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The *Homo Economicus* Under Experimental Attack

Ekkehart Schlicht

1 Introduction

Economists, almost habitually, seek to explain economic phenomena by assuming that the economic actors are motivated by self-interest. Experimental economics scrutinizes this approach and offers findings that sometimes contradict the assumption of rational self-seeking behavior, and sometimes support it.¹ Experimental economics provides, thus, a new battleground for the struggle between defenders of orthodoxy and heretics.

It remains uncertain, however, whether experimental economics will lead eventually to a better understanding of economic phenomena. The accumulation of experimental and empirical findings will not suffice, as illustrated by the fate of the historical school of economics. A hundred years ago, these economists collected extensive and often very interesting material, hoping that this would lead to a new theory – but, as Ronald Coase noted, they were mistaken: “Without a theory they had nothing to pass on except a mass of descriptive material waiting for a theory, or a fire”.² In a hundred years’ time the same may be said of the experimental economists unless they succeed in providing a theoretical frame for their findings.

Simply assailing orthodox assumptions for lack of realism elaborates the obvious. It is well-known that the usual behavioural assumptions employed in economics are unrealistic. The very economists who analyze economic phenomena in such a way know that. They canvass *homo economicus* rather than *homo sapiens*. Assuming self-interested behaviour for analyzing economic phenomena is used as a theoretical tool. It is not meant to be a realistic behavioural assumption and is, therefore, not invalidated by any experimental refutation of such behavior.

The justifications for postulating self-seeking behaviour in economics are detached from the issue of realism. The assumption is typically defended by arguments of a quite different nature. Sections 3 to 7 provide a short survey of the most important defenses of the *homo*

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¹ See for example Goeree and Holt (2001) and Brown *et al.* (2002).

² Coase (1984, 230).

economicus assumption. The subsequent sections discuss how experimental economics may, in view of these defenses, contribute to a positive understanding of economic phenomena.

2 Justifications for *homo economicus*

For non-economists it is often difficult to apprehend why economists emphasize the selfishness motive so much. Isn't it obvious that action is induced by the most diverse motives, often jointly, and that it seems implausible to assume one single motive underlying all economic behaviour? People act out of gratitude, anger, social commitment and for many, many other reasons. These motives may be declared as "self-serving", because people prefer to be induced by these, rather than other motives, but such a parlance amounts to a misleading game with words. If an action is motivated by thankfulness, the action has the well-being of the giver as its goal, or the balancing of benefits received and benefits given, but not that of the actor. It is not self-serving. Similar objections could be raised against depicting anger, revenge, or many other motives, as arising from selfishness.

There are several reasons why economists nevertheless consider selfishness as the preeminent motive. I would like to discuss three important justifications:

- *homo economicus* as a useful approximation
- *homo economicus* as ideal type
- *homo economicus* as an *as-if*-construct

The following three sections briefly sketch these justifications and explain why they are only marginally affected by possible experimental findings. I will then radicalise the evolutionary point of view that underlies the *as if* defence of *homo economicus* and urge that the psychological processes of norm formation need to be analyzed both theoretically and experimentally.

3 *Homo economicus* as a useful approximation

It is sometimes maintained that self-interest is of particular importance for understanding economic behaviour and that other motives are less important. Accordingly, the *homo economicus* can be seen as a useful approximation that allows us to understand the essential and dominant regularities in economic life.³ This idea offers an important support for starting with the assumption of self-interested behaviour. At the same time, however, it must also be conceded that actual behaviour is often not based on self-interest. The approximation can therefore only be useful for certain problems. One of the leading economists of the German historical school, Gustav Schmoller (1883,243), has phrased this criticism as follows:

Certain isolations may be absolutely wrong. The chemist may dare to ignore physical properties of a chemical object, but if he examined the atmospheric air and said according to the principle of Mengers' isolation: "I only consider nitrogen because it prevails", he would be thrown out of the laboratory immediately.

If studies about price formation were initially based on self-interest as a seemingly fixed factor, this was appropriate for explaining the simplest market processes; however, it is wrong to make this a rule for all future research and the study of all complicated economic processes. In any case and as far as this is done, it must

³ See, for example, Roth (1996).

always be kept in mind that, on the basis of hypotheses, you only obtain hypothetical sentences.

Schmoller points out that the selfishness motive is important but is not the only one driving human action, and that it is not clear under which conditions we may neglect the other motives and still obtain an approximate picture of the processes of interest.

If, in some cases, the motive of self-interest can explain certain experimental results and all other motives can be neglected, while, in other cases, systematically misguided predictions result, this would confirm Schmoller's scepticism, as the thesis that the self-interest assumption sometimes leads to approximately correct conclusions and sometimes not, is not particularly helpful. The conditions under which the approximation works must be spelled out. Experimental economics can be useful here – but only if it is based on the development of general criteria, rather than showing in a case-by-case way that the approximation sometimes works and sometimes doesn't.⁴

4 *Homo economicus* as an ideal type

Carl Menger (1841-1921), probably the most outspoken defender of *homo economicus*, acknowledged that human motivation cannot be reduced self-interest, yet he defended *homo economicus* vehemently as a theoretical assumption. He believed that it was the task of economics to “make us aware of the laws holding for an analytically or abstractly conceived economic world” (Menger, 1986, 72f.). The economist's task is to construct an image of an economy characterized by purely self-serving behavior. Its purpose is to outline an *ideal type* of an economy. The connection with actual economic phenomena ought to be discussed separately.

Menger criticized the “realistic” conception of economics which he attributed to Schmoller. His main objection was that that empirically realistic studies could only provide more or less disjointed facts:

The scientific knowledge to which the above orientation of theoretical research, the empirical-realistic, can lead, merely in consideration of the methodological presuppositions of the latter, can only be of two kinds: (a) *real types*, basic forms of real phenomena, within the typical image of which, however, a more or less broad scope is given for particularities (also for the development of the phenomena!), and (b) *empirical laws*, theoretical knowledge, which make us aware of the actual regularities (though they are by no means guaranteed to be without exception) in the succession and coexistence of real phenomena. ... *The realistic orientation of theoretical research excludes in principle, rather, in all realms of the world of phenomena the possibility of arriving at strict (exact) theoretical knowledge.*⁵

Only “theoretical” economics which assumes selfishness as the sole motive of economic action, can lead to a science of economics. Realistic assumptions and historical findings will

⁴ Kliemt (2001) is much more critical of the selfishness assumption. He points out that among *homines economici*, no legal order could prevail, and thus no economic order, and that an economic analysis based on the *homo economicus* assumption is therefore self-contradictory. Whenever we observe something that appears to be compatible with the usual rationality assumptions, this observation would need to be explained, but would not provide any explanation itself.

⁵ Menger (1986, 57-58). John Stuart Mill (1909, 242) has already noted this in a similar but perhaps more meaningful way: “... only through the principle of competition has political economy any pretension to the character of a science.”

not serve that purpose. In the words of Menger's student Max Weber (1864-1920), research starting with the *homo economicus* seeks to construct an ideal type that serves as a reference point for empirical observations. This leaves no room for realistic objections. Rather, reality must be understood as a *deviation* from the ideal type.⁶ Singular deviations are of little significance. Rather the fit of the overall conception to reality is central.

Experimental findings cannot challenge an ideal type. If some "paradoxa" – in the sense of deviations from self-interested rational behaviour – are showing up in some experiments, this shows only that the ideal type is not fitting in all cases, yet does establish inappropriateness of the ideal type as a mental reconstruction of reality. An ideal type can only be dethroned by another "better" ideal type. Empirical research cannot do that. Or in the words of Carl Menger (1886, 70):

To want to try out the pure theory of economics on experience in its full reality is a process similar to that of a mathematician who wanted to correct the principles of geometry by measuring real objects, without considering that these latter are not identical to the quantities which the pure geometry supposes.

An ideal type is coherent in itself, completely independent of any experience – think of Pythagoras' theorem – immune to any empirical or experimental criticism. Thus, an ideal type cannot be "wrong", but only irrelevant. It remains useful as long as it contributes to the understanding of economic phenomena. Doubts may arise, however, when the number of cases multiply where actual behavior contradicts the traditional assumption of rational self-seeking behaviour. The accumulation of such deviations can weaken the persuasive power of the ideal type, just like a permanent canonade may eventually make a fortress crumble. If experimental economics weakens rather than strengthens the *homo economicus* assumption, it may work like such a permanent canonade. But the question remains: which new ideal type should replace the old one?

5 *Homo economicus* as an as-if-construct

However, the self-interest assumption can not only be defended as offering a useful approximation or an ideal type – it can be justified in a much more fundamental way. Based on the biological theory of evolution, this view has found its classical economic formulation by Armen Alchian (1950). He maintains that the *results* of competition between economic actors, rather than their actual motives, can be understood by assuming profit maximization and the search for individual advantage. The self-interest assumption is a theoretical construction that summarizes the final outcome of various selection and adjustment processes, rather than the actual processes themselves. Just like the processes of natural selection in biology describes the results of natural selection without spelling out the genetic mechanisms that govern propagation and variation, the self-interest assumption can help to understand the formation of economic regularities and institutional structures while bypassing the manifold motives of economic behaviour.

Alchian has outlined his position as follows:

⁶ Weber (1972, 3). Elwell (1996) aptly describes the concept of the ideal type as follows: "An ideal type provides the basic method for historical-comparative study. It is not meant to refer to the 'best' or to some moral ideal. . . . An ideal type is an analytical construct that serves as a measuring rod for social observers to determine the extent to which concrete social institutions are similar and how they differ from some defined measure."

A modification of economic analysis to incorporate incomplete information and uncertain foresight as axioms is suggested here. This approach dispenses with “profit maximization”; and it does not rely on the predictable, individual behavior that is usually assumed, as a first approximation, in standard textbook treatments. Despite these changes, the analytical concepts usually associated with such behavior are retained because they are not dependent upon such motivation or foresight. The suggested approach embodies the principles of biological evolution and natural selection by interpreting the economic system as an adoptive mechanism which chooses among exploratory actions generated by the adaptive pursuit of “success” or “profits.” The resulting analysis is applicable to actions usually regarded as aberrations from standard economic behavior as well as to behavior covered by the customary analysis.⁷

This defense of the *homo economicus* has a long tradition in economics. Karl Marx (1909, iii.x.61) writes, for example:

Hence Capital is reckless of the health or length of life of the labourer, unless under compulsion from society. . . . But looking at things as a whole, all this does not, indeed, depend on the good or ill will of the individual capitalist. Free competition brings out the inherent laws of capitalist production, in the shape of external coercive laws having power over every individual capitalist.

Marx thus sees the accumulation of capital as largely detached from the individual behavioral inclinations of the capitalists. Interestingly Alfred Marshall (1842-1924), who emphasized the importance of standards and conventions for economic behaviour and was convinced that the self-interest assumption did not adequately grasp human motivation, held a similar view. He thought that the formation of behavioral norms and conventions was shaped by self-interested behaviour and wrote:

I believe that very many economic customs could be traced, if we had only knowledge enough, to the slow equilibration of measurable motives: that even in such a country as India no custom retains its hold long after the relative positions of the motives of demand and supply have so changed that the values which would bring them into stable equilibrium, are far removed from those which the custom sanctions.⁸

Marshall sees the creation of economic customs as being driven by the search for advantage. In this sense, his considerations can be read as justifying the assumption of self-interest as an “as if” concept. People largely follow customary ways of behavior, but these customary ways are continually shaded by variations driven by the search for advantage. Successful behaviours, customs and norms will eventually prevail in the course of social evolution. These can be interpreted “as if” households and firms are acting out of self-interest.⁹

⁷ Alchian (1950,211). Milton Friedman (1953,3-43) argued with a similar background that the closeness of the assumptions to reality was not decisive for economic theories because of the a-top view. Gary Becker (1962,1) is even more radical when he points out that many analytical results can remain valid even with completely irrational behavior. In my opinion, however, this is a somewhat problematic position, since it amounts to the assumption that *homo economicus* is always justified if it leads to correct analytical results, but not otherwise. This cannot be contradicted, but such a thesis does not say much, as long as a criterion is not given that states under which conditions self-interest assumption suffices as an approximate explanation.

⁸ Marshall (1885, 169-70).

⁹ In Schlicht (1998, Ch. 5) I call this view “adaptive custom”. The theory on the formation of norms, motives and behaviours presented there modifies this point of view.

6 The erosion argument¹⁰

To evaluate the arguments by Marx, Marshall, and Alchian, we consider a normatively guided behaviour, which has been confirmed experimentally many times, but stands in blatant contradiction to the kind of selfish behaviour that we usually assume. The erosion argument, which I will explain in time, amounts to the thesis that such behaviour, which contradicts self-interest, cannot be sustained in the long run. Rather, we must expect changes in behavioral routines to occur until behaviors emerge that can be understood as brought about by self-interested behaviour of the individuals.

We consider a “dictator game”: two persons, *A* and *B*, are asked to agree on dividing a sum of money among them. The first person *A* – the dictator – receives the money, keeps as much of it as she wants for herself and leaves the rest to the other person. Person *A* would of course keep nearly everything to herself if she behaved as a selfish *homo economicus*. Person *B* would accept any positive amount that *A* would offer her as a bribe, because without agreement both *A* and *B* would receive nothing, and any positive amount is better than that. In experimental situations, however, both behaviors do not occur. *A* will typically give a significant portion of the amount of money to *B*, and *B* will typically refuse to accept a share from *A* if it is too small.

This behaviour is obviously related to the fairness perceptions of the players. These vary considerably across cultures. The shares offered by the dictator and accepted by the receiver average at 44% in industrial societies and vary between 26% and 58% in the non-industrial societies examined by Henrich *et al.* (2001, 74).

The question then is how these ideas of fairness are formed. Various observations and experiments show that people base their fairness judgements on what is usual.¹¹ Different norms emerge in different societies according to differences in what is usual. In corporatist societies, the completely different legal positions of nobility, citizens and serfs were perceived as fair, as was discrimination against women, simply because the corresponding distinctions were common. They were normal and therefore became the norm. If, as a different case, we consider the benefits that are paid to employees in modern companies in excess of the collectively agreed pay, they are perceived as normal after a relatively short period of time. They become part of the collective agreement, also legally, in spite of being offered as an extra. It has been shown experimentally that crass discrimination is perceived by both the privileged and the disadvantaged as completely fair under appropriate conditions.¹²

Regarding the dictator game, we can describe the dictator’s behaviour as follows. Denote by x the share that dictator *A* keeps for himself. The amount $(1 - x)$ that remains for the other person *B* if both agree on x . To formalize the observed behavior described above, we assume that the dictator does not take everything, because she is aware of a fairness standard f that describes the fair share, and she tries to behave in a way that is not perceived as unfair. If the fairness standard is $f = 1/2$, for example, this means that the equal distribution is perceived as fair. If $f = 3/4$, this means that it is considered fair if the dictator assigns $3/4$ to herself and $1/4$ to the other player *B*.

¹⁰ The following erosion argument is essentially due to Alfred Marshall. In recent literature, it has been advanced by Romer (1984) against Akerlof’s (1976) theory of caste societies, see also my own critique of Akerlof’s (1982) ‘Gift-Exchange’ theory (Schlicht, 1990, 164, n. 11) and the development of the argument in Schlicht (1998, Ch. 5). The defence of Nash equilibria in evolutionary game theory can be seen as a formalization of the erosion argument, see Mailath (1998). The formal representation chosen here follows Schlicht (1993, 185-6).

¹¹ Kahneman *et al.* (1986, 731-32).

¹² Major and Testa (1989), Austin and Hatfield (1980, 80).

The dictator has two goals: She wants to have as much as possible for herself by proposing a share x as large as possible, but she also wants to behave fairly such that the proposal is acceptable by choosing a division x that is as fair as possible and as close to f as possible.

The deviation from the fair distribution – the unfairness of the proposal – is given by function d measuring the difference between f and x

$$d = d(f - x), \text{ with } d(0) = 0, d' \begin{cases} > \\ = \\ < \end{cases} 0 \text{ for } x \begin{cases} > \\ = \\ < \end{cases} f.$$

This expresses that the deviation of the fair distribution increases with the difference between the proposed division x from the fair division f .

The benefit u of the “dictator” can now be described by a function of the proportion x and the unfairness d :

$$u = u(x, d) \text{ with } u_x > 0 \text{ and } u_d < 0.$$

$$u_x - u_d d' = 0$$

The dictator selects her proposal x such as to maximize her benefit $u(x, d(f - x))$. as big as possible. this gives rise to the first-order condition

$$u_x - u_d d' = 0$$

that must be fulfilled. Since the benefit increases with increasing proportion x ($u_x > 0$) and decreases with increasing injustice ($u_d < 0$), it follows that

$$x > f.$$

The dictator will therefore always claim a share of x for herself which is slightly higher than the fair share f ! She will, so to speak, always round a little in her favour. A small deviation of x from f is still “almost just”, but brings pay-off benefits that exceed the costs arising from a little less fairness.¹³ We also find this behaviour confirmed in the aforementioned dictator games, in which the proposers typically deviate a little from the fair distribution in their own favour.

If we now look at such a process of division, which is constantly repeating itself and taking place between different partners (which is typical of economic processes), then the people who propose a division will usually claim a greater than their fair share. This will be perceived as normal over time. The fairness standard f will adapt; it will now appear fair if the dictator claims a larger part of it. (A justification could be that in the case of changing roles, the lower payout in the role of the recipient could be justified by the higher share in the role of the dictator, and vice versa – also again typical of economic processes.) With a rising fairness standard f , the claimed part x will also increase. Ultimately, the divider will claim everything (or nearly everything) for himself and this will appear to be fair. We will therefore achieve approximately the same result that we would have predicted by assuming strictly selfish behaviour right away!

Thus the *homo economicus* assumption does not rule out that people are motivated by norms and custom; rather the *homo economicus* can be used to explain actual behaviour including the adaptation of norms.

¹³ Technically speaking: Any deviation of $x = f$ brings an additional first-order benefit and additional second-order “fairness costs”.

7 Experiments in the light of the erosion argument

In view of the erosion argument, many experiments related to fairness and reciprocity must be viewed with a certain amount of scepticism. If deviations from selfish behavior are actually driven by norms, this cannot be seen as an objection to the theoretical usefulness of the *homo economicus* that simply “short-circuits” norm adjustments.

It could be objected that, first of all, the learning effects postulated in the erosion argument are often not to be observed in experiments, secondly, that standards can be maintained in some theoretical models which contradict a strict self-interest assumption and, thirdly, that many phenomena in reality speak against an unexceptional validity of the erosion argument.

As far as the experiments in which there appears to be no erosion of standards are concerned, this objection is countered by the fact that the absence of erosion is presumably an artefact of the experimental situation.¹⁴ In the experiment, many facts that occur in reality and which can serve as justification for discriminatory behaviour, for example, are ignored. In synthetic experiments, such natural points of contact for self-interested rationalizations are not as abundant as they are in reality. In reality, we must therefore expect standards to be eroded even if we do not find such erosion in the experiment.

As far as theoretical models are concerned, in which there seems to be no erosion of standards, exogenous parameters are always postulated here in preferences which themselves are not subject to evolution. Then, of course, erosion cannot take effect. However, the maintenance of norms in these models is then caused by modelling, which excludes norm erosion and therefore cannot explain the absence of erosion.¹⁵

There are many phenomena, e. g. the payment of tips, which do not seem to be eroded by standards. Ultimately, psychological factors must be at work that influence the formation of standards in a non-adaptive way. These psychological dispositions form the basis of my theory of norm formation (Schlicht, 1998).

The erosion argument depends decisively on the assumed unstructured plasticity of the formation of standards. If standards are derived from reality but are not simply adaptive, the erosion argument is less convincing. Then not everything would be possible normatively, the normative structures would be subject to their own semantics, which canalizes possible adaptations. In my opinion, experimental economics should concentrate on these “active” psychological tendencies and on phenomena in which a development can be observed that runs counter to the erosion argument - *i. e.* away from the strictly selfish result.¹⁶ The fact that standards play a role is clear and proven by the experimental results. What is now lacking is a positive theory of the formation of norms, which gives up the assumption of a full plasticity of normative structures.

In fact, the assumption of such plasticity is probably incorrect. The same must be treated equally and similarly. Ultimately, the categorisation processes behind the formation of classes of comparable cases are thus a decisive factor in the formation of standards, claims and conventions. However, these categorization processes are not arbitrarily flexible. Otherwise they might not work at all (Schlicht, 1998, Ch. 7). However, as soon as one takes into consideration such peculiarities of normative structures, their independent formative power

¹⁴ Fehr *et al.* (1996).

¹⁵ See e. g. Güth and Kliemt (2003) or Fehr and Schmidt (1999). The evolutionary game theory, which aims at the benefit-driven learning of behavioural patterns, can be seen as a formal representation of the erosion argument. The defence of Nash equilibria in evolutionary game theory is essentially based on this idea, see Mailath (1998).

¹⁶ The fact that the formation of norms has a certain autonomy is already evident in the classic dictator game by Güth (1984), see also the comments on these findings in Schlicht (1984, 68-70).

cannot simply be neglected in theory. Much speaks in favour of this viewpoint, especially the persistence of practices in different cultures that are disadvantageous to the individuals who practice them.¹⁷

Many everyday phenomena appear from this perspective in a new light. Previous efforts, which from an orthodox point of view represent irrelevant sunken costs, determine negotiation results in a significant and systematic way (Gächter and Riedl, 2005). Since such previous efforts are aspects of economic processes, they cannot be taken as exogenously given when explaining for these processes. This is especially true because people do not only orientate their behaviour towards certain goals, but also take into account that their behaviour at the same time justifies future claims and negotiation results.¹⁸ When taking this into account, the behaviour evades a simple orthodox interpretation in terms of selfishness, but is not irrational.

8 Evolution, experiments and institutions

Economic theories are never meant literally. The evolutionary argument maintains that we learn from experience, are aided by complicated psychological processes. This shapes behaviour. Companies and individuals experiment incessantly. They copy successful behaviors and abandon less successful strategies. Consumers make their purchasing decisions by using decision routines that have been adopted in this manner, and companies opt for strategies that appear promising. Ultimately, the entailed behavior can be described in terms of biological fitness maximization. The fitness functions are our utility functions; rational behaviour maximizes profit and utility.¹⁹ In this way, the evolutionary argument links the ideal-typical *homo economicus* to reality. The benefit maximization hypothesis offers a concise and conclusive formula for the final result of such processes, but in no way describes psychological reality. Therefore, a criticism based on actual cognitions and decision-making processes is not appropriate.

This position suggests that the irrationalities and behavioural “anomalies” that manifest themselves in experiments are less important for economic behaviour than it may seem at first glance. In this respect, the laboratory experiments exaggerate the deviations of actual behaviour from the theoretical picture.

This view is supported by a number of recent contributions which show that simple heuristics induce quite often much more successful behaviour than conscious optimization (Gigerenzer *et al.*, 2000). In this respect, the systematic “irrationalities” revealed in experiments serve, so to speak, for better optimization. Considerations in evolutionary psychology on the one hand and relevance theory on the other go in a similar direction.²⁰

From these considerations, one could again draw the conclusion that realistic criticism of *homo economicus*, as it is held sometimes to be implied by experimental work, misses the point. However, I do not think that is the case.

¹⁷ In connection with the economics of religion, it is the “meaning constraint” that prevents certain adjustments, as would be expected from the point of view of the erosion argument (Schlicht, 1995).

¹⁸ In other words, the principle of isolation would be violated if standards were to be considered as exogenous conditions Schlicht (1977, Ch. 1).

¹⁹ The above argument is theoretically not entirely clean, because “fit rules need not be rational, and rational rules not be fit”, as Blume and Easley (1998, 9) state from a theoretical point of view; for our purposes, however, this more differentiated view is not taken here.

²⁰ Concerning evolutionary psychology, see Barkow *et al.* (1992) and Ortmann and Gigerenzer (1997), for criticism from the point of view of relevance theory, see Sperber *et al.* (1995). Both views point to functional advantages of seemingly irrational behaviour. The difference refers to the fact that Tooby and Cosmides see cognitions as area-specific, whereas Sperber *et al.* argue that cognitions are not.

The evolutionary defense of the *homo economicus* is in fact double-edged, if not misleading, since it says that people actually think and behave differently than theoretically postulated and that the theoretical forecasts are true only regarding the result, but not in the assumed causality, and only if an adequate institutional environment exists. If it is said that the dispositions of people's behaviour work well and appropriately in everyday life, while they often do not appear to make sense in experimental situations, this simply means that human dispositions of behaviour can lead to very different results depending on the situation. The institutions in which people act influence human actions and the results of human actions directly.

Thus, if one takes up the idea of evolution, one is led to the thesis that some institutions assert themselves in institutional competition while others perish, but the success of institutions in institutional competition depends on how they use and channel human behavioral dispositions. If we look at the economic process as an institutional process, the real human dispositions of behaviour become important because they are the material on which our institutions are based. It is therefore not surprising that only those institutions that manage human behaviour in the right way survive, and that irrationalities are practically not so important because they have brought about institutions that protect us from these irrationalities.²¹ However, this is not an unproblematic defence of the orthodox viewpoint. According to this argument, the institutions have adapted to people's psychological dispositions, and not the other way round, as implied by the orthodox view of self-interest. In this respect, causality is seen in reverse.

From an orthodox point of view, institutions do not exist at all as intrinsic influencing factors, since there are only individuals and perhaps contractual networks between them. Furthermore, from an orthodox point of view, arbitrary alternative forms of organization are equivalent as long as they only implement the same incentives.²² In the model of general equilibrium, for example, there is no difference between a capitalist economy and a self-governing economy or competitive socialism. All we have to do is interpret the indices of the model in a suitable way, and the same model will describe one or the other case. From an orthodox point of view, a capitalist entrepreneur will offer his managers and his workers the same incentive systems as a collective of workers in a self-governed enterprise, and so on – simply out of self-interest. Regarding important institutional questions, the *homo economicus*-oriented theory is blind and therefore not very meaningful. It is not entirely wrong, but does not say much. It illuminates some aspects, leaves others in the dark and portrays some observations in a misleading way.

To address institutional issues, we need to include psychological factors in the explanation. However, these factors must not be chosen arbitrarily. As has been shown in connection with the erosion argument, adaptive norms do not explain anything except perhaps inertia in adaption. On the other hand, arbitrarily adopted standards explain everything. If we really want to go beyond the self-interested approach, we have to explicitly consider the processes that generate norms, claims and counterclaims. It is to be hoped that experimental economics will be oriented in this direction. If experimental economics turns in this direction, important impulses for further theoretical developments can be expected.

²¹ Frey and Eichenberger (1989), Frey and Eichenberger (1994), Zajac *et al.* (1991), Zajac (1995).

²² See e. g. Cheung (1969).

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