamically socially necessary exploitation, see, e.g., Roemer (1986B, pp.143-5).

<sup>27</sup> For a definition of self-actualisation of men and man, see chapter 3, fn.1, below.

<sup>28</sup> Roemer (1994B) proposes *market socialism* as the best way to achieve equality of opportunity as a core socialist objective. (For a critique, see Arneson, 1994; Levine, 1994).