



The Approach of Institutional Economics

Geoffrey M. Hodgson

Journal of Economic Literature, Vol. 36, No. 1. (Mar., 1998), pp. 166-192.

Stable URL:

<http://links.jstor.org/sici?sici=0022-0515%28199803%2936%3A1%3C166%3ATAOIE%3E2.0.CO%3B2-Q>

Journal of Economic Literature is currently published by American Economic Association.

Your use of the JSTOR archive indicates your acceptance of JSTOR's Terms and Conditions of Use, available at <http://www.jstor.org/about/terms.html>. JSTOR's Terms and Conditions of Use provides, in part, that unless you have obtained prior permission, you may not download an entire issue of a journal or multiple copies of articles, and you may use content in the JSTOR archive only for your personal, non-commercial use.

Please contact the publisher regarding any further use of this work. Publisher contact information may be obtained at <http://www.jstor.org/journals/aea.html>.

Each copy of any part of a JSTOR transmission must contain the same copyright notice that appears on the screen or printed page of such transmission.

JSTOR is an independent not-for-profit organization dedicated to and preserving a digital archive of scholarly journals. For more information regarding JSTOR, please contact support@jstor.org.

The Approach of Institutional Economics

GEOFFREY M. HODGSON

The Judge Institute of Management Studies, University of Cambridge

The author is particularly grateful to Peter Corning, Masashi Morioka, Richard Nelson, John Nightingale, Douglass North, Paul Twomey, and three anonymous referees for discussions, critical comments, or other assistance. The Japan Society for the Promotion of Science, and the European Commission, Phare-ACE program are thanked for their financial assistance with this research.

By means of the old, we come to know the new. Confucius

I. Introduction

TODAY, THE TERM “new institutional economics” is in widespread use and is associated with a vast literature. Clearly, the temporal adjective in the adopted title of this broad set of postwar theories and approaches has been intended to demarcate the “new institutional economics” from the “old” institutional economics of Thorstein Veblen, John Commons, and Wesley Mitchell. This earlier institutionalism had actually been dominant in economics departments in American universities just after the First World War.¹

Despite this, little detailed reference has been made by leading exponents of the “new” institutional economics to this predecessor. Two factors may help to explain this oversight. The first is that the history of economic thought is currently a much neglected subdiscipline, and there is now wide-

spread unfamiliarity with the “old” American institutionalism, despite its favored geographic location and accessible language. The second reason is that since its decline in America after 1930 the “old” institutionalism has been repeatedly written off, and is dismissed for failing to provide a systematic and viable approach to economic theory. It is also widely—and wrongly—believed that institutionalism was essentially anti-theoretical and descriptive.

However, characterizations of the “old” institutionalism as purely descriptive or anti-theoretical do not bear up to close scrutiny. Particularly in the writings of Veblen and Commons, there is a strong emphasis on the importance and priority of the tasks of theoretical explanation and theoretical development. Whatever their limitations, the early institutionalists addressed crucial theoretical issues.

For example, Veblen (1899, 1919) was the first social scientist to attempt to develop a theory of economic and institutional evolution along essentially

¹ Throughout this article, the terms “institutionalism” and “institutional economics,” when without a temporal adjective, will be taken to refer to the institutionalism in the tradition of Veblen, Commons, and Mitchell.

Darwinian lines (Hodgson 1993). Veblen's work shares common features with the much later attempts by economists to use evolutionary metaphors from biology by Armen Alchian (1950), Friedrich Hayek (1988), Kenneth Boulding (1981), and Nelson and Sidney Winter (1982). In addition, Commons (1924, 1934) has been acknowledged as a major influence on, for example, the behavioral economics of Herbert Simon (1979) and even the "new" institutionalism of Oliver Williamson (1975). Institutionalists also developed a number of theories of pricing behavior in imperfectly competitive markets (Marc Tool 1991). Traces of the surviving influence of "old" institutionalist ideas are found in many other areas of theoretical and applied economics. Indeed, the influence of institutionalism persisted for some time after the Second World War.²

Nevertheless, there is a shred of justification for the dismissive statements. Ever since Veblen there has been a failure of the "old" institutionalists to agree upon, let alone develop, a systematic theoretical core. American institutionalism has bequeathed no integrated theoretical system of the stature or scope of that of Karl Marx, Alfred Marshall, Léon Walras, or Vilfredo Pareto. The reasons for this failure cannot be discussed here, save to note that it was

not because of a naive and unsustainable belief that economics can proceed with data alone, and without any theory. Although several institutionalists put their faith in data, they all retained some degree of belief in the importance of a theoretical project.

The primary reasons for the failure of institutionalism lie elsewhere. In particular, the old institutionalism was partially disabled by a combined result of the profound shifts in social science in the 1910–1940 period and of the rise of a mathematical style of neo-classical economics in the depression-stricken 1930s. Behaviorist psychology and positivist philosophy displaced the instinct psychology and pragmatist philosophy upon which the early institutionalism had been built. With their use of formal techniques, mathematical economists caught the imagination of both theorists and policy makers. In comparison, institutionalism was regarded as technically less rigorous, and thereby inferior.

An adequate history of American institutionalism remains to be written. The purpose of the present essay is quite different. The main aims are: to outline the institutionalist approach in broad terms, and to address and evaluate a few "hard core" propositions that were prominent in early institutionalism. A key argument in this paper is that the "old" institutionalism offers a radically different perspective on the nature of human agency, based on the concept of habit. Habits and rules are seen as necessary for human action. A habit-dominated conception of human behavior not only has significant support from psychology, it is also worthy of development and further elaboration by economists.

In an institutionalist view, the concept of habit connects crucially with the analysis of institutions. This issue has

² Notably, several institutionalists or their fellow travelers have been elected as Presidents of the American Economic Association since 1945: John Kenneth Galbraith, Edwin Witte, Morris Copeland, George Stocking, and Boulding. In addition, the "old" institutionalists Simon Kuznets and Gunnar Myrdal received Nobel Prizes in 1971 and 1974 respectively. Other schools of thought resemble institutionalism. For example, much of post-Keynes "Cambridge" economics had a strong institutionalist flavor, particularly the work of Nicholas Kaldor and Joan Robinson. The more recent work of Robert Boyer, Michel Aglietta, and other members of the French *régulation* school also has strong institutionalist affinities.

important implications for both microeconomic and macroeconomic analysis. Some illustrative applications of this general approach are considered in both these domains, with arguments why it is important to take account of habit in human behavior. These approaches do not rely on the standard assumptions of individual rationality. However, while outlining the essentials of a broadly institutionalist approach, it is conceded that institutionalism itself requires much more theoretical and methodological development.

The structure of this paper is as follows. Section II sketches how institutional economists proceed in practice. It is noted that institutionalism does not attempt to build an all-embracing, general theory. Instead, complex phenomena are approached with a limited number of common concepts and specific theoretical tools. Section III of this paper defines and elaborates the core concepts of habits and institutions, as rooted in the early institutionalist theory of Veblen and Commons. Section IV shows how much work in the "new" institutionalist vein, including the problem of "institutional infinite regress," points to a required reformulation of the "new" institutionalist project and a possible convergence with the thinking of the "old" institutionalists. Section V considers the circumstances in which it is necessary or convenient for an agent to rely on habits and rules. Not only are habits and rules ubiquitous, but we are typically required to rely on them whether or not (bounded) optimization is possible. Section VI concludes the essay.³

³ Restrictions of space prevent extensive references to the literature. The reader is referred to Hodgson et al. (1994) for an encyclopedic treatment of some of the topics discussed here, for wider references, and for discussions of many other issues pertinent to institutionalism.

II. *Institutionalist Approaches to Economic Analysis*

The core ideas of institutionalism concern institutions, habits, rules, and their evolution. However, institutionalists do not attempt to build a single, general model on the basis of those ideas. Instead, these ideas facilitate a strong impetus toward specific and historically located approaches to analysis. In this respect there is an affinity between institutionalism and biology. Evolutionary biology has a few laws or general principles by which origin and development can be explained. Analysis of the evolution of a specific organism requires detailed data concerning the organism and its environment, and also specific explanations relevant to the species under consideration. Evolutionary biology requires both specific and general theories. In contrast, in physics there are repeated attempts to formulate the general theory of all material phenomena—the so-called "theory of everything" (Jack Cohen and Ian Stewart 1994). In its relatively greater emphasis upon specificities, institutional economics resembles biology rather than physics.

The institutionalist approach moves from general ideas concerning human agency, institutions, and the evolutionary nature of economic processes to specific ideas and theories, related to specific economic institutions or types of economy. Accordingly, there are multiple levels, and types, of analysis. Nevertheless, the different levels must be linked together. A crucial point here is that the concepts of habit and of an institution (both defined in Section III) help to provide the link between the specific and the general.

In contrast, neoclassical economics moves from an universal theoretical framework concerning rational choice

and behavior, and moves directly to theories of price, economic welfare, and so on.⁴ However, institutional economics does not presume that its habit-based conception of human agency itself provides enough to move toward operational theory or analysis. Additional elements are required. In particular, an institutionalist would stress the need to show how specific groups of common habits are embedded in, and reinforced by, specific social institutions. In this manner, institutionalism moves from the abstract to the concrete. Instead of standard theoretical models of given, rational individuals, institutionalism builds upon psychological, anthropological, sociological, and other research into how people behave. Indeed, if institutionalism had a general theory, it would be a general theory indicating how to develop specific and varied analyses of specific phenomena.

A. *An Illustration: Theories of Pricing*

As an illustration, consider the theory of price formation. Subsequent to Veblen's iconoclastic attacks on rational economic man, institutionalists were themselves divided on whether Marshallian or other neoclassical price theories were acceptable and compatible with institutionalism. While institutionalists generally rejected rational economic man, this did not necessarily mean the abandonment of all the apparatus of Marshallian price

theory.⁵ Unlike the stationary outcomes of general equilibrium theory, partial equilibrium models could seemingly be placed in an ongoing, evolutionary context. Where institutionalists did agree, however, was that it was necessary to develop specific theories of pricing that reflected the institutional and market structures of the modern economy. Furthermore, any attainable general theory of prices would necessarily be highly limited in its explanatory properties, because of the variety of institutional processes of price formation in the real world.

The basis of price theory in institutionalism is thus quite different from that in other schools of economics. Neoclassical economics relies on the universal concepts of supply, demand, and marginal utility. Adam Smith, David Ricardo, and Marx relied on the labor theory of value. By contrast, in institutionalism prices are social conventions, reinforced by habits and embedded in specific institutions. Such conventions are varied and reflect the different types of commodity, institution, mode of calculation, and pricing process.

If prices are conventions then they depend in part on ideas and habits. A theory of price must in part be a theory of ideas, expectations, habits, and institutions, involving routines and processes of valuation. Without such a theory, there is no adequate explanation of how individuals calculate or form expectations of the future.

It was in this vein that a great deal of empirical and theoretical work on the pricing process was carried out by institutionalists and others in the first half of the twentieth century. Instead of a

⁴ Neoclassical economics (a term originally coined by Veblen) may be conveniently defined as an approach which (1) assumes rational, maximizing behavior by agents with given and stable preference functions, (2) focuses on attained, or movements toward, equilibrium states, and (3) excludes chronic information problems (such as uncertainty of the type explored by Frank Knight and John Maynard Keynes). Notably, some recent developments in modern economic theory—such as in game theory—reach to or even lie outside the boundaries of this definition.

⁵ Note that "new" institutionalist Ronald Coase has also rejected the standard rationality assumptions while working within a broadly Marshallian framework.

general theory of price, attempts were made to develop specific theories of pricing, each related to real-world market structures and types of corporate organization. It was in this context that much of the early work on oligopoly pricing was pioneered, including several theories of "mark-up," "administered," or "full cost" pricing (Tool 1991). No less than other economists, institutionalists want to develop theoretical explanations of such crucial real world phenomena as price. Where they differ, however, is in stressing the practical and explanatory limitations of any possible *general* theory of all prices.

An institutionalist approach to the theory of pricing proceeds by first examining the institutions in which the prices are being formed. All aspects of the institutions that are closely bound up with the process of price formation are relevant. What are the costs and how are they evaluated? What routines govern the calculation of prices? What information is available and what is unknown? By what routines is information obtained and used? What routines are used to revise prices in line with the experience on the market? What is the strategy concerning competitive pricing? How does this relate to market structure?

Obviously, a process of abstraction and simplification is required to deal with all this complexity. As a result of detailed investigations, it may be possible to abstract some key processes governing the formation of prices. One of the best examples of this approach is the work on "administered pricing" by Gardiner Means and his collaborators (Caroline Ware and Means 1936). There is also a close institutionalist affinity with the behavioral theory of the firm (Richard Cyert and James March 1964) and with the theory of information clustering and networking in finan-

cial markets (Wayne Baker 1984). None of these studies assumes perfect information or perfect competition. The starting point is an investigation of how prices are actually formed in specific institutional contexts, followed by the formulation of a pricing theory that is specific to the type of institution being investigated.

Institutionalism has no general theory of price but a set of guideline approaches to specific problems. These lead to historically and institutionally specific studies which are arguably of more operational value than any all-embracing general theory. Regrettably, specific studies of market institutions and pricing processes have received far less research resources and prestige than general equilibrium and other highly abstract approaches.

B. *Starting from Habit: Some Macroeconomic Illustrations*

Much empirical data in economics are consistent with the prevalence of habitual activity, even at the macroeconomic level. Consider, for example, the now neglected theory of the consumption function developed by James Duesenberry (1949). This theory was heavily influenced by Veblen and stressed the role of habit in consumer behavior. Duesenberry's theory did not fall out of favor because it did badly on empirical tests. In fact it predicted rather well. Instead, the theory was discarded primarily because it was not seen to conform with the presumptions of rational choice theory (Francis Green 1979). Duesenberry's theory proceeded on the assumption that an established level of income, plus prevailing cultural norms, would lead to an habitual pattern of consumer behavior. The consumer acts imitatively and adaptively, and also on the basis of ingrained habits. Similarly, the major subsequent

study of aggregate consumer demand in the USA, by Hendricks Houthakker and Lester Taylor (1966), also found that a major part of consumer spending is subject to inertia, that is, primarily dependent on preceding consumption.

It is beside the point to suggest that all such phenomena can be recast into a more complex model where habit is formulated as a convoluted result of utility maximizing behavior. In principle, the possibility of such a recasting cannot be denied. The point is that the evidence alone does not bestow theoretical primacy to rational choice modeling. (Theoretical arguments against the primacy of the rationality assumptions are raised later in this essay.) Furthermore, the standard principle of parsimony can be used to support a fundamental assumption of human inertia or habit, no less than the standard axioms of rationality.

In general, institutional economists approach the analysis of macroeconomic systems by examining patterns and regularities of human behavior, expecting to find a great deal of imitation, inertia, lock-in and “cumulative causation.”⁶ Importantly, regularities or stability at the systemic level may arise not despite, but because of variations at the micro-level. In complex systems, macro-stability may *depend on* micro-chaos (Francesca Chiaromonte and Giovanni Dosi 1993; Cohen and Stewart 1994). Or systemic constraints may prevail over micro-variations (Gary Becker 1962; Dhananjay Gode and Shyam Sunder 1993).

The prominent view that it is necessary to build microeconomics on “sound microfoundations”—to derive macro-

regularities from micro-stabilities—is quite different. In contrast, institutional economics sees regularities at the systemic level as being reinforced through positive feedbacks that act, in part, upon the microeconomic elements. Hence the latter are not taken as given. The institutionalizing function of institutions means that macroeconomic order and relative stability is reinforced alongside variety and diversity at the microeconomic level. Ironically, by assuming *given* individuals, the micro-foundations project in orthodox economics had typically to assume furthermore that each and every individual was *identical* in order to attempt to make the analysis tractable. In contrast, institutionalism points not to a spurious supra-individual objectivity, nor to the uniformity of individual agents, but to the concept of socio-economic order, arising upon variety at the micro-level.

Individual habits both reinforce, and are reinforced by, institutions. Through this circle of mutual engagement, institutions are endowed with a stable and inert quality. Further, institutions play an essential role in providing a cognitive framework for interpreting sense-data and in providing intellectual habits or routines for transforming information into useful knowledge. The strong influence of institutions upon individual cognition provides some significant stability in socioeconomic systems, partly by buffering and constraining the diverse and variable actions of many agents.

With this line of argument the relative autonomy of macroeconomics and the idea of the workability of aggregates is reinstated. This contrasts with reductionist modes of theoretical analysis that see macroeconomic phenomena as necessarily explained by the microeconomic. Here the institutionalists made a significant contribution. Mitchell

⁶ Veblen was one of the first to develop the concept of cumulative causation that directly or indirectly influenced Allyn Young, Myrdal, Kaldor, and others. See Veblen (1919, pp. 70–77, 173–77, 240–43, 370, 436) and Hodgson (1993, ch. 9).

and his colleagues in the National Bureau for Economic Research in the 1920s and 1930s played a vital role in the development of national income accounting and suggested that aggregate, macroeconomic phenomena have an ontological and empirical legitimacy. This important incursion against reductionism created space for the Keynesian revolution. Through the development of national income accounting, the work of Mitchell and his colleagues influenced and inspired the macroeconomics of John Maynard Keynes. Partly for this reason, there is a close and explicit affinity between institutionalism and what is often described as "Post Keynesian" macroeconomics.

The fact that institutions typically portray a degree of invariance over long periods of time, and may outlast individuals, provides a reason for choosing institutions rather than individuals as a basic unit. Most institutions are temporally prior to the individuals that relate to them. We are all born into and socialized within a world of institutions. Recognizing this, institutionalists focus on the specific features of specific institutions, rather than building a general and ahistorical model of the individual agent.

However, the proposed alternative is not a methodological collectivism where individual behavior is entirely explained by the institutional or cultural environment. Complete explanations of parts in terms of wholes are beset with problems of equivalent stature to those of the inverse procedure. Just as structures cannot be adequately explained in terms of individuals, individuals cannot adequately be explained in terms of structures.

The failure of the mainstream microfoundations project confirms the difficulty of modeling the whole in terms of the individual parts (S. Abu Turab Rizvi

1994). Furthermore, institutionalists reject the idea of the primary ontological unit of the given, institution-free individual, upon which the microfoundations project rested. (This issue is explored in more detail below.) Arguably, the failure of the mainstream microfoundations project points to the need to develop a quite different overall approach. In this there are both microeconomic and macroeconomic levels of analysis, each with a degree of relative theoretical autonomy, but at the same time both levels are connected by conceptual links and spanning explanations.

The abandonment of a standard microfoundations approach does not mean that institutionalists are necessarily deprived of the capacity to build models or make predictions. On the contrary, repeated studies—including those cited above—have shown that models with strong elements of inertia, explained in terms of habit persistence, are good predictors in the macroeconomic sphere. It is also well-known econometric folklore that naive prediction models, based on simple extrapolations from the recent past into the future, are often much better predictors of macroeconomic performance than much more sophisticated economic models. Institutionalists regard such results as confirmation of the phenomena of habit persistence, and of institutional lock-in and self-reinforcement.

Institutionalism works from the "stylized facts" of the macroeconomic system and attempts to uncover the underlying structural features of the system that help explain these outcomes. This requires analyses that are both quantitative and qualitative. Consider an example, starting from the stylized fact that productivity growth in the United States economy has been lower in the last 40 years or so than in many East Asian and other competing countries.

Data may also reveal the stylized fact that the proportion of GNP devoted to investment in the United States has been relatively low. But, for the institutionalist, the analysis does not stop with mere statistical correlation. The task is to explain the institutional constraints and causal processes giving rise to both low investment and low productivity growth.

Consider a tentative hypothesis. The functional and cultural separation of financial from industrial institutions may have encouraged a short-term orientation toward investment returns. The sparse institutional connections between finance and industry, and the relative lack of shared personnel and shared vested interests, may allow the financial sector to concentrate on maximizing its returns to short-, rather than long-term, investment. Furthermore, the relatively low degree of cross ownership between industrial corporations may further encourage a primary orientation of the corporation toward short-term financial markets and short-term investment decisions. A first step in appraising this hypothesis would be to validate its key assumptions, for example by looking at the U.S. data on the distribution of share ownership, including cross share ownership between financial and industrial corporations. An important next step would be to carry out similar and comparative investigations in relevant economies with higher rates of productivity growth, such as Japan. The existence elsewhere of higher degrees of corporate cross ownership of stocks and shares would provide a basis for attempting to evaluate the hypothesis still further. Econometric evidence of a significant statistical correlation between the relevant variables would be important, but far from enough. Institutionalists stress the need to outline the real causal linkages involved, rather

than mere correlation between variables. Hence it is important to explain the causal mechanisms linking share ownership structures with low investment, and, in turn, with lower growth rates of productivity. Such causal explanations could involve many factors, including national cultures, political systems, and so on. Institutionalists are not wedded to any one hypothesis or any one theory on this issue, but in general the institutional approach stresses the importance of comparative institutional analysis, and the examination of a broad set of factors, in searching for an adequate causal explanation.

C. The Institutional Approach: Some General Remarks

For some, the general approach outlined above may seem fairly obvious, adding nothing new. Several points can be made in response to such a remark. First, there is a degree of emphasis on institutional and cultural factors that is not found in mainstream economic theory. Second, the analysis is openly interdisciplinary, in recognizing insights from politics, sociology, psychology, and other sciences. Third, there is no recourse to the model of the rational, utility-maximizing agent. Inasmuch as a conception of the individual agent is involved, it is one which emphasizes both the prevalence of habit and the possibility of capricious novelty. Fourth, mathematical and statistical techniques are recognized as the servants of, rather than the essence of, economic theory. Fifth, the analysis does not start by building mathematical models: it starts from stylized facts and theoretical conjectures concerning causal mechanisms. Sixth, extensive use is made of historical and comparative empirical material concerning socio-economic institutions. In several of these respects, institutional economics is at variance with much

of modern mainstream economic theory.

This should not and does not mean, however, that institutionalists become mere data-gatherers. No understanding nor explanation is possible without theory. Veblen and Commons, as founders of the "old" institutionalism, knew that theory does not arise by induction from data. All empirical analyses presuppose a set of concepts and an implicit or explicit theory. For this reason, to start from stylized facts must itself require a prior conceptual framework. Institutionalism attempts to provide this broad framework in terms of a set of meta-theoretic and methodological guidelines. There is no single, agreed set of definitive guidelines among institutionalists, but a number of common themes emerge.

For example, a central problem is the identification of what may be termed "ideal types." These are abstract descriptions of situations, phenomena, or persons that indicate the general features on which a theorist will focus as crucial for purposes of explanation. It is impossible to include all details and all features in such a venture because socio-economic systems are too complex and are open in the sense in which they interact with their outside environment. A process of abstraction must occur where the essential structures and features of the system are identified. The crucial question, of course, is which ideal type is to be selected in the analysis of a given phenomenon. To answer this question requires a methodology to distinguish between the general and the specific aspects of any given phenomenon. By making this distinction, and perhaps by using comparative material from other socio-economic systems, it is possible to construct and develop hypotheses concerning the key causal linkages behind the observed phenomena.

This is an all-too-sketchy account of

the methodological and meta-theoretical foundations of the institutionalist approach. Constraints of space prevent further elaboration. What is clear, however, is that such methodological issues have become lively topics of debate in the 1980s and 1990s, with a veritable explosion of literature in the area of economic methodology. Institutionalists have made significant contributions to this literature and are thus playing a part in the development of appropriate approaches to economic analysis.

D. Some Contemporary Issues in Institutional Theory

It has already been admitted that institutionalism lacks a systematic core theory. Institutionalism does not seek a general theory of everything but it does require a coherent framework of analysis and a workable methodology.

In particular, there remains important scope for the development of an institutionalist microeconomics. Although past institutionalists made significant progress in the development of theories of pricing in imperfectly competitive markets, there is still a great deal of work that can be done. In economics since the Second World War such alternative approaches have received negligible research resources. However, alternative theories of consumer behavior have flowered in other disciplines, such as marketing (Roger Mason 1995). Some of this research has a strong institutionalist flavor, in part because it brings together insights from psychology and other social sciences. In developing theories of individual economic behavior, as well as elsewhere, institutionalists look forward to the possibility of a much more extensive and fruitful dialogue across disciplinary barriers.

The institutionalist emphasis on habit and routine also fits in well with the evolutionary models developed by Nel-

son and Winter (1982) and their followers. As Veblen (1899) himself suggested, the evolutionary paradigm provides a basis for encapsulating both continuity and change, both inertia and novelty. Habits or routines may adapt slowly or “mutate” as agents attempt purposeful improvements. In addition, there is some selection process by which some habits and routines are retained and imitated, and others fall out of use. Institutionalism is congenitally an “evolutionary economics.” Like all work in this vein, it is biased toward dynamic rather than equilibrium-oriented modes of theorizing.

Problems of cognition and learning have been thematic to institutionalism since its inception. Instead of the presumed bedrock of given individuals, there is the idea of interactive and partially malleable agents, mutually entwined in a web of partially durable and self-reinforcing institutions. Institutional theory is admittedly underdeveloped in this area but institutionalists may potentially be in a relatively strong theoretical position. Although mainstream economics has addressed the concept of learning in recent years, at root there are severe problems in the approach based on the assumption of a rational actor. The key question is what is meant by “rational learning.” How can agents be said to be rational at any given moment when they are in the process of learning? The very act of learning means that not all information is possessed and global rationality is compromised or ruled out. Furthermore, much more than inputting data or estimating probabilities is involved. Learning is more than the acquisition of information; it is the development of new means and modes of cognition, calculation, and assessment. This means that agents are building up new representations of the environment in which

they operate, in place of former conceptions and habits of thought. In particular, if the methods and criteria of “optimization” are themselves being learned how can learning itself be optimal?

Institutionalists bring a different perspective to the analysis of learning by seeing it, in part, as a transformative and reconstitutive process, involving the creation of new habits, propensities, and conceptual frameworks (Veblen 1919; James Murphy 1994; Henry Plotkin 1994). Institutionalists need to capitalize on their *prima facie* conceptual and methodological advantage in this area and develop theories of learning that are appropriate for a knowledge-intensive and rapidly changing world.

The remainder of this essay explores further some of the methodological and theoretical issues that have been raised. The following section outlines some of the core theoretical characteristics of institutionalism. Subsequent sections address the problem of reductionism in economic theory, and show that mainstream explanations of economic and institutional phenomena in terms of given, rational individuals are not as robust as is often supposed. These arguments give further credence to the institutionalist approach.

III. *Some Core Characteristics of Institutional Theory*

A. *The “New” and the “Old” Institutionalisms Compared*

What is the essential difference between the “old” and the “new” institutionalism? Answering this question is made more difficult because there is no unanimity, even among its adherents, as to what is precisely to be included in the “new” variety. Nevertheless, an answer is possible if we focus on the common theoretical core of some of the most prominent and influential “new”

institutionalist writings, such as by North (1981), Richard Posner (1973), Andrew Schotter (1981), and Williamson (1975). Despite their analytical and policy differences, there are some common presumptions behind all these works.

The characteristic “new” institutionalist project is the attempt to explain the emergence of institutions, such as the firm or the state, by reference to a model of rational individual behavior, tracing out the unintended consequences in terms of human interactions. An initial institution-free “state of nature” is assumed. The explanatory movement is from individuals to institutions, taking individuals as given. This approach is often described as “methodological individualism.”⁷

Along these lines, Carl Menger (1892) long ago saw the institution of money as emanating in an undesigned manner from the communications and interactions of individual agents. Once convenient regularities become prominent, a circular process of institutional self-reinforcement takes place. Emerging to overcome the difficulties of barter, money is chosen because it is convenient, and it is convenient because it is chosen. Other similar examples in the “new” institutionalist literature include traffic conventions (Schotter 1981; Robert Sugden 1986). For example, once a majority of car drivers stick to the right-hand side of the road, it is clearly rational for all drivers to follow the same rule. Accordingly, the emergent convention is reinforced and institutionalized by imitation, and by efficient use of “all relevant information” (Schotter 1981, p. 160). We may stylize a core idea involved here in terms of an action-information loop, as shown in Figure 1.

⁷The enormous and controversial literature on this topic is too large to address here. See Hodgson (1988) for a survey and discussion.

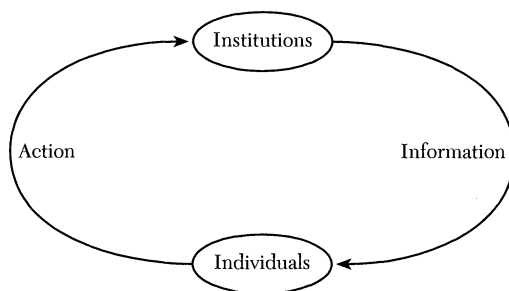


Figure 1. The Institutional Action-Information Loop

As well as in Menger’s writings, this important core theme of an action-information loop is clearly evident, for example, in North’s (1981) theory of the development of capitalism, Williamson’s (1975) transaction cost analysis of the firm, and Schotter’s (1981) game-theoretic analysis of institutions. The value of this core idea should not be denied.

However, despite the temporal adjective, the “new” institutionalism is built upon some antiquated assumptions concerning the human agent, derived from the individualism of the Enlightenment. In this 300-year tradition, a key idea is the notion that the individual can, in a sense, be “taken for granted.” Accordingly, the individual is taken as the elemental building block in economic theory. Strictly, it is not a question of whether or not a theorist is found to admit that individuals—or their wants and preferences—are changed by circumstances. Indeed, many economists admit that individuals might so be changed. What is crucial is the individualistic economist assumes, *for the purposes of economic enquiry*, that individuals and their preference functions should be taken as given. Thus the demarcating criterion is not the matter of individual malleability per se, but the willingness, or otherwise, to consider this issue as an important or legitimate matter for

economic analysis. The commonplace statement by mainstream economists that tastes and preferences are not the explananda of economics thus derives directly from the individualist tradition. Likewise, the conception of economics as “the science of choice” takes the choosing individual and her preference functions as given. Unlike the “old” institutionalism, the “new” institutionalism has also taken such individualistic presuppositions on board.

A common thread in the literature of “old” institutionalism, from Veblen through Commons and Mitchell, to Myrdal and Galbraith, is the idea that in economic analysis the individual should not always be taken as given. The general use of given preference functions to model individuals is rejected by institutionalists. Individuals interact to form institutions, while individual purposes or preferences also are molded by socio-economic conditions. The individual is both a producer and a product of her circumstances.⁸

It is possible to distinguish the new institutionalism from the “old” by means of the above criterion. This distinction holds despite important theoretical and policy differences within both the new and the old institutionalist camps.⁹ However, there are conceptual

⁸ The recent work of Becker (1996) might at first sight appear to “take account of tastes” by building a model with “endogenous preferences”—in which individual utility functions contain arguments such as “culture.” This is not the case because an immanently conceived (meta)preference function for each individual is still assumed at the outset; it is an unexplored “black box” that still remains to be explained.

⁹ Notably, and in contrast to the accounts in Richard Langlois (1986) and Malcolm Rutherford (1994), this criterion places the work of Nelson and Winter (1982) squarely in the “old” institutionalist category. This affinity with the “old” institutionalism is now recognized by Nelson and Winter themselves. In addition, some of the later writings of Hayek (1988) come closer to the old institutionalism, as do recent works by North (1990).

difficulties with the “new” institutionalist approach. It is argued below that to proceed from the assumption of given individuals in an institution-free “state of nature” is theoretically misconceived. Accordingly, developments in the “new” institutionalism show some sign of yielding some ground to the “old,” or at least creating the possibility of a fruitful dialog between the two approaches.

Notably, some leading mainstream economists seem to be moving toward the view that the individual should not be taken as given. Joseph Stiglitz (1994, pp. 272–73) has accepted that “certain aspects of human nature are endogenous to the system . . . traditional economic theory was clearly wrong in treating individuals as immutable.” A foremost agenda item for institutional economics is to incorporate a richer, context-dependent conception of human agency within a systematic and rigorous theory.

B. *Agency and Habit*

Rejecting the mainstream approach to economic theory, with its conception of the utility-maximizing individual, the founders of the “old” institutionalism promoted an alternative conception of human agency. Such an alternative was well developed by the early twentieth century, in the influential writings of instinct psychologists such as William James and William McDougall, and pragmatist philosophers such as Charles Sanders Peirce. For all these writers the influence of Darwinian biology was crucial. Although instinct psychology was subsequently eclipsed by behaviorism (Carl Degler 1991) it enjoys a rehabilitation today (Leda Cosmides and John Tooby 1994a, 1994b; Plotkin 1994; Arthur Reber 1993).

Following these leading psychologists and philosophers of their time, the early institutionalists saw habit as the basis of

human action and belief. Habit can be defined as a largely non-deliberative and self-actuating propensity to engage in a previously adopted pattern of behavior. A habit is a form of self-sustaining, nonreflective behavior that arises in repetitive situations.

Many modern economists have addressed habit. However, mainstream economists typically regard habit as an evocation or appendage of rational choice, and thereby explicable in its terms. Habits are seen as the result of an earlier choice, or as a deliberate means of avoiding endless deliberation. Rationality thus retains explanatory primacy (Becker 1992; Robert Pollak 1970).

The treatment of habit by the philosophers and psychologists who influenced the early institutionalists was quite different. The explanatory arrow ran in the opposite direction: instead of habits being explained in terms of rational choice, rational choice was explained in terms of habits. Further, habit was linked with knowledge and belief, seeing the essence of belief as the establishment of habit. All ideas, including beliefs, preferences, and rational modes of calculation, were regarded as evolutionary adaptations to circumstances, established through the acquisition of habitual propensities.

At first sight, both approaches seem feasible: habit can be regarded as the basis of rational choice, or rational choice can be seen as the procreator of habits. The fact that economists display an habitual inclination to assert the latter should not obscure the possibility of a reverse ordering. (If the allegation of the priority of rationality over habit is itself simply a matter of habit then it is by that fact undermined.) The problem of adjudication between these two paradigms is not as straightforward as is often assumed.

It is as if institutionalists and rational choice theorists have been engaged in a century-long game of Go. Each has been trying to place the pieces of an argument in an intricate attempt to encircle the postulates of the other. Notably, however, leading advocates of the rational choice paradigm, such as Becker (1962) have demonstrated that an "irrational" mode of behavior, in which agents are ruled by habit and inertia, is just as capable of predicting the standard downward-sloping demand curve and the profit-seeking activity of firms. Becker showed how the negatively inclined market demand curve can result from habitual behavior. Actors "can be said to behave not only "as if" they were rational but also "as if" they were irrational: the major piece of empirical evidence justifying the first statement can equally well justify the second" (Becker 1962, p. 4).

Kenneth Arrow has also accepted the possibility of an alternative approach based on habit. After outlining a possible "non rational" and habit-based model of human behavior, Arrow (1986, p. S386) remarked: "Without belaboring the point, I simply observe that this theory is not only a logically complete explanation of behavior but one that is more powerful than standard theory and at least as capable of being tested."

Accordingly, the "accuracy of the predictions" or other familiar criteria for theory selection do not give outright victory to rational choice. Common arguments for regarding rational choice as pre-eminent do not carry as much weight as has been supposed. This question of the explanatory primacy of habit versus that of rational choice will be explored again later in this essay. For now, there is at least a *prima facie* case for examining the distinctive treatment of habit in the work of the "old" institutionalists.

To many mainstream economists, such a habit-driven characterization of the agent is excessively deterministic, seemingly denying free will and choice.¹⁰ However, it can be argued that the conception of the agent as an utility-maximizer based on fixed preference functions itself denies free will and choice. An individual ruled by her preferences is made a prisoner, not simply of her social environment, but also of her utility function. It is as if she is a robot, programmed by her preferences. Within such a deterministic machinery, critics find it difficult to find any place for real choice. As James Buchanan (1969, p. 47) once remarked: "Choice, by its nature, cannot be predetermined and remain choice."

In trying to gain a deeper understanding of the nature of human agency we are addressing an age-old, highly complex, and inadequately resolved philosophical and psychological problem. In some of the best writings in the area we find attempts to reconcile habitual behavior, on the one hand, and purposefulness, choice, novelty, and creativity, on the other (Michael Polanyi 1967; Murphy 1994; Plotkin 1994). Common to these approaches is the idea of habits being the foundation of learned behavior. Accordingly, examining the ways in which new habits are acquired is as important as a recognition of their durability. This dual stress is thematic to the institutionalism of Veblen and others, and retains its theoretical relevance today.

C. *From Habits to Institutions*

One of the most useful definitions of an institution was provided by the institutional economist Walton Hamilton

¹⁰Note that, contrary to a widespread misconception, Veblen (1899, p. 15; 1914, pp. 31–32; 1919, p. 75; 1934, pp. 80, 175) repeatedly asserted that human behavior was purposeful.

(1932, p. 84). He saw an institution as "a way of thought or action of some prevalence and permanence, which is embedded in the habits of a group or the customs of a people." This elaborates Veblen's (1919, p. 239) earlier definition of an institution as "settled habits of thought common to the generality of men." Notably, in the "old" institutionalism, the concept of habit plays a central role both in its definition of an institution, as in its picture of human agency.

Although, by contrast, definitions of an institution in the "new" institutionalism do not typically include the notion of habit, they often share with the older institutionalism a broad, rather than a narrow, conception of an institution. Institutions, are regarded as general regularities in social behavior (Schotter 1981, p. 11) or "the rules of the game in society or . . . the humanly devised constraints that shape human interaction" (North 1990, p. 3).

All these definitions, "new" and "old" institutionalist alike, involve a relatively broad concept. They encompass not simply organizations—such as corporations, banks, and universities—but also integrated and systematic social entities such as money, language, and law. The case for such a broad definition of institutions is that all such entities involve common characteristics:

- All institutions involve the interaction of agents, with crucial information feedbacks.
- All institutions have a number of characteristic and common conceptions and routines.
- Institutions sustain, and are sustained by, shared conceptions and expectations.
- Although they are neither immutable nor immortal, institutions have relatively durable, self-reinforcing, and persistent qualities.
- Institutions incorporate values, and processes of normative evaluation. In particular, institutions reinforce their own moral legitimation: that which endures is often—rightly or wrongly—seen as morally just.

A broad definition of an institution is consistent with long-standing practice in the social sciences. More narrowly, organizations may be defined as a special subset of institutions, involving deliberate coordination (Viktor Vanberg 1994), and recognized principles of sovereignty and command. Language is an example of an institution that is not an organization. A business corporation is an institution and also an organization. All institutions and organizations exhibit the five characteristics above.

However, a key difference between the "old" and the "new" institutionalism here is that in the former the concept of habit is central. For the "old" institutionalists, habit is regarded as crucial to the formation and sustenance of institutions. Habits form part of our cognitive abilities. Cognitive frameworks are learned and emulated within institutional structures. The individual relies on the acquisition of such cognitive habits, before reason, communication, choice, or action are possible.

Learned skills become partially embedded in habits. When habits become a common part of a group or a social culture they grow into routines or customs (Commons 1934, p. 45). Institutions are formed as durable and integrated complexes of customs and routines. Habits and routines thus preserve knowledge, particularly tacit knowledge in relation to skills, and institutions act through time as their transmission belt.

Institutions are regarded as imposing form and social coherence upon human activity partly through the continuing production and reproduction of habits of thought and action. This involves the creation and promulgation of conceptual schemata and learned signs and meanings. Institutions are seen as a crucial part of the cognitive processes through which sense-data are perceived

and made meaningful by agents. Indeed, as discussed below, rationality itself is regarded as reliant upon institutional props.

The availability of common cognitive tools, as well as congenital or learned dispositions for individuals to conform with other members of the same group, work together to mold individuals goals and preferences. Accordingly, individuals are not taken as given. In mainstream economics, widespread lip-service to notions of individuality and choice may have helped to obscure the degree in reality to which conformism or emulation actually occur, even in modern competitive economies. For an "old" institutionalist, such outcomes are an important part of the institutional self-reinforcing process.

From an "old" institutionalist perspective, the institutional action-information loop in Figure 1 stands out in higher relief. The imitation and emulation of behavior leads to the spread of habits, and to the emergence or reinforcement of institutions. In turn, institutions foster and underline particular behaviors and habits, and help transmit them to new members of the group. The additional emphasis here concerns the role of habit both in sustaining individual behavior, and in providing the individual with cognitive means by which incoming information can be interpreted and understood. Our understanding of the durable and self-reinforcing qualities of institutions is enhanced.

The thrust of the "old" institutionalist approach is to see behavioral habit and institutional structure as mutually entwined and mutually reinforcing: both aspects are relevant to the full picture (Commons 1934, p. 69). Choosing institutions as units of analysis does not necessarily imply that the role of the individual is surrendered to the dominance

of institutions. A dual stress on both agency and structure is required, redolent of similar arguments in sociology and philosophy (Roy Bhaskar 1979; Anthony Giddens 1984; Harrison White 1992). Both individuals and institutions are mutually constitutive of each other. Institutions mold, and are molded by, human action.

Institutions are both “subjective” ideas in the heads of agents and “objective” structures faced by them. The twin concepts of habit and institution may thus help to overcome the philosophical dilemma between realism and subjectivism in social science. Actor and structure, although distinct, are thus connected in a circle of mutual interaction and interdependence.

Summarizing the argument so far, it has been shown in this section that the wider recognition of the importance of institutions and rules in human society is endorsed by institutional economics in the Veblen-Commons tradition, but with an additional and crucial stress on the role of habit. A circle of interaction between actor and structure is based on the linked concepts of habit and institution. Section IV below adds further credence to this argument by considering some difficulties that are raised when the explanatory circle is broken and the individual is given unwarranted ontological and explanatory priority.

IV. *Explaining Institutions: The Problem of Institutional Infinite Regress*

In this section it is argued that attempts to explain the origin and sustenance of institutions on the basis of the assumption of given individuals have internal flaws and inconsistencies. Accordingly, attempts to explain institutions in this way may have to be abandoned. The door is opened to a

more open-ended and evolutionary approach, redolent of the earlier institutionalists.

Two opposite types of error are possible. The “cultural determinists” place too much stress on the molding of individuals by institutions.¹¹ Such “oversocialized” views of human behavior have been widely criticized (Mark Granovetter 1985). At the opposite end of the spectrum, the “new institutional economics” gives no more than weak stress to the processes of institutional conditioning, and focuses primarily on the emergence of institutions out of the interactions of given individuals. This section explores the problems that may arise if exclusive stress is put on the latter direction of causality.

The distinctive “new” institutionalist project has been identified as the attempt to explain the existence of institutions by reference to a given model of individual behavior, and on the basis of an initial institution-free “state of nature.” The procedure is to start with given individuals and to move on to explain institutions.

Admittedly, substantial heuristic insights about the development of institutions and conventions have been gained on the basis of the assumption of given, rational individuals. The main problem addressed here is the incompleteness of the research program in its attempt to provide a general theory of the emergence and evolution of institutions. Some tentative and “evolutionary” approaches to solving this problem are addressed at the end of this section.

¹¹ Rutherford (1994, pp. 40–41) notes how American institutionalism itself moved toward cultural determinism and methodological collectivism in the post-1940 period. Such a one-sided emphasis was not found in the earlier institutionalism of Veblen and Commons.

A. *Internal Problems in Explanations
Based on Given Individuals*

Alexander Field (1979, 1984) has advanced a key problem in the new institutionalist project to attempt to explain institutions solely in terms of given, rational individuals. In trying to explain the origin of social institutions from given individuals, the new institutional economics has to presume a social framework governing their interaction. In any original, hypothetical, "state of nature" from which institutions are seen to have emerged, a number of rules, and cultural and social norms are already presumed. No "thought experiment" involving an institution-free "state of nature" has yet been postulated without them.

For example, game theorists such as Schotter (1981) take the individual "for granted," as an agent unambiguously maximizing her expected payoff. Yet, in attempting to explain the origin of institutions through game theory, Field (1984) points out that certain norms and rules must inevitably be presumed at the start. There can be no games without prior rules, and thus game theory can never explain the elemental rules themselves. Even in a sequence of repeated games, or of games about other (nested) games, at least one game or meta-game, with a structure and payoffs, must be assumed at the outset. Any such attempt to deal with history in terms of sequential or nested games is thus involved in a problem of infinite regress: even with games about games about games to the *n*th degree there is still at least one preceding game left to be explained.

As another example, Williamson's transaction cost theory of the firm takes its original state of nature as the market. In a famous passage he writes that

"in the beginning there were markets" (Williamson 1975, p. 20); this starting point is characteristic of his approach. From this original context, some individuals go on to create firms and hierarchies. These endure if they involve lower transaction costs.

However, the market itself is an institution. The market involves social norms, customs, instituted exchange relations, and—sometimes consciously organized—information networks that themselves have to be explained (Dosi 1988; Hodgson 1988). Market and exchange relations themselves involve complex rules. In particular, the institution of private property itself requires explanation. Markets are not an institution-free beginning. As if in search of the original, institution-free, state of nature prior to property and markets, Williamson (1983) argues that private property can emerge through "private ordering," that is, individual-to-individual transactions, without state legislation or interference.

The question of the possibility of property and contract without any role for the state is debated in legal theory. However, there is another fundamental objection to the idea of attempting to ground explanations of property or institutions on individuals alone. Even if the state is absent, individuals rely on customs, norms, and, most emphatically, the institution of language, in order to interact. Interpersonal communication, which is essential to all stories of institutional emergence, itself depends on linguistic and other rules and norms. The shared concept of individual property requires some means of communication using common concepts and norms, both before and after explicit or tacit recognition of property rights can be established. Even if the state can be absent from these processes, some prior institutions are still

required.¹² Before an individual may choose, he or she requires a conceptual framework to make sense of the world.¹³ More generally, considering the action-information loop in Figure 1 above, the reception of “information” in the new institutionalist story requires a paradigm or cognitive frame to process and make sense of that information. Further, our interaction with others requires the use of the institution of language. We cannot understand the world without concepts and we cannot communicate without some form of language. Without the prior institutionalization of individuals, the action-information loop cannot be completed. As the “old” institutionalists argue, the transmission of information from institution to individual is impossible without a coextensive process of enculturation, in which the individual learns the meaning and value of the sense-data that is communicated. The “information” arrow on the right hand side the figure *always and necessarily* involves such a process of encultura-

¹² Whether common agreement to and practical enforcement of property can arise without the existence of a state is a matter of continuing debate. The classic “old” institutionalist argument that the state was required historically in order to establish labor, land, and money markets is in Karl Polanyi (1944). Despite his celebrated argument concerning the undesigned evolution of money from individual interactions, even Menger (1936) recognized that the state may be necessary to maintain the integrity of the monetary unit.

¹³ This raises a problem in Young-Back Choi’s (1993) innovative work. While developing a theory of conventions and institutions he takes the individual as “the basic unit of analysis” (p. 5). Choi (pp. 32–39) is thus impelled to have this individual somehow *choosing* the conceptual “paradigm” by which she makes sense of the uncertain world in which she is situated. The unanswered question is on what basis has such an individual “elected to adopt” (p. 39) one paradigm rather than another? Surely this choice itself requires a conceptual framework or paradigm, and norms and criteria of judgement, to make some sense of the situation in which the choice is made. The choice of paradigm itself requires a paradigm. Again we have a problem of infinite regress.

tion. Information cannot be received unless the individual has to some degree been enculturated through prior engagement with institutions.¹⁴ Communication requires an institutionalized individual.

In the “old” institutional economics, cognition and habit have a central place. Knowledge and learning are stressed. There is also an insistence that the perception of information is not possible without prior habits of thought to endow it with meaning. Without such habits, agents cannot perceive or make use of the data received by their senses. Habits thus have a crucial cognitive role: “All facts of observation are necessarily seen in the light of the observer’s habits of thought” (Veblen 1914, p. 53). Such habits are acquired through involvement in institutions.

The central “new” institutionalist project of explaining institutions from individuals alone is thus misconceived. The problem of infinite regress identified here undermines any “new institutionalist” claim that the explanation of the emergence of institutions can start from some kind of original, institution-free ensemble of (rational) individuals, in which there is supposedly no rule or institution to be explained. At the very minimum, “new” institutionalist stories of the development of institutions depend upon interpersonal communication of information. And the communication of information itself requires shared concepts, conventions, rules, routines, and norms. These, in turn, have to be explained.

¹⁴ This raises the question of how a newborn infant may acquire information. Our incapacity to learn without prior conceptual frameworks means—as James argued long ago and Plotkin (1994) and others elaborate—that much of our initial capacity to learn must be genetically inherited and instinctive. In the eyes of modern psychology, Veblen’s adherence to the concept of instinct is not as old-fashioned as it used to seem.

B. *Which Came First: The Chicken or the Egg?*

What is being contested here is the possibility of using given individuals as the institution-free starting point in the explanation. It is not possible to understand how institutions are constructed without seeing individuals as embedded in a culture made up of many interacting institutions. Institutions not only constrain but also influence individuals. Accordingly, if there are institutional influences on individuals and their goals, then these are worthy of explanation. In turn, the explanation of those may be in terms of other purposeful individuals. But where should the analysis stop? The purposes of an individual could be partly explained by relevant institutions, culture, and so on. These, in their turn, would be partly explained in terms of other individuals. But these individual purposes and actions could then be partly explained by cultural and institutional factors, and so on, indefinitely.

We are involved in an apparently infinite regress, similar to the puzzle "which came first, the chicken or the egg?" Such an analysis never reaches an end point. It is simply arbitrary to stop at one particular stage in the explanation and say "it is all reducible to individuals" just as much as to say it is "all social and institutional." The key point is that in this infinite regress, neither individual nor institutional factors have complete explanatory primacy. The idea that all explanations have ultimately to be in terms of individuals (or institutions) alone is thus unfounded.

There is thus an unbreakable circle of determination. This does not mean, however, that institutions and individuals have equivalent ontological and explanatory status. Clearly, they have different characteristics. Their mecha-

nisms of reproduction and procreation are very different. Individuals are purposeful, whereas institutions are not, at least in the same sense. Institutions have different life spans from individuals, sometimes enduring the passing of the individuals they contain. Crucially, each individual is born into, and molded by, a world of pre-existing institutions: even if these institutions were made by others and can be changed.

We have seen that the new institutionalist project to explain the emergence of institutions on the basis of given individuals runs into difficulties, particularly with regard to the conceptualization of the initial state from which institutions are supposed to emerge. This does not mean that all "new" institutionalist research is without value, but it indicates that the starting point of explanations cannot be institution-free: the main project has to be reformulated as just a part of a wider theoretical analysis of institutions. The reformulated project would stress the evolution of institutions, in part from other institutions, rather than from a hypothetical, institution-free "state of nature." What is required is a theory of process, evolution, and learning, rather than a theory that proceeds from an original, institution-free, "state of nature" that is both artificial and untenable.

C. *Toward Evolutionary Explanations of Institutional Change*

In some cases the "comparative statics" character of such "new" institutionalist explanations is obvious. However, one of the reasons for the rise of "evolutionary" thinking in economics since the early 1980s has been an attempt to break the constraints of this mode of explanation with its two fixed end-points. Because there is no answer to the chicken-or-egg question, the question

itself has to be changed. The question should no longer be “which came first?” but “what processes explain the development of both of them?” This implies a movement away from comparative statics and toward a more evolutionary and open-ended framework of analysis. Some moves in this direction by two prominent “new” institutionalists have already led to a degree of convergence with the evolutionary and open-ended ideas of the “old” institutionalists. This is apparent in the later works of Hayek (1988) and the recent writings of North (1990).

Such evolutionary explanations involve the search for “a theory of the process of consecutive change, realized to be self-continuing or self-propagating and to have no final term” (Veblen 1919, p. 37). Emphatically, abandoning the attempt to explain all institutions in terms of given individuals does not mean the abandonment of theoretical explanation. Instead, the origins and development of organizations and institutions are seen as an evolutionary process. Today, there is a substantial amount of work going on in this area, with extensive use being made of evolutionary metaphors taken from biology.

V. *The Necessity of Habits and Rules*

This section extends the argument further by showing how rational individuals depend on habits and rules. The prominent idea of the utility-maximizing individual has permitted economists to ignore the procedures and rules that are knowingly or unwittingly employed by agents. Most explanations of behavior, including the role-driven and the habitual, can seemingly be encompassed within the framework of utility-maximization. Accordingly, the underlying psychological and other explanatory issues have been largely ignored. The

encompassing assumption of the “rational” agent is deemed to be sufficient.

The contention here, however, concerns the explanatory primacy of habit over such all-encompassing conception of rational behavior. We start by posing a question: under what circumstances is it necessary or convenient for an agent to rely on habits or rules?¹⁵ The questions of how habits and rules are replicated and transmitted in society is side-stepped here to focus on a decision situation giving rise to their use. It is argued that even optimization requires the deployment of rules, and for this reason mainstream economics cannot legitimately ignore these questions. This suggests that a detailed analysis of the evolution of specific habits and rules—including the pecuniary rationality of agents in a market economy—should be installed at the core of economics and social theory.

Rules are conditional or unconditional patterns of thought or behavior which can be adopted either consciously or unconsciously by agents. Generally rules have the form: in circumstances X, do Y. Habits may have a different quality: rule-following may be conscious and deliberative whereas habitual action is characteristically unexamined. Rules do not necessarily have a self-actuating or autonomic quality but clearly, by repeated application, a rule can become a habit. Often it is easier to break a rule than to change a habit, because our awareness of our own habits is often incomplete; they have a self-actuating character, being established in subliminal areas of our nervous system. However, habits still have the same general form: in circumstances X, action Y follows.

A familiar question of enduring con-

¹⁵ For a treatment of this issue in greater depth see Hodgson (1997).

troverly is the extent to which optimizing techniques are applicable to decision situations in the real world. Much of modern economics is founded on the assumption that they are. If assumptions of perfect information are dropped, it is typically assumed that uncertain or complex decision problems can still be accommodated using probabilities. Against this, a number of critics have argued that a significant proportion of decision problems are not amenable to probabilistic or other optimization techniques (e.g., Veblen 1919; Keynes 1937; Simon 1957, 1979).

A. *Optimization and Rules*

However, we shall side-step this well-known controversy here, to focus on a (large or small) class of decision situations in which (bounded) optimization may be possible. Consider mathematical optimization problems and their solutions. The procedures of linear programming and differential calculus, for example, sustain methods of optimization with strict rules. Optimizing procedures always involve rules: namely the rules of computation and optimization.¹⁶

¹⁶Notably, Vanberg (1994) has suggested that rational choice and rule-following behavior are incompatible. He argues that it is inherently inconsistent to speak of a "rational choice to follow rules" or a "rational choice among rules." To Vanberg, the essence of following a rule is to be partially unresponsive to the changing particularities of each choice situation. This is contrasted with the concept of choice, where an individual is deemed free of such "*pre-programmed* behavior." However, first, the quality of being unresponsive to changing particularities is not an universal feature of rule-following behavior. There are conditional rules that discriminate between different environmental conditions and point to different outcomes in different circumstances. Second, the very idea of rational *calculation*, as shown below, must itself depend on computational rules. Vanberg has also failed to recognize that strict optimization must necessarily exclude choice. As noted above, an utility-maximizer is essentially a taste-satisfying machine. If choice means the possibility of acting otherwise then it cannot be predetermined by either preference functions or rules.

Conventional accounts sometimes neglect the universal need for rules of calculation to reach optima. One reason for this is that optimization processes are often confused with optimal outcomes. However, statements of equilibrium conditions are not the same thing as the specification of algorithmic or other procedures required to attain equilibria: outcome is not the same as process. Another reason for the neglect is the widespread belief that optimization involves choice and rule-following denies it. On the contrary, as argued above, mechanical optimization excludes genuine choice.

All explicit optimization procedures must involve rules. This raises the secondary but important question of their origin. Notably, optimization itself cannot provide a complete explanation of either the origin of rules or the adoption of rule-driven behavior. As all optimization involves intrinsic rules, the idea of explaining all rules on the basis of the optimizing behaviors of agents involves circular reasoning and is thus misconceived. Hence the question of "where do the original rules come from?" remains, *and it cannot be answered completely in terms of optimization itself*. It is necessary to consider additional explanations of their genesis, at least to supplement the optimization story. In search of this "first cause" we are forced to consider explanations other than optimization for the reliance of the individual upon rules.

There is also the case of the intuitive optimizer, with tacit skills. Although the skills may not be codifiable, they are embedded in habits of the same general form: in circumstances *X*, do *Y*. Likewise, the formation of these habits cannot be explained by optimization alone, without addressing the other rules, habits, or instincts that led to their origin.

This primary reliance on habits or

rules limits the scope of rational optimization. Rationality always depends on prior habits or rules as props (Hodgson 1988). Hence rational optimization alone can never supply the complete explanation of human behavior and institutions that some theorists seem to be striving for. Given that explanation in social science requires more than this powerful idea at its core, arguably we must rely on more complex, contingent, and multifaceted behavioral specifications.

As a result, neoclassical economics could be regarded as a special and (highly) restricted case of the “old” institutional economics, which accepted the ubiquity of habits and rules. In contrast to their image as myopic and anti-theoretical data-gatherers, institutionalists have the potential to achieve a higher level of theoretical generality. Winter (1971) has argued that neoclassical economics is a special case of behavioral economics. We may conclude, further, that both behavioral economics and neoclassical economics are special cases of institutional economics. At its foundations, institutional economics has greater generality and encompasses neoclassical economics as a special case.

B. *The Ubiquity of Habits and Rules*

The importance of habits and rules is underlined by consideration of types of decision situation or procedure other than optimization, such as decision making in the context of complexity or uncertainty. In particular, Ronald Heiner (1983) has shown that individuals are obliged to rely on relatively simple procedures and decision-rules in such situations. There are long and established arguments that individuals must rely on “conventions” or “rules of thumb” in situations of radical uncertainty (Keynes 1937; Simon 1957).

Skilled deployment of rules must also

involve acquired habits. Habits are used even by firms or individuals attempting to optimize in some way. As the “old” institutional economist John Maurice Clark (1918, p. 26) noted, “it is only by the aid of habit that the marginal utility principle is approximated in real life.” It is an institutionalist tenet that habit has ontological and explanatory primacy over rational choice. Again this implies a greater level of generality for the core institutionalist approach.¹⁷

In practice, the human agent cannot be a “lightning calculator” (Veblen 1919, p. 73), quickly, effortlessly, and inexplicably finding the optimum just as we can readily locate the lowest point of a U-curve in a simple textbook diagram. Even with given and unambiguous information, complex optimization problems typically involve difficulties not only of specification but of computability. Artificially intelligent systems even in moderately complex environments require “inherited” framing procedures to structure the incoming information (Zenon Pylyshyn 1986).

C. *Evolution and the Limits to Rationality*

Strikingly, recent developments in evolutionary psychology (Cosmides and Tooby 1994a, 1994b; Plotkin 1994; Reber 1993) give strong support to the “old” institutionalist idea of the primacy of habits. The key argument in this literature is that postulates concerning the rational capacities of the human brain must give an explanation of their evolution according to established principles of evolutionary biology.

What may be termed the Principle of

¹⁷ Clark (1918, p. 25) also wrote: “a good hedonist would stop calculating when it seemed likely to involve more trouble than it was worth.” Hence Simon’s concept of satisficing behavior finds a clear precedent in the work of an “old” institutional economist.

Evolutionary Explanation demands that any behavioral assumption in the social sciences must itself be capable of explanation along (Darwinian) evolutionary lines.¹⁸ However, the empirical and theoretical work of modern evolutionary psychologists suggests that, even in highly intelligent organisms, global rationality is very unlikely to emerge through evolution. In other words, the standard assumption of the rational actor fails to satisfy the Principle of Evolutionary Explanation.

In an evolutionary view of intelligence it is recognized that tacit knowledge and implicit learning of an habitual character are ubiquitous even in higher animals, including humans. This is because higher levels of deliberation and consciousness are recent arrivals on the evolutionary scene, and certainly came after the development of more basic mechanisms of cognition and learning in organisms. That being the case, many of our evolved cognitive processes must be able to proceed below the level of full deliberation and awareness.

Cosmides and Tooby (1994a) postulate that the mind is riddled with functionally specific circuits. This contrasts with what they describe as the "Standard Social Science Model," where the mind harbors general cognitive processes—such as "reasoning," "induction," and "learning"—that are "context-independent," "domain-general," or "context-free." They show that this abstract and generalist view of the mind is difficult to reconcile with modern evolutionary biology, giving experimental evidence to support their argument.

A key argument is that all-purpose optimizing techniques are difficult to construct and utilize. First, what counts

as adaptive or (near) optimal behavior differs markedly from situation to situation. Second: "Combinatorial explosion paralyzes even moderately domain-general systems when encountering real-world complexity. As generality is increased by adding new dimensions to a problem space or new branch points to a decision tree, the computational load increases with catastrophic rapidity" (Cosmides and Tooby 1994a, p. 56). Third, the generality of all-purpose mechanisms undermines their performance: "when the environment is clueless, the mechanism will be too. Domain-specific mechanisms are not limited in this way. They can be constructed to fill in the blanks when perceptual evidence is lacking or difficult to obtain" (p. 57). As a result: "The mind is probably more like a Swiss army knife than an all-purpose blade" (p. 60).

In evolutionary terms, time does not "hammer logic into men." Cosmides and Tooby produced evidence that humans are generally poor at solving general, logical problems. However, when these problems are reformulated in terms of social interactions, our ability to solve them increases markedly, despite the fact that the logical structure of the problem has not changed. This is clear evidence of special design in brain, rather than ability to solve general logical problems.¹⁹

Theories of human behavior must be consistent with our understanding of evolutionary origins: "The human brain did not fall out of the sky, an inscrutable artefact of unknown origin, and there is no longer any sensible reason for studying it in ignorance of the causal processes that constructed it"

¹⁸ Without giving it a name, Veblen (1934, pp. 79–80) clearly made use of this principle, in his discussions of the origins of habits, purposeful behavior, and so on.

¹⁹ Significantly, Plotkin has distanced evolutionary psychology from genetic reductionism. He argues that intelligent behavior "cannot be reductively explained by genetics or genetics and development" (Plotkin 1994, p. 176).

(Cosmides and Tooby 1994a, p. 68). Applied to economics itself, this principle establishes the untenability of the prominent assumption “that rational behavior is the state of nature, requiring no explanation” (Cosmides and Tooby 1994b, p. 327). If rational behavior is to be assumed, then its evolution has to be explained.

The reintroduction of the concepts of habit and instinct into a theory of human behavior helps to provide a foundation upon which a theory of institutions can be built. We have shown that the grounding of such a theory on the idea of the given, rational individual is both unsuccessful, and untenable in ongoing, evolutionary terms. The introduction of habit and instinct provides a consistency between the socio-economic and biotic levels of analysis, and establishes an important link between the socio-economic and the natural world. The institutional action-information loop no longer hangs in empty space: it has a biotic grounding.

This does not mean that explanations of socio-economic phenomena have to be in biological terms. Socio-economic reality has emergent properties that defy such a reduction. They are different levels of analysis, but, ultimately, propositions at one level do have to be consistent with those at another. This is a key reason why economics has to take account of evolutionary biology (Hodgson 1993).

VI. *Conclusion*

By institutions, individuals are not merely constrained and influenced. Jointly with our natural environment and our biotic inheritance, as social beings we are *constituted* by institutions. They are given by history and constitute our socio-economic flesh and blood. This proposition must cohabit with the

more widely accepted—and equally valid—notion that institutions, knowingly or unknowingly, are formed and changed by individuals.

It has been suggested above that the breakdown of the microfoundations project provides institutionalism with a significant entrée. Its focus on institutions as durable and typically self-reinforcing entities provides a convenient micro-macro link. To see the role of the individual in relation to institutions is to focus on the micro aspect. To take the institution as a socially constructed invariant—or emergent property—is a basis for consideration of macroeconomic dynamics and behavior. Accordingly, “old” institutionalists and mainstream economists have a great deal to learn from each other.

However, some would dismiss those scholars that reject the rational actor paradigm as being outside “economics,” and consign them to “sociology.” In response, these vigilantes of “economic correctness” have to face two severe problems. First, leading economists such as Smith, Ricardo, Marx, Keynes, Hayek, Simon, and Coase, all failed to incorporate the standard picture of “rational economic man” in their writings or expressed profound misgivings about his behavior. Second, the problem also has to be faced that much of “sociology” has now embraced rational choice (for example, James Coleman 1990).

Among twentieth century economists the prevailing practice has been to regard the subject as being defined not as a study of a real object—the economy—but in terms of a single approach and set of core assumptions. If the subject is defined in this way then not much theoretical pluralism within economics is possible; we are stuck with a single type of theory or approach. Elsewhere, however, a science is normally defined as the study of a particular aspect of ob-

jective reality: physics is about the nature and properties of matter and energy, biology about living things, psychology about the psyche, and so on. It is on the basis of their wish to study and understand real world *economies* that the "old" institutionalists can retain claim to the title of being *economists*.

In fact, the boundary between economics and sociology that has endured by the prevailing consensus for the last 60 years or so is now being violated on both sides. The line of demarcation defined by "the science of rational choice" is thus losing its legitimacy, and the most reasonable alternative is to attempt once again to redefine economics as the intellectual discipline concerned with the study of economic systems. In other words, it should be defined, as in other sciences, in terms of its object of analysis, rather than by any set of prior tenets.

It may be conjectured that the loss of the reigning twentieth-century boundaries between the social sciences foreshadows a great centennial climacteric in these intellectual disciplines. For long the butt of the critic from the heterodox fringes, rational economic man has increasingly come under challenge from the mainstream in recent years, partly because of developments in game theory. It has been suggested by leading economists such as Frank Hahn (1991) that one of the central responses to the developing crisis will be the deconstruction of the rational actor that has long ruled economics. Optimizing activity will be recognized as no more than a special case of a larger set of possible modes of behavior, with all of them being required to render viable explanations of their origin and evolution.

Biology is widely seen as the science of the twenty-first century. Following this lead—and to conjecture further—in the renewed social sciences the uniting

and fundamental precepts will be the principles of evolution themselves, still taking strong inspiration from the methodology and approach of Darwin. We shall thereby take a huge step back in time and visit the evolutionary controversies of the 1890s and early 1900s—and the intellectual world of Peirce, James, Veblen, and Commons—and discover that much of what we want to say has already been said before. Only then will we be able to read the works of the "old" institutionalists and fully appreciate their achievement.

REFERENCES

- ALCHIAN, ARMEN A. "Uncertainty, Evolution and Economic Theory," *J. Polit. Econ.*, June 1950, 58(2), pp. 211–21.
- ARROW, KENNETH J. "Rationality of Self and Others in an Economic System," *J. Bus.*, 59(4), Oct. 1986, pp. S385–99; reprinted in ROBIN M. HOGARTH AND MELVIN W. REDER, eds. *Rational choice: the contrast Between economics and psychology*. Chicago and London: U. of Chicago Press, 1986, pp. 201–15.
- BAKER, WAYNE E. "The Social Structure of a National Securities Market," *Amer. J. Sociology.*, Jan. 1984, 89(4), pp. 775–811.
- BECKER, GARY S. "Irrational Behavior and Economic Theory," *J. Polit. Econ.* 70(1), Feb. 1962, pp. 1–13.
- . "Habits, Addictions, and Traditions," *Kyklos*, 1992, 45(3), pp. 327–45.
- . *Accounting for tastes*. Cambridge, MA: Harvard U. Press, 1996.
- BHASKAR, ROY. *The possibility of naturalism: A philosophical critique of the contemporary human sciences*. Brighton: Harvester, 1979.
- BOULDING, KENNETH E. *Evolutionary economics*. Beverly Hills, CA: Sage Publications, 1981.
- BUCHANAN, JAMES M. "Is Economics the Science of Choice?" in *Roads to freedom: Essays in honor of Friedrich A. von Hayek*. Eds.: ERICH STREISSLER ET AL.. London: Routledge and Kegan Paul, 1969, pp. 47–64.
- CHIAROMONTE, FRANCESCA AND DOSI, GIOVANNI. "Heterogeneity, Competition, and Macroeconomic Dynamics," *Structural Change and Economic Dynamics*, June 1993, 4(1), pp. 39–63.
- CHOI, YOUNG BACK. *Paradigms and conventions: Uncertainty, decision making, and entrepreneurship*. Ann Arbor: U. of Michigan Press, 1993.
- CLARK, JOHN MAURICE. "Economics and Modern Psychology" Parts I and II, *J. Polit. Econ.*, Jan.-Feb. 1918, 26(1–2), pp. 1–30, 136–66; reprinted in JOHN MAURICE CLARK. *Preface to social eco-*

- nomics. New York: Augustus Kelley, 1967, pp. 92–169.
- COHEN, JACK AND STEWART, IAN. *The collapse of chaos: Discovering simplicity in a complex world*. London and New York: Viking, 1994.
- COLEMAN, JAMES S. *Foundations of social theory*. Cambridge, MA: Harvard U. Press, 1990.
- COMMONS, JOHN R. *The legal foundations of capitalism*. New York: Macmillan, 1924.
- . *Institutional economics: Its place in political economy*. New York: Macmillan, 1934.
- COSMIDES, LEDA AND TOOBY, JOHN. "Beyond Intuition and Instinct Blindness: Toward an Evolutionarily Rigorous Cognitive Science," *Cognition*, Apr.-June 1994a, 50(1–3), pp. 41–77.
- . "Better than Rational: Evolutionary Psychology and the Invisible Hand," *Amer. Econ. Rev.*, May 1994b, 84(2), pp. 377–32.
- CYERT, RICHARD M. AND MARCH, JAMES G. *A behavioral theory of the firm*. Engelwood Cliffs, NJ: Prentice-Hall, 1963.
- DEGLER, CARL N. *In search of human nature: The decline and revival of Darwinism in American social thought*. Oxford and New York: Oxford U. Press, 1991.
- DOSI, GIOVANNI. "Institutions and Markets in a Dynamic World," *Manchester School of Economics and Social Studies*, June 1988, 56(2), pp. 119–46.
- DUESENBERY, JAMES S. *Income, saving and the theory of consumer behavior*. Cambridge MA: Harvard U. Press, 1949.
- FIELD, ALEXANDER J. "On the Explanation of Rules Using Rational Choice Models," *J. Econ. Issues*, Mar. 1979, 13(1), pp. 49–72.
- . "Microeconomics, Norms, and Rationality," *Econ. Devel. Cult. Change*, July 1984, 32(4), pp. 683–711.
- GIDDENS, ANTHONY. *The constitution of society: Outline of the theory of structuration*. Cambridge: Polity Press, 1984.
- GODE, DHANANJAY K. AND SUNDER, SHYAM. "Allocative Efficiency of Markets with Zero-Intelligence Traders: Market as a Partial Substitute for Individual Rationality," *J. Polit. Econ.*, Feb. 1993, 101(1), pp. 119–37.
- GRANOVETTER, MARK. "Economic Action and Social Structure: The Problem of Embeddedness," *Amer. J. Sociology*, Nov. 1985, 91(3), pp. 481–510.
- GREEN, FRANCIS. "The Consumption Function: A Study of a Failure in Positive Economics," in *Issues in political economy: A critical approach*. Eds.: FRANCIS GREEN AND PETER NORE. London: Macmillan, 1979, pp. 33–60.
- HAHN, FRANK H. "The Next Hundred Years," *Econ. J.*, Jan. 1991, 101(404), pp. 47–50.
- HAMILTON, WALTON H. "Institution," in *Encyclopaedia of the social sciences*. Eds.: EDWIN R. A. SELIGMAN AND ALVIN JOHNSON. New York: Macmillan, 1932, Vol. 8, pp. 84–89.
- HAYEK, FRIEDRICH A. VON *The fatal conceit: The errors of socialism. The collected works of Friedrich August Hayek*. Vol. I. Ed.: W. W. BARTLEY III. London: Routledge, 1988.
- HEINER, RONALD A. "The Origin of Predictable Behavior," *Amer. Econ. Rev.*, Dec. 1983, 73(4), pp. 560–95.
- HODGSON, GEOFFREY M. *Economics and institutions: A manifesto for a modern institutional economics*. Cambridge: Polity Press; Philadelphia: U. of Pennsylvania Press, 1988.
- . *Economics and evolution: Bringing life back into economics*. Cambridge: Polity Press; Ann Arbor, MI: U. of Michigan Press, 1993.
- . "The Ubiquity of Habits and Rules," *Cambridge J. Econ.*, Nov. 1997, 21(6), pp. 663–84.
- HODGSON, GEOFFREY M.; SAMUELS, WARREN J. AND TOOL, MARC R., eds. *The Elgar companion to institutional and evolutionary economics*. Aldershot: Edward Elgar, 1994.
- HOUTHAKKER, HENDRICKS S. AND TAYLOR, LESTER D. *Consumer demand in the United States, 1929–1970: Analyses and projections*. Cambridge, MA: Harvard U. Press, 1966.
- KEYNES, JOHN MAYNARD. "The General Theory of Employment," *Quart. J. Econ.*, Feb. 1937, 51(1), pp. 209–23; reprinted in Keynes, John Maynard. *The collected writings of John Maynard Keynes*. Vol. XIV. *The General Theory and after: Part II: Defence and development*. London: Macmillan, 1973, pp. 109–23.
- LANGLOIS, RICHARD N., ed. *Economics as a process: Essays in the new institutional economics*. Cambridge and New York: Cambridge U. Press, 1986.
- MASON, ROGER. "Interpersonal Effects on Consumer Demand in Economic Theory and Marketing Thought, 1890–1950," *J. Econ. Issues*, Sept. 1995, 29(3), pp. 871–81.
- MENGER, CARL. "On the Origins of Money," *Econ. J.*, June 1892, 2(2), pp. 239–55.
- . "Geld," in *The collected works of Carl Menger*. Vol. IV. *Schriften über Geldtheorie und Währungspolitik*. London: London School of Economics, 1936, pp. 1–116.
- MURPHY, JAMES B. "The Kinds of Order in Society," in *Natural images in economic thought: Markets read in tooth and claw*. Ed.: PHILIP MIROWSKI. Cambridge and New York: Cambridge U. Press, 1994, pp. 536–82.
- NELSON, RICHARD R. AND WINTER, SIDNEY G. *An evolutionary theory of economic change*. Cambridge, MA: Harvard U. Press, 1982.
- NORTH, DOUGLASS C. *Structure and change in economic history*. New York: Norton, 1981.
- . *Institutions, institutional change, and economic performance*. Cambridge: Cambridge U. Press, 1990.
- PLOTKIN, HENRY C. *Darwin machines and the nature of knowledge: Concerning adaptations, instinct, and the evolution of intelligence*. Harmondsworth: Penguin, 1994.
- POLANYI, KARL. *The great transformation*. New York: Rinehart, 1944.

- POLANYI, MICHAEL. *The tacit dimension*. London: Routledge and Kegan Paul, 1966.
- POLLAK, ROBERT A. "Habit Formation and Dynamic Demand Functions," *J. Polit. Econ.*, July-Aug. 1970, 78(4), pp. 745-63.
- PYLYSHYN, ZENON W., ed. *The Robot's dilemma: The frame problem in artificial intelligence*. Norwood, NJ: Ablex, 1986.
- POSNER, RICHARD A. *Economic analysis of law*. Boston: Little, Brown, 1973.
- REBER, ARTHUR S. *Implicit learning and tacit knowledge: An essay on the cognitive unconscious*. Oxford: Oxford U. Press, 1993.
- RIZVI, S. ABU TURAB. "The Microfoundations Project in General Equilibrium Theory," *Cambridge J. Econ.*, Aug. 1994, 18(4), pp. 357-77.
- RUTHERFORD, MALCOLM C. *Institutions in economics: The old and the new institutionalism*. Cambridge and New York: Cambridge U. Press, 1994.
- SCHOTTER, ANDREW. *The economic theory of social institutions*. Cambridge and New York: Cambridge U. Press, 1981.
- SIMON, HERBERT A. *Models of man: social and rational; Mathematical essays on rational human behavior in a social setting*. New York: Wiley, 1957.
- . "Rational Decision Making in Business Organizations," *Amer. Econ. Rev.*, Sept. 1979, pp. 69(4), 493-513.
- STIGLITZ, JOSEPH E. *Whither socialism?* Cambridge, MA: MIT Press, 1994.
- SUGDEN, ROBERT. *The economics of rights, cooperation, and welfare*. Oxford: Blackwell, 1986.
- TOOL, MARC R. "Contributions to an Institutional Theory of Price Determination," in *Rethinking economics: Markets, technology and economic evolution*. Eds.: GEOFFREY M. HODGSON AND ERNESTO SCREPANTI. Aldershot: Edward Elgar, 1991, pp. 19-39.
- VANBERG, VIKTOR J. *Rules and choice in economics*. London: Routledge, 1994.
- VEBLEN, THORSTEIN B. *The theory of the leisure class: An economic study in the evolution of institutions*. New York: Macmillan, 1899.
- . *The instinct of workmanship, and the state of the industrial arts*. New York: Augustus Kelley, 1914.
- . *The place of science in modern civilisation and other essays*. New York: Huebsch, 1919.
- . *Essays on our changing order*. Ed.: LEON ARDZROONI. New York: The Viking Press, 1934.
- WARE, CAROLINE F. AND MEANS, GARDINER C. *The modern economy in action*. New York: Harcourt Brace, 1936.
- WHITE, HARRISON C. *Identity and control: A structural theory of social action*. Princeton: Princeton U. Press, 1992.
- WILLIAMSON, OLIVER E. *Markets and hierarchies, analysis and anti-trust implications: A study in the economics of internal organization*. New York: Free Press, 1975.
- . "Credible Commitments: Using Hostages to Support Exchange," *Amer. Econ. Rev.*, Sept. 1983, 74(3), pp. 519-40.
- WINTER, SIDNEY G., JR. "Satisficing, Selection, and the Innovating Remnant," *Quart. J. Econ.*, May 1971, 85(2), pp. 237-61.

LINKED CITATIONS

- Page 1 of 3 -



You have printed the following article:

The Approach of Institutional Economics

Geoffrey M. Hodgson

Journal of Economic Literature, Vol. 36, No. 1. (Mar., 1998), pp. 166-192.

Stable URL:

<http://links.jstor.org/sici?sici=0022-0515%28199803%2936%3A1%3C166%3ATAOIE%3E2.0.CO%3B2-Q>

This article references the following linked citations. If you are trying to access articles from an off-campus location, you may be required to first logon via your library web site to access JSTOR. Please visit your library's website or contact a librarian to learn about options for remote access to JSTOR.

[Footnotes]

¹⁷ **Economics and Modern Psychology: I**

J. M. Clark

The Journal of Political Economy, Vol. 26, No. 1. (Jan., 1918), pp. 1-30.

Stable URL:

<http://links.jstor.org/sici?sici=0022-3808%28191801%2926%3A1%3C1%3AEAMPI%3E2.0.CO%3B2-F>

References

Uncertainty, Evolution, and Economic Theory

Armen A. Alchian

The Journal of Political Economy, Vol. 58, No. 3. (Jun., 1950), pp. 211-221.

Stable URL:

<http://links.jstor.org/sici?sici=0022-3808%28195006%2958%3A3%3C211%3AUEAET%3E2.0.CO%3B2-K>

Rationality of Self and Others in an Economic System

Kenneth J. Arrow

The Journal of Business, Vol. 59, No. 4, Part 2: The Behavioral Foundations of Economic Theory. (Oct., 1986), pp. S385-S399.

Stable URL:

<http://links.jstor.org/sici?sici=0021-9398%28198610%2959%3A4%3CS385%3AROSAOI%3E2.0.CO%3B2-A>

NOTE: *The reference numbering from the original has been maintained in this citation list.*

LINKED CITATIONS

- Page 2 of 3 -



The Social Structure of a National Securities Market

Wayne E. Baker

The American Journal of Sociology, Vol. 89, No. 4. (Jan., 1984), pp. 775-811.

Stable URL:

<http://links.jstor.org/sici?sici=0002-9602%28198401%2989%3A4%3C775%3ATSSOAN%3E2.0.CO%3B2-J>

Irrational Behavior and Economic Theory

Gary S. Becker

The Journal of Political Economy, Vol. 70, No. 1. (Feb., 1962), pp. 1-13.

Stable URL:

<http://links.jstor.org/sici?sici=0022-3808%28196202%2970%3A1%3C1%3AIBAET%3E2.0.CO%3B2-J>

Economics and Modern Psychology: I

J. M. Clark

The Journal of Political Economy, Vol. 26, No. 1. (Jan., 1918), pp. 1-30.

Stable URL:

<http://links.jstor.org/sici?sici=0022-3808%28191801%2926%3A1%3C1%3AEAMPI%3E2.0.CO%3B2-F>

Better than Rational: Evolutionary Psychology and the Invisible Hand

Leda Cosmides; John Tooby

The American Economic Review, Vol. 84, No. 2, Papers and Proceedings of the Hundred and Sixth Annual Meeting of the American Economic Association. (May, 1994), pp. 327-332.

Stable URL:

<http://links.jstor.org/sici?sici=0002-8282%28199405%2984%3A2%3C327%3ABTREPA%3E2.0.CO%3B2-9>

Allocative Efficiency of Markets with Zero-Intelligence Traders: Market as a Partial Substitute for Individual Rationality

Dhananjay K. Gode; Shyam Sunder

The Journal of Political Economy, Vol. 101, No. 1. (Feb., 1993), pp. 119-137.

Stable URL:

<http://links.jstor.org/sici?sici=0022-3808%28199302%29101%3A1%3C119%3AAEOMWZ%3E2.0.CO%3B2-3>

Economic Action and Social Structure: The Problem of Embeddedness

Mark Granovetter

The American Journal of Sociology, Vol. 91, No. 3. (Nov., 1985), pp. 481-510.

Stable URL:

<http://links.jstor.org/sici?sici=0002-9602%28198511%2991%3A3%3C481%3AEAASST%3E2.0.CO%3B2-R>

NOTE: *The reference numbering from the original has been maintained in this citation list.*

LINKED CITATIONS

- Page 3 of 3 -



The Next Hundred Years

Frank Hahn

The Economic Journal, Vol. 101, No. 404. (Jan., 1991), pp. 47-50.

Stable URL:

<http://links.jstor.org/sici?sici=0013-0133%28199101%29101%3A404%3C47%3ATNHY%3E2.0.CO%3B2-Q>

The Origin of Predictable Behavior

Ronald A. Heiner

The American Economic Review, Vol. 73, No. 4. (Sep., 1983), pp. 560-595.

Stable URL:

<http://links.jstor.org/sici?sici=0002-8282%28198309%2973%3A4%3C560%3ATOOPB%3E2.0.CO%3B2-R>

On the Origin of Money

Karl Menger

The Economic Journal, Vol. 2, No. 6. (Jun., 1892), pp. 239-255.

Stable URL:

<http://links.jstor.org/sici?sici=0013-0133%28189206%292%3A6%3C239%3AOTOOM%3E2.0.CO%3B2-Q>

Habit Formation and Dynamic Demand Functions

Robert A. Pollak

The Journal of Political Economy, Vol. 78, No. 4, Part 1. (Jul. - Aug., 1970), pp. 745-763.

Stable URL:

<http://links.jstor.org/sici?sici=0022-3808%28197007%2F08%2978%3A4%3C745%3AHFADDF%3E2.0.CO%3B2-G>

Rational Decision Making in Business Organizations

Herbert A. Simon

The American Economic Review, Vol. 69, No. 4. (Sep., 1979), pp. 493-513.

Stable URL:

<http://links.jstor.org/sici?sici=0002-8282%28197909%2969%3A4%3C493%3ARDMIBO%3E2.0.CO%3B2-%23>

Credible Commitments: Further Remarks

Oliver E. Williamson

The American Economic Review, Vol. 74, No. 3. (Jun., 1984), pp. 488-490.

Stable URL:

<http://links.jstor.org/sici?sici=0002-8282%28198406%2974%3A3%3C488%3ACCFR%3E2.0.CO%3B2-U>

NOTE: *The reference numbering from the original has been maintained in this citation list.*