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THE IDEA OF A SPONTANEOUS ORDER AND THE UNITY OF THE SCIENCES

by

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INTRODUCTORY REMARKS

The goal of this paper is to clarify the idea of a spontaneous order and to examine its bearings on the ideal of a unified science. It will be argued that, as it has been expounded by F.A.Hayek and refined by a number of subsequent writers, the idea of a spontaneous order has a powerful unifying potential in the sciences and works to displace some familiar dualisms. In particular, the idea of a spontaneous order is a powerful tool for understanding both natural and artificial physical systems and for analysing the behaviour of animal and human societies, and there is a case to be made for the primacy of the idea of spontaneous order in the foundation of the sciences both of nature and man. My principal focus of interest, however, will be on the unifying potential for the social sciences of conceptions of spontaneous order, and here I will wish to investigate the relations of spontaneous order explanations with ideas of cultural evolution and with the "economic" approach to understanding social behaviour. In the course of my exploration of these questions, I will comment on the consistency of spontaneous-order explanations with methodological individualism and on the mechanisms whereby rules of conduct emerge and are subject to natural selection. My conclusion will be that in the conception of spontaneous order we have a conceptual tool which promises much for the unification of the social sciences and which may figure as a fundamental category of explanation in the sciences as a whole.

Origins and Scope of the Idea of Spontaneous Order in the Work of F.A. Hayek

Whereas intimations of the idea of spontaneous order may be found in the writings of several philosophers and social theorists, of whom David Hume and Bernard Mandeville may be the most notable, it is in the work of F.A. Hayek that we find the first systematic elucidation of the notion and its most illuminating application in various branches of the social studies. Though the term "spontaneous order" achieves prominence in Hayek's writings only with the publication of The Constitution of Liberty (1960),¹ the central conception is found at the very beginning of Hayek's intellectual life in his treatise on theoretical psychology, The Sensory Order, published in 1952 but substantially completed in the early twenties. The decisive insight of The Sensory Order may be stated, simply and informally, in the proposition that the human mind is itself a spontaneous order. For, as Hayek argues there, even the sensory manifold given us in perception is a complex order made up of abstract elements selected by the nervous system from the infinite richness of the concrete world. For Hayek, the sensory order is not built up, as positivists from David Hume to Ernest Mach had supposed, from a basis in raw sense-impressions. Our sensory experiences are themselves already abstractions, mediated to us by a system of evolving categories, partly inherited in the nervous system and partly absorbed by the brain from the realm of culture in which we are immersed. Nor can our sensory experiences be understood, as they are in Kant, as the result of a process in which fixed categories of understanding are imposed on the formless chaos of the world. In Hayek's conception, the categories of the human understanding, which govern and inform our experiences even down to our sensory perceptions, are not fixed or immutable, but are slowly changing adaptations

to an infinitely complex, and in part unknowable world. The order we find in our sensory experiences is then, in Hayek as in Kant, a creative achievement, but it is not forever fixed by categories of understanding supposed (as in Kant) to be invariant and universal and constitutive of the structure of the mind. Rather, as Hayek suggests in The Sensory Order and argues explicitly in the first volume of his Law, Legislation and Liberty (1973), we must regard the human mind as a product of cultural evolution in much the same way that we consider the brain a result of biological evolution.

In its inception, then, the idea of a spontaneous order was first applied to the human mind. The order we find in our sensory experiences has been put there by creative processes we cannot ourselves understand. Indeed, in The Sensory Order and in several of his later writings, Hayek suggests there may be insuperable limits to the mind's capacity for reflexive self-understanding. Hayek refers to "an absolute limit to what the human brain can ever accomplish by way of explanation - a limit which is determined by the nature of the instrument of explanation itself, and which is particularly relevant to any attempt to explain particular mental processes."² This limit to self-understanding follows from the claim that "the capacity of any explaining agent must be limited to objects with a structure possessing a degree of complexity lower than its own."³ In his later work Hayek has hypothesized that the incapacity of the human mind to achieve complete self-understanding suggests that mental life must always be governed by processes or "rules" which elude reflexive identification. These "meta-conscious rules", as Hayek terms them, are not a fixed set of constraints on self-understanding, but rather a changing system of governing principles of the mind, which intellectual growth cannot dispel but only alters in ways of which we must remain ignorant. Hayek hazards the opinion that the thesis that "there will always be some rules

governing a mind which that mind in its then prevailing state cannot communicate" may be only a special case of Kurt Godel's results in respect of the limits to decidability in formalized arithmetical systems.⁴

Applications of Spontaneous Order to Physical and Social Phenomena

If the human mind can never achieve complete self-understanding, then it can never reconstruct itself in the fashion imagined in the philosophies of Bacon and Descartes. More particularly, once this conclusion is accepted - that the project of the human mind's becoming entirely transparent to itself is a mirage - then we can see that the order we find in the human world cannot be a result of self-conscious human design. Whatever order prevails in the mind of the designer of human institutions will itself be a spontaneous formation, never completely understood, which may contribute to but can never wholly explain the order that social life exhibits. The most explicit and systematic development of the insight that order in society is a spontaneous formation is given, of course, by the economic theory of market exchanges, where the thesis that unhampered markets display a tendency to equilibrium is the most obvious application of this insight. (In a world of changing beliefs and preferences, of course, equilibrium is never achieved, but is to be seen as constantly changing asymptote. This should warn us against construing spontaneous order as a static condition rather than a process displaying certain orderly features). At the same time, Hayek makes clear that the conception of spontaneous order has application to physical systems - to crystals, galaxies and even paradoxically, perhaps to certain artificial physical systems⁵ - and it has many exemplifications in human social life apart from those found in the

economic realm. Most importantly, we find the spontaneous formation of self-regulating structures in the growth of language, the development of law and in the emergence of moral norms. In all these domains, the key idea of the spontaneous-order thesis is that self-organising and self-replicating structures arise without design or even the possibility of design, such that knowledge of some of the elements of these structures allows the formation of current expectations about the structure of a whole.

Clearly a number of questions arise about this conception, which I can here only canvass and not attempt to resolve. Hayek has made clear that the persistence and development of spontaneous orders is to be accounted for by something akin to the generalisation of Darwinian selection as it is understood in the context of the evolution of species. Selective evolution is the source of all order, he tells us, not only of the order we find in living things and which we recognise in the classification of species. At the same time, Hayek is clear that the mechanism of Darwinian evolution - natural selection of genetic accidents via their reproductive fitness - need not be replicated exactly in all areas where selective evolution generates spontaneous order. In the case of the capitalist market economy, there is a real analogy with Darwinian selection in that the profit-and-loss system provides a mechanism for the elimination of "unfit" enterprises. It is less plain what the mechanism is that accounts for the emergence and persistence of orderly structures in language and law. Again, though we may sensibly speak of evolution at the molecular and the galactic levels, there will be nothing analogous with the mechanism of Darwinian evolution at these levels, since there appears to be no possibility of self-replication there. This point is acknowledged by Hayek when he speaks of "the twin ideas of evolution and spontaneous order".⁶ An evolutionary account may be given of the emergence of

self-organizing systems, which exploits mechanisms of selection other than that specified in the Darwinian theory. One question we need to pursue, then, is the question of what other mechanisms there may be in areas where the Darwinian one does not apply.

In the case of social evolution, Hayek has in his (largely as yet unpublished) recent work identified the mechanism as the Darwinian one. Social institutions and structures - such as religions and mode of production - come to prevail because they enhance the reproductive fitness of the groups which practise them. Religions which emphasise the importance of private or several property and which support the institution of the family will enhance the life prospects of their practitioners by creating conditions of high productivity in which there will be relatively more numerous infant survivals. Social or cultural evolution, as Hayek sees it in his later writings, is directly continuous with evolution at the classical Darwinian level and embodies precisely the same fundamental mechanism for natural selection. Hayek's conception differs from that of nineteenth century social Darwinism, however, whether in its Spencerian-Lamerckian form or in that expounded by Sumner, inasmuch as the natural selection it speaks of is not of individuals, but of groups, and occurs via the impact of the practices and social institutions of groups on their members life chances. As Hayek says in a connected context: "For the understanding of animal and human societies the distinction (between the system of rules of individual conduct and the order of actions which results from individuals acting in accordance with them) is particularly important because the genetic (and in a great measure also the cultural) transmission of rules takes place from individual to individual while what may be called the natural selection of rules will operate on the basis of the greater or lesser efficiency of the resulting order of the group."⁷

A question arises here as to the means of identifying the rules of which Hayek speaks. He is explicit that he is referring both to rules of action and to rules of perception. Both would be involved in the process of recognizing someone's face as that of a friend and greeting him, and perhaps for Hayek the distinction between them is less than fundamental, but it is a real one nonetheless. In respect of rules of action, the problem is that observed regularities of behaviour are usually compatible with a range of imputed rules. If the imputation of such rules is to explain the order of a group, we need some method of selection among the range of possible rules which might equally well account for regularities in individual behaviour. The problem may be easier with rules of perception in that techniques exist for isolating gestalten, but it is plainly still a problem there too in many instances.

The Significance of the Evolution of Spontaneous Orders for Social Theory

If the general outlines of the thesis of the primary spontaneous order be accepted, much of substance follows for social theory. The implications are perhaps most obvious in jurisprudence, where the idea that law can be created ex nihilo by the will of a sovereign will at once be undermined. Legislation may indeed supervene on a background of custom and legal tradition, but the Hobbesian identification of law with command is dissolved. The point is put more strongly by Bruno Leoni, one of Hayek's most original and perceptive commentators, when he observes⁸ that the project of the replacement of spontaneously evolved judge-made law by centralised legislation is as dangerous to liberty, and in the end as much of a practical impossibility, as the project of supplanting market processes by economic

planning.

It is in the area of economic life that the relevance of the thesis of the primacy of spontaneous order is, in fact, most often neglected. Most students of the subject - as distinct from the great majority of contemporary economists will probably agree that, in the debate in the Twenties and Thirties on the possibilities of calculation and rational resource-allocation in a socialist economy, the arguments of Mises and Hayek prevailed over those of Lange and Lerner. That is to say, Hayek and Mises demonstrated the impossibility of planning agencies ever possessing the kind of knowledge exhibited in market prices, but without which their planning efforts were bound to yield calculational chaos. Hayek's refinement of Mises's contributions to the calculation debate had, however, some entirely distinctive features which are usually missed, and which has a broad implication for social theory in general. First of all, Hayek's arguments deploy what we may call the primacy in social life of practical or tacit knowledge. Like his friend Michael Polanyi,⁹ Hayek sees that the impossibility of socialism is fundamentally an epistemic impossibility. The knowledge which market prices exhibit is in the first instance practical knowledge - knowledge embodied in the skills, habits, dispositions and flair of entrepreneurs. Not only is this knowledge typically pre-reflective and inarticulate, buried deep in the practical responses of its bearers, but, moreover, much of it is necessarily inarticulable. Here Hayek seems to be paralleling Polanyi in viewing theoretical, propositional or articulate knowledge as being always the visible tip of the vast submerged iceberg of background knowledge. (Hayek's reasons in support of the necessary inarticulacy of some of this background knowledge draw in part on the Godelian considerations mentioned earlier, but they may have other aspects, too). The impossibility of centralising social knowledge is not, then, just a matter of its complexity, nor is it a question merely of such

knowledge often being of transitory circumstances and fleeting situations. Rather, no centralised authority will ever recover the dispersed knowledge that is utilised by markets, because each of the millions of market participants always knows more than he can ever say. The epistemological impossibility of socialism, in Hayek's reformulation of Mises's arguments, results directly from our inability to render conscious and articulate the tacit knowledge upon which we depend in all our social dealings.

The example of socialist planning illuminates in some detail the consequences of a constructivist delusion regarding the articulability of knowledge. By constructivism, I think Hayek means most centrally the idea which he associates primarily with Rene Descartes and his followers - that social life can become the outcome of rational design. This cannot be so, since our own mental lives are themselves always the outcome of unknown, and in part unknowable, spontaneous processes. But my point here is that the practical result of constructivist policies, in the economic realm as elsewhere, is to deplete the social stock of practical knowledge. The reasons for this self-defeat of constructivist policy are perhaps not immediately apparent, but they emerge on further thought. The knowledge displayed in market prices is not only the practical knowledge possessed by the millions of dispersed market actors; it is also knowledge possessed by none of them individually. It is in a sense systemic or holistic knowledge, knowledge possessed by the market system (when it is allowed to function unhampered) and knowledge that is destroyed, or never generated, when attempts are made to supplant or "correct" market processes. In the debate on economic planning, then, we see another application of the constructivist fallacy, which here and everywhere takes the form of ignoring the dependency of theoretical knowledge on inarticulate social processes.

This last point brings us to a major aspect of Hayek's epistemological

outlook, namely, the knowledge-bearing functions of social rules. Unlike Bentham and his disciples in the constructivist tradition of Utilitarianism which for a century and a half swamped the insights of Hume, Hayek never regards social rules in an instrumental light. They are not the means to antecedently chosen goals; rather, their functional usefulness depends upon social rules being observed as it were uncritically. We cannot easily subject social rules to critical assessment, since the knowledge they embody or express is itself usually inaccessible to critical statement. The proper attitude to our inheritance of social rules is, for these reasons, one of Burkean reverence and not of reformist hubris. Such criticism of our inheritance of moral traditions as is possible and desirable is always, in Hayek's view, immanent criticism: it is a criticism in which one aspect of the whole corpus of practices we have inherited is invoked to illuminate and correct the rest. No Archimedean point of critical leverage is available for the assessment of entire moral codes, so criticism always in the end consists in the detection and removal of incoherences. At the same time, we must not fall into the intellectualist error that revision of inherited codes of conduct typically takes place as a result of the exercise of critical reason. Most often, such revision occurs as a result of innumerable small variations upon, and deviations from established rules and practices, undertaken by countless anonymous individuals in unconnected but similar circumstances. So long as this process of piecemeal practical revision is allowed to proceed smoothly, unhindered either by hubristic attempts to implement synoptic reforms of the entire system or by a Romantic cult of individuality, the evolution of the code of conduct will result in social stability (though never, fortunately, in fixity).

Two points of clarification, and in part of refinement, of Hayek's conception may be inserted here. First, Hayek recognises practical conflict or

pragmatic inconsistency as one of the chief motives for revision of the inherited code of conduct. In changing circumstances, a code of conduct may often yield contradictory injunctions, which are incompatible at the level of practice. A point of development for Hayek's theory exists in this aspect of his exposition, which so far as I know is as yet little explored, and which is suggested by his recognition that the most important social rules (rules of perception as well as of action) are efficacious only so far as they have been internalised and have come to govern the personality itself. Human personality may, indeed, be profitably regarded as a system of rules mapped into a matrix of biological individuality. It is not that the individual personality subscribes to social rules instrumentally, in order the better to attain his goals. Such detachment from social rules is ubiquitous and pervasive in minor degree, but when it is deep-seated in a personality or widespread in a culture it spells anomie and dissolution. In most circumstances, at any rate, we must regard the human personality as constituted by social rules and as itself an artifact of culture. Indeed, even in the case of anomic personality, Hayek's analysis suggests that there will be no recognisable regularities of behaviour or stable cognitive process unless some at least of the prevailing social rules have been successfully internalised.

Hayek's conception suggests a line of empirical research in social psychology and in cultural anthropology when we come to see the psychological conflict of internalised social rules as one of the chief sources of cultural development. Such inner conflicts may be less likely, and in fact rare, in simple societies which contain only a meagre range of social rules. (I do not mean to imply that so called primitive cultures are, necessarily or typically, simple societies of this type. The opposite may be the case, but this is not an issue into which I can enter here.) If the conflict of internalised social rules leads to increasing

complexity in the society - as by the exfoliation of sub-cultures, the growth of moral pluralism or the hiving off of specific areas of social life into enclaves having their own internal rules and practices - then this complexity will tend to be, not merely self-replicating, but also self-reinforcing. This thesis that cultural development may have one of its most powerful sources in the conflict of internalised norms clearly has many difficulties. We need some procedure for identifying norms and for detecting the frequency and severity of their practical inconsistencies. Also conflicts of internalised norms, rules or rulers will not always yield dynamic growth or increased complexity. Such psychiatric investigations of mental illness as have been conducted by Bateson and Laing¹⁰ suggest that, where conflicting internalised injunctions yield double-bind dilemmas, paralysis of the personality may result. At the social level, too, one may easily envisage a sort of cultural stalemate resulting from such double-bind situations. What is it that determines whether internalised normative conflict engenders dynamic growth rather than paralysed fixity?

A second line of inquiry is suggested by Hayek's conception of the natural selection of competing social rules. Hayek's references to the wisdom of inherited moral convention may suggest that he sees this as massive and monolithic and recommends uncritical immersion in its practices. This cannot be so, if only because he recognises the propensity of evolving codes to throw up contradictions of the sort we have already discussed. Hayek's Mandevillian perspective suggests another qualification for moral conservatism here, and intimates a fascinating line of empirical research. All societies contain scapegoat occupations and forbidden practices - prostitution in Western societies and witchcraft and magic in recently Christianised societies being immediate examples - which may contribute to social stability even as they are condemned by established norms. In some areas,

recognition of the vital functions of these scapegoat occupations and practices may prompt demands for the revision of law and of customary morality so as to accord them a greater measure of legitimacy and social approval. It is in this spirit that Mandeville himself wrote, and in which Hayek endorsed a recent Mandevillian work by the economist Walter Block, Defending the Undefendable,¹¹ in which the social functions of such figures as the pimp, the scab and the crooked cop are vigorously expounded. Recognising that society always contains such forbidden occupations and practices, having their own traditional codes of conduct and sometimes conferring considerable benefit on the society as a whole, may thus prompt a policy of moral reform and legal recognition in respect of them.

We may wish to push the inquiry further, however, and ask about the social functions of crime itself. Following Durkheim, we may be able to see in deviant behaviour a systemic stabilizer of the code of conduct as a whole. Without deviation, there can be no punishment and no expression of disapproval. Again, deviant behaviour (even where it confers no direct benefit on society) may be symptomatic of dysfunction in the inherited code itself. The possibility may even be entertained that a crime-free society could only be stagnant, exhibiting a degree of moral homogeneity which meant the end of further progress. Research is needed into the systemic stabilising functions of crime which relates the type and incidence of criminal behaviours to developments of the accepted code of conduct in other areas of society.

The practical and conceptual difficulties of such research are manifest. Functional explanations in social theory face problems which are almost overly familiar. How are functional explanations to be tested (and falsified?). What is the unit of functional stability, and how is it to be identified? And is not the view of a social order as a self-regulating system at best an analogy with mechanical

devices, misleading if taken too literally? Perhaps the most obscure area in functionalist sociology is, however, and unclarity as to the mechanism of functional adaptation. By what process does society tend towards equilibrium (however identified)? Here we reach a crux in Hayek's social theory. His thesis of the natural selection of competing practices has a rival in the economic approach to social explanation pioneered by such writers as Gary Becker. The search for the mechanism of functional adaptation in social systems generates the question: How far is Hayek's natural selection thesis compatible with the economic approach? And, where the two methods genuinely conflict rather than complement each other, which are we to prefer? Let us see.

The Competitive Selection of Rival Social Rules and the Economic Approach to Social Behaviour.

As a first approximation, we may characterise the economic approach to social behaviour as one which conceives human conduct to be, primarily or even as a matter of definition, purposeful and goal-oriented. Aside from reflex behaviour and states of delirium and cognitive disorganization, it is held that human action is undertaken with ends or outcomes in view. In addition, this approach often attributes a maximising or an economizing strategy to human conduct: it is supposed that human beings are programmed, to so speak, to make the most of the resources and opportunities they have to satisfy best their wants. Even when it does not impute a process of conscious reflection, the economic approach attributes a sort of means-end, calculational rationality to agents. Indeed, in the praxeological method of L. von Mises,¹² it becomes an a priori truth that human conduct is rational in the sense of purposeful and goal-oriented and always involving a weighing of

foregone opportunities.

It seems hard to reconcile this economic or rational-choice approach with Hayek's conception of man as a rule-following animal. In the first place, some at least of the rules we follow will always be meta-conscious rules, constraining the goals we may formulate or adopt, but inaccessible to critical scrutiny. Even in the case of social rules of conduct which do not belong to the meta-conscious category, we do not adopt or subscribe to them in order to attain our goals. Essential as social rules are to an orderly environment in which we may achieve our purposes, they are imbibed or endorsed unreflectively, in the course of socialization. If they help us in the attainment of our ends (which they go far to shape), it is because of the natural-selection process we have sketched, which filters out grossly maladaptive rules. One may almost say that, if our knowledge is as restricted as Hayek supposes, with so much of it being in tacit and inarticulate form, then consciously reflective, goal-seeking behaviour cannot be the dominant paradigm of rationality in individual conduct. Rather, such calculational or consequential behaviour always presupposes a vast background of social adaptations, achieved through the mediation of internalised rules. For the most part, rationality must then consist for any individual in subscription to rules which, so far as he is concerned, are purposeless. Such purposeless rule-following is, for that reason, a mark of rationality in human beings, rather than a blemish in it.

On the other hand, such an assertion of flat incompatibility between the rule-following conception and the economic approach may be premature. Whereas the social inheritance of rules informs and governs the goals men seek, these rules will themselves be altered or abandoned if they thwart, or fail satisfactorily to promote, the goals they have themselves shaped. Systems of social rules may even have a self-defeating effect, in that the goals they suggest may destroy the overall

order of the rules. Far short of a collapse of the system of rules, particular rules may be adapted, abandoned or altered for "economic" reasons, that is to say, so as to facilitate the achievement of already formed goals. Consider here both the phenomenon of materialistically motivated religious conversion, and the modification of religious precepts in the course of practical life. It is plain that not only are the interstices in the system of social rules filled by calculational behaviour, but the system as a whole is stressed and reshaped by the goal-seeking and purposeful endeavour of its practitioners. In the fundamental case of the competition of religions - which Hayek has addressed profoundly in his as yet unpublished writings - there seems no necessary clash, then, between the economic approach and the Hayekian rule-following conception. We may test this result, however, more thoroughly, by way of an examination of the views of the most distinguished exponent, and arguably the exemplary twentieth century theorist of the economic approach, Gary Becker.

Gary Becker on the Economic Approach to Social Life

Becker has himself characterised the economic approach in a way that could not be bettered: "The combined assumptions of maximising behaviour, market equilibrium and stable preferences, used relentlessly and unflinchingly, form the heart of the economic approach as I see it."¹³ Qualifying this approach, Becker goes on to affirm that "The assumption that information is often seriously incomplete because it is costly to acquire is used in the economic approach to explain the same kind of behaviour that is explained by irrational and volatile behaviour, or traditional behaviour, or 'nonrational' behaviour in other discussions."¹⁴ The implications of this approach for social explanation by

reference to traditional rules are brought out unequivocally in Henri Le Page's exposition of Becker's approach: "Customs and traditions exist because they are valuable to most individuals; an individual chooses to adhere to them as part of his rational calculation. In other words" concludes Le Page "customs and traditions survive because they are not detrimental to most people; they offer more benefits than costs."¹⁵.

Becker's argument has important affinities with Hayek's in two respects. First, Becker grasps firmly the role of traditions and customs in diminishing information costs. Reliance on tradition, in Becker's view, is not irrational or even non-rational, but rather eminently defensible in rational terms: if men were to calculate carefully, they would realise the insupportable costs of always calculating, and for that reason they would often forego calculation by subscribing to traditional rules. Of course, when men subscribe to traditions, they are supposed in Becker's approach to be acting as if they had calculated information costs: Becker does not imagine that men have so calculated, any more than he is committed to regarding all behaviour as *au fond* rational. We are to explain men's propensity for such as-if calculating behaviour, in Becker's terms, just as we explain their as-if altruistic behaviour. As Becker makes clear in his seminal paper on "Altruism, Egoism and Genetic Fitness", both "altruistic" and "egoistic" behaviours can be accounted for in natural-selection terms as expressing survival-enhancing traits. Becker puts the point programatically: "The preferences taken as given by economists and vaguely attributed to 'human nature' or something similar, the emphasis on self-interest, altruism toward kin, social distinction, and other enduring aspects of preferences - may be largely explained by the selection over time of traits having greater survival value."¹⁶ For Becker, as I understand him, then, the rational-choice approach and natural selection theory are not only compatible, they are

complementary and mutually supportive explanatory frameworks for social behaviour. If the economic approach explains social institutions in terms of their costs and benefits in maximising the satisfaction of individual wants, sociobiological theory accounts for stable preferences in terms of their value in promoting survival.

In Becker's careful formulation of it, a thesis of the compatibility of natural-selection theory with the economic approach to social behaviour would seem to avoid the devastating criticisms Hayek has made of those variants of sociobiology which are infected with constructivistic fallacies. Hayek's objection to at any rate the cruder and more popular versions of sociobiology is that, often enough, they treat instinct and conscious calculation as the only source of social order, thereby altogether neglecting the crucial third realm of evolved social structures. For Hayek, indeed, one may justly say that such crudely constructivistic sociobiological theories fail to apply the natural-selection model faithfully to social institutions, inasmuch as they involve treating as primordial aspects of social life - instincts and the propensity to calculate costs and benefits - which, like important social institutions, must themselves be further explained in terms of their survival values. This vital omission in many sociobiological theories, which Hayek has identified, is remedied in Becker's account.

At the same time, I cannot rest entirely happy with the conclusion that the Hayekian conception conflicts at no important point with the economic approach. Hayek's account of human action is not one which, taking wants and preferences as given or molded by traditions and institutions, then explains behaviour as maximising the satisfaction of these preferences. Indeed, very much in the fashion of his cousin Wittgenstein but developed entirely independently, Hayek envisages men's deliberative capacities as thoroughly shaped by their inherited traditions. In his recent writings, he has often commented on the ways in which

inherited moral traditions - traditions expressing deep instinctual needs, for example, such as the moralities of tribalism - may lead individuals and societies to disaster. When this happens, we confront a "cultural lag", in which evolved instinctual tendencies and inherited traditional sentiments both act to thwart adaptation to the beneficent order of the Great Society. On the other hand, Hayek sees also that calculational behaviour unconstrained by moral tradition may itself threaten social stability and the bases of liberty. Anticipating the findings of recent critics of act-utilitarianism such as Hodgson,¹⁷ Hayek contends that a society of sheer calculators would fall into chaos, however "rational" the individuals who composed it.

Rule-Following, Rational Calculation and the Self-Destruction of Free Societies.

It is in this all-important insight into the limitations of rational choice as a source of social order that a principal contrast between the Hayekian conception and even Becker's statement of the economic approach may be found. Perfecting the argument are a long and distinguished line of liberal thinkers, such as Ferguson, Smith and Acton. Hayek has always maintained that a measure of "uncritical" submission to social convention is an indispensable condition of stability as much as of liberty. The application of this insight to the question of the stability of market capitalist societies was made by Joseph Schumpeter, when in his Capitalism, Socialism and Democracy¹⁸ he argued that the spread of the market economy tends to engender a calculational mentality which erodes the very moral traditions on which the market order depends. Similar arguments have been developed by neo-conservative writers such as Irving Kristol and Daniel Bell. In his most recent

writings, Hayek has addressed this issue directly, contending (surely rightly) that the emergence and persistence of moral norms favouring market freedoms has depended crucially on widespread acceptance of religious beliefs which embody "symbolic truths" about the necessities of social order. In all this, Hayek seems to be attributing a role to uncritical rule-following more fundamental than the function of diminishing information-costs acknowledged in Becker's work. His claim is that social rules must be regarded as vehicles of inarticulate knowledge of a kind that is indispensable to social order. Once society comes to be pervaded by the attitude that rules are no more than means to known ends, much of the common stock of tacit knowledge is inevitably lost and a measure of social chaos must ensue.

The example of the self-destruction of free societies by the spread of the calculational mentality allows me to generalise some plausible contrasts between Becker's economic approach and Hayek's conception. First, Hayek recognises explicitly, as Becker does not, that the inheritance of social rules (including here rules of perception as well as of action) shapes and molds individual goals and structures agents' deliberative capacities. Subscription by individuals to social rules cannot, then, be conceived after the fashion of game theory as a strategem designed to facilitate the achievement of consciously articulated ends. Secondly, and as a consequence, calculation by individuals will be successful only if it presupposes and invokes the tacit knowledge that is embedded in the inheritance of social rules that has been internalised in the individual personality. An attitude to tradition of the constructivistically calculational sort described by Schumpeter as pervasive in capitalist societies will only impoverish such societies, not just materially, but epistemologically.

It would be fundamentally misguided to make too much of these contrasts, however, and to overlook the deep affinities between the Hayekian approach and

that of Becker. After all, Becker too sees character traits and social rules as survival-enhancing adaptive devices whose emergence is to be accounted for by natural-selection theory. No more than Hayek does he suppose that rational calculation can be so to speak autonomous or comprehensive, and there is nothing in his writings to support the idea that he himself favours a society of rational calculators. Rather, his thesis is that social institutions and many other aspects of social life may fruitfully be analysed in terms of the framework given by rational-choice theory. The crucial difference between Becker and Hayek (if indeed there is this difference) appears to be in the area of what sort of explanation of social life is to be treated as fundamental. For Hayek a fundamental social explanation cannot be couched in terms of rational choice, since the latter always presupposes rules of thought, action and perception which shape individual ends and govern his deliberations. As I understand it, for Hayek rational calculation is inherently interstitial or supervenient - it fills gaps in a code of rules, resolves episodes of cognitive dissonance and aids judgement in applying them. Whereas Hayek does not deny that the system of social rules may be altered if it does not promote the goals it has inculcated in its practitioners, it seems to me that he cannot accept as fundamental an explanation of the rules themselves which is framed in terms of their contribution to the attainment of the goals of their subscribers. The fundamental explanation of the rules must rather be a natural selection explanation of the sort given in Darwinian theory.

**Methodological Individualism, Reductionism and the
Unity of the Sciences.**

The upshot of the foregoing discussion of contrasts and affinities between

Hayek's approach and that of Becker is that the natural selection of rival rules of action and perception is the mechanism of cultural evolution. Rational choice supervenes upon, and does not explain, this natural-selection process. A question which arises at once is whether this account of social or cultural evolution is consistent with methodological individualism. There can be no doubt that, when Hayek speaks of cultural evolution occurring by the selection of competing groups via their rival rules and practices, he sees this group selection as having a methodologically individualist character. This is to say that the group is treated as an heuristic device, and not as the fundamental unit in the theory. The fundamental unit can only be the gene or the genetic lineage. At the same time, it is at least not altogether obvious that this application of natural selection theory to social explanation is entirely consistent with methodological individualism. On one of its formulations, at any rate, methodological individualism is an explanatory programme in which (via the resolute-compositional method) social explanations terminate in the acts, decisions and intentions etc.) of individual agents. Such methodological individualism is surely well-grounded in resisting the spurious claims to explanatory power made by reference to occult social collectivities. The problem with the natural selection approach is that in accounting for individual character traits, dispositions, and so on by reference to their survival values, it deprives individual choices and purposes of their place at the terminal level of social explanation. The terminal level in the natural-selection theory is occupied by genetic replication. We have here an analogy with utilitarianism in moral theory, which fails to be morally individualist, not only or primarily in virtue of its collectivist policy implications, but decisively because it dissolves or disaggregates individuals into collections or series of episodes of pleasures and pains. The natural selection theory would seem analogously to displace agents' choices from

explanatory centrality by making them a dependent variable of survival chances.

A second question which arises is whether the natural selection approach to social life is in any objectionable sense reductionist. Such a charge would certainly be made by a Wittgensteinian philosopher such as Peter Winch,¹⁹ and by Michael Oakeshott, who both regard the assimilation of social changes to natural processes as evidencing a basic category mistake. It seems to me, though, that this aprioristic condemnation of Hayek's (and Becker's) approach is far too cavalier. Categories of thought are not given to us as Platonistic objects, immune from change, but rather emerge in the course of inquiry. The dualism of event and action which is at the back of Winch's methodological dichotomy of natural and social science cannot be taken as a fixed point in our thought, but must yield if investigation reveals the primary role of "natural" processes in shaping social events. We ought to abandon, or at least drastically to modify, the act/event dichotomy, if sociobiological and natural-selection theories succeed (as they promise) in illuminating the sources of cultural change.

The question of reductionism has another aspect, however, which is connected with the issue of methodological individualism. I refer to the question of the reducibility of the order spontaneously produced by a number of rule-following individuals to the properties of the individuals concerned. In a context of inquiry closely akin to that of Hayek's Robert Nozick has argued²⁰ that invisible-hand explanations cannot be methodologically individualist. Without rehearsing his arguments in detail, Nozick points to the difficulty of giving an account in individualist terms of an order which is produced by the actions of several individuals but without their intending it or even, as a rule, being able to conceive of it. In human contexts, the Menger-Mises account of the origins of money in invisible-hand terms would be almost a paradigm use of this difficulty. The

question of reductionism I have in mind follows closely on consideration of such cases; are the properties possessed by the order yielded by the rule-governed actions of several individuals emergent properties wholly reducible to the elements in the order? Or is it the case that even a complete knowledge of the elements would not enable us to predict the emergence of the properties of the order they generate?

We come here, I think, to the crux of Hayek's entire conception, and to the most fascinating and profound insight in it. We have characterised Hayek's view as asserting that cultural evolution proceeds by the natural selection of rival rules of action and perception (as mediated through the practices and institutions of competing groups). A vital element is missing from this account, however, and we can identify it by referring to Hayek's expression "the twin ideas of evolution and spontaneous order". The insight in Hayek's conception which our statement of it has not thus far fully captured is that the evolution of rules of which he speaks encompasses the emergence of systems or structures, spontaneous orders, whose properties as wholes are not derivable from knowledge of any of their component elements. This point seems to identify a limit to reductionism wherever spontaneous orders exist.

The limit to reducibility found here, whoever, does not seem to me to be one which compromises inevitably the unity of science, nor is it one which establishes a dualism as between natural and social sciences. It does not do the latter, if only because spontaneous orders are found both in natural systems (crystals, galaxies and so on) and in human societies. It is, perhaps, less obvious that the unity of science is not compromised, since Hayek has emphasised²¹ that the standard nomothetic model of scientific explanation may not be wholly appropriate in the context of studying complex phenomena (of which every

spontaneous order is an example). (There is here one of many points of contrast between Hayek's philosophy of science and that of Popper, but I cannot exhibit this contrast further in this paper.) The threat to the unity of science arises from the point that, if law-governed explanation is possible in the case of simple but not of complex phenomena, we have here a new dualism within science. Now it is plain that much will turn on how we understand simplicity and complexity, and I have nothing to say on this point which Hayek has not himself already said. My argument at this point is that, even if the distinction between complex and simple phenomena marks a fundamental ontological division in the world, it need not follow inexorably that a dualism of scientific methods is called for. It remains possible, and even plausible, that the "explanation of the principle" and pattern-prediction which are appropriate in the study of complex phenomena should be the background to the more recognisably nomothetic form of knowledge-claims made of the simple phenomena that make up complex orders. Another way of putting this is to say that, in perceiving that standard nomothetic principles do little work in the explanatory of complex phenomena, Hayek has forced on us a salutary revision of the conventional conception of law-governed explanation.

CONCLUDING REMARKS

In all of its uses, the idea of spontaneous order produces an epistemic pressure toward holistic explanations. What does it entail for the social sciences? The result of the comparison with Becker's approach would seem to be unscathed: the idea that the evolution of rules yields unplanned orders among acting individuals, with the implication that this is the fundamental form of social explanation, seems a plausible candidate for a unifying paradigm for the social

sciences. It is not indeed claimed that every social explanation must have this form, since presumably there are simple phenomena in social life, but only that insofar as social inquiry has distinctive objects - social objects such as money, language and so on - then explanation must take the form of reference to the generation of a complex order by spontaneous processes from the more simple properties of the actions of separate individuals. It is, for that matter, only this form of explanation which gives the social studies a telos distinct from that of psychology or physiology.

A good many hard questions have gone unanswered in this avowedly exploratory paper. I have said nothing, for example, about how order is to be distinguished from disorder or chaos in the social studies - though that is a question implied by the earlier queries I raised as to how order is to be identified. Nor have I said anything to specify the mechanisms which produce spontaneous orders, when these are not those of Darwinian selection or simulacra thereof. When Polanyi applies the idea of the evolution of a spontaneous order to the growth of science, for example, it is plain that the mechanism involved is not identical with that of Darwinian selection. These questions seem to me to suggest pathways of further inquiry rather than insuperable difficulties in the development of Hayek's conception. Indeed, if there is a single outcome of my exploration, it is that the thesis that cultural evolution proceeds by the natural selection of rival rules of action and perception yielding spontaneous orders having properties not derivable from knowledge of their elements intimates a research programme well worth undertaking and promising a unification of the social studies not so far achieved on any other basis.

FOOTNOTES

1. The Constitution of Liberty, University of Chicago Press, 1960, pp.159-161.
2. The Sensory Order, Routledge and Kegan Paul, 1952, p.185.
3. Ibid., p.185.
4. Studies in Philosophy, Politics and Economics, Routledge and Kegan Paul, 1967 p.62.
5. The Sensory Order, p. 189; Law, Legislation and Liberty, vol. 1, Routledge and Kegan Paul, 1973, p. 39.
6. New Studies in Philosophy, Politics and Economics, Routledge and Kegan Paul, 1978, p. 250.
7. Studies, p. 67.
8. Bruno Leoni, Freedom and the Law, Nash Publishing, 1961, pp. 21-22.
9. Michael Polanyi, The Logic of Liberty, University of Chicago Press, 1951, Chapter Eight.
10. See R.D. Laing, The Politics of the Family.
11. Walter Block, Defending the Undefendable, Fleet Press.
12. See Mises, Human Action, Yale University Press, 1949.
Contrary to several accounts, Hayek never accepted Mises's praxeological method for the social sciences.
13. Gary S. Becker, The Economic Approach to Human Behaviour, University of Chicago Press, 1976, p. 5.
14. Becker, p. 7.
15. Henri Le Page, Tomorrow, Capitalism, Open Court, 1978, p. 176.
16. Becker, p. 294.
17. See D.H. Hodgson, Consequences of Utilitarianism, Clarendon Press, 1967.
18. Joseph Schumpeter, Capitalism, Socialism and Democracy, Unwin, 1943, Chapters 11 - 14.
19. Peter Winch, The Idea of a Social Science, Routledge and Kegan Paul, 1958.
20. Robert Nozick, Anarchy, State and Utopia, Basil Blackwell, 1974, pp. 18-22.