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The Economics of Institutions and the Institutions of Economics

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Abstract - Some basic tools of modern approach to the "Economic of Institutions" are shown to be useful to develop an "Economics of Economics" that may throw some light on the nature of the "Institutions of Economics".
The "over-supply" of mathematics, that characterises modern Economics, can be explained by the value that mathematical techniques have as screening and as signalling devices. The emphasis, which is placed on the assumption of maximising behaviour, is claimed to be one of the most typical example of this type of "overproduction". Economic Research may be biased by the economic incentives of Economists.
Individual economists may have incentives to abate screening costs or incentives to signal abilities that may well diverge from the purpose of Economics to explain and to improve the working of economic systems.

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1. Introduction

In my opinion, Critical Realism and Institutionalism are the two projects that share much and can be reciprocally enriching. However the purpose of this paper is not to list commonalities of the two projects, useful though I think such an enterprise would be. Rather, I would like to support the contention that the two projects can support each other. Institutionalism, of course, is primarily concerned with exploring the nature, manner of functioning and consequences of specific institutions. Here, I want to focus only on one institution. But it is an institution of special interest to economists, for it is the institution of (modern) Economics itself.

In recent years Critical Realism has advanced numerous claims, two of which I want to focus on here. The first is that social reality includes social "structures" that are ontologically distinct from people and influence their way of acting and thinking[1]. The second is that the methodology of modern Economics is often characterized by formalisms that are inappropriate for understanding an "open system" such as the economy. The purpose of this paper is to consider a possible relationship among these two points by arguing that the "Economics of Institutions", that has recently been gaining some ground among economists, should apply to the "Institutions of Economics" itself. We will argue that the structure of production of knowledge in the

[1] It is because the social structures which form the context for current agency at any given juncture in time are inherited ready-made by agents that critical realists draw the ontological distinction between pre-existing social structures and current actions. The picture of social activity to which this gives rise holds that human intentional agency must be understood as acting upon (reproducing or transforming) pre-existent structures, not as creating structures ex-nihilo. On this point see pp 6-7 of Lewis and Runde (2001).

discipline of Economics has biased the economic literature towards an excessive use of formal techniques of analysis that may be inadequate for understanding (a very fast changing) economic reality.

The paper is divided into three sections.

In the first section we claim that social structures, not only provide the social sciences with objects of enquiry but can also, in turn, influence the way in which people learn. In particular, the structure of production of knowledge and the incentives faced by the individuals may bias the nature of knowledge that is produced in particular directions. Here some basic tools of modern Economics may be useful in developing an 'Economics of knowledge' and, in particular, some sort of "Economics of Economics".

In the second section we consider the second critical realist claim noted above, namely the idea that formal modeling is often inadequate for understanding an "open" economic system. Our profession may be characterised by an overproduction of formal techniques or, at least, by an unnecessary concentration on problems that are suited for this type of methodology. The emphasis placed on the assumption of maximising behaviour, will be examined as the most typical example of this type of overproduction.

Finally, the last section joins together the two points. We argue that the structure of production of Economics and its incentive structure explain why the over-production and the over-application of some formal techniques takes place.

2. Structured reality and the production of social science.

According to Critical Realism reality is structured in the sense that it contains structures and mechanisms that are ontologically irreducible to the actual course of events. However, we rarely observe the mechanisms themselves, only their complex interactions. The mechanisms express themselves in tendencies that can be weakened or even overcome by the existence of other mechanisms. Even when their manifest effects are completely eliminated, these mechanisms may still be there. According to Critical Realism the role of science is to understand the nature of the mechanisms by whose complex interaction observable events are produced. The way in which these structures operate is particularly complex in the case of human society. The freedom of choice of human agency may, in principle, always upset the working of the structures which in turn condition the way in which the individuals interact. However, while it is a typical mistake of "determinism" to see human agency as a simple outcome of social structures,

it is a typical mistake of "voluntarism" to explain social structure as the outcome of the intentional choices of the individuals[2].

Human intentional activity does not create social structure *ex nihilo*. Rather, individuals agents "draw upon social structure as a condition of acting, and through the action of individuals taken in total, social structure is *reproduced* or (in part at least) *transformed* (Lawson 1997, p. 169). The production/transformation of social structure is rarely an intended project and usually individual agents are not aware of the structures upon which they are drawing. Often as an unintended consequence of their actions, the individuals reproduce a set of positions that define the nature of their relations and are independent of the characteristics of the particular individual that occupies them. Each position is defined by numerous rights, duties, liberties and exposures to liberty[3]. Examples of such relations include the following: employer/employee, parent/child and teacher/student. A social system can be conceived as a set of structured process of interaction characterized by networked, internally-related positions with associated rules and practice while an institution may be defined as those structured processes of interaction "that are relatively enduring and identified as such" (Lawson, 1997 p. 318).

Thus, while institutions are reproduced through the actions of the individuals, institutional change is rarely intentional; more often it is an unintended consequence of these actions. This is not only due to the bounded rationality of individuals but also to the difficulty of organising collective action. A social group or a collectivity (including the individuals who occupy a specific set of social positions) may share the same interests. However, its members may find it difficult not only to discover and articulate the contents and the implications of their interests but also to solve the "free rider" problems that are associated with collective action.

Institutions influence behaviour because they provide the rules of the game and the incentives faced by the individuals. Moreover, they mould behaviour also at a deeper level because they change habits and preferences (see, for example, Lewis and

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[2] Lawson observes how "it is not an exaggeration to suggest that most accounts in Economics that explicitly focus upon the agency-structure relation veer towards one or the other or both. That is, either (1) structure is reduced to (is conceptualised as) the mere creation of individuals, or (2) agency is reduced to (is conceptualised as being totally determined by) external, coercive, structure" (Lawson 1997, p. 167). Lawson sees Hayek and Veblen as two authors tend to make these two opposite mistakes. Pagano (2000a) argues that, while Veblen gave an impressive contribution to the understanding of the human agency, he lapses into some sort of technological determinism because of its unilinear interpretation of history.

[3] Lawson (1997 p. 16). Hohfeld (1919) defines the logical relations among rights, duties, liberties and exposures to liberties. He defines also the "second order relation" among powers, liabilities, disabilities and Immunities. Commons (1924) defines their "equilibrium" and "disequilibrium" relations. On this point see Pagano (2000b)

Runde 2001 p. 14). This makes it difficult to become aware of the shortcomings of inefficient, or even oppressive, institutions. In the critical realist approach social scientists can help to overcome this problem. They can enable the individuals to understand the mechanisms by which their interactions are structured and the nature of the institutions in which they live. In this way, the social sciences may have a progressive and emancipatory role insofar as the individuals may become aware of unsatisfactory institutions and understand some possible ways of changing them.

However, in this approach, the institutions of production of social scientific knowledge must themselves be an object of study. As in the cover of Lawson's "Economics and Reality" the painter must necessarily be in the painting. The "Economics of Economics" must be part of the field in the sense that the "Economics of Institutions" cannot ignore the "Institutions of Economics". The Institutions of Economics can help a great deal the advancement of economic studies but they can also bias research in certain directions and inhibit the development of certain topics and methods of research . It is a claim of the paper that, in some cases, the Institutions of Economics can inhibit the progress of the Economics of Institutions[4].

3. Economics and maximization.

The view of the individual, emerging from both Critical Realism[5] and Institutional Economics, is that individuals are made of a complex mix of instincts, emotions, habits and conscious rationality. In the same society the mix is very likely to change from individual to individual. Indeed, in real life individuals are characterised by different degrees of rationality and by different emotions. Moreover these

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[4] This inhibition of research into the Economics of Institutions has been counteracted by a recent surge of interest in Institutional Economics as displayed by for instance, the forthcoming books by Aoki (2001) and Bowles (2002).

[5] Lawson observes that rational choice must be integrated with routinized behaviour, tacit knowledge, unconscious motivation, emotions and the fact that "each individual is primarily the product of his or her actions and experiences within the social relations and modes of determination into which he or she is born and thereafter lives' (Lawson 1997, p. 185). This integration brings about what Lawson calls *a theory of situated rationality*. "Not only are individuals' choices of actions conditioned by the situated options which they perceive, but also the individuals themselves, their expressions of their needs and motives, the manner in which their capacities and capabilities have been moulded, their values and interests and so forth are conditioned by the context of their birth and development (Lawson 1997, p. 187). According to Lawson (1997 p. 106) and Runde (1999, p.74) rationality is a capacity which is only sometimes actualized because it can be overcome by other forces. Pagano (2000a) makes a similar point and distinguishes among five types of bounded rationality: bounded communication skills, bounded information processing skills, bounded calculation skills, bounded preference formation skills and bounded emotional skills. In all five cases the capacity to be rational is limited by and must co-exist with other forces.

characteristics are influenced by the institutions found in society and often reflect different nationalities and different moments of history. The way in which individuals with well specified characteristics may act under and reproduce some specific institutions could be a fruitful field for economists and other social scientists. One should consider how, under some circumstances, because of their personal characteristics, the individuals tend to reproduce some institutions and, in turn, these institutions tend to reproduce their complex mix of instincts emotions and habits. In other words, Economics could study how the interactions among individuals tend to produce "closures" under which institutions tend to reproduce themselves via the characteristics of the individuals and the latter tend to reproduce themselves via the working of institutions. Even when the process of (re)production of institutions determines a closure, it is still a dynamic process and the way is always open to an end of the closure[6]: human history is always potentially open to change in virtue of the conscious or unconscious human capacity to rebel to traditions and to innovate .

By contrast, modern Economics has usually been concerned with a closed world where many characteristics of the individuals are conflated in an unbounded rationality assumption[7]. This assumption cancels the large majority of the differences among the individuals of the same society and among different societies. Historical context and individual characteristics lose much of their relevance in a world where all individuals show the very same degree of unbounded rationality, do not have irrational emotions and are never conditioned by habits and instincts in degrees that change from one individual to the other[8].

For several reasons one can argue that the orthodox approach eliminates the most important economic problems from Economics and that, in spite of its growing formalism it is logically contradictory.

In the first place the diversity of different economic systems is accommodated by an approach where the individuals share basically the same characteristics (which

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[6] In my own work on "organizational equilibria" (part of joint with Bob Rowthorn), I have tried (unconsciously!) to follow this methodology by looking both at the dynamic self-reinforcing mechanisms that determine these "organizational closures" and to those factors which may upset the "institutional stability" of these equilibria. See, for instance Pagano (1993) and Pagano and Rowthorn (1996).

[7] Screpanti (2000, p. 96) argues that in some way the Marxian theory makes a similar reductive assumption. "As an ontology of the social being, the Marxist anthropology gives rise to a kind of humanism that is different from the neoclassical one". However Screpanti observes how "in a fundamental sense it also is a humanism quite similar because it is based on rationality".

[8] Moreover a deeper point is that "If rational behaviour is to be assumed, then its evolution has to be explained" (Hodgson, 1998 p. 189). In this sense evolutionary psychology can help to understand the emergence of conscious and intentional behaviour as well as clarify the way in which social structure can mould individual behaviour. On this point see Hodgson (1999).

are therefore also assumed to be independent of the social and economic structure). Indeed, one should ask why economic systems should be substantially different if the individuals are always perfect maximizers. In many cases, we should only observe the efficient system built by perfectly rational agents. Indeed, it is hardly surprising that much of orthodox Economics comes to this conclusion and eliminates the possibility of understanding the "inefficient systems" that make a great deal of the reality of history.

In the second place, if we assume equally maximising individuals, we ignore the fundamental economic problems related to the fact that individuals have different abilities to maximise and that many resources must be invested in order to turn them into reasonably good choosers. The existence and the development of entrepreneurial ability can hardly fit in modern Economics. Moreover, the orthodox approach contradicts the daily experiences of parents, teachers and other agents that are engaged with the education process. These agents regularly make choices on behalf of those being educated who do not yet have sufficient maturity to deal with these choices. Perhaps, the main purpose of education is the gradual achievement of a maturity that, in a more or less distant future, can make the individuals undergoing education reasonably good rational choosers. Or, in other words, one purpose of education is to enable individuals to cope with their own instincts and emotions and to help them to become aware of their own bad habits (and possibly, to get rid of them!) [9]. However, in order to make individuals good choosers, it may be necessary to limit their freedom of choice, especially at the early stages of their life. These major economic problems are simply removed if all the agents are born (and die) equally rational in all societies. Major aspects of the education and socialisation process that characterise the different societies are also similarly expelled from the field of economic analysis.

At the normative level, the effects are even less satisfactory. The traditional approach ignores the fact that the State should guarantee that each citizen receives the basic inputs necessary to make her a reasonably rational chooser. In this respect the role of public education is completely undervalued in Economics. Few arguments can be applied in Economics against the freedom for parents to have the type of education that, like fish and chips, they desire for their children. In Economics one does not perceive that, in a genuinely democratic society, the inalienable right of individuals to become a free choosers involves a duty to provide the education necessary for people to exercise this right[10]. The inalienable right (and duty towards the other members of society) of each individual to become a decent free chooser limits the freedom of choice of

[9] At same time rationality should not involve exaggerated forms of self-repression!

[10] This point is somehow related to Sen's capability approach even if perhaps choosing is in Sen an activity that has a status different from the other capabilities. On this point see Foster and Sen (1997) and Basu and Lòpez-Calva (1999). A stimulating assessment of Sen's capability is provided by Robeyns (2000).

education by parents and involves a form of collective responsibility. Orthodox Economics cannot examine the mechanisms of allocation of resources by which a society that gives an important role to free choices reproduces its complex structure. An approach that assumes a uniform capacity to maximize cannot be a useful way to devise the policies that can help the individuals to become reasonably good masters of their own lives.

Finally, when we accept that maximization is costly, either the use of this hypothesis becomes trivial and tautological or it turns out to be logically contradictory. On the one hand, one may explicitly ignore the different maximization costs faced by the different individuals. In this case the maximization hypothesis is tantamount to saying that, if tomorrow petrol will not be scarce, an unbounded quantity of petrol (rationality) may be consumed. This tautological statement is not helpful in a world where both petrol and rationality are scarce factors. On the other hand, one may try to include maximization costs in the maximization problem itself and reformulate a new (second order) maximization problem in which one rationally decides how many resources to allocate to the (first order) maximising activity and how many resources to dedicate to other useful activities. Unfortunately, this involves a new (more complex) maximization problem that entails new (and greater) maximization costs. One could go on ad infinitum and reformulate a new (third order) maximization problem that includes the problem to decide how many resources to devote to a (second order) maximization problem[11] in which one decides how much many resources to devote to a (first order) maximization problem and how many resources to allocate to the other productive activities. But this involves an even more complex (forth order) maximization problem and so on. This infinite regress makes the treatment of bounded rationality within a maximization framework logically contradictory. Only an unbounded outside observer (God?) could tell us what is the best course of action for us given the constraints imposed by our own bounded rationality. By contrast, ordinary human beings will find this redefinition of the maximization problem much harder to solve than the standard optimization problem: from a formal point of view the problem is the same but for the additional complications due to the inclusion of additional constraints expressing the bounds of our own rationality!

To sum up: while reality is made up by different individuals each of whom has a different mix of instincts, emotions, habits and some specific bounded capacities for intentional rationality, Economics has mainly studied undifferentiated unbounded

[11] The study of the allocation of human energies between "first order" and "second order" choices is considered in Sunstein and Ullman-Margalit (2000). Of course the problem that they face is a "third order" problem. The logical contradictions that arise when one tries to solve these problems within a maximization framework are considered by Pagano 2000a.

maximizers[12]. In this situation the questions concerning how individuals' degrees of (ir)rationality and other aspects of the complex individual behaviour are influenced and, in turn, influence the structures and the institutions of society cannot be properly addressed. The dominant approach is useful only in a few limited cases when the maximization problem is not very demanding on rationality or when one wants to study the situations where individual rationality is (or is not) compatible with collective rationality[13]. However, in the large majority of the cases, the approach cannot provide insights into the ways in which society is able to reproduce itself and the cases in which this reproduction of society may break down. An open reality where new types of individuals characterised by different mixes of instincts, emotions, habits and rationality can always emerge has been replaced by a closed world (or, at least, by a more closed world) populated by individuals characterised by an identical utility maximising behaviour.

Major topics of Economics should be the study of the multiple ways in which the social structures conditions and mould the individuals and the analysis of the many routes through which individual actions reproduce and, sometimes, transform social structures. By contrast Economics has only been useful in studying a limited number of problems such as the possible inconsistencies between the behaviour of equal-power total maximizers and the maximum social outcome that they could achieve. Why has Economics usually dealt with such a limited (and often unreal) aspects of social interaction and individual behaviour?

There are many ways in which one can defend the orthodox approach. In some relatively simple cases individuals may be able to maximize. In a limited number of cases the "logical" contradictions between full individual rationality and full collective rationality contain many challenging intellectual puzzles and can provide some insights

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[12] Vanberg (2000) proposes as an interesting alternative to the traditional maximising approach based on Mayr`s (1988) programme based behaviour. He observes how this approach could put an end to the isolation of Economics from the most stimulating cognate disciplines. Cognitive science, evolutionary biology, evolutionary epistemology, evolutionary psychology, the study of adaptive complex systems could all enrich our view of decision making processes if we had not assumed that individuals were all equally good maximizers. The isolation of Economics may perhaps put some pressure on economist to reconsider the limitations of the maximising framework.

[13] The "closed world" of unchanging utility maximising individuals can tell us some stories about the conflicts between individual and collective super-rationalities. However, the fact that individuals are a complicated mix of instincts, emotions, habits and intentional rationality implies that the conflict between individual behaviour and collective interest are, at the same time, more and less serious than the economic approach may imply. While the failure of individual rationality can, in many cases, make desirable collective outcomes harder to achieve, people's reliance on habits and norms rather than pure instrumental rationality makes it less likely that collectively desirable outcomes will be upset by continuous calculating self-interest.

into the nature of real processes. However, it is difficult to defend the abnormal growth of these problems and to ignore the irrelevance of many of the exercises even in their own terms. It is even harder to justify the simultaneous underdevelopment of the understanding of the diversity and the evolution of real economic life. In other words, it is difficult to accept the extent of the replacement of the understanding of the real economic structures and real individuals by the study of an unreal world of equally perfect rational maximizers.

4. The "Economics of Economics" and the "oversupply" of Mathematics.

A paradoxical consequence of the orthodox approach is that Economics is defined more in terms of its methodology than in terms of its subject-matter or field. In this sense one can claim that whatever phenomenon has been explained in terms of rational choice it has, also by definition, been explained in terms of the economic approach. In this sense Economics becomes a methodology that can be applied well beyond its original domain of enquiry. Rational choice can be applied to law, political science, animal behaviour and so on. In this way the "economic approach" can conquer the fields of law, political science and animal behaviour. However, while this sort of economic Imperialism takes place, the domain of study of social and economic structures is invaded by other disciplines and methodologies.

The fact itself that Economics has been defined in terms of a methodology and not in terms of its subject-matter has had the undesirable consequence that economists have often lost their own field of studies. It has also had a negative consequence that scientists who are usually aware of the advantages of competition should not fail to appreciate: defining a discipline in terms of a methodology, and not in terms of its subject-matter, places severe limits on competition between different methodologies. Competition among methodologies requires that they measure their ability to explain the working of their subject-matter. In this respect, while Economics (or more accurately rational choice theory) can be applied to various fields, it is completely sheltered from the competition of other methodologies. By contrast, intentional rational explanations should compete with other explanations such as those based on the evolutionary selection of unconscious habits. Moreover, each explanation should compete with the other relative to the understanding of a given problem of a given field

and in a certain context[14]. If according to the orthodox definition scientists seeking different types of explanations for the same phenomenon do not count as economists, Economics becomes some sort of "Methodist Church". Competition from alternative methodologies is ruled out by the fact that their followers are necessarily outside the Church.

Our questions can now be formulated in a sharper way. Why does Economics concentrate so excessively on the study of abstract interactions among individuals as rational choosers? Why does it consider outside its church scholars who seek to consider other aspects of individual interactions? Why do PhD programmes tend to include increasingly sophisticated Mathematics while economic history (and the history of economic thought) has stopped being a topic in the same programmes? Why has Economics become so biased in one direction?

In my opinion the answer can only be found by analysing how the actual institutions of production of Economics work,[15]in other words, by some sort of "Economics of Economics".[16]

If orthodox economic theory is correct to maintain that, at least up to a certain degree, individuals are selfish rational choosers, then economists cannot be assumed to be the only exception to this picture of human nature. A contradiction between the

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[14] By contrast, the perfect maximizers of economic are somehow made independent of context by their invariant perfection. For this reason "if "laws of market are discovered, these are the same in any society, in any historical setting and independent of the past development of that society" (Elkana, p. 11).

[15] A similar explanation can be found in Gellner's explanation of "ultra-subjectivism" which, like "mathematical formalism", may lead to disregard the understanding of the structures of a given field. "In the world's most developed countries, something like 50 per cent of population receives higher education. The colleges and universities which provide it are staffed by people who are assessed in terms not merely of teaching performance but also of intellectual creativity and originality, on the model of a ever-growing natural science, and of great centers of learning where scholars find themselves on the very frontiers of knowledge.....It is all intended to resemble scientific growth.
But what if there isn't any? May this lead to a setting up of artificial obsolescence and rotation of fashion, characteristic of the consumer goods industry? In the post-war era, this demand for growth was met in American sociology by the elaboration of a scientistic jargon, which in fact had neither sharpness of definition, nor any real relation to reality, nor much internal discipline, but which sounded suitably obscure and intimidating. This was followed, in anthropology, first by the "interpretative mood, and then by its exaggerated , self-indulgent "post-modernist" continuation. Each could be presented as discovery and advance." (Gellner 1997, p. 46)

[16] In some way this can be seen also as a useful reflexivity test. If Economics works it must also help to explain itself with a consistent approach. The importance of a "reflexivity test" is considered by Maki (1999) who argues that, in principle, the tools by which we explain the market for goods should also help the understanding of the market for ideas. However, in this case, he ends up correctly arguing that the market for goods and the market for ideas may be two very different institutions and a theory that fits the former should not necessarily fit the latter.

interests and actions of "selfish economists" and what Economics is *supposed* to do may, therefore, easily arise. While the welfare of society at large demands that the community of economists is supposed to study problems that are relevant to a certain field of inquiry, namely the economy, economists are (also) interested in job security, tenure and their careers. This is even more so for a community that (unlike that inhabited by Ricardo, Marx, Walras or Pareto[17]) operates almost entirely within a world of incentives defined by Academia. Such a community is inevitably (over)sensitive to academic screening procedures and to the rules of the competition occurring among its members.

We have already seen that social structures can be defined in terms of "positions" that the different members occupy one with respect to the other. This implies that agents do not get their utility only from the public and private goods that they consume and the type of work activities that they carry out[18]. They are also likely to get utility from their relative positions in society. In many cases, because of their positional characteristics, these relations involve the consumption of positional goods such as power and status that are characterised by the fact that their aggregate consumption is equal to zero because the positive consumption by some individuals is matched by the negative consumption of other individuals. The case of positional goods is polar to the case of public goods. Public goods differ from private goods because, while in the case of "pure" private goods an individual consumes a zero amount of a good consumed by another individual, in the case of "pure" public goods an individual consumes the same positive amount of the good supplied and consumed by another individual. By contrast, in the case of "pure" positional goods, an individual consumes the same negative amount of the good consumed by another individual. For instance one can consume positive amounts of status and power only if other agents consume corresponding negative amounts (Pagano 1999).

The output of research – knowledge - has a strong well known public good aspect. However, when knowledge can be easily embodied in marketable private goods or when its usefulness for the production of private goods can be easily described and patented, then its potential public good character does not imply a substantial departure from traditional market incentives. These institutional arrangements are considerably more difficult when knowledge is basic knowledge that is very far from marketable goods. Here the University and, in general, incentive structures that do not rely on the

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[17] Ricardo was a professional businessman (and politician), Marx a professional revolutionary, Walras and Pareto became academics in Lausanne late in their life after being employed in the railways.

[18] Work only appears in the traditional setting as "forgone leisure," an unreal assumption that implies that individuals are indifferent towards work allocation. On the extension of utility to the real work activities performed by the individuals see Pagano (1985).

sale of a good have a considerable relative advantage. This is the case when one thinks of the research concerning the basic structure of society. The knowledge of this structure can be extremely useful but it is difficult or impossible to embody it in private goods or to patent it. Thus, the people involved in the production of these type of goods must be either (a) politically motivated and/or (b) they must enjoy the production process as such or (c) they must (also) be paid by some public body like a University. While some combination of these ingredients is possible and, indeed, common, in recent times much of the production of knowledge is carried out within a scientific community working at Universities or in other similar institutions. In turn, these institutions rely very much on the fact that people can be motivated to do research by offering them positions and positional goods. Ranks and careers, prizes establishing the relative fame of researchers, and access to journals with different level of prestige are all ways by which in principle a public good such as "understanding the economy or the society" could be achieved.

An "Economics of Economics" can be very useful in investigating the real structure of scientific research. Paradoxically, parts of orthodox Economics can here become useful because, at least at first sight, the problem might be seen as one of inconsistency between collective and individual rationality. While the collective interest of society and the collective reputation of the profession imply that Economics should improve as much as possible the understanding of a field of problems, the individual economists are (also and, sometimes mainly) interested in surviving and, possibly, winning the tough positional competition that takes place within their profession. Thus, while a mix of skills is useful to advance economic research, there is no guarantee that academic economists will acquire them with the corresponding "optimal" weights. In particular because of the (sometimes tough) positional competition existing within the profession (especially young people) will try to acquire those skills that can be easily assessed by the (often senior) screeners. Members of appointment committees and candidates have convergent interests to minimise screening and signaling costs and will privilege those skills where the ability of individuals can be easily assessed.

Let us now draw the implication for Economics of this standard economic argument for the "Economics of Economics". Different types of skills are characterised by different screening and signaling costs. Usually the screening and signaling costs are lower when it is possible to define problems that admit only one correct answer; by contrast they are higher when the problem is difficult to define and admits many different interpretations. Mathematics is relatively close to the first extreme while

History is close to the second[19] (while other fields may fall in between these two cases). It is then possible to formulate, paradoxically also in mathematical jargon, the "theorem" that Mathematics is oversupplied[20]. Because of the cheaper screening and signaling properties of Mathematics, rational selfish choosers will put extra effort in acquiring these types of skills (relative to a "first best" solution where complete information makes the signaling and screening costs irrelevant).

One could argue that this "second best" solution is, in fact a good choice for our profession. In a world of costly and incomplete information[21], comparisons with the "first best solution" are somehow irrelevant and second best is the most that can be actually achieved.

However, this "realistic defense" does, in turn, ignore many aspects of reality. In the first place, it is very unlikely that the "oversupply" of mathematical skills relative to other types of skills is limited at the level entailed by the "second best" solution. Positional competition among economists may well imply that an inflationary spiral may take place and the strength of the mathematical signal is continuously reinforced at expenses of the other skills. In the second place, while the agents will concentrate on certain skills because they are better for signaling their abilities, they will always try to pretend that this is terribly useful for a better understanding of the real structures that the scientific community is supposed to understand. Even more important, they will

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[19] While I have not been able to find a reasonable answer for the exclusion of economic history from PhD programmes, the argument for the exclusion of the history of economic analysis is based on the idea that Economics is characterised by a cumulative growth of knowledge that makes it unnecessary to study past theories. Unfortunately this is not true. A more reasonable explanation is that history of economic analysis is also a poor screening and signaling device. Moreover, in a world characterised by fierce positional competition being a dead economist is a very serious disadvantage. There is no way by which dead economists can gain influence by offering positions to other academics.

[20]Saying that Mathematics is "oversupplied" does not imply that it is always useless but that in many case is supplied well beyond the point where it is helpful. The situation is well summarised by Peter Bauer (2000, p. 21) when he says: "Mathematical methods often provide an effective facade or screen which covers or conceals empty formalism. They can camouflage disregard of basic propositions or simple evidence in models purporting to serve as basis for policy. Statistics, technical jargon, and sophisticated econometric techniques can also serve as a protective screen. But the use of Mathematics is particularly effective because of the language barrier it provides. What we see is an inversion of the familiar Hans Andersen story of the Emperor's New Clothes. Here there *are* new clothes, and at times they are *haute couture.* But all too often there is no emperor within." A similar point is made by Lewis and Runde (1999).

[21] The argument is similar to that advanced in the numerous models where agents have to signal their abilities. In a seminar at our University Frank Hahn commented upon one of these models (where the best agents had to follow an inferior technique to reveal their superior abilities) by saying: "This is why the best economists do the worst Economics!"

find that believing it (and genuinely believing it!) makes them better off. It is rather sad to believe that one acquires certain skills only to win positional competition. It is nicer to get good positions while, at the same time, believing and making others believe that what one is doing is tremendously useful.

In the third place, some adverse selection takes place. Those economists who are more ready to invest in the signaling skills and have little interest for the ultimate purposes of the scientific community will tend to win the most attractive positions. Their success will, in turn, bias the average attitude of the profession.

Finally, because the process is largely a tacit and unconscious one, new habits of thought emerge and the problems that one was set to explain are easily forgotten. Indeed, economists, who have signaled their abilities oversupplying Mathematics, will have a preference (and, in absence of other acquired skills, a necessity) to screen even more on the basis of the skills that they have accumulated. The ethos of the profession changes because "not only are individuals' choices of actions conditioned by the situated options which they perceive". The social context conditions also "the individuals themselves, their expressions of their needs and motives, the manner in which their capacities and capabilities have been moulded, their values and interests and so forth" (Lawson 1997, p. 187)[22]. New generations are "born and developed" as economists in a different way and they (re)produce Economics without being aware of the extent by which the Institutions of Economics may have affected its contents.

Conclusion.

At this point one may try to answer our question. Why have economists concentrated so much on the maximization hypothesis in spite of the serious shortcomings that make this assumption so hard to justify?

We may advance the hypothesis that, while it is hard to argue that the individuals that are described by economists have the required optimisation skills, this description allows economists to show that they are the ones who can solve complicated optimisation problems. In many cases the role of the maximization hypothesis is not really to portray the real behaviour of the agents but rather to showcase the mathematical abilities of the economists. While a limited amount of

[22] The point is not made by Lawson referring to this specific context but applies rather well to this case.

Mathematics can be useful[23], its potential as a screening and signaling device may paradoxically be a serious problem because it causes an overapplication of Mathematics and a possible degeneration of Economics into an increasingly complex and empty formalism.

If social science wants to have a liberating role in helping to understand, and sometimes even change, those structures that may otherwise be hidden to the individuals, it must also study how its own structures work and the real tendencies that they may generate.

Critical Realism has claimed that "structures" are ontologically distinct from people and can influence their actions and their way of thinking. It has also maintained that the methodology of Economics has emphasized formalisms that are not really suited for an "open system" such as the economy. The "Economics of Economics" seems to show the interdependence of these two claims: the Institutions of Economics are ontologically distinct from individual Economists and tend to generate a "formalistic" propensity[24]. A future task of the Economics of Institutions should be to contribute to the analysis of the possible changes that may help to generate better Institutions of Economics and, in general, a better division of labour among Social Scientists.

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[23] In many cases Mathematics can be one way of using as metaphors the relations existing in other fields of reality. According to the original Greek meaning metaphors involve the transfer of concepts from some well-understood field of investigation to some other, less well understood domain of inquiry. This system works insofar it is possible to draw an analogy between the two fields and is considered as a first step towards a deeper understanding of the new field. However, the existence of such analogies can never be taken for granted and, where the relevant analogies are absent, metaphors can sometimes be misleading. They are useful only insofar as there is a sufficient symmetry between the real structure that we know well and the real structure about we which we know very little. When these conditions are satisfied metaphors can "provide the linguistic context in which the models that constitute the model for scientific explanation are suggested and described" and can allow scientists to draw upon antecedently existing cognitive resources to provide both the model and the vocabulary in terms of which the unknown mechanism etc. governing observable behaviour can be conceived and investigated" (Lewis 1999, p. 98).

[24] While this propensity is a real outcome of the structure of academic work, it may be (we do hope often!) matched by other propensities. On the meaning of propensities and their role in Popper's work see Runde (1999, p. 77) where he argues that, as Popper (1959) remarked, a good part of the usefulness of the propensity view lies in the suggestion that our theories are concerned with an unobservable reality of causal factors, generative mechanisms and so on, and that it is only through some of its more superficial effects (propensities that have been realised) that this reality can be identified.

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