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Functionalist Successes and Excesses in the Social Sciences

Abstract: This paper presents a model of functional explanations as a species of ordinary causal explanation and argues that they are widespread for understandable reasons in the social sciences. The remainder of the paper then looks at specific functional explanations in the social research and examines the prospects and problems for those accounts.

1. Introduction

Functionalism as a grand theory of society may be largely in disrepute, but functional explanations of social phenomena in the social sciences are not. This paper argues three things about such explanations: that they are widespread in contemporary social science for understandable reasons, that functional explanations properly understood are in principle and sometimes in practice perfectly respectable forms of causal explanation, and that nonetheless many functional explanations in the social sciences are poorly supported. The basic approach to functional explanations employed here I have defended elsewhere (Kincaid 1996); here that approach is applied to multiple new pieces of social research.

Functional explanations are roughly ones that explain practices or traits in terms of their effects. These explanations are common in the social sciences; they are present in the classical founding works in the disciplines and are widespread as well in contemporary social science. So, for example:

> Marx (1970) claimed that the state exists to promote the interests of the *ruling class.*
>
> Durkheim (1933) claimed that the division of labor exists to promote social *solidarity.*
>
> Parsons (1951) claimed that patterns of interaction exist in order to promote *societal needs.*
>
> Blau and Duncan (1967) claimed that the occupational structure exists to *promote social efficiency.*
>
> Rappaport (1984) claimed that pig slaughter among the Maring exists in order to *promote ecological balance.*
>
> Hannan and Freeman (1989) claim that organizational strategies exist in order to *take advantage of the relevant environments.*

> Tilly (1998) claims that categorical inequality exists in order to *solve organizational problems.*
>
> And the list could be greatly expanded.[1]

The fascinating thing about functional explanations in the social sciences is that they seem unlikely to go away and yet they are suspect as explanations. They are unlikely to go away, I would suggest, because of at least two deep assumptions about society that most social scientists share, what we might call the *intentionality assumption* and the *scarcity assumption.* The intentionality assumption says that social outcomes are the results of human strivings—they reflect human purposes. The scarcity assumption says that social organization and social outcomes are the product of the inevitable struggle to deal with limited resources efficiently and so they are there for a purpose. These two undeniable facts about society make it extremely natural to explain social institutions in terms of purposes.

The problem, however, is that the purposes in question are not always or even usually conscious purposes of individuals. The state, the division of labor, or the occupational structure were not consciously designed by an individual or group of individuals for their alleged effects—they were not designed at all. The Maring don't *decide* to hold a pig slaughter *in order* to restore ecological balance. Racism persists through the actions of individuals who may have no conscious desire to promote inequality. Thus in what sense do these institutions exist in order to bring about their effects? That is the fundamental puzzle about functional explanations in the social sciences.

There are other complaints about functional explanations, though many are still ultimately rooted in this puzzle. One obvious route to eliminating design without designers is to follow Darwin, who took biological purposes and made them respectable. But societies are not organisms that reproduce and pass on genes, so Darwinian analogies (and they are often invoked) do not seem a fruitful route for functional explanations in the social sciences (Hallpike 1986). Other worries are that positive effects are too easy to find after the fact and the lack of any mechanism connecting positive effects with what institutions exist (Elster 1983).

To assess these concerns we must first clarify how functional explanations in the social sciences work, and it is to that task that I turn next.

It is helpful to ask first what we want from an account of functional explanation. The traditional philosophical project has been to provide the necessary and sufficient conditions for functional language such as "A exists in order to B". Identifying these conditions is pursued with the familiar practice of proposed definitions, counterexamples, amended definitions, etc. This project seems to me misguided. A significant body of research shows that our ordinary concepts are represented via prototypes that have no complete set of necessary and sufficient conditions, so the conceptual analysis game is doomed from the start. Moreover, even if we could find definitions that match all our linguistic intuitions, what

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[1] Other examples include: Smith 1981, Harris 1979, Piven and Cloward 1971.

would we have aside from the ability to predict what philosophers will say? That would not tell us much about scientific practice, so far as I can see.

So what is needed is not a conceptual analysis immune to counterexample but rather a clarification of the key assertions in functional explanations. That clarification need not fit all and only the cases where we use the phrase "exists in order to" but it ought to explicate at least some central cases of functional explanation in the social sciences.

It is helpful upfront to distinguish two quite different senses of functional explanation. Sometimes functional explanations are explanations that identify the role—the systematic causes and effects—of some practice or institution in a larger social system. Parsons (1951) and Luhmann (1982), for example, often are proposing such explanations. Alternatively, social scientists offer rather different explanations when they claim that some practice exists because of its effects. It is one thing to say that something *has* certain effects and a very different thing to say that it *exists because of* or in order to bring about those effects. It is the latter claim that is most controversial and puzzling. No doubt there are interesting things to say about the weaker, first sort of functional explanations (and interesting things have been said by Cummins (1983) and Bechtel and Richardson (1992)). But my focus here is on the second, more controversial sort of explanations.

Functional explanations of the form "A exists in order to B" can be construed as causal explanations that make the following two claims:

A causes B

A persists because it does so.[2]

The first claim is an ordinary causal claim. The second condition may seem somewhat mysterious, but it too can be given an ordinary causal interpretation. The idea is this: At one time A causes B. That event—A causing B—then has the effect that A exists at some future time. So A exists because of its effects in that its effects, once they happen, in turn cause A to exist. Put this way, we do not have to claim that what A *would* do somehow brings it into existence, an idea that has seemed the most mysterious aspect of functional explanations.[3]

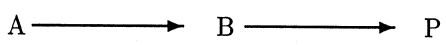
There are several important things to note about functional explanations of this sort. Critics have often worried that functional explanation in the social sciences rely on some illegitimate appeal to natural selection mechanisms of differential fitness and heritability. Functional explanations of the kind described above require no such mechanisms. A might persist through all sorts of social processes that have nothing to do with differential sorting and inheritance

[2] In my 1996 the requirements are given a more complex reading, but those details are not essential to the points being made here and the account has been simplified for considerations of space and readability.

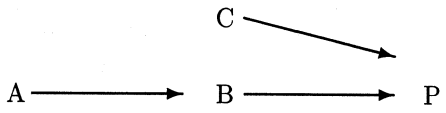
[3] Cohen 1978 offers a related account that says A exists in order to B if it is a law that when A would bring about B then A does so. But this account suffers the problem of any nomonological deductive account—it can't distinguish correlations from causes—and it also seems committed to the idea that any useful trait must come to exist. The two requirements cited here avoid the first problem because they are explicitly causal and do not require that whenever something would be useful it exists, only that it persists when it has useful effects.

of traits. In other words, natural selection explanations are one way to bring about these conditions, but the conditions themselves are broader—evolutionary accounts of function are a special case of this general schema.

A second point worth noting is that these two conditions assume a simple causal story. However, there is no reason functional explanations cannot be involved with other, nonfunctional causal processes as well. A may persist in part because it causes B and in part for other nonfunctional reasons. If we think of the simple case as illustrated by the following graph, where P represents the persistence of A:



Then at least the following more complicated case is possible:



It is important to see that these more complicated situations can coexist with functional causes; assuming that social causes are either entirely functional or nonfunctional has often created unnecessary confusion as we will see shortly.

So sorting out functional causes can be a complicated business, but then that is generally true of identifying social causes. *In principle* functional explanations in the social sciences can be a perfectly respectable form of causal explanation. Of course, what we really care about are functional explanations in practice. I want to turn next to that issue.

At least some functional explanations in the social sciences succeed in practice, not just in principle. By "succeed" I mean that social scientists provide relatively compelling evidence that the conditions described above for a functional explanation are met. Let me describe one such case.

Hannan and Freeman (1989) studied the factors influencing the kinds of organizations that exist. They described a model in which the probability of founding and the probability of surviving were related to various traits of organizations. Among other things they hypothesized that organizations pursue different strategies as environments vary—they hypothesized that, for instance, differences in the regularity and dispersion of resources available to organizations would lead to differences in the traits of those organizations. Hannan and Freeman then go on to provide evidence for their hypotheses from a study of large data sets about restaurants, semiconductor firms, and railroads. Hannan and Freeman are in effect providing evidence for a functional explanation. Traits of organizations at one time for example, pursuing a generalist strategy allow organizations to take advantage of specific resources and persist in the popula-

tion of organizations in the next period because they do so. So those traits exist in order to promote firm survival. While their work is not beyond dispute (what is in the social sciences?), it presents a substantial case for a specific functional explanation.

Not all functional explanations in the social sciences are so successful however. I want to next look at some recent and influential work that provides purported functional explanations but with less success. The problems this work faces are not ones of principle but ones of practice—of showing that the conditions involved in functional explanations hold. I want to look at three areas of increasing generality that employ functional explanations of dubious merit: accounts of *inequality and stratification*, the *New Institutionalism* in sociology and economics, and *game theoretical explanations* in the social sciences.

The dominant approach to explaining inequality in both economics and sociology explains inequality by the traits of individuals. In economics the quintessential embodiment of this approach is the human capital theory of Becker (1975). Differences in income between individuals reflect differences in individual 'human capital'—investment in education and training. It is those differences along with natural talents that largely explain why some individuals earn more than others. In sociology, the occupational attainment literature exemplified by Blau and Duncan's (1967) classic study is of a similar mind: attainment by and large determines who gets what position, not ascription. It is not family background that results in differences in occupation and income but differences in education for example.

While there are no doubt differences between these two accounts, what interests me is what they have in common: the assumption that inequality exists to promote social efficiency. Individuals with different abilities are awarded differently according to their relative contributions. Differential rewards cause social efficiency by equating the marginal product of investment with its price (Becker) or by matching those best qualified with the relevant position (Blau and Duncan). Differential rewards persist because the system selects for efficiency, primarily through the market mechanism. So inequality has a functional explanation: it persists because it promotes social efficiency.

These explanations are dubious. We could no doubt challenge the claim that efficiency is really as effective as these explanations claim. However, let us grant that assertion. I want to argue that nonetheless these functional explanations would still be inadequate because they are only partial explanations of inequality. In other words, they confuse the claim that A persists because of its function with the claim that A persists *solely* because of its function.

To see this, it is helpful to recall the pragmatic or context elements in explanation (Achinstein 1980; Garfinkel 1981). If we think of explanation as answering a question, these contextual features are obvious. If I ask why Adam ate the apple, my question is ambiguous until further parameters are spelled out: Do I want to know why he ate it rather than threw it? Do I want to know why Adam rather than Eve ate the apple? Do I want to know why Adam ate the apple rather than the nearby pear? In each question there is a different implicit

contrast class. It is this contrast class that is set by context or pragmatic factors in an explanation.

The status attainment and human capital explanations ask why an individual obtained the occupation that he or she has. They answer the question by appeal to individual traits and a matching process. In other words, they are asking this question: Why did individual I_1 get occupation O_1 rather than $O_2 ... O_n$? However, this is not the only question we might ask. We might instead ask why did individual I_1 get an occupation from the set $O_1 ... O_n$ rather than set $O_{n+1 ... m}$? The first question takes the distribution of occupations as given, the latter does it not—it asks why there is one distribution rather than another. Occupational attainment and human capital theory answer the first question, but that leaves the second question unanswered.

Another way to see the point is via this homey example. We have a pen full of different dogs. Each day a truck drives up and dumps bones into the pen. Canine warfare ensures. After the fighting is over, we can ask why each individual got their respective bones, some big and some little. We can answer by citing the individual traits of the dogs. But that is not the only answer or a full explanation. What is missing? Missing is the size distribution of the bones on the truck. Identifying the relevant traits of our canine competitors tells us nothing about this fundamental question. Canine size causes each dog to have the bone it does. Canine size does not explain the differences in the bones.

So the moral we should draw is that inequality cannot exist solely to promote social efficiency. The pattern or structure of inequality—the kinds of bones on the truck—is not explained. All kinds of factors unrelated to efficiency are no doubt involved in explaining the structure of inequality, with power and prejudice chief among them. The problem is not an unacceptable form of explanation (functional) nor is it that the conditions for a functional explanation have not been satisfied (we are stipulating that they are). The problem is that more is being claimed for the functional explanation than it can deliver. In other words, one of our initial caveats—that functional causes do not exclude nonfunctional—has been ignored. Efficiency is only part of the story. Individual A gets twice as much as individual B in part because it promotes efficency that one gets more than another is functionally explained. But the magnitude of that difference is not functionally explained, despite pretensions to the contrany.

A rather different approach to inequality does a much better job in explaining its structure than does human capital and occupational attainment accounts. I have in mind in particular the work of Charles Tilly (1998). Tilly's work is an improvement in that it both avoids the individualism of the occupational attainment literature and in that it provides a much more theoretically motivated account. Tilly argues that inequality cannot be explained simply as a function of the traits of individuals. Crucial instead is 'categorical inequality': the social grouping of individuals into types which is part and parcel of producing systematic differences. The differences are systematic in that self-reinforcing mechanisms exist perpetuating the differences; they do not depend solely or primarily on conscious discrimination.

Tilly's mechanisms are four: exploitation, opportunity hording, emulation,

and adaptation. Categorical inequality exists because it allows individuals with control over resources to exclude others. Exploitation occurs when those controlling a resource use a categorical difference to prevent individuals from receiving the full value of their contribution from a joint activity. Opportunity hoarding results when a resource is confined to one category of individuals. Emulation is the process of starting new organizations by drawing on existing categories. Adaptation involves developing more effective ways of interacting that draw upon existing social categories. These processes gain strength when categorical differences are paired (whites are supervisors and blacks production workers), when many organizations adopt the relevant categories, and when the categorical differences lead to systematically different experiences for the corresponding individuals. These mechanisms show individuals acting against the background of preexisting social structure bring about incquality—the bones on the truck are not assumed away as in human capital theory or in the occupational attainment literature.

Though Tilly avoids the individualism of the occupational attainment literature, he nonetheless still explains inequality by its function. For Tilly categorical equality persists because it promotes individual self interest, given the social structure already in place. It is the way individuals solve organizational problems, given the resources and norms at their disposal. This is doubtful on two counts: it is not at all clear that categorical inequality is as productive as Tilly makes it out to be and it is clear that Tilly gives us a very truncated picture of individual motivation. The first problem arises because we get no detailed story why emulating and adapting to existing categories is most efficient. After all, categorical inequalities have their costs as well—for instance, individuals rebel against discrimination. Why think that those costs are always outweighed by the relevant gains? Short of some strong functionalist assumption, there is no a priori reason that reproducing discrimination, sexism, etc. is inevitably the most efficient way of proceeding.

Rather than serving self interest alone, categorical inequalities no doubt are also reproduced because of their ties to the psychological and emotional lives of individuals among other things. There is a large body of research (Tajfel/Turner 1979; Bar-Tal et al. 1989) that outlines various psychological mechanisms that might explain the ease with which categorical distinctions between individuals persist, independently of their value in promoting interests and solving social problems. Thus we have reason to doubt that inequality exists *solely* in order to solve social problems. So there are doubts both that inequality promotes efficiency and that it persists because it does so.

A second area where functional explanations are currently employed but with questionable success is in what is called the 'New Institutionalism' in sociology and economics. Two tenets are common to this movement in both sociology and economics: that institutions matter and that institutions can (or should) be understood via some form of rational choice theory. The first tenet is no news in sociology but is in (neoclassical) economics; the latter is no news in economics but is in sociology.

Representatives of this trend in economics are the transaction cost approaches

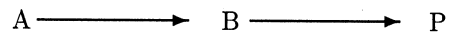
of Williamson (1985) and North (1990) where institutional arrangements are explained in terms of their ability to minimize transaction costs—the costs of negotiating and enforcing contracts. In sociology recent work on the emergence and maintanance of norms, for example, from roughly a rational choice perspective typifies the new institutionalism (Nee/Ingram 1998 is a case in point).

Institutions in the new institutional approach are both formal and informal organizations and practices. Examples of the former are specific types of corporations and of the latter, norms. The common route to explaining both, however, is by arguing that an institution exists because it maximizes the gain from cooperation. For example, Nee and Ingram claim that individuals jointly produce and uphold norms "to capture the gains from cooperation" (Nee/Ingram 1998, 27). Williamson argues that the standard capitalist firm where the owner hires labor and has complete authority exists because it better minimizes transaction costs than other ways of arranging production.

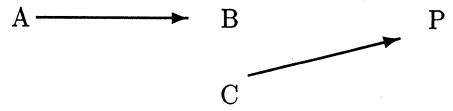
These are again functional explanations. Institutions exist *in order to* realize gains from cooperation. Institutions not only have these effects but also exist because they do so.

These New Institutionalist accounts commit what we might call the 'panglossian fallacy': they identify a benefit of a practice and infer that it therefore exists to bring that benefit about. The benefit in question is the gains from cooperation—greater social efficiency. Yet the New Institutionalists typically do not show that institutions exist *because of* that efficiency. In other words, they do not rule out the possibility that the gains from cooperation are a by product or side effect. In our diagrammatic terms they do not show that the real causal process is (a) rather than (b):

(a)



(b)



Where A is the practice in question, B its positive effects and C some other cause of persistence (P).

Showing there is an efficiency effect is not to show that the institutions exist because of it. Unfortunately, there is good reason to think that the by-product explanation is often the true one. If the relevant agents are self-interested, possess different amounts of power, and are differently affected by diverse organizational arrangements, institutions will reflect those differences. What institutions exist will depend on the distribution of power and the distributional

consequences of different possible arrangements. Institutions will emerge from negotiations among differently endowed agents—not because they promote collective gains of cooperation.[4]

To see this, let's look at two different criteria for optimal collective outcomes: efficiency and pareto optimality. Schotter (1981) and others have argued that institutions exist to ensure a Pareto optimal outcome—that is, outcomes where no one can be made better off without making someone worse off. Their claim is that institutions that are not Pareto optimal can be improved without making any one worse off and thus Pareto optimal changes would come to exist. Yet this is implausible for real institutions and real people. Real people may evaluate their status relatively such that an improvement for others is seen as diminishing their own status. This need not be simply a matter of irrational envy or status worship. An improvement for you that does not affect me now may affect me in the future by ruling out possibilities; improving your position now may increase your power in the future. Similar problems arise for the claim that institutions exist to promote efficiency: what promotes social efficiency may not be in my own self interest. Individual self interest can conflict with overall institutional efficiency. So a realistic account of institutions cannot simply assume that they exist to maximize some end such as efficiency or Pareto optimality. The upshot is that the New Institutionalism often gives us poorly supported explanations.

A final case of functional explanations that I want to look at is the use of game theoretical explanations across the social sciences. The tools of game theory have spread from economics where they dominate industrial economics to sociology and political science. Their general use is the same whatever the field: A set of facts about an institution or social phenomena are identified—for example, the behavior of elected representatives or firms in specific circumstances. A set of strategies (including the information available to each individual at every stage in the game) and corresponding payoffs for individuals in the institution are identified. Then it is shown that there is an equilibrium outcome—a situation where each individual's strategy is the best reply to those of all the others—that matches the facts about the institution. It is then inferred that the institution or the facts about the institution exist in order to promote the self interest of the individuals involved.

Let me cite an example that illustrates the process. Slade (1987) studied price wars among gas stations in a specific locale. She measured the demand and cost functions of each station and determined that average price is above that which would be maintained by equilibrium supply and demand. Slade then shows that a strategy of collusion until defection and then punishment with price cuts is a Nash equilibrium if we model the gas stations behavior via game theory. She concludes that both collusive prices and price cutting exist to promote the interests of the participants.

These explanations are functional ones in my sense. Price cutting promotes self interest and it persists because (and so long as) it does so. Many game theoretic explanations of real world phenomena are thus functional explanations.

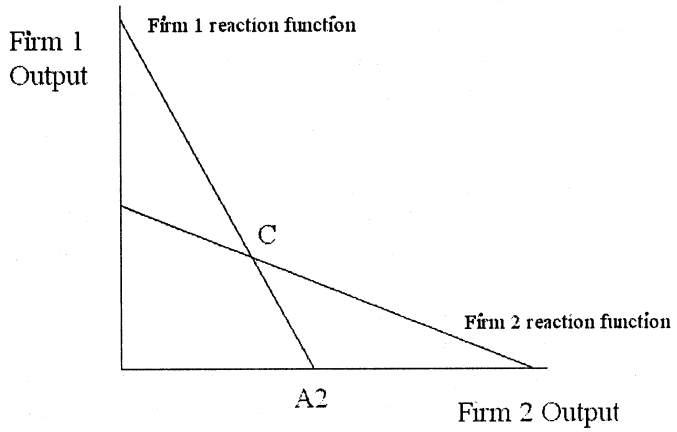
The are at least two questions to ask about such explanations: (i) is the

[4] For a detailed elaboration of this criticism, see Knight 1992.

equilibrium strategy set identified really the one rational agents would favor? And (ii) would agents favor what is rational? A successful explanation needs to establish both. Yet each faces serious obstacles.[5]

A first issue is that the solution or equilibrium concepts employed are not self-evidently the ones rational agents would play. Take for example a classic case of game theoretic explanation, namely, explanations of duopoly. Duopoly occurs when just two firms dominate a market. The usual claim is that agents will settle on the Nash equilibrium described by tracing their reaction functions. A reaction function describes the amount firm 1 should produce to maximize its profits given the amount firm 2 produces. Point C in figure 1 where the reaction functions cross is the Nash equilibrium—the point where the supply of each firm maximizes its profit given the amount produced by each other.

Figure 1
Duopoly reaction functions



The problem is that it is not at all clear that rational agents would choose the Nash equilibrium. Why believe firm 1 should choose point C? It is optimal only if the other firm chooses the same point. All we know is that firm 1 chooses C if and only if firm 2 does. However this biconditional never gets discharged. Maybe firm 1 has interacted with firm 2 before and knows they are going to produce the monopoly amount A2. Then firm 1 should stay out of the market altogether.

Furthermore, even if we settle on the criterion for rational play, a further problem remains. For many games there are multiple equilibria—there are many different distributions of strategies that constitute mutual best replies. This means that doing what is rational by itself cannot explain how agents hit upon one unique strategy set. It is sometimes claimed in response that rational agents facing the same information and same circumstances must reach the same conclusion (Harsanyi 1967/68). However, this is a heroic assumption that is belied

[5] See Kincaid 2002 for a detailed discussion of these problems.

by the problem of induction and many failed attempts at producing the one true inductive logic or confirmation theory.

Even if we agree on the criteria for equilibrium and there is only one possible set of strategies in a given game that satisfied it, we must still be believe that agents will act rationally. That is doubtful in many cases, however, because behaving rationally requires inordinate calculating abilities. One standard solution or equilibrium concept is that of 'subgame perfect Bayesian' equilibrium. It is Bayesian in that agents update their beliefs by Bayes' theorem as the game is played; it is subgame perfect in that each part of the game short of the final move must also be a Nash equilibrium—all moves prior to the last must be best replies. Calculating such equilibria requires applying Bayes' theorem consistently, something a large empirical literature tells us most individuals find difficult. The calculations also require a trial and error iterative process for which there is no known algorithm. The computation demands are too great for the average individual. So even if there is one rational strategy set, there is great doubt that real individuals could identify it.

It might be that evolutionary type mechanisms led agents to reach such equilibria without actually calculating. Perhaps learning and/or competitive selection might produce these outcomes instead of conscious rational choice. However, as is often the case in functional explanations, this appeal to invisible hand mechanisms is implausible. Investigations of games with learning and evolutionary processes do not show that equilibrium is likely (Samuelson 1998). Many games with learning result in cyclic or chaotic behavior with no equilibrium being reached. Equilibrium often takes time to reach and irrational strategies can be stable in the short run. So there is no good evidence that realistic processes will mimic the strong demands of rational choice.

So we are forced to conclude that game theoretic explanations often fail in their attempt to show that practices exist in order to promote individual self interest—these functional explanations are not often well confirmed. Of course the moral I draw from this failure and the others is not functional explanations in the social sciences are inherently flawed. They can and do succeed. But they can also be exercises in panglossian story telling. It is important, however, not to throw the baby out with the bathwater.

Bibliography

Achinstein, P. (1980), *Explanation*, New Haven

Bar-Tal, D./C. Graumann/A. Kruglanski/W. Stroebe (1989), *Stereotyping and Prejudice: Changing Conceptions*, Berlin

Becker, G. (1975), *Human Capital*, New York

Bechtel, W./R. Richardson (1992), *Discovering Complexity: Decomposition and Localization as Strategies in Scientific Research*, Princeton

Blau, P. M./O. Duncan (1967), *The American Occupational Structure*, New York

Cohen, G. A. (1978), *Karl Marx's Theory of History: A Defense*, Oxford

Cummins, R. (1983), *The Nature of Psychological Explanation*, Cambridge/MA

Durkheim, E. (1933), *The Division of Labor in Society*, New York

Elster, J. (1983), *Explaining Technological Change*, Cambridge

Garfinkel, A. (1981), *Forms of Explanation. Rethinking the Questions in Social Theory*, New Haven
Hallpike, C. (1986), *Principles of Social Evolution*, New York
Hannan, M./J. Freeman (1989), *Organizational Ecology*, Cambridge
Harris, M. (1979), *Cannibals and Kings*, New York
Harsanyi, J. (1967/68), Games With Information Played by Bayesian Players, in: *Management Science 14*, 159–182, 320–334, 486–502
Kincaid, H. (1996), *Philosophical Foundations of the Social Sciences*, Cambridge
— (2002), Assessing Game-Theoretic Explanations in the Social Sciences, in: *Proceedings of the 11th International Congress of Logic, Methodology and Philosophy of Science*, Dordrecht
Knight, J. (1992), *Institutions and Social Conflict*, Cambridge
Luhmann, N. (1982), *The Differentiation of Society*, New York
Marx, K. (1978), *The Communist Manifesto*, in: R. Tucker (ed.), *The Marx-Engels Reader*, New York
Nee, V./P. Ingram (1998), Embeddedness and Beyond: Institutions, Exchange and Social Structure, in: M. Brinton/V. Nee (eds.), *The New Institutionalism in Sociology*, New York
North, D. (1990), *Institutions, Institutional Change, and Economic Performance*, Cambridge
Parsons, T. (1951), *The Social System*, New York
Piven, F./R. Cloward (1971), *Regulating the Poor: The Functions of Public Welfare*, New York
Rappaport, R. (1984), *Pigs for the Ancestors*, New Haven
Samuelson, L. (1998), *Evolutionary Games and Equilibrium Selection*, Cambridge
Schotter, A. (1981), *The Economic Theory of Social Institutions*, Cambridge
Slade, M. E. (1987), Interfirm Rivalry in a Repeated Game: An Empirical Test of Tacit Collusion, in: *Journal of Industrial Economics 35*, 499–516
Smith, E. (1981), The Application of Optimal Foraging Thery to the Analysis of Hunter-Gatherer Group Size, in: B. Winterhalder/E. Smith (eds.), *Hunter Gather Foraging Strategies*, Chicago
Tajfel, H./J. Turner (1979), An Integrative Theory of Intergroup Conflict, in: W. Austin/S. Worchel (eds.), *The Social Psychology of Intergroup Relations*, Monterey
Tilly, C. (1998), *Durable Inequality*, Berkeley
Williamson, O. (1985), *The Economic Institutions of Capitalism*, New York