



## The Emergence of Hayek's Ideas on Cultural Evolution

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**Abstract.** F. A. Hayek's writings on cultural evolution are an essential part of his work, and some aspects of these writings (e.g., his defense of group selection) have generated considerable controversy. This historical paper traces the circumstances that led Hayek to introduce cultural evolution and related ideas into his work.

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### I. Introduction

Hayek's writings on cultural evolution are some of his most controversial. Some of the criticisms that have been advanced are:

- 1) that his analysis of the evolutionary process is too pessimistic, leaving little room for attempts to improve the institutional or constitutional setting;
- 2) that Hayek's endorsement of group selection as the mechanism by which cultural institutions are selected is inconsistent with his methodological individualism; and
- 3) that group selection itself has been discredited among biologists on grounds that are germane to its applications in the social sciences.

The secondary literature that deals with these and other aspects of his writings on cultural evolution has become quite large.<sup>1</sup>

A separate, more historical question is: What were the circumstances surrounding Hayek's decision to introduce cultural evolution into his work? Given that the decision also appears to have accompanied a movement away from economics into other, new areas of study, it is clearly a significant episode in the evolution of Hayek's thought.

Within the secondary literature, only Geoff Hodgson has ventured a guess about the matter. Hodgson claims that cultural evolution was a late development in Hayek's work, and suggests that this was because Hayek's opposition to scientism kept him from exploring metaphors developed in the physical sciences (Hodgson 1993:158). In a separate paper (Caldwell (forthcoming)) I have criticized many aspects of Hodgson's characterization of

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Hayek's ideas, including his hypotheses about the emergence of Hayek's thought on cultural evolution. The current paper is my attempt to provide an alternative account.

## II. Cultural Evolution

It may be appropriate to begin with a brief summary of Hayek's position. The term "cultural evolution" refers to the evolution of a tradition of learnt rules, norms, ethical precepts, and practices, "especially those dealing with several property, honesty, contract, exchange, trade, competition, gain, and privacy" (Hayek 1988:12). This cultural heritage emerged through "a process of winnowing and sifting, directed by the differential advantages gained by groups from practices adopted for some unknown and perhaps purely accidental reasons" (Hayek 1979:155). The traditions and institutions that resulted allowed the development of a vast extended order, one capable of sustaining huge increases in population, an order that would have been considered fantastical to earlier humans existing under more primitive conditions.

Successful practices get passed on through tradition, learning, and imitation. Because acquired characteristics may be passed on, cultural evolution resembles Lamarckian rather than Darwinian evolution, and indeed this sort of evolutionary thinking is older than Darwin's. Cultural evolution also differs from biological evolution in that it can take place very fast, so that once begun "it swamps genetic evolution" (Hayek 1979:156).

Many of the rules and precepts take the form of prohibitions on our behavior, and aim at suppressing the "natural morality" (e.g., within-group solidarity, cooperation in the pursuit of group-approved goals, distrust of and aggressiveness towards strangers) that allowed earlier humans to function successfully in small groups. As a result, many constraints feel unnatural; they are resisted, even hated (Hayek 1988:13). In addition, rules were usually neither consciously adopted, nor adopted after a rational process of assessment of their consequences, simply because their wider effects were not then (nor are even today) well understood. Many of these rules may well seem irrational to us. As such, Hayek characterized them as lying between, and fitting uneasily with, both our instinct and our reason (Hayek 1988: Chapter 1).

The question arises: How did such unpopular prohibitions ever come to be adopted, and once adopted, how could they persist, given our natural aversion to them and the ever-present temptation to develop institutions and practices more consonant with our rationality? Hayek offers a straightforward answer: the groups that practiced them were better able to survive. In a phrase, "cultural evolution operates largely through group selection" (Hayek 1988:25).

Hayek himself provided this concise summary:

... the extended order resulted not from human design or intention but spontaneously: it arose from unintentionally conforming to certain traditional and largely *moral* practices, many of which men tend to dislike, whose significance they usually fail to understand, whose validity they cannot prove, and which have nonetheless fairly rapidly spread by means of an evolutionary selection—the comparative increase of population and wealth—of those groups that happened to follow them (Hayek 1988:6, emphasis in the original).

### III. The Emergence of Hayek's Ideas on Cultural Evolution

#### A. *The Background: "Individualism: True and False"*

For reasons that will soon enough be apparent, our survey begins with Hayek's Finlay Lecture, "Individualism: True and False," which he delivered on December 17, 1945 at University College, Dublin and which was reprinted as the lead essay in his collection *Individualism and Economic Order* (1948). In the lecture Hayek contrasts the two doctrines identified in the paper's title. Hayek claims that the roots of "individualism true" may be traced to various writers in the seventeenth and eighteenth century, and in particular to such thinkers as Bernard Mandeville, David Hume, Josiah Tucker, Adam Ferguson and Adam Smith.

Its opposite, "individualism false" derives from the French rationalist tradition, with its origin in the work of Descartes. A major tenet of "individualism false" is that if society is to progress, social institutions must be rationally designed. This precept arises from "an exaggerated belief in the powers of individual reason and of a consequent contempt for anything which has not been consciously designed by it or is not fully intelligible to it" (p. 8).

Hayek's article was originally intended to be part of a larger project, one he began in the late 1930s, on "the abuse and decline of reason in modern times." "Individualism: True and False" reflected the "preliminary results" of Hayek's exploration of individualistic theories of the 18th century, material he planned to use in the beginning section of the Abuse of Reason project (Hayek 1979:10 [1952]). Next would come a section on the intellectual sources of hostility against individualism, which would draw on his war-time article "Scientism and the Study of Society." This would be followed by a series of historical essays, tracing the development of socialist thought in France, Germany, England and the United States. His essays "The Counter-Revolution of Science" and "Comte and Hegel" were to provide material for the essays on France and Germany. The book would conclude with a discussion of the decay of reason under totalitarianism, a section that would draw on Hayek's *The Road to Serfdom* (1976 [1944]).

Hayek ultimately abandoned this grand outline. As noted above, "Individualism True and False" was published in 1948, and "Scientism," "Counter-Revolution" and "Comte and Hegel" were published together in 1952. Hayek ended up modifying the Abuse of Reason project, turning it into two (at first different but later intertwining) research ventures. The first continued the work he had begun in *The Road to Serfdom* and earlier essays on political theory, and culminated in the publication in 1960 of *The Constitution of Liberty* (Hayek 1994:125–130 reviews the chronology) and later in *Law, Legislation and Liberty*. The second formally began in 1945 (though we will see, antecedents date to his student days in Vienna) and resulted in the publication of *The Sensory Order* in 1952 and to a series of later essays, many of which were published in collections of Hayek's work. In the process, evolutionary themes would emerge.

#### B. *The Constitution of Liberty*

*The Constitution of Liberty* contains Hayek's analysis and defense of classical liberal constitutionalism. In certain places he introduces evolutionary themes.

For example, Hayek relates the growth of civilization to the growth of knowledge. Defining knowledge broadly to include such things as “habits and skills, our emotional attitudes, our tools, and our institutions,” he then notes how a selection process operates on the various types of knowledge: all of them are “adaptations to past experience which have grown up by selective elimination of less suitable conduct” (Hayek 1960:26). Hayek observes further that the advance of civilization does not depend on humans being omniscient. Quite the contrary, it depends on accidents happening, accidents in the way that knowledge and attitudes, skills and habits get combined (p. 29). These accidents are a source of random variation; they allow new ways of doing things to get tried out.

Skills, tools, and practices are not everything, though. The ethical and even aesthetic precepts that a society embraces are also important:

Which individuals and which groups succeed and continue to exist depends as much on the goals that they pursue, the values that govern their action, as on the tools and capacities at their command. Whether a group will prosper or be extinguished depends as much on the ethical code it obeys, or the ideas of beauty or well-being that guide it, as on the degree to which it has learned or not learned to satisfy its material needs (p. 36).

Hayek uses the term “social evolution” rather than “cultural evolution” in Chapters 3 & 4 of the book. He emphasizes that evolution is not teleological, that it is not evolution towards any known goal. Furthermore, though social evolution brings with it greater knowledge, this holds no guarantee that “the new state [of affairs] will give us more satisfaction than the old” (p. 41).<sup>2</sup>

Hayek reflects on the work of earlier writers, and returns to the theme of two traditions that he used in “Individualism: True and False.” He drops, though, the reference to individualism. The French tradition is still labeled rationalistic, but the Scottish tradition is now called “empirical and unsystematic,” and, a few pages on, he states that it reflects “the evolutionary conception” (pp. 54, 57). The discovery made by the Scots philosophers was a key one: “For the first time it was shown that an evident order which was not the product of a designing human intelligence need not therefore be ascribed to the design of a higher supernatural intelligence, but that there was a third possibility—the emergence of order as the result of adaptive evolution” (p. 59).

What we have, then, in Hayek’s historiography is a terminological movement away from “individualism true” toward a more evolutionary language in describing the Scottish tradition. (The “French rationalist” label would continue until Hayek finally settled on the term “rationalist constructivism,” as in Hayek (1967:85 [1964a]).) In adopting the evolutionary metaphor, Hayek does not develop the analogies between biotic and cultural evolution systematically. But his references to evolutionary thinking nonetheless are pretty thorough-going. The question that arises, of course, is: Why did Hayek make the switch? What accounts for the appearance of this fairly well developed evolutionary metaphor in 1960, a metaphor that he would use henceforth? To answer this, we must look at Hayek’s other research project, work on which directly preceded the creation of *The Constitution of Liberty*.

### C. *The Role of The Sensory Order*

In the summer of 1945 Hayek began reworking a manuscript on psychology that he had written in his student days.<sup>3</sup> This would ultimately result in one of Hayek's most unlikely works, *The Sensory Order* (1952), which carried the subtitle *An Inquiry into the Foundations of Theoretical Psychology*. Why the sudden turn to psychology?

Hayek himself frequently stated that it was his work on the methodology of the social sciences, and in particular the "Scientism" essay, that stimulated his renewed interest in psychology.<sup>4</sup> Unfortunately, he never specified just what the connections were between the two works. If one reads the "Scientism" essay looking for places of contact, however, some do stand out.

In "Scientism" Hayek notes that the physical sciences typically advance by replacing the classification system provided by our senses with new classification systems (Hayek 1979:31–37 [1952]). Of course, the classification system that our senses provides is also a part of the natural world, and therefore something that can and should be investigated. Indeed, the proper task of psychology is not, as some think, to explain our tastes, but to explain "how that apparatus of classification operates which our senses constitute" (p. 70). Hayek asserts that any such explanation would of necessity always be limited, that the best we could expect is to explain the principle by which the brain operates. This is because

... any apparatus of classification would always have to possess a degree of complexity greater than any one of the different things which it classifies; and if this is correct it would follow that it is impossible that our brain should ever be able to produce a complete explanation (as distinguished from a mere explanation of the principle) of the particular ways in which it itself classifies external stimuli (p. 86).

Hayek then draws some conclusions concerning the physicalist and behaviorist research programs that he opposes in his essay. He notes that even if we were able to reduce all mental phenomena to the physical processes that underly them, this sort of "unified science" would not help us to explain human behavior, since "in interpreting human action we should still have to use the classification in which these facts actually appear in the minds of the acting people" (p. 87).

Hayek gives hints in some of his footnotes (e.g., on pp. 36, 83) in the "Scientism" essay that there is a full-fledged psychological theory that underpins his assertions. But we must wait for *The Sensory Order* for it to be explicitly articulated.

A core thesis of *The Sensory Order* is that sensory perception involves an act of classification; indeed, that our sensory apparatus is, basically, a classification system. Stimuli are received from events external to the nervous system, and these trigger certain patterns of nerve impulses. What we experience depends on which system of linkages, what particular pattern of neural firings, takes place. This is true for our immediate sensory perceptions right on up to "the more abstract processes of thought" (Hayek 1952:108; cf. 1979:82–83 [1952]).

The brain itself is an example of a self-organizing complex order. The linkages that develop within it are adaptive; they are strengthened if they lead us to make correct predictions

about the “external environment,” and weakened should they no longer work. The sensory order that ultimately results may be viewed as providing us with a “map” of relations between classes of events in the environment. (Since we never have an unmediated access to the world, the actual relationship between that map and whatever constitutes “the external world” will always be problematical, however.) Hayek again asserts, as he had in the “Scientism” essay, that we may come to understand the principle by which the sensory order operates, but we will never be able to get down to more detailed explanations that might allow us to predict which specific sequences of neural firings, or which specific mental events, will take place. And again, the argument about classification systems needing to be of higher order of complexity than the events they explain is invoked (Hayek 1952:184–190).

I have shown how certain of the themes in the “Scientism” essay and in *The Sensory Order* might be linked up. But our real concern here is how working on *The Sensory Order* led Hayek to all sorts of new areas of thought, and in particular, towards an exploration of evolutionary themes. In a retrospective assessment, Hayek himself attests that such a relationship exists:

My colleagues in the social sciences generally find my study on *The Sensory Order* . . . uninteresting or undigestable. But the work on it has helped me greatly to clear my mind on much that is very relevant to social theory. My conception of evolution, of a spontaneous order and of the methods and limits of our endeavors to explain complex phenomena have been formed largely in the course of the work on that book. As I was using the work I had done in my student days on theoretical psychology in forming my views on the methodology of the social sciences, so the working out of my earlier ideas on psychology with the help of what I had learnt in the social sciences helped me greatly in all my later scientific development (Hayek 1979:199–200).

It is significant that, in talking about *The Sensory Order*, Hayek links together the notions of evolution, spontaneous orders, and the limits to explanation when dealing with complex phenomena. In my opinion, it was this psychological work that got Hayek thinking more deeply about the ubiquity of spontaneously-organizing adaptive complex orders in fields other than economics, where the classicals and men like Menger had previously identified them.

#### *D. The Crucial Decade of the 1950s*

Our reconstruction of the development of Hayek’s thinking in the 1950’s will be aided by an examination of some of his published work, as well as by reference to certain materials found in the Hayek Archives at the Hoover Institution at Stanford.

Hayek came to the University of Chicago in late 1950. Each fall he organized a seminar that would continue into the spring quarter of the following year. The first two seminars were on “Equality and Justice” and “The Liberal Tradition,” seminars that would provide background for his 1960 book, *The Constitution of Liberty*. We are more interested, however, in his third seminar, one which began in the fall quarter of 1952 and was titled in his

provisional syllabus “Scientific Method and the Study of Society.” The “Scientism” essay and *The Sensory Order* were the two principal seminar readings on the social sciences. According to his course outline, the first part of the seminar was a survey of the classification of the various natural and social sciences. Included in the seminar materials was a chart listing phenomena at various “levels of organization” (gene, cell, individual, interbreeding population, society, biota), various fields of study associated with them (e.g., genetics, physiology, paleontology), and the sorts of problems (e.g., secular change, reproduction, persistence) that might be studied at each level. Next came an overview of the problem of induction (with sections on verification and falsification) followed by a review of the positivist tradition (Comte, Mach, Pearson, as well as Pragmatism, Logical Positivism, Physicalism, and Operationalism, were listed parenthetically here). During this early part of the course, the plan was to have outside experts come in to introduce the discussions. (Hayek Archives, Box 63, numbers 13 & 14).

Hayek was later to call the seminar “one of the greatest experiences of my life” (Hayek 1983:134). Among those who attended were such luminaries as Enrico Fermi and the geneticist Sewall Wright.<sup>5</sup> Though it is difficult to know the details of what Hayek might have learned from the seminar, it is evident from the course materials that he saved, and particularly his “levels of organization” approach, that the course provided him the opportunity to expand his interests in biology and other areas of investigation.

In 1952 Hayek also worked on a manuscript entitled “Within Systems and about Systems.” Hayek never finished the paper, and not surprisingly, since it was clearly one of his most ambitious projects. Building directly on his work in *The Sensory Order*, Hayek hoped to develop a general theory of communication. In his model, communication would take place between two systems, where each system was a classificatory system that itself contained numerous classification systems. Hayek tried to outline what it would mean for such causal systems to have “intentions” and “goals,” which he felt was necessary in order for communication to occur. The early part of the essay dealt with principles of explanation.

Rather than finishing the manuscript, Hayek decided instead to break it into parts. One of these became his 1955 essay, “Degrees of Explanation” (Hayek 1967 [1955]).<sup>6</sup> In that work he analyzed the types of explanations that are possible in various sciences, both natural and social. If one compares it with his “Scientism” essay, an essay putatively on the same subject, a striking difference is evident. In “Degrees of Explanation” he distinguishes among the various sciences, but now the dividing line is not between the natural and social sciences, but between those that study relatively simple versus complex phenomena. And intriguingly, when Hayek seeks to illustrate his claims about sciences that study complex phenomena, he chooses not economics but the theory of evolution. In doing so, he links evolutionary theory directly to his earlier ideas about “explanations of the principle”: “The most familiar instance in the natural sciences of this sort of mere ‘explanation of the principle’ is probably provided by the theory of evolution by natural selection of different organisms” (pp. 11–12). Nearly the exact same sentence appears, as it turns out, on p. 2 of his 1952 manuscript, “Within Systems and About Systems.” So in unpublished pieces in the early 1950s, then in published work a few years later, Hayek was identifying evolutionary theory as yet another example of a (in this case, famous) scientific theory that attempts to explain complex phenomena, one in which “explanations of the principle” are often all that can be obtained.

A further broadening of Hayek's interests can be seen in the footnote citations of "Degrees of Explanation." Among those cited are Warren Weaver, the author of "Science and Complexity," (p. 4, footnote 1); the biologist and systems theorist Ludwig von Bertalanffy, (p. 13, notes 8 & 9); and Norbert Wiener, the father of cybernetics (p. 14, note 10). At the end of the paper, Hayek links these other areas with his own earlier idea of "explanations of the principle":

... as the advance of the sciences penetrates further and further into more complex phenomena, theories which merely provide explanations of the principle, or which merely describe a range of phenomena which certain types of structures are able to produce, may become more the rule than the exception. Certain developments of recent years, such as cybernetics, the theory of automata or machines, general systems theory, and perhaps also communication theory, seem to belong to this kind (Hayek 1967:20 [1955]).<sup>7</sup>

A final possibly significant event was the Darwin Centennial Celebration that was held at the University of Chicago from November 24–28, 1959. In the year preceding the event 43 papers were written, circulated and discussed by interested faculty and students, and later five panel discussions were set up on various topics in the study of evolution. Though Hayek did not contribute a paper, he participated in the discussions preceding the conference. "The Evolution of Mind" was the name of the panel to which he contributed. The title of the fifth panel is also of interest: "Social and Cultural Evolution" (Hayek archives, Box 66, number 1).

Let us now try to link up these developments with our earlier discussion of *The Constitution of Liberty*, where the notion of "cultural" or "social evolution" first explicitly entered Hayek's published work. We have seen that in the early 1950s, and due to his work on theoretical psychology in *The Sensory Order*, Hayek was led to investigate an ever-broadening range of fields, from biology and evolutionary theory, to systems theory, to cybernetics and theories of communication, all of which offered explanations of the principles underlying the complex phenomena with which they dealt. In the second half of the decade Hayek returned to his investigations of political philosophy and the history of jurisprudence that would become *The Constitution of Liberty*. Hayek revised the manuscript that would become that book during the winter of 1958–59, and brought the finished product to his publisher in May 1959 (Hayek 1994:130). At that very moment he was also participating in the Darwin Centennial. It certainly seems plausible that his new references to "evolutionary theory" and "social evolution" in *The Constitution of Liberty* reflected ideas he had picked up through the various activities he engaged in during the decade preceding its publication.

Hayek had long been familiar with the fundamental discovery of the Scottish enlightenment philosophers, something that he had first hinted at in his inaugural lecture at the LSE (Hayek 1991:26–28 [1933]). Their insight, rediscovered by Menger, was that many social institutions that benefit mankind gradually emerge and evolve with little guidance from the agents that create them; that these institutions are the result of human action but not of human design. But whereas in 1945 Hayek characterized this idea within the context of the debate between proponents of "individualism true" and "individualism false," by 1960 he was calling it an example of "the evolutionary conception."



This was, it seems to me, a crucial breakthrough, a reordering of how Hayek interpreted and characterized certain theories about the world, and it was to be a permanent change. What started out as two separate programs, one an examination of the institutions that promote liberty, the other a study of theoretical psychology and its philosophical implications, began to become in various ways intertwined. Hayek dropped the language he used in his earlier debates concerning the methodology of the social sciences, and adopted instead a more “scientific” language concerning various types of complex phenomena. With his new perspective certain types of phenomena, not usually thought of as similar, became forever linked. These themes would find a permanent place in Hayek’s subsequent published work.

#### IV. The Ubiquity of Rules and Orders

In the 1960’s Hayek began generalizing his ideas in such articles as “Rules, Perception and Intelligibility” (Hayek 1967 [1962]) and “The Theory of Complex Phenomena” (Hayek 1967 [1964b]), the latter of which he viewed as something of a companion piece to “Degrees of Explanation” (Hayek 1967:3 [1955]). In his papers three salient points emerge:

- 1) Complex orders occur within a variety of phenomena, from the individual brain all the way on up to a society.
- 2) Orders typically arise when elements contained in them follow abstract rules.
- 3) Rules are often followed unconsciously; that is, the “agent” following them (even in cases where the “agent” is a human, so is capable of speech) cannot explain what the rule is or why he is following it.

Thus we find Hayek arguing that certain activities that are below the level of consciousness, or that in part constitute it, like perception itself, are rule-guided activities. Perception involves the capacity to identify regularities or patterns (or “rules”) in, for example, the actions (gestures, facial expressions) or speech of others. He notes that certain “higher animals” share some of these abilities with us (Hayek 1967:43–46 [1962]; 1967:23–24 [1964b]).

Pattern recognition also plays a crucial role in such things as imitation and in the transfer by learning of rules. The capacity of children to use language in accordance with rules of grammar and idiom is a good example here; note that children are often unaware of the rules that they are learning, while even experts in the field of linguistics typically have difficulty in specifying them.

Certain instinctive behaviors exhibited by animals (e.g., if you get too far from your lair, do not fight) appear to be rule-guided. So too do the skills of craftsmen or athletes, the “knowledge how” to perform certain “hard to do” tasks. People who possess such skills typically cannot state how they do what they do. Hayek notes that “so far as we are able to describe the character of such skills we must do so by stating the rules governing the actions of which the actors will usually be unaware” (Hayek 1967:44 [1962]).

Rule-governed action also exists at the higher level of society, and they enhance the functioning of the complex order that is society. One example would be “rules of conduct,” about which Hayek says:

Of these conventions and customs of human intercourse, the moral rules are the most important but by no means the only significant ones. We understand one another and get along with one another, are able to act successfully on our plans, because, most of the time, members of our civilization conform to unconscious patterns of conduct, show a regularity in their actions that is not the result of command or coercion, often not even of any conscious adherence to known rules, but of firmly established habits and traditions (Hayek 1960:62).

Another example is our laws, which Hayek says differ from commands by being abstract and general rules of behavior. Laws often evolved from unarticulated rules of custom, and with more formal statement their abstract and general character became more evident (Hayek 1960:159–161).

The two examples just given, both dealing with codes of conduct (one the moral code, the other the code of law) that when followed enable the complex order of society better to function, are taken from *The Constitution of Liberty*. So Hayek's generalization (that is, to areas beyond the realm of the mind or the behavior of an individual) of the notion that rule-governed conduct may lead to the development of complex orders was already beginning to show in his 1960 work.

There are two further pieces of evidence from the 1960s that Hayek had come to believe that the generalization had numerous applications. The first is his organization of an "Analogy Symposium" that took place at the Villa Serbelloni in Bellagio, Italy on April 17–24, 1966. In his initial proposal, Hayek offered the following description of:

... a symposium on unconscious rules governing conscious action. The discussion would have to start by considering the role which rules not known to the actor play in physical skills, language, law and morals, the visual arts with the aim of throwing light on

- \* the cultural transmission of unformulated rules (i.e., their acquisition without explicit teaching)
- \* the requirement of the common possession of unformulated rules for the intelligibility of communications
- \* the general problem of pre-conscious learning from experience (the formation and alteration of an unconscious framework within which consciousness moves) (Hayek archives, Box 65, number 7).

Hayek here seems to have been searching for evidence (and for compatriots!) from other fields to support his thesis.

Next is his article "Notes on the Evolution of Systems of Rules of Conduct" (Hayek 1967a) which carries the subtitle "The Interplay Rules of Individual Conduct and the Social Order of Actions." In a footnote at the beginning of the article he states, "... we shall occasionally use the pair of concepts 'order and its elements' and 'groups and individuals' inter-changeably, although the former is of course the more general term of which the relation between group and individual is a particular instance" (Hayek 1967a:66). The article is Hayek's clearest published attempt to provide a general statement of the ubiquitous relationship between rules and orders, and of their evolution.

In the article Hayek also states that in both “animal and human societies . . . the genetic (and in great measure also the cultural) *transmission* of rules of conduct 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*” (p. 67, emphasis in the original). Though he does not use the term, this is Hayek’s first articulation of the notion of group selection. Three pages later (p. 70) he approvingly cites the work of V. C. Wynne-Edwards, a chief modern proponent of group selection.

By the late 1960s, then, the links between complex orders, evolution, and rule following behavior were all in place. Hayek also tied these ideas in with his perennial concern about knowledge and its acquisition (learning), as Viktor Vanberg has very aptly summarized:

. . . one can look at *biological evolution*, *individual learning* and *cultural evolution* as separate, though interdependent, levels of learning. In biological evolution the learning takes place at the level of the species. It is the distribution of traits within the species that shifts in the direction of increased adaptive fit. In individual learning it is the distribution of behavioral propensities or dispositions within a person’s acquired behavioral repertoire which becomes more adapted to relevant aspects of the environment. Such learning is linked to biological evolution in the sense that the *capacity* to learn is a matter of genetic endowment. Yet, *what* is learned is dependent on the particular person’s environment. Sociocultural evolution, finally, builds upon the capacity of individuals to learn, yet it is about learning at the social or collective level in the sense that the distribution of practices and problem-solutions within “social populations” or groups shifts in the direction of increased problem-solving capacity. Sociocultural evolution, again, conditions individual learning. As individuals find themselves endowed with an unalterable *genetic heritage* that conditions their capacity to learn, they find themselves born into a semi-permanent framework of their *sociocultural heritage* that conditions *what* they learn (Vanberg 1994b:179, emphases in the original).

## V. Further Developments

### A. *Law, Legislation and Liberty and The Fatal Conceit*

Though the three volumes of *Law, Legislation and Liberty* were published in 1973, 1976, and 1979, Hayek tells us that work on them began soon after he left Chicago in 1962 for the University of Freiburg im Breisgau (Hayek 1994:131). In his “Epilogue” to the trilogy Hayek asserts the ubiquity of the idea of evolving complex orders: “We understand now that *all* enduring structures above the level of the simplest atoms, and up to the brain and society, are the results of, and can be explained only in terms of, processes of selective evolution, and that the more complex ones maintain themselves by constant adaptation of their internal states to changes in the environment” (Hayek 1979:158, emphasis in the original). His earlier emphasis on the relationship between rules and orders also suffuses the work; indeed, he chose *Rules and Order* as the title for the first volume.

Though there is much continuity with earlier work, there are also some new twists.

- 1) Hayek states that there are three sources of human values: our genetic inheritance; those that are the product of rational thought; and finally culture, which “*is neither natural nor artificial, neither genetically transmitted nor rationally designed*” (Hayek 1979:155, emphasis in the original). This tripartite division, but using the terms natural, artificial, and “The Results of Human Action but not of Human Design,” first appeared in the 1960’s in his lecture of the same name (Hayek 1967b; cf. 1978 [1971]). A similar distinction will appear in *The Fatal Conceit* when Hayek says that present extended order lies “between instinct and reason.” It is within this context that Hayek faults the sociobiologists, whom he criticizes for their failure to recognize that there are three rather than two orders. (Hayek 1988:153–55).
- 2) Cultural evolution reaches far back in time, so that “. . . *mind and culture developed concurrently and not successively*” (Hayek 1979:156, emphasis in the original). First by imitation, and later with the development of language (both of which require pattern recognition), humans were able to pass on learnt rules of conduct, rules that allowed them to engage their environment more successfully. Reason came later:

Thus a tradition of rules of conduct, existing apart from any one individual who had learnt them, began to govern human life. It was when these learnt rules, involving classifications of different kinds of objects, began to include a sort of model of the environment that enabled man to predict and anticipate in action external events, that what we called reason appeared. There *was then probably much more “intelligence” incorporated in the system of rules of conduct than in man’s thoughts about his surroundings* (Hayek 1979:157, emphasis in the original).

- 3) Because the origins of culture stretch far back in time, few artifacts survive. Often the best we can do is to engage in a sort of “conjectural history” about how our traditions developed (Hayek 1979:156). Hayek had approvingly mentioned Mandeville’s recourse to “conjectural history” earlier (Hayek 1978:251, note 4 [1966]). Chapters 2 & 3 of *The Fatal Conceit* may be interpreted as Hayek’s attempt to provide a conjectural history that accounts for such institutions as private property and trade.
- 4) The rules of conduct exist on many levels, since in addition to our genetic heritage and the rules followed within our current culture, there is the residue of rules that may have survived from earlier periods of cultural evolution. The question arises: how do rules ever change? Hayek answers simply: “Most of the steps in the evolution of culture were made possible by some individuals breaking some traditional rules and practising new forms of conduct—not because they understood them to be better, but because the groups which acted upon them prospered more than others and grew” (Hayek 1979:161). The sentence carries a footnote citing the work of Sewall Wright and V. C. Wynne-Edwards, and which states in part “Although the conception of group selection may now not appear as important as it had been thought after its introduction . . . , there can be no doubt that it of the greatest importance for cultural evolution” (p. 202, note 37). This appears to be Hayek’s first explicit mention of the term “group selection” (though, as we have seen, he had begun citing Wynne-Edwards’ work more than a decade earlier, and had known Wright since the early 1950’s). In *The Fatal Conceit* Hayek would repeat that despite its shortcomings within the field of biology, group selection remains important for the understanding of cultural evolution (Hayek 1988:25).

5) Hayek then lists the sorts of “breaking of traditional rules” that he had in mind:

There can be little doubt that from the toleration of bartering with the outsider, the recognition of delimited private property, especially in land, the enforcement of contractual obligations, the competition with fellow craftsmen in the same trade, the variability of initially customary prices, the lending of money, particularly at interest, were all initially infringements of customary rules. And the law-breakers, who were to be path-breakers, certainly did not introduce the new rules because they recognized that they were beneficial to the community, but they simply started some practices advantageous to them which then did prove beneficial to the group in which they prevailed (Hayek 1979:161).

As noted above, Hayek provides a more detailed account of some of these changes in *The Fatal Conceit*.

6) In recent times our suppressed primordial instincts have re-emerged. One example of this atavistic impulse is the call for a more just distribution of incomes, another is the plea for egalitarianism. These calls have been bolstered by the writings of such misguided prophets as Marx and Freud. If they were to be followed, however, the process of social evolution would be brought to an end, as variation would be halted. These themes are also repeated in *The Fatal Conceit*.

In his later years, then, Hayek began to explore the content of the rules that successful societies had developed. He speculated as to how the rules and codes came about, using everything from conjectural history to references to recent studies, citing everyone from Scottish philosophers to economic historians to social anthropologists. He also tried to account for our resistance to certain of these rules, and to explain why such rules nonetheless had survived. It was for the last task that Hayek came more and more to believe that the concept of group selection was essential.

#### B. *The Interpretive Puzzle of The Fatal Conceit*

There were a number of references to *The Fatal Conceit* in the last section. Because it was his last book, some might be tempted to view it as containing the final distillation of the mature Hayek's thought. This temptation should be avoided; there are some facts surrounding the writing of the book that create interpretive difficulties.

*The Fatal Conceit* is a problematic book on a number of levels. It was first conceived in the late 1970s. A few years later Hayek convened a conference on it which was attended by James Buchanan, who recounted:

In August 1982, a small group of economists from several countries made a journey to Obergurgl, high in the Austrian Alps, for a two-day conference with Professor Hayek at his long-time summer habitat. The ostensible purpose of the conference was to criticize and discuss early manuscript versions of what was then projected to be a treatise, to be entitled *The Fatal Conceit*. I reveal no secrets when I state that the participants were skeptical, even after two-days discussion, about prospects for the circulated material to be transformed into a publishable book (Buchanan 1988–89:3).

Buchanan goes on to say that he was surprised to see how well the final product ultimately turned out, praising both Hayek and philosopher W. W. Bartley III for their work.

Bartley, a student of Karl Popper's, was to have been both Hayek's and Popper's official biographer, but he predeceased them both, dying in February, 1990. When Hayek's own health was deteriorating in the 1980s, he asked Bartley for help as editor, and the book probably would not have been published except for Bartley's assistance. Despite Bartley's considerable efforts, the book is not one of Hayek's finest. There are no footnotes, and parts of it seem cobbled together from Hayek's file cards or from bits and pieces of what Hayek had written elsewhere.

But far more important, it is not clear how much of the book should be attributed to Hayek, and how much to Bartley. Nor is it likely that we will ever have an answer to that question, now that both of the principals are dead.<sup>8</sup>

As was shown in the last section, there is considerable continuity between some of the things that Hayek had written in *Law, Legislation and Liberty* and what appears in *The Fatal Conceit*. But a number of novel ideas (novel, at least, coming from Hayek) regarding evolutionary themes also appear in the latter book. For example, Hayek offers a ringing endorsement of "evolutionary epistemology" (p. 10), an extension of Popper's work that Bartley helped to develop. He also claims that his intent is to develop an evolutionary ethics "parallel and supplementary to, yet quite distinct from, the already well-advanced development of evolutionary epistemology" (p. 9). Though not on evolutionary theme, another problematical discussion occurs in Chapter 5, where Hayek asserts that our morals are not rationally justifiable, a position that clearly derives from Bartley.

Now it is certainly very conceivable that Hayek had come to accept these mainstays of Popperian and Bartleyian thought. Hayek's contacts with Popper became more frequent in the early 1980's.<sup>9</sup> Stephen Kresge, the present General Editor of *The Collected Works of F. A. Hayek*, frequently accompanied Bartley to Freiburg in the middle 1980's when the latter was working with Hayek on the book and on plans for the *Collected Works*. Kresge reported to me in a personal conversation that during these visits Hayek came to view Bartley's formulations about rationality and justification as resolving certain weaknesses in his own position. On the other hand, it also is evident that the final draft of *The Fatal Conceit* would have looked different had Hayek's poor health not made it necessary for him to utilize an editor.

Whatever we might make of these questions of influence, two Hayekian goals do seem clear in the book. The first is to provide a bit of the "conjectural history" of the development of our cultural traditions that he alluded to earlier. The second is to trace in detail where the Western intellectual tradition went wrong in trying to understand its own cultural development. In a sense this latter effort is Hayek's attempt to complete the task left unfinished in the Abuse of Reason project.<sup>10</sup> These two themes of the book seem to me to constitute its Hayekian core.

## VI. Concluding Remarks

In 1945 Hayek dubbed the discoveries of the Scottish Enlightenment philosophers, discoveries he had identified earlier in his essay "The Trend of Economic Thinking," as reflecting "individualism true." By 1960 when Hayek referred to the discoveries he employed an

evolutionary metaphor. The evolutionary metaphor subsequently came to dominate his discourse. This paper has offered hypotheses about how that change came about.

We identified a variety of factors. In the “Scientism” essay Hayek first proposed the methodological tenet that “explanation of the principle” was often the best one could do when dealing with complex social phenomena. His attempt to explore this and other problems led him back to the psychological studies of his youth, and finally culminated in the publication of *The Sensory Order* in 1952. At the Committee on Social Thought Hayek organized a seminar on the methodology of the natural and social sciences, and this led him to a number of new areas of investigation. By the mid-1950s, his methodological writings began to show the influence of biologists, systems theorists, and cyberneticists. And their influence ultimately spilled over into his writings on political and social theory.

By the 1960s Hayek was seeing complex orders everywhere. The orders were created as the result of individual elements following simple rules, and the principles at work could be effectively described using an evolutionary (though not Darwinian) metaphor. In the late 1960s Hayek explicitly added the mechanism of group selection to his description of cultural evolution. In the 1970s Hayek published the three volumes of *Law Legislation and Liberty*, and rules, orders and cultural evolution were all prominently on display. This was equally true of his last book, *The Fatal Conceit*, though there were also some new ideas to be found there. That Hayek's health began deteriorating as this book was put together raises some intriguing interpretive issues.

Our account is necessarily conjectural, but it is possible that further archival work might help either to refute it or to help fill in some blanks. Hayek's own notes, or student notes from his methodology seminar, might help us better to reconstruct the evolution of his thought in the early 1950s. And as suggested in footnote 8, a comparison between the finished and earlier manuscript versions of *The Fatal Conceit* might at least help us to decipher what Hayek originally had in mind.

If this account is accurate, it may shed some light on at least one further interpretive puzzle. I have long wondered why Hayek so often chose examples from the natural sciences in his essays about complex phenomena that were published in the 1950s and 1960s. Why didn't he write about social phenomena instead? The above account suggests that Hayek, following the Scottish philosophers and Menger, already understood that certain social institutions were examples of complex orders. His goal during the 1950s and 1960s was to establish in the minds of his readers their ubiquity in other scientific fields of study. We may conclude provocatively by noting that, in his desire to establish a self-consciously scientific basis for the study of complex social phenomena, one that emphasized the similarities among all those fields that studied such phenomena, this critic of Scientism followed a path that was rather different from those taken by other Austrian economists. It is also fair to say that the legacy, if there is one, of Hayek's unique brand of “scientific subjectivism” has yet to be fully explored.

## Notes

1. Hayek's critics on these matters include Gray (1986), Steele (1987), Miller (1988), Hodgson (1993:153–157), Vanberg (1994a: Chapters 5 & 6), De Vlieghe (1994), Witt (1994), Vromen (1995:164–176), and Shearmur (1996:82–87); among his defenders are Yeager (1989), Boettke (1990), Lange-von Kulesa (1997), Whitman (1998), and Caldwell (manuscript). There are other criticisms besides the three mentioned in the text, but

these seem the most substantive. For example, the claim that Hayek fell into the naturalistic fallacy, that is, that he thought that the survival of an institution somehow guaranteed its optimality, is a misreading both of Hayek and of evolutionary theory, as Whitman (1998) effectively demonstrates.

2. Thus right from the start in his work on cultural evolution Hayek avoids the naturalist fallacy.
3. Though Hayek (1994:125) seems to suggest that he began the project in 1946, in a letter to Popper dated September 12, 1945 he mentions that his work had begun the preceding summer. This is confirmed by his statement in a contemporaneous letter to Otto Neurath that "I am at the moment entirely engrossed in an attempt to elaborate the psychological implications of the early part of my Scientism essays—or rather an attempt to restate certain ideas I had formed on this subject a very long time ago—at the moment at any rate I feel quite unable to give my mind to anything but these questions, but, of course, nothing may come of it." (Hayek, letter to Otto Neurath, dated 21 July 1945, located in Box 40, number 7, in the Hayek Archives, Hoover Institution, Stanford, CA.)
4. Note the letter to Neurath above. In another letter written prior to the publication of *The Sensory Order*, Hayek states: "The theoretical problems, on the other hand, have led me to take up again a life-long interest in physiological psychology and to prepare a book on the place of mind in the universe of nature in which I elaborate certain themes only sketched in 'Scientism.'" (Letter to John Nef, dated 6 November 1948, located in Box 55, number 1, in the Hayek Archives, Hoover Institution, Stanford, CA.) In a retrospective piece entitled "*The Sensory Order* After 25 Years," he wrote: "In the early 1940's, I had done a study of what I christened 'scientism'—that is, an examination of the harmful effects that the physics model had had on the methodology of the social sciences—and in this work had been driven both to rely in some measure on the results of my unpublished work in psychology and to think further about some of the problems with which I had dealt in it" (Hayek 1982:289). In *Hayek on Hayek*, he again stated that his work on *The Sensory Order* was stimulated by "my old ideas on theoretical psychology, which had been revived by the work on the methodology of the social sciences I had done during the early years of the war" (Hayek 1994:126). As he has done with other questions, however (e.g., see Caldwell (1998)), Hayek also offered an alternative account of what prompted him to return to psychology: "After *The Road to Serfdom*, I felt that I had so discredited myself professionally, I didn't want to give offense again. I wanted to be accepted in the scientific community. To do something purely scientific and independent of my economic view" (Hayek 1994:152). So multiple causation cannot be ruled out.
5. Wright's participation is significant because, as Hayek (1979:202, footnote 37) was later to note, he was one of the early proponents of group selection.
6. See Hayek's "Memorandum on Plans for Work, 1955" in Box 109, the Hayek Archives, Hoover Institution, Stanford, CA, where he states that he would break up "Systems within Systems" into parts, the first of which was "Degrees of Explanation." Hayek hoped to write a further paper titled "The Causal Determination of Purpose" but apparently never got beyond "sketching" it out. I have been unable to locate that sketch, if indeed it still exists.
7. Bertalanffy read and commented on *The Sensory Order* when it was in manuscript form. Hayek references both Bertalanffy and John von Neumann's "logic of automata" in "Systems within Systems," p. 4.
8. Various chapters from the early manuscript version mentioned by Buchanan exist, so it might be possible by comparing them with the published version to identify what might have been added under the influence of Bartley.
9. For example, Hayek gave the keynote address at the "Open Society and Its Friends" conference held in honor of Popper in New York in November, 1982. The conference led to the publication of a volume on evolutionary epistemology co-edited by Bartley; see Radnitzky and Bartley, eds. (1987).
10. Hayek described *The Fatal Conceit* as follows on one of his famous file cards: "This is to be the final outcome of what I planned about 1938 as *The Abuse and Decline of Reason* and of the conclusions which I published in 1944, the sketch on *The Road to Serfdom*. It is a work for which one has to be an economist but this is not enough!" (File card dated 22/05/85, provided by Stephen Kresge.)

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