Economic reductionism as a hindrance to the analysis of structural change: scattered notes

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Abstract

Four specific forms of theoretical reductionism within economics are addressed in the paper, whose main purpose is to foster a climate for change. The addressed forms are, relations among human beings are reduced to relations of equivalents; economic rationality is reduced to rational choice; the category of happiness is reduced to that of utility; trust is reduced to reputation. © 2000 Elsevier Science B.V. All rights reserved.

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1. Introduction

The past few years have witnessed a remarkable upsurge of interest among economists toward the problem of the anthropological foundation of economic discourse which continues to embody a limited conception of personal well being and the public good and which takes little account of human capacities for moral sentiments going well beyond the limited accounting of personal and immediate gains. This interest has been motivated by a double set of circumstances. On the one hand, the recognition that a proper understanding of the process of structural change presupposes getting over the reductionist character of a great deal of contemporary economic theory which, by relying too heavily on a distorted view of economic agency, seems to be unable to cope with the problems of present-day economies (environmental protection, growing social inequalities, insecurity despite growing affluence, transformation of family structures) and, in particular, of promoting market-based post-communist economies. On the other hand, the perva-
sive awareness of the fact that reductionism is a major impediment to innovation of economic ideas and a dangerous shelter for conventional approaches from both factual criticism and competing perspectives in other disciplines.

In these notes, I will address four specific forms of theoretical reductionism within economics, with the intention of contributing to the debate on the ways to enlarge the scope of economic research in order to make it more relevant for the analysis of policy means and of policy ends and, more generally, with the intention of fostering a climate for change. Needless to say, the attempt at overcoming the shortcomings of economic reductionism will be well received by the profession provided one succeeds in showing that, while complying with the canons of scientific praxis, such an attempt can not only amend quite a few of the discipline’s apories, but can also expand its grip on reality, especially so if one wants to say something relevant about the future prospects of economic progress. In view of this, the purpose assigned to the present short contribution is simply that of raising questions in a rather apodiptic (i.e. not fully worked out) way in order to stimulate debate. On the other hand, the spirit in which these notes are written is that of a ‘scholarship of engagement’ (see Boyer, 1996), according to which moral commitment and cognitive interest are intertwined and reciprocally combine.

2. Exchange of equivalent relations versus reciprocity relations

A first form of reductionism which I find particularly intriguing is that in modern economics relations among human beings are invariably reduced to relations of exchange of equivalents, as if these were the only ones worthy of economic interest. As is well known, the economic universe is made up of various economic worlds, each characterised by the prevalence of a specific type of relations. Yet, the (ontological) assumption of economic reductionism is that all types of social relations can be modelled as some variant or another of exchange relations. In so doing, the discipline is imposing upon itself a Nessus shirt that prevents a thorough investigation of economic relations which, although they do not appear of the exchange relations type, are of great economic relevance in our societies. This is the case with the relations of reciprocity.

In a recent study, Kolm (1994), Kolm formalises the reciprocity relation as a series of bi-directional transfers, independent of one another yet interconnected. Independence implies that each transfer is in itself voluntary, which means free; in other words, no transfer is a prerequisite for the occurrence of the other as there is no external obligation whatsoever in the mind of the transferring subject. This characteristic differentiates reciprocity from the familiar market exchange, which too is a set of voluntary bi-directional transfers whose voluntariness is global in that it applies to the whole set of transfers, not to each single transfer in isolation. Put differently, the transfers implied by the exchange of equivalents are each the

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1 See also, for an expansion of the notion of reciprocity, Zamagni (1999).
prerequisite of the other, so much so that the law can at any time intervene to enforce compliance with contract obligations. This is not the case with reciprocity, even though market exchange and reciprocity, both implying voluntariness, oppose command relations. At the same time, however, there is more freedom in reciprocity than in the exchange of equivalents where each transfer in one direction is made compulsory by transfer in the opposite direction. Reciprocity’s other characteristic — bi-directional transfers — is what distinguishes such relations from pure altruism, which expresses itself in isolated one-directional transfers. In both cases however transfers are independently voluntary, hence one can say that reciprocity takes up the intermediate position between market exchange and pure altruism.

It follows that the reciprocity relation demands some kind of balance between what one gives and what one expects to obtain, a balance that is not expressed in a definite exchange relationship (or relative price), since it can vary according to the extent to which moral dispositions like sympathy and benevolence in the Smithian sense, are put into practice by the subjects involved. One should recognise however that reciprocity owns a strategic dimension of its own, as it happens in any interaction among individuals, ‘should the recipient of my transfer not reciprocate, at a later moment I will somehow put an end to our relationship’. Thus, where is the difference with the exchange of equivalent relations? The difference is twofold. In market exchanges the determination of the exchange ratio (the equilibrium price) logically precedes the transfer of the object exchanged — only after buyer and seller have agreed on the house price will the actual exchange take place. In the reciprocity relation instead the transfer precedes, both logically and temporally, the reciprocated object. Under reciprocity, the person who starts the relation has but one firm point, an expectation — not an obligation — that the other will reciprocate.

Second, reciprocity ties may modify the outcome of the economic game, whether by tending to stabilise pro-social behaviours by agents interacting within contexts of the prisoner’s dilemma kind, or because the reciprocity practice tends to modify endogenously the preferences themselves, that is to say the form of individuals’ objective-functions\(^2\). To mention but one example, if I need help under circumstances enabling me to reciprocate only at a later time, while I cannot credibly commit myself, a rational agent in the sense of the rational choice paradigm, although he is in a position to help me will not do so if, knowing that I am too a self-interested individual, she expects that I will not have an interest in reciprocating her favour. Things will differ if my potential help-giver knows I am a fellow who practices reciprocity.

In view of the above, one understands why, unlike both market exchange and coercion, reciprocity cannot be explained in terms of self-interest alone, other regarding motivations and dispositions are important ingredients to the concept of reciprocity. This is why economic literature fettered onto the rational choice scheme cannot account for reciprocity, nor can the latter be understood as a special case of

\(^2\) We owe to Sen (1967) one of the first attempts to advance a relational approach to reciprocity. See also Antoci and Sacco (1999), and Sacco and Zamagni (1997).
a repeated game³. As a second concluding remark, let me stress the often forgotten point that market systems are compatible with many cultures, defined as lasting patterns of behaviour. In turn, the degree of compatibility of market systems with cultures is not without effect upon the overall efficiency of the systems themselves. Thus, one should expect that a culture of individualism would produce different welfare results from a culture of reciprocity. But cultures are not to be taken as given and beyond analysis, since they respond to institutional engineering. It follows that development policies must be able to evaluate the cultural impact of a given set of market institutions and to allow for correctional mechanisms that keep positional externalities and, above all, positional competition, under control. Formal analysis (see Sacco and Zamagni, 1999) suggests that the persistent action of an institutional network that makes people familiar with the benefits of reciprocity, by increasing the share of relationally oriented agents, may make a big difference in this respect.

3. Economic rationality: beyond the intentional action paradigm

This brings me to the second form of reductionism, the sphere of economic rationality is reduced to the sphere of rational choice, as if the only valid theory of human action were the theory of intentional action. Indeed, we know that most human actions have, at their beginning, not only intentions but also dispositions, as economists know at least from the time of Adam Smith. So, the danger of applying the canons of rationality solely to the realm of intentional actions is that actions carried on in adherence of dispositions, such as those prompting the principle of reciprocity, are judged as irrational by standard economic analysis. Yet we know that in quite a few cases the conscious pursuit of one’s self-interest is incompatible with its attainment, in several instances an ‘irrational’ response based on the principle of reciprocity leads to better results than the one conforming to the canons of the exchange of equivalents paradigm. One should notice that this paradox is exactly the opposite of the one exemplified by the Smithian invisible hand.

The fact is that an effective characterisation of economic rationality cannot do without a careful modelling of the social and cultural facets of the environment in which the agents are embedded, see Granovetter (1992)⁴. The acknowledgement of this fact, however, brings about a crucial question, to what extent are agents’

³ To what extent is reciprocity practised and how significant is it in real life? Unlike what one might believe, it is a rather widespread phenomenon especially in advanced societies. Not only is it practised within families, in small informal groups, and in associations of various kinds, but the transactions’ network based on reciprocity as ruling principle is present in all those enterprises that fill the world of non-profit organisations and of co-operative firms; see Sacco and Zamagni (1999). See also Ben-Ner and Putterman (1997), in particular the essay by E. Fehr and S. Gächter.

⁴ For an historical reconstruction of the many positions within economics of the homo oeconomicus metaphor, see Pearson (1998).
choices are conditioned by the pre-existing social environment rather than by explicit optimising calculations? It is clear that, to a certain (substantial) degree, individual choices are conditioned by the pre-existing social environment, as convincingly argued by the sociopsychological literature and that these social conditionings are not completely traceable back to individual optimising behaviours (see e.g. Argyle and Henderson, 1985; Elster, 1989). On the other hand, it is very implausible to postulate that individuals are never able to recognise that some courses of actions are relatively more rewarding than others and to opt for the more rewarding ones. In other words, the trade off between social conditioning and individual optimising motivations must not be shaped unilaterally whenever the modelling of the determinants of human actions is concerned.

A first step toward a correct representation of such interplay calls for a theoretical set-up which proves to be able to, (a) explain how the two forces (i.e. social and cultural factors vs. optimisation) interact and how this interaction feeds back on the ongoing social relations; (b) explain how the structure of this interaction tends itself to be modified by ongoing social relations. The key notion in this respect seems to be that of coevolutionary dynamics, individual behaviours and social norms evolve jointly as micro and/or macro changes in social norms prompt adjustments in individual behaviours and vice versa. Evolutionary game theory, in its actual standard form, while proving to be the right tool for studying the ‘short run’ dynamics of social conventions (i.e. point a, above), proves to be inadequate to deal with the co-evolution of norms themselves (i.e. point b, above). In fact, the relationship between observables like economic institutions and basically unobservable like individual dispositions is a two-way one, i.e. institutions and dispositions co-evolve through a complex — typically non-linear — process which is history-dependent.

One can therefore understand why the modelling choice of standard economic theory of a ‘dualistic’ framework, in which norms act as mere external constraints on behaviours, is missing at least one half of the feedback loop that is actually at work. What one needs is a ‘unified’ framework where behaviours contain ‘hidden’ norms that remain frozen and become salient whenever the corresponding behaviours spread over the population of agents. A promising attempt in this direction comes from the merger of social network analysis and the theory of evolutionary games. A network game — as this type of game is dubbed in the most recent literature (see Ellison, 1993; Macy, 1996; Morris, 1997) — includes, among its constituents, a social network matrix whose entries measure the weight of the relation between two or more agents. Each player is influenced by the others not only through the game they play but also by the specific set of relationships expressed by the social network matrix. The consideration of the fact that actors are interested not only to the outcomes of their interactions with others, but also to the relations they succeed in establishing with others — i.e. to the relational dimension of personal interactions — allows a double target to be reached. Firstly it explains behaviours which, according to the traditional models of rational choice, would remain unjustified (e.g. why do people vote in political elections; why do people donate voluntarily and unanimously to charities; why do people reciprocate
etc.). Secondly, it throws light upon one of the most intriguing dimensions of social welfare, that constituted by the interpersonal dimension of economic reality, i.e. the fact that our welfare — or rather our well being — depends more and more on the consumption of relational goods. It should be noted that, such a unified framework calls for a deep rethinking of the rational choice model and, ultimately, of the postulate of methodological individualism upon which it is built. It is not necessary to abandon methodological individualism altogether, but rather to go beyond it, since the core elements on which purposeful individual choices are based (i.e. preferences) evolve themselves as a consequence of repeated social interaction. What is called for is a redistribution of emphasis away from the individual level of analysis and towards the relational one. In this sense, what economic theory needs is a new organising principle, that I could provisionally call ‘methodological relationism’ and which should not be confused either with methodological individualism or methodological holism.

It seems to me that the attempts at relaxing the assumption of self-interested behaviour (i.e. at relaxing the strictures of the rational choice model) in favour of a notion of rationality taking into account also the dispositional level (e.g. the relational dimension of human action) represent a most promising direction of research in coping with several present-day economic problems. After all, it is not at all clear why rationality should not involve the intelligent pursuit of all one’s goals and values, properly weighted, rather than sticking only to a particular class of goals, i.e. the self-interested ones. Indeed, by not taking goals seriously, the standard concept of rationality has offered an impoverished view of human behaviour. In a recent contribution, Sober and Wilson (1998) provide a novel starting point for the elaboration of a methodology to study the problems of complex social behaviours and of the dispositional and social framework supporting them. Sober and Wilson stand out thanks to their reflection on the ‘deep dimensions’ of selection processes occurring within human societies. The authors’ basic message is that the natural and cultural evolution can only be understood in anti-individualistic terms, selection is a modular hierarchical process acting simultaneously at different levels, each with its own ‘selective units’, namely more or less cohesive and structured social groups.

4. Economics and happiness

I move now to a third form of reductionism within modern economics, the category of happiness has been reduced to that of utility. Economics has always been considered the ‘queen’ of social sciences thanks to its alleged superior ability to explain human behaviour by rigorous and mathematically elegant reasoning. This stated superiority has produced in the last few decades an increasingly

5 The vision advocated by the authors resolutely opposes the individualistic evolutionism of socio-biological source that, however, was the first foremost reference for modern evolutionary game theory. See also the important remarks by Arrow (1994).
hegemonic attitude on the part of economists who, on more than one occasion, ambitiously attempted a ‘colonisation’ of research areas traditionally the domain of other social sciences. In his ‘Models as economies’ Townsend (1988), for example, insists that the variety of social frameworks and institutions as evidenced by socio-cultural anthropology are but contingent expressions of the aggregation of optimising (i.e. utility maximising) individual choices. The most extreme expression of this research project is undoubtedly Gary Becker’s, whose working hypothesis is that of hypostatisation of an extreme individualistic concept of behaviour seen as rational ‘translation’ of a preference system representing the deep essential level of human identity.

The application of Becker’s logic to human behaviour tends however to produce a profound feeling of incongruity. The problem is that *homo Beckerianus* is a perfect specimen of social idiot, a subject so completely devoted to rational pursuit of its own utility as to be unaware that in order to do so it has to manipulate, systematically and explicitly, other people’s behaviours and choices. This is precisely the point, within the utilitarian perspective, as repeatedly stressed by, among others, A. Sen, we see the ‘other’ as a mere instrument for the attainment of our utilitarian goals. On the other hand, it is well known that happiness postulates the existence of the ‘other’ as an end in itself, ‘it takes two to be happy’, whereas I can maximise my utility alone, just as Robinson Crusoe could do before he met Friday. As L. Pareyson writes, ‘Man is a relationship, not in that he stands in relation to, or entertains a relation with: man is a relationship, more specifically a relationship to the (ontological) being, to the other’ Pareyson (1995).

The reduction of happiness to utility generates problems for the simple reason that a large number of social interactions and major existential decisions acquire significance merely thanks to the lack of instrumentality and are desirable only as such. The meaning of a generous action towards a friend, a child or partner lies in its being gratuitous. If we were aware that it is prompted by a precise utilitarian and manipulative logic, it would acquire a totally different aspect and substantially alter the way it is received and the behavioural responses it elicits. However, there is no room for this vision within a conceptual perspective in which the social dimension is merely the sum of the individual ones, hence the need to include behavioural purposefulness in a sort of individual accountancy. *Homo Beckerianus* is profoundly lonely, hence unhappy, even and all the more so when he/she worries about others, in that this solicitude is but an idiosyncrasy of his/her own preferences. To sum up, within the realm of private goods, all the accomplishments economic theory attributes to the utilitarian approach hold true. This is so since, within such a realm, it is true that the more coincides with the better. All the elegant simplicity of our models comes to an end when one introduces into the picture relational goods.

The reduction of human experience to the ‘accountancy’ dimension of utilitarian calculus is not just an act of intellectual arrogance, it is sheer methodological naïveté in the first place, as well documented in a recent contribution by Frey (1997), see also Antoci et al. (1999). It is a fact — often ignored — that the early history of economic science is characterised by the centrality of the happiness
category. Economics is essentially seen as the ‘science of happiness’ whose fundamental target was to provide an answer to the question, ‘what should I do to be happy?’. So much so that even the titles of the books of most of the first economists reveal such preoccupation. Think of Ludovico Muratori’s *Della felicità pubblica* (on public happiness, 1749); Giuseppe Palmieri’s *Riflessioni sulla pubblica felicità* (Reflections on public happiness, 1805); Pietro Verri’s *Discorso sulla felicità* (Discourse on happiness, 1763). The same is true of Antonio Genovesi (1754), Maupertius, Quesnay, Turgot, Condorcor, Sismondi, David Hume and especially Adam Smith. As it is well known from the history of economic thought, it is only with the ‘marginalistic revolution’ that the category of utility completely superseded that of happiness within economic discourse (see, e.g. Screpanti and Zamagni, 1994). Since then, economics managed to be referred to as the ‘dismal science’.

5. Reputation, trust and the problem of transition economies

Finally, I come to a fourth form of reductionism in present-day economic analysis, which I consider rather disturbing, the reduction of trust to the category of reputation. This is to say that the modern explanation of trust is mostly rendered in terms of the value of reputation. What I find inadequate in such a conceptualisation is the fact that, whereas reputation is an *asset*, which can be accumulated and deaccumulated according to rational calculus, trust is basically a *relation* between agents. To better appreciate the difference, let me refer to a most startling paradox characterising the present phase of structural change, in spite of the apparent atomisation of post-industrial economies, this epoch needs more, not less, collective decision processes; more, and not less, co-operative efforts. Indeed, as the new political economy has convincingly demonstrated, at the bottom of each market failure we find the market inability to produce co-operative results, which are the effect of the presence within the economic system of significant and solid networks of trust.

In a well known essay, Arrow writes ‘One can plausibly maintain that most of the world’s backwardness can be explained by the lack of mutual trust’ (Arrow 1972). The reasoning underlying this proposition is simply that development demands high levels of Cupertino and the latter, in turn, implies deep trust ties among economic agents. The strong connection between trust and development opportunities has been ascertained at the empirical level too. Suffice here to mention Robert Putnam’s accurate research updating results obtained by Harvard political scientists, and the conclusions reached by S. Knack and P. Keefer, on

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6 It is interesting to note that the November 1997 issue of The Economic Journal, hosted a symposium on ‘Economics and Happiness’, with contributions by H. Dixon, A.J. Oswald, R.H. Frank, Y. Ng.

7 See also Coleman (1990) and the most interesting contribution by Dasgupta. I should point out that the Italian word for trust is *fiducia*, which comes from the Latin word *fides* meaning ‘chord’, the chord which unites two (or more) entities.
behalf of the World Bank, in the connection between the degree of trust in personal relations and private investment. As expected, the authors find that most countries with an above-average level of trust also present investments at higher levels than anticipated (Knack and Keefer, 1995). To sum up, one can safely state that market is an institution resting essentially upon trust, which means that trust must already be in existence before a market economy can start its functioning. In all societies there evolves an informal network to structure interpersonal relations. The fabric of this framework is essentially made up of relations of trust, which, in a sense, provides a sort of common language for encoding and interpreting the information for the agents.

If so, the question is raised, which conditions should be met for an economic system to generate and improve trust relations? It is the case that civil society is the privileged locus where trust dispositions are fostered; not so the market directly which is rather a ‘trust-consumer’, not a ‘trust-producer’. Indeed, the two fundamental elements of trust — mutual acknowledgement of identities and engagement not to cheat nor betray even when they are feasible at no cost — cannot be generated via a reputational mechanism, since they must be offered initially as ‘free gifts’ by the agents involved when the market process starts. If this were not so, people would never enter agreements that are not fully enforceable. This is why it is misleading and scientifically unproductive to reduce trust to reputation, since it would prevent economic research from inquiring about the strategies to be followed in order to reach that critical threshold of generalised trust among agents beyond which the market can subsequently act both as a reputation control device and as a reputation enhancing structure.

In order to show the relevance and the pertinence of the remarks above to a field of study such as that of structural analysis let me refer to some problems plaguing transition economies. Indeed, firms operating in such a context face a dilemma unknown to those operating in a market economy that is already in existence, betting or not betting on the positive outcome of the transition process. As it is well known, during the transition phase a drastic change of property rights and of the rules of economic game inevitably occur and such a change might start up a viable and sustainable set of new institutions, but it might also chaotically degenerate. If

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8 It may be of interest to report the following passage from an interview to Peter Drucker. “Above all, we are learning very fast that the belief that the free market is all it takes to have a functioning society — or even a functioning economy — is pure delusion. Unless there’s first a functioning civil society the market can produce economic results for a very short time — may be 3 or 5 years. For anything beyond these 5 years a functioning civil society — based on organisations like churches, independent universities, or peasant co-operatives — is needed for the market to function in its economic role, let alone its social role” (Ottawa Citizen, December 31st, 1996). For a thorough investigation of the difference between trust and reputation, see Bruni and Sudgen (2000). See also the most interesting contribution by Porta and Scaglioni (1997).

9 On the semantics of the expression ‘structural economic dynamics’ see Porta (1998), who uses the phrase ‘invariant synchronism’ to characterise structural analysis. See also the contributions in Baranzini and Scaglioni (1993).
the first horn of the dilemma will eventually hold and firms conjecture that this will be the case, they will invest and, more generally, will behave in such a way as to find themselves, at the end of the process, on an expanding and progressive path. On the contrary, if firms conjecture the second horn of the dilemma will hold, the optimal strategy for them will be to dismantle firms’ assets.

It should be noticed that the convenience of these strategic options does not only depend on the choice of individual firms. If the majority of them behave in a ‘responsible’ way, a critical mass will be reached sufficient to ensure the emergence of a viable productive network making investment an attractive option. On the other hand, if mistrust about the outcome of the transition process gets generalised, firms will choose the disruptive option, i.e. to dismantle the assets ‘inherited’. It may so happen that, within the same universe of objective possibilities in terms of resources, educational level of population, technological know-how and the like, the ultimate result depends upon the predominance of one culture over the other and upon the particular mechanism through which cultural patterns get diffused among people. The specific nature of the ‘tragedy’ of transition economies lies in the following apparent paradox, in spite of the fact that it is in everybody’s interest that transition to a market-type society gets obtained, the cultural matrix prevailing in the society and the nature of social dynamics of individual behaviours might be such that multiple equilibria exist that can take the economy in many directions, including decline.

6. In lieu of a conclusion

In view of the above, I cannot but fully agree with the statement by North, ‘If the institutional matrices of economies did not result in path dependence… and if instrumental rationality characterised the way choices were made, then institutions would not matter, and overnight the policy maker could impose efficient rules upon an economy and overnight alter its directions to a productive economy. Such, in essence, are the problems of transition economies’ North (1997)10. There is no doubt that the reductionist stance still prevailing in economic theory bears a certain responsibility in the generation of those perverse results which we observe in many Third World or transition economies. For this reason I consider of the utmost importance the proposal advanced by Pasinetti in his book on ‘Structural Economic Dynamics’ when he writes that natural magnitudes, ‘do not come into existence automatically’ and adds that, ‘the organisational devices (what we here call the ‘institutions’) that may be able to lead to the actual realisation of those natural features are indeed open to various solutions,’ quoted in Porta (1998). The idea according to which it is time to start building bridges between the structural elements of an economic system and its institutional set-up is elaborated in an original way in a recent paper by Scazzieri, where one reads, ‘current research in

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10 On the role of cultural beliefs in a more general context see Greif (1994). See also Dasgupta (2000).
structural economic dynamics has introduced a distinction between the ‘natural’ and the ‘institutional’ features of a dynamic path, thus calling attention upon the critical linkages between structural change and its institutional (or ‘moral’) prerequisites (Scazzieri, 1997).

In closing, I find it proper to quote the following passage from a little known essay of Hicks of some time ago, ‘In the field of economics, over-specialisation is doubly disastrous. A man who is a mathematician may live a stunted life, but he does no harm. An economist who is nothing but an economist is a danger to his neighbours. Economics is not a thing in itself; it is a study of one aspect of the life of man in society…. The economist of tomorrow (sometimes of today) will also know what to advise, on economic grounds; but if, through increasing specialisation, his economics is divorced from any background of social philosophy, he will be in real danger of becoming a dodge merchant, full of ingenious devices for getting out of particular difficulties, but losing contact with the plain root-virtues even the plain economic virtues, on which a healthy society must be based. Modern economics is subject to a real danger of Machiavellism — the treatment of social problems as matters of technique, not as facets of the general search for the Good Life’ (Hicks, 1941). Perhaps, this passage expresses better than anything else the dangers of remaining within a reductionist framework of thought in economic research, especially so when one is interested not so much in analysing the sources of economic progress but in understanding and suggesting how to achieve it.

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