

# Cultural Evolution, Group Selection and Methodological Individualism: A Plea for Hayek

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**Bio-sketch:** Robert Nadeau is a retired Professor from the Department of Philosophy at the Université du Québec à Montréal. His primary research interests include the philosophy of social science and especially the methodology of economics. He is the author of *Vocabulaire technique et analytique de l'épistémologie* (Presses Universitaires de France, 1999) and has published several papers on the writings of Friedrich Hayek.

**Abstract:** It is obvious that most, if not all, of Hayek's critics and commentators are uncomfortable with the evolutionary turn he took over the years, and, especially, with his concept of group selection, particularly in view of the alleged inconsistency of these views with his strongly held position on methodological individualism. I argue here in favor of Hayek's case that there is indeed no such inconsistency. I establish from the start that Hayek's analysis of cultural group selection is in line with what he aimed to do in the socialist calculation debate during the 1930s and 1940s. This analysis serves to reinforce on empirical grounds the thesis of the superiority of market economy over any kind of centrally planned and directed economic system. I then stress that this economic superiority, explained by Hayek in terms of just rules of conduct and perception, does not at all concern what it is to be "good" in the philosophical sense. Hence, Hayek avoids the pitfalls of naturalist fallacy. I argue moreover that for Hayek the system of rules defining liberalism was not necessarily bound to emerge in human history, for the market economy is a thoroughly contingent expanding spontaneous order. In the final part, I try to show that, contrary to what is usually believed, Hayek's methodological individualism is not of a reductionist but of an *emergentist* brand. I insist that evolutionary group selection, in Hayek's sense, is a cultural and not a neo-Darwinian process. I furthermore argue that, logically speaking, cultural groups *supervene* on individuals, meaning that more successful rules of just conduct and perception followed by individual economic agents may confer superiority to some communities of interacting individuals over other populations. Group selection has then to be seen as the surface effect and never the root cause of individual action. I conclude that the Hayekian idea—perhaps a bit hazy—of group selection is completely consistent with Hayek's methodological individualist stance.

**Keywords:** cultural evolution, socialism, market economy, socialist calculation debate, price mechanism, rules of just conduct and perception, naturalistic fallacy, group selection, rule of law, methodological individualism, supervenience.

If we had to identify the topic of reflection that goes through the work of Hayek, from the first writings to his very last book, we would probably point to the critique of socialism. Conceived as an ideal-type of economic system and policy, socialism is characterized by a centrally-planned production system, with an omnipotent and well intentioned political body. And it was the profound belief of Hayek that economic theory can scientifically demonstrate that socialism is a monumental intellectual error. However, it has not been sufficiently clarified that, long after the socialist calculation debate of the 1930s and 1940s, the development of an

evolutionary perspective in the work of Hayek is, on balance, nothing else than a further extension of this fundamental issue. It is important to see precisely Hayek's objective in trying to articulate a systematic theory of cultural evolution: it is first of all to provide one more basic argument to his thesis that a socialist type of economy is, if not impossible as claimed by Mises, at least "impracticable" as he prefers to say. For Hayek, a genuine market economy, based primarily on the free functioning of the price mechanism, is likely to be highly superior in efficiency to any state-directed production system.

Hayek's argument encountered two major objections, which we will examine here. According to the first, Hayek would be guilty of the naturalist fallacy. Following this line of reasoning, Hayek's theory of cultural evolution explicitly aims to establish that, during the historical evolution of societies struggling to maintain and establish their supremacy, the best moral rules of conduct would necessarily tend to prevail. The counterargument states that thinking that the evolution of human communities inevitably results in the very best moral situations is a mere sophistic reasoning. According to the second objection, this theory of cultural evolution, being based on the biological mechanism of group selection, would be fundamentally inconsistent with the principle of methodological individualism that Hayek fully embraces. Indeed, how could it be acceptable to think on the one hand that it is groups, i.e. supra-individual entities, which determine by their action the cultural evolution of society and claim on the other hand that only individual actions do induce, particularly by their unintentional consequences, the implementation and subsequent transformation of the network of institutions forming the fabric of society?

I plan to first show what is really at stake in Hayek's theory of cultural evolution, assuming that what he intends to do by appealing to biological and anthropological considerations is to push further his criticism of the idea of a planned economy by comparing its operation to that of a market economy. I will then confront the two objections raised against Hayek's theory identified above. I will insist that Hayek, contrary to what many critics have argued, never committed the naturalist fallacy, although many of his critics have openly accused him of fallaciously supporting the thesis that cultural evolution proved that the market economy was an optimal socio-economic system, and that it was therefore morally superior and preferable to any kind of socialist economy. Finally, in opposition to what is generally believed to be the case, I will argue that Hayek's cultural evolutionist theory, even if based on a partly defective group selection concept, is, strictly speaking, consistent with the view that he endorses on methodological individualism.

## I. THE GIST OF HAYEK'S CULTURAL EVOLUTION THEORY

It is generally accepted today that the Hayekian evolutionary perspective, as incomplete and unsatisfactory it may have remained in his own eyes, converges entirely with the views he articulated during the socialist calculation debate. In this crucial debate of the 1930s and 1940s, Hayek came to overhaul drastically his research program and definitively broke with the standard static equilibrium approach to the market economy. He then put at the center of his renewed intellectual concerns the crucial idea that the most significant issue of economics, if not of all social sciences, was the explanation of social coordination. Thus his works become more overtly concerned with juridical, political, sociological, anthropological and methodological issues. And first of all, the complex question of how people can best economically coordinate themselves could not be solved without deeply exploring the way we use knowledge in society.<sup>1</sup>

This has indeed been fully acknowledged. For example Erich Streissler stresses that a socialist, i.e. a centrally planned and directed economy, "will only achieve a much lower degree of efficiency at much higher cost than a free enterprise system" (Streissler 1994, p. 68). He insightfully reconstructs the core of Hayek's arguments against socialism as including three "impossibility theorems" (ibid.: p. 65 and *sq.*) stating that: 1) In the real world goods are not easily specified; commodities are not homogeneous and fully standardized; quality is not constant but declining over time, and full quality control is impossible; 2) Costs are not objectively given, but are mere subjective estimates; they are objectively determinable only *ex post*, not *ex ante*; and 3) Knowledge is uncentralizable in an economic direction center of decision because we do not even know what knowledge we use, and therefore cannot communicate it fully to others. Hayek's main point is that economic knowledge is dispersed, not complete and made of contradictory bits; it is local in Polanyi's sense. This is why for Hayek socialism is ultimately a chimera.

But at the same time, while insisting on the impracticability of socialism, Hayek comes to highlight what makes market economy more efficient. It is not sufficient to show that socialism fails to solve the economic problem: Hayek believes he can show altogether how the market economy achieves this goal. In line with the purely economic argument already presented in the socialist calculation debate, Hayek's cultural evolution theory (CET) presents a different line of reasoning, a more empirical one which contains, as

will be seen, methodological challenges which we will have to consider.

Hayek's evolutionary argument carries economic considerations just as much as the first one. Even though he ultimately uses biological and anthropological ideas to support it, it must be acknowledged that Hayek did already outline this point of view in 1939 (Hayek 1939). This way of thinking became full-blown and acquired all its weight with the publication of *The Road to Serfdom* in 1944. As a theoretical argument, it ended up becoming, by 1960, fully evolutionary, and remained so up to the end. It also underwent a complementary development in his trilogy *Law, Legislation and Liberty* (Hayek 1973, 1976, 1979).

This CET forms the hard core of Hayek's philosophical and scientific stance in favor of economic liberalism. As such the CET concerns the very same central problem of economic theory than the one advocated during the socialist calculation debate. But we face this time a different sort of argument because the CET is a genuine empirical conjecture. It is of course in Hayek's very last book (Hayek 1988) that his CET was fully articulated.<sup>2</sup> This book, prepared for publication by William Bartley while Hayek was very ill, was published the year before the Soviet Union collapsed. In the following years, the book has spawned a heated debate about whether we could read it as an authentic work of Hayek. Whatever conclusion we reach here, we at least can say that, in this ultimate book, socialism, globally contrasted with liberalism from the cultural evolutionary standpoint, appears to be openly consistent with Hayek's previously published works.

We must keep in mind that, in the socialist calculation debate, Hayek was facing opponents who sought to establish "that not only was central direction of economic activity practicable" but that it would even be "superior to a system of competition" (Hayek 1935a, p. 71). From the start, then, the terms of Hayek's debate with socialist economists, as well as Mises's, were given an orientation that was methodologically comparative. As already said, Hayek contrasted the form of order that results from an emergent evolutionary process to one that is "rationally constructed" by human beings, for example legislators. On that basis, Hayek's analysis of spontaneous social and economic order really does serve to counter the arguments of "constructivistic rationalism" (Hayek 1973, pp. 8-11) and undeniably includes as one of its essential elements the thesis that market economies are superior as forms of social order to all centrally planned economies. Hayek preferred the term *catallaxy* to refer to competitive economy considered as a rule-based process and favored the

phrase 'Rule of Law' instead of 'laissez-faire' to characterize the underlying mechanism at work in such a process (Hayek 1939, p. 219). Hayek claimed that this economic system has to be considered wholly as a social spontaneous order because it is an evolutionary and unintentional process based on the price mechanism working in an appropriate institutional context. Consequently, the resulting social and economic order is never intended as such, nor is it controlled by anyone. But it surely can be argued that the consequences of the actions of each and every individual taking part in the process necessarily contribute to its aggregate result.

Basing himself on a shrewd analysis of catallaxy, Hayek put forward the theoretical claim that it manifestly forms an order which is far superior to any kind of state-controlled social and economic order. Hayek was speaking here not only of an economic superiority in terms of efficiently allocated resources, but also of a social and political superiority in terms of the quality of life that such an economic order, based on the free market, makes possible for the large majority of people. Hayek always maintained as a core thesis of his economic theory and of his political philosophy that a socialist economy, i.e. a social order generated by an interventionist state and governed or regulated by an authoritative decision centre, could lead to such undesirable results as limitations on human rights and liberties—if not to complete serfdom (Hayek 1944; 1988).<sup>3</sup> The error of constructivistic rationalism is to assume that a designed economic order will necessarily be superior to an unplanned one just because it will be formed by and based on Reason. But, as Hayek points out, Reason itself is the product of evolution and should not be seen as capable of planning and directing cultural evolution. More than that, economic planning by itself does not create order, if by "order" we mean, along with Hayek, "a state of affairs in which a multiplicity of elements of various kinds are so related to each other that we may learn from our acquaintance with some spatial or temporal part of the whole to form correct expectations concerning the rest, or at least expectations that have a good chance of being correct" (Hayek 1973, p. 36). Human reason, and especially the product of individual minds of a small group of people, however inspired, wise, knowledgeable and thoughtful they may be, cannot by itself achieve an order that would be better than the one from which rationality itself progressively emerged. As one of Hayek's commentators has argued, "[O]n the contrary, by disturbing the regularities based on impersonal rules which are the product of evolutionary learning, rationalist social engineering results, if not in chaos, at least

in unworkable or unnecessary coercive organizational structures” (Dobuzinskis 1989, p. 243).

Hayek proved absolutely confident that economic analysis could demonstrate that socialism was not only a social blunder and a political failure, but above all a formidable scientific error. The evolutionary argument puts forward a completely different conceptual framework tightening the anti-socialist argument. By calling attention to facts concerning the global process of cultural evolution, typically analyzed by Hayek as a struggle or competition between moral traditions (i.e. systems of rules of just conduct and perception and not philosophical norms) where the more efficient social and economic orders will prevail and eventually dominate all others, Hayek grounds on empirical evidence his argument stating the superiority of competitive economy over planned economy.

The socialist calculation debate has almost always been interpreted *negatively*. Following the traditional reading, Hayek, and Mises before him, criticized socialism (market socialism in Hayek’s case) in order to demonstrate what Hayek has called the “impracticability” of socialism conceived as a “centrally planned economy”.<sup>4</sup> I maintain that Hayek’s crucial aim is rather *positive*. Hayek is indeed striving to define a method suited to prove the superior efficiency not only of market-based economy (or ‘free market economy’, or again ‘competitive economy’) but also, and more globally, of what he calls the “extended society” (or the ‘catalaxy’, or again the ‘Great Society’, which corresponds to what Popper has called the “Open Society”).

Without a doubt, the whole socialist calculation argument is from this standpoint better seen as a *comparative* argument: and here comparison is not done for its own sake, for it is used to prove something. Hayek’s aim is not only to substantiate the theoretical point that socialism is impractical (a negative claim) but furthermore to provide evidence that market economy offers a better solution to the allocation problem (a positive claim). As long as the economic problem concerns allocating scarce resources to different social ends that compete against each another, the most rational way to settle the question is to compare different economic systems in order to reach a conclusive and convincing answer. For Hayek, if the question has to be formulated in comparative terms, it is clearly because what is at stake in the market socialism debate is the relative efficiency of two economic models, the first propounding state intervention in an overall planning of the economy, the other propounding coordinated growth of the economy by spontaneous social forces working under the Rule of Law. “The main point is very sim-

ple”, writes Hayek: “It is that comprehensive economic planning, which is regarded as necessary to organize economic activity *on more rational and efficient lines*, presupposes a *much more complete agreement* on the relative importance of the different social ends than actually exists, and that in consequence, in order to be able to plan, the planning authority must impose upon the people the detailed code of values that is lacking” (Hayek 1939 [1997], p. 193, my emphasis). The same point is made again for example in *The Road to Serfdom*. There can be no doubt that from the start, and more preeminently in Hayek’s case than in Mises’, the question is put in a form that is thoroughly comparative: the proper method to discuss the question in all its implications is to compare both models conceived as ideal-types (private *versus* public ownership of the means of production, dispersed and fragmented knowledge *versus* centralized information, pricing system *versus* prices determined by a Central Planning Board; incentives in terms of profits for entrepreneurs *versus* incentives in terms of political rewards for the state-owned enterprises, etc.).

The purpose of Hayek’s CET is to provide an evolutionary demonstration of the superiority of liberalism over socialism. And again, the issue is addressed as an essentially scientific question. For Hayek “the notion that, in the last resort, the whole debate is a matter of value judgment and not of facts has prevented professional students of the market order from stressing forcibly enough that socialism possibly do what it promises” (Hayek 1988, p. 8). But the ultimate aim of the debate is not only to debunk the “fatal conceit” of socialism but to support the general argument that market economy is largely superior as an efficient socio-economic order to any kind of planned economic order. Catalaxy is held to be pre-eminent because it is more efficient, and it is said to be more efficient because it is alleged that no central political organism can adequately replace or even simulate the market pricing process. Hence, a full-fledged spontaneous social order will always be economically preferable to a full-blown collectivist planned one. For sure, this is in line with Hayek’s understanding of what the whole socialist calculation debate was about (see Hayek 1935, 1940). He avowedly claims, not on moral but on theoretical and empirical grounds, that a resolutely interventionist state is bound to fail as the source of social and economic order: it could not only eventually lead progressively to serfdom, but it could also ultimately cause the collapse of the whole economy.

Hayek’s evolutionary argument trying to demonstrate that liberalism is to be preferred to socialism as a system of rules of just conduct and perception bringing about a superior

socio-economic order has to be considered not only as an integral part of Hayek's analysis *but as its boldest claim*. It has moreover been subjected to fierce criticism for instance by Dobuzinkis (1989), De Vlieghere (1994), Jossa (1994), Lukes (1997), Steele (1994), Zappia (1999) and especially Dupuy (1988, 1992).<sup>5</sup> The common denominator to all these critical comments is based on the following reasoning: if one adopts, as Hayek does, an evolutionary perspective, one cannot prove that a social order based on market processes is the best possible one. As Angelo Petroni wrote, "If anyone assumes an evolutionary point of view, where the individuals have a severely limited knowledge about the environment and their own rules of conduct, there is simply no room for saying that anything similar to optimality exists in Hayek's world" (Petroni 1995, p. 119). Indeed, if social and economic orders are plainly contingent, i.e. if they are the unintended and unforeseeable products of evolution in a struggle for the survival of the fittest, then the question of which is the optimal one is empirically irresolvable because we cannot predict which one will outlast all the others. Would this counterargument hold, then advocating that market economies and liberal orders are, on an absolute scale, the best possible social and economic traditions would be an untestable claim, hence it could not be considered a legitimate scientific conjecture but only the expression of an ideological preference.

But this criticism of Hayek's evolutionary argument is flawed for it misses the point. First of all we should stress that the kind of evolutionary argument Hayek is using is part of what has been called by Gould and Lewontin the 'adaptationist programme', but it has nothing to do with what they called the 'Panglossian paradigm'.<sup>6</sup> As long as we compare as ideal-types the centrally planned economy with the competitive economy, as long as we look at both to find out which has the comparative advantage relative to the other, and as long as we do not use any kind of absolute scale to compare their respective merits as social and economic systems, we can surely maintain as Hayek does, at least as a bold conjecture, that liberalism is superior in efficiency to socialism. This hypothesis has to be discussed on scientific grounds, considered for its explanatory robustness and its predictive power (if any) and judged at face value. Surely, it cannot be dismissed from the start as logically faulty. It is of course both disputable on a conceptual basis and refutable on observational grounds. But it would clearly be a methodological mistake to reject it as intrinsically inconsistent or as logically unwarranted. As such the socialist calculation theoretical argument and the cultural evolution argument are the two sides of one and the same coin. These two arguments

have to be considered not only as consistent but also as forming one of Hayek's boldest claims in political economy.

## II. DOES HAYEK AVOID THE NATURALISTIC FALLACY?

Hayek undeniably sees "the price system as the best one" (Hayek 1939 [1997], p. 215). Time and again he insists on the superior efficiency of capitalism over socialism. For instance, starting from the bare fact that "the only known mechanism by which the knowledge of all can be utilized (is) the price mechanism" (Hayek 1939 [1997], p. 196), and being perfectly aware of the fact that sometimes the price system is inapplicable and is supplemented, he notes that "the problem we are discussing is not, however, whether the price system must be supplemented, whether a substitute must be found where in the nature of the case it is inapplicable, but whether it ought to be supplanted where the conditions for its working exist or can be created. The question is whether we can do better than by the spontaneous collaboration secured by the market, and not whether needed services, which cannot be priced and therefore will not be obtainable on the market, have to be provided in some other way" (Hayek 1939 [1997], p. 197).

This political-economic argument is indeed closely related to Hayek's anti-constructivist stance and leans on a theory of spontaneous socio-economic order. What is at stake here is not whether socialism is applicable or not but whether it is more enviable than liberalism. What seems to be representative of Hayek's analysis of spontaneous social and economic order is that, converging with the socialist calculation debate, it tries to show that cultural evolution of societies actually leads to the emergence of rules superior to other possible systems. One can surely maintain, as John Gray does, that there are no moral value judgments really at stake here (Gray, 1984, pp. 33-4; 118-125), but it is hard to miss the fact that Hayek's analysis serves to support a pre-eminence claim with respect to the market economy. Asserting that competitive economy should be considered as superior to centrally planned economy is *per se* a normative statement, but, as such, this has nothing to do with ethics. This kind of argument can readily be characterised as forming a sub-category of "invisible hand explanations", akin to the kind of extremal explanations found in evolutionary biology. In fact, many critics regard Hayek's cultural evolutionist views as seeking to demonstrate that market economy is an optimal historical outcome. Hayek's commentators believe themselves to be justified to rebuke Hayek for having supposedly grounded a

claim to moral optimality of liberalism on an evolutionary argument. But this point of view is completely undefensible. Has Hayek's cultural evolutionary considerations anything to do with a moral claim, and does it come down to upholding that the rules selected through the cultural evolution process are for that reason those that we should praise as morally desirable? It seems obvious that this is precisely what Vanberg has in mind when criticizing Hayek. But Hayek overtly denies committing this genetic fallacy. He writes: "I do not claim that the results of group selection of traditions are necessarily 'good' — any more than I claim that other things that have long survived in the course of evolution, such as cockroaches, have moral value" (Hayek 1988, p. 27). Moreover, Hayek denies that the extended society was bound to take place in human history: he explicitly considers that this economic system "has not been deliberately invented, but that it has spontaneously grown up long before we had learnt to understand its operation" and he regards it as "the result of a more or less accidental historical growth..." (Hayek 1941, p. 215). But these statements are in no way inconsistent with Hayek's inference that the competitive economy prove to be evolutionary superior to planned economy.

Vanberg legitimately wants to draw a neat and razor-sharp distinction between what makes systems of rules *desirable* and what accounts for their survival through the evolutionary process, i.e. their effective selection. He rightly claims that "what is desirable need not be at all what survives, and vice versa" (Vanberg 1993 [1994], p. 102). He goes further in claiming that spontaneous rules (e.g. property rules) need to be 'enforced' by a proper mechanism—a mechanism "that serves to exclude coercion and fraud as strategies of enrichment, ideally leaving voluntary exchange as the only avenue for the pursuit of one's interests" (*ibid.*). Referring to this 'enforcement mechanism', Vanberg adds that "it is because of these particular characteristics of the market process, because competitive behavior is 'restrained by appropriate rules of law' (Hayek 1978, p. 125), and not simply because of its evolutionary nature *per se*, that for classical liberals like Hayek markets are the favorite form of social organization" (*ibid.*). Even if this last remark is right, Vanberg does not seem to fully grasp Hayek's thought here: when comparing 'constructed order' to 'spontaneous order', we must keep in mind that the evolutionary advantage of the second system over the first is precisely due to the fact, explicitly stated by Hayek, that it works under the Rule of Law. This institutional framework is what guarantees that capitalism will develop on a competitive basis with no fixed global aims, as compared to a system that would develop by being directed and

based on intended, all-encompassing ends. If this is right, then there is no distinction to be made in cultural evolution between rules that are socially and economically advantageous and rules that have evolutionary superiority. The claim is then the following: *ceteris paribus, the more efficient rules will tend to prevail in the long run*—this is what the evolutionary conjecture is about in economics and, *mutatis mutandis*, in biology as well.

But this theoretical conjecture has nothing to do with the ethical question of which set of rules is or should count as the most desirable. Vanberg believes that the analogy between 'market process understood as *evolution within rules*' and 'competitive selection of alternative problem-solving devices in ordinary markets' is "legitimate in so far as the rules and institutions that exist at any point in time, in any particular society, are obviously those that, *de facto*, did 'win out' in some kind of competition". As this cannot be the case in economics following Vanberg, then we should consider that "the suggested analogy between market competition and cultural evolution becomes misleading...when it comes to the question of what their factual survival can tell us about the desirability of rules and institutions" (Vanberg 1993 [1994], p. 102).

Vanberg is of course fully justified in thinking that we must meaningfully distinguish between 'what is good or desirable' and 'what survives'. But this distinction cannot be considered as a counterargument to Hayek's cultural evolution approach. Maurice Lagueux's very careful reading of Hayek is a bit different from Vanberg's. Lagueux insists that one will not find any form of teleological view in Hayek's evolutionary approach to economics: "Hayek could not have and indeed did not use the adaptation and survival criterion to establish that a structure like the market *will* in fact favor efficiently the correct functioning of society" (Lagueux 1988, p. 96).<sup>7</sup> And as far as moral or political justification is concerned, Lagueux adds that "the only property of being spontaneous does not give by itself anything that could help us base a value judgment on 'social order' or 'justice'" (Lagueux 1988, p. 102).<sup>8</sup>

This faultless reasoning shows that several of his critics have unfortunately missed the gist of Hayek's evolutionary standpoint: Hayek clearly does not see evolution as a process giving optimal moral results, but he advocates overtly that in the struggle for survival, those spontaneous social and economic orders, being based on the Rule of Law, have a clear evolutionary advantage over their constructivist counterparts. So competitive economy cannot be proven to be more morally desirable on an evolutionary basis, but it can

be proven to be more efficient than any kind of planned economic regime, since it can be shown that more people can earn their living in that kind of social and economic system. For Hayek, we have good reasons, scientific reasons of a certain kind, to think that people will be better off in a competitive and free economy than in a planned and centrally directed economy. My point here is not that Hayek's argument is indeed effectively proven scientifically true by him: it is that Hayek's argument is about the comparative economic robustness of two models or systems, something which has no bearing on the moral desirability and justifiability of the systems of rules involved. Accordingly, Hayek should not to be criticized for having based a normative claim ('we ought to be liberal') on an empirical conjecture ('rules of just conduct and perception sustaining competitive economy have the best chances to be selected in the cultural evolution process because they are efficiently superior').

One has to ask nevertheless whether this Hayekian optimality argument is fully consistent with the evolutionary standpoint Hayek is adopting, and I think it is. The idea of an '*optimum*' is surely not unfamiliar to economists: standard neoclassical economics in particular usually works with an optimality assumption when assuming that agents are rational. Furthermore, when theoretically extended, this paradigm includes information acquisition and transaction costs. But Vanberg's point against Hayek is that he "does not provide an independent definition of what 'appropriate' rules are, beyond the notion that they contribute to a *beneficial social order* (Vanberg 1986, p. 79). He further points out that "in talking of the 'appropriateness' of rules it may be necessary to specify the *relevant group* for which the resulting order is to be judged beneficial" (*ibid.*, n. 4). This remark seems unjustified. For the criterion of the appropriateness of rules of just conduct and perception is formulated by Hayek in terms of population growth (see Hayek 1988, Ch. 8, pp. 120-134), this being directly related by Hayek to the socio-economic conditions which can most favorably play a causal role in the matter. It should be noted here that Hayek builds up a strong critical argument against Malthus and the Malthusian fear of overpopulation. Claiming that, as a matter of fact, in a market economy everyone gets a return exactly proportioned to what he/she contributes, Hayek also claims that the comparative advantages of economic systems can be devised in population-based terms: the population living under such conditions will tend to grow, a constantly expanding economic order being, by definition, one allowing a greater number of people to live and multiply. An expanding population will in turn eventually tend to increase economic

efficiency. It is in comparing socialism and liberalism as two opposed socio- and politico-economic ideal-types that market process is conceived by Hayek to be the best 'discovery procedures' of information needed by individuals to act rationally, and as the best mechanism to work out spontaneously the 'coordination of all individual plans'. But of course this is not at all equivalent to saying that the best individual plans will necessarily be chosen and that the best social and economic order will inevitably result of the cultural evolution process.

Undoubtedly Hayek never claimed that competitive economies would in fact certainly give rise to absolutely optimal results just as he never wrote either that socialism would inevitably cause serfdom. Bruno Jossa writes nevertheless that "according to a widely shared interpretation [Hayek is confident] that social evolution will guarantee the survival of efficient institutions" (Jossa 1994, p. 80), but he adds that: "other well known advocates of economic liberalism, among them Viner and Buchanan, have severely criticized Hayek's opposition to institutional reforms by emphasizing that the institutions that are found to survive, and even to thrive, are not necessarily apt to maximize human capabilities. (...) In other words, according to Viner and Buchanan, cultural evolution does not guarantee the survival of the best institutions".<sup>9</sup>

Even if economic theory can demonstrate that the market economy is the best ever solution up until now to the resource allocation problem, one cannot say that liberalism will prove to be the best social and economic order ever possible in human history. Hayek should be praised for having shown that we have evolutionary evidence to believe that market-based spontaneous social orders outdistance in economic efficiency any form of centrally planned and directed society. But he should not be criticized for having propounded the view that, as an abstract and strongly idealized model (or ideal-type) of the economy, market process within the spontaneous social order working under the Rule of Law can, given the proper conditions, produce the best moral order ever possible. Hayek never endorsed historical determinism and he obviously never fell into the pitfalls of the naturalist fallacy. Moreover, methodologically speaking, his evolutionary argument about the economic superiority of a liberal order, i.e. of rules of just conduct and perception on which the market economy is based, qualifies as a comparative, not as a superlative argument.

### III. IS CULTURAL GROUP SELECTION CONSISTENT WITH METHODOLOGICAL INDIVIDUALISM?

I now come to grips with the question of the alleged inconsistency between Hayek's cultural evolution theory and his professed methodological individualism. It is significant that those historians of economic thought who are discussing and trying to shed more light on Hayek's arguments against socialism often become hesitating and uncomfortable, if not embarrassed, when they take into consideration Hayek's professed evolutionary standpoint. And this is clearly related to the fact that Hayek made an unexpected use of the group selection concept. For instance, when Vanberg published his 1986 seminal paper, two years before the publication of Hayek's *The Fatal Conceit*, he had had access to Hayek's manuscript and referred to it explicitly.<sup>10</sup> "In his latest writings", writes Vanberg, "notably in his forthcoming book *The Fatal Conceit*, Hayek seems more and more to suggest an interpretation of the notion of group selection which is not based on the claim that individuals practice certain rules *because* they are beneficial to the group (...) Rather the argument is that those groups in which, *for whatever reason*, individuals are made to follow socially beneficial rules will be superior to groups with less beneficial rules, and that—via the superiority of the group—cultural evolution will select for appropriate rules" (Vanberg 1986, p. 89, n. 14). Vanberg's critique of this view is that "certain rules cannot be expected to emerge and to be enforced spontaneously, but require some 'organized apparatus' for their enforcement" (*ibid.*). But unfortunately "the idea of such a politically mediated process of cultural selection is left extremely vague in Hayek's writings" (*ibid.*). Agreeing with Steele (1994), Vanberg adds that "it is unclear for what period of human history Hayek considers this interpretation to be appropriate," that it can "perhaps be appropriate for a view measuring cultural development in terms of millennia" but surely not for us mortals who live on a much shorter timescale and who have to develop "an appropriate attitude towards the systems of rules" (*ibid.*) in which we find ourselves.

Following Vanberg's reading of Hayek, it seems that it is the rules of just conduct and perception that are the subject of the selection process: thus, the rules would be selected for the groups they favor in the economic struggle. But a somewhat different reading of Hayek is possible whereby it is rather the groups themselves that are selected and where they are so selected *for* the rules that the individuals in these

groups actually follow. This changes the picture. Indeed the rules alluded to are not adopted by individuals through deliberation and following a rational choice and in view of the groups these rules tend to favor. The individuals who follow these rules do not most of the time have a clear awareness of what rules they are following precisely, and they would be in most cases unable to say why they do it, if only to do as others do themselves. These rules are learned through negative reinforcement and form feedback loops.

According to Hayek, the reasons why individuals in a given community will, generally speaking, follow tacit negative rules as far as their social and economic behavior is concerned is, of course, that they will tend to imitate successful social and economic behaviors. This being the case, the group in which they earn their living will tend to be economically successful, which is a guarantee of economic survival for them. So Hayek's argument goes this way: individuals follow rules which appear to them to be rules of just conduct and perception; individuals interacting in a community following those rules tend to be more successful than those that do not; more successful groups tend to be more extended (this is the idea of 'catallaxy'). Consequently, the more efficient and productive they get, the more people tend to follow these rules, so that this socio-economic regime tends to increase the population living under its norms and standards. Individuals get imitated for the rules they apparently follow (as for example in the language acquisition process); clearly groups of individuals get selected for the successful rules the individuals composing them follow. If this reconstruction is accurate, then Vanberg's reconstruction of Hayek's idea of evolutionary group selection is at odds with the one Hayek is effectively advocating. I must add that later in his work Vanberg takes a much more positive approach to Hayek's "evolutionary paradigm", conceding that this "is, in fact, a much more fundamental element of Hayek's thought than is commonly recognized" (Vanberg 1993 [1994], p. 95). But this leaves open the question of whether his 1986 interpretation of Hayek was sound in the first place, and I think not.

Vanberg writes moreover "that we have no reason to assume that there is some general spontaneous process at work on which we could blindly rely for the generation of appropriate rules" and furthermore "that the notion of cultural group selection is theoretically vague, inconsistent with the basic thrust of Hayek's individualistic approach and faulty judged on its own grounds" (Vanberg 1986 [1994], pp. 93-4). In the same vein, Stephen Boehm writes that Hayek is not the methodological individualist that he pretends to be (Boehm 1989, p. 221). Geoffrey Hodgson writes that "in an



evolutionary context, methodological individualism has to be either redefined or abandoned” (Hodgson 1991, p. 78). Hodgson himself rejects methodological individualism because it “takes the individual for granted” (Hodgson 1994, p. 419), whereas he thinks we need an analysis that goes deeper than the individual level in order to provide a causal explanation for the social and cultural factors of preference formation. To be sure, the ‘unsoundness’ and ‘inconsistency’ criticisms were raised by most if not all commentators of Hayek’s work, such as Alain Leroux (1997) and many others.<sup>11</sup>

The notion of group selection seems very problematic to Vanberg and I concur with that remark—so vague, in fact, that it is not sure at all why we need this conceptual device within Hayek’s CET. But what really matters is that ‘group selection’ is said to be ‘inconsistent’ with methodological individualism, and I take this point to be a highly significant criticism of Hayek’s system of thought. But as I will try to show now, this conclusion is wrong. Methodological individualism is identified and characterized by Vanberg as “the guiding principle that aggregate social phenomena can be and should be explained in terms of individual actions, their interrelations, and their—largely unintended—combined effects” (Vanberg 1986, p. 80). In line with Adam Smith, it is presented as “an invisible-hand explanation” (Vanberg 1986, p. 81). Vanberg claims that, in order to be legitimate, this kind of explanation has “to show how the behavioral regularities, which a theory of spontaneous order assumes as given, can be explained as an unintended, but systematic outcome of a process of interaction among individuals who are separately pursuing their own ends” (*ibid.*).

To be fair I must add that Vanberg also stresses that “it should be noted that Hayek, in some places, seems to characterize the process of group selection in a way that would allow for a consistent, individualistic interpretation. He argues, for instance, that groups practicing more ‘appropriate’ or ‘successful’ orders will expand by attraction of outsiders, or that more successful orders will tend to prevail by being imitated by ‘outsiders’. For such processes of *between-group migration* and *between-group imitation* to be taken into account, it is not necessary, however, to appeal to a special theory of *group selection* that would have to be added to the *individualistic* conception of cultural evolution...” (Vanberg 1986, p. 85, n. 12; 1994, p. 256, n. 26).

One could say that Vanberg himself almost found the solution to the problem he helped identify in the first place: Hayek does not in fact need any *biological* group selection theory. Consequently, the fact that he has adopted the

Wynne-Edwards model of group selection,<sup>12</sup> a flawed model rejected by Wynne-Edwards himself, has absolutely no bearing on the point Hayek wants to make. As stated by Hayek in 1988, evolutionary biology is still striving to work out an adequate model of group selection but we should recognize that, even if there were no solution to the biological problem as stated, it would not have any adverse consequence for Hayek’s theory of cultural evolution. How is that to be understood? The answer is straightforward in Hayek: cultural evolution is *not* a biological process after all, hence does not need to be articulated in an overall neo-Darwinian scheme of explanation. The fact that evolutionary economics is not Darwinian or neo-Darwinian in the sense of contemporary evolutionary biology has been made very clear in Lagueux (1988) and also, in more general terms, in Rosenberg (1992 and 1994).

But as far as modeling the biological evolution process is concerned, Hodgson (1991) did a tremendous job replying to one part of Vanberg’s criticism. Hodgson showed in a carefully documented analysis that there were legitimate alternatives within evolutionary biology to the Wynne-Edwards model, which was inaptly based on the idea of altruism and self-sacrifice of individual organisms for the benefit of the species. And of course it cannot be denied that Hayek’s theory of cultural evolution has been articulated as an analogy of biological evolution. As for orthodox evolutionary biologists, natural selection was conceived by Hayek as the statistical outcome of the working of time on biological organisms. Hayek is fully aware of the fact that the species that individual organisms come to form are exposed to blind variations, some of these variations being favorable to their rate of reproduction as a group and increasing their adaptation to their environment, but all others being disadvantageous and diminishing their capacity to adapt. It is with that model in mind that Hayek approached cultural evolution. It is worth noting that Geoffrey Hodgson wrongly criticized Hayek for not having seen that Carl Menger (and before him Adam Smith, David Hume and Bernard Mandeville) also espoused an ‘evolutionist’ viewpoint, but were aware that cultural evolution “is not equivalent to Darwinian evolution or natural selection in a fully specified sense” (Hodgson 1994, p. 408). For, the perspective adopted by Hayek clearly takes place as part of this tradition of thought.

I need to be clear ere: I wish neither to praise nor rearticulate more legitimately Hayek’s group selection argument. My point is again purely methodological. I do not think that what Hayek called ‘group selection’ has anything to do with neo-Darwinism—and I think that Hayek himself was fully

aware of that.<sup>13</sup> This is why, in order to make sense of what Hayek meant by ‘group selection’, we do not need to find new and adequate biological models of cultural evolution, contrary to what Hodgson seems to believe. First of all, since cultural evolution is not a biological process, it need not be modeled as if it were one. The correct question here is not whether we can find a proper model of biological group selection, for I suppose we can, but whether we can stay connected with what Hayek wanted to explain and still stay within the cultural group selection framework. Contrary to a widespread criticism, Hayek’s views on cultural evolution show no logical inconsistency with his methodological individualism (MI hereafter). This point requires a specific argumentation.

As far as MI is concerned, it should be recognized that there is more than one philosophical view that can be adopted here. Usually, MI is a reductionist stance: as a method to explain the working of society, MI assumes that every supra-individual entity must be ‘explained away’ by reducing it to its elements. ‘Society’ as a whole needs, in that sense, to be reduced to the actions of interacting individuals. MI is defined most of the time, like in Vanberg, as “the methodological presumption that, whatever phenomena at the social aggregate level we seek to explain, we ought to show how they result from the actions and interactions of individual human beings who, separately and jointly, pursue their interests as they see them, based on their own understanding of the world around them” (Vanberg 1994, p. 1). But this is clearly not what Hayek has in mind when adopting MI. When Hayek takes a stance as to the ‘true individualistic’ character of the method of social science, he means something quite different from reducibility: he advocates what he called a ‘compositive’ (or ‘synthetic’) method and considers that we have to start from individual actions in order to explain the aggregate level of society (the analysis is conducted bottom up) and there is no indication that we must follow the other path (we cannot have an analysis that goes top down). Something is then misleading in the reductionist conception of MI as far as Hayek is concerned: for the important thing to say is not that social institutions and structures result from human actions but that they *do not* result from the *intentions* of individual agents.

But even if we would invoke ‘unintended consequences of action’ to come closer to Hayek’s view, something crucially important would still be missing here. Indeed it is quite true that for Hayek, as for all other individual methodologists, the building blocks of social and economic orders are individual actions and interactions, but what this means is that

we must understand that the supra-individual level ‘emerges’ out of individual actions. This is what Hayek’s ‘compositive method’ is all about. Hayek’s MI doctrine is a form of “emergentism”, and his methodological stance is radically anti-reductionist. What Hayek claims is that the ‘compositive’ method is what we need in social science, and not a ‘resolutive’ method.<sup>14</sup> In the physical sciences, what is observable is given at the macroscopic level while the unobservable is, strictly speaking, at the microscopic level. In the social sciences and in economics in particular, we find exactly the opposite: the observable (individual action) can only be given at the microscopic level and the macroscopic level (society) is by nature unobservable. For Hayek, the natural sciences are analytically oriented because they try to reduce complex entities like physical bodies to their simpler elements (atomic and subatomic particles). By comparison, social sciences need to follow a synthetic orientation because they have to explain how more complex phenomena like social institutions are constituted out of individual actions and beliefs, these being the only constituents that we can observe and have access to in the social sciences.

The best way to understand the relationship between individuals and groups (or society) is perhaps to refer to what has been called “supervenience” in the contemporary tradition of analytic philosophy. What minimally specifies a supervenient relation is relatively simple to grasp: *between two systems of entities related to one other, the system A is said to occur (to supervene) on the system B if a difference in A cannot occur without a concomitant difference in B occurring also.* As a logical relation, supervenience relates in a non-reductionist fashion two levels of reality in such a way that the two levels co-vary without having to be isomorphic.<sup>15</sup> Just as ‘mind’ can be said to supervene on ‘brain’, society as a network of ruled institutions can be said to supervene on ‘individual action’. And in the very same line of thinking, ‘cultural groups’ can be said to supervene on ‘individual agents’. In more general terms, this means that for every modification of an observable ‘social state’, you necessarily will find a corresponding variation at the level of individual actions and events. But it does not mean that by a proper manipulation at the individual level, you will necessarily be able to get at will a particular pattern at the societal level. The antireductionist logical relation of supervenience seems to fit perfectly well Hayek’s views on cultural evolution and methodological individualism as it also fits his neurophysiological theory of mind as articulated in *The Sensory Order* (more on this in Nadeau 2001).

The Hayekian brand of MI manifestly qualifies as emergentist as opposed to reductionist. By this I mean that cultural group selection *supervenes* on individual actions: it is then easily understood that rules of just conduct and perception followed by individual economic agents may confer superiority to the communities to which they belong over other populations with which they compete. Group selection in the Hayekian sense is the *effect*, never the *cause*, of individual behavior. Even if it was not explicitly used in Hayek's published works, supervenience is a concept that can help us understand adequately how cultural group selection comes about. Correctly stated, Hayek's conjecture goes this way: *groups of people are selected for their rules because the economically successful individuals get imitated by others and form dominating communities*. Precisely, Hayek's point is that just rules of conduct and perception get followed by more and more people, a moral tradition ("moral" in the sociological sense) gets progressively implemented and eventually reinforces itself because it confers a comparative advantage to groups of individuals that coordinate themselves in order to be better off in economic competition. The conclusion of such a reasoning is straightforward: even if Hayek effectively talks of 'group selection', it seems obvious that the explanatory device involved in the cultural evolution theory is thoroughly and exclusively based on individual actions, in particular when they produce unintended consequences. Hayek's evolutionary argument is by no means inconsistent with his methodological individualism. On the contrary, it gives it meaning and force.

#### IV. RECAPITULATION

It is obvious that most, if not all critics and commentators of Hayek mentioned here, have a different reading. I strived to establish from the start that Hayek's analysis of cultural group selection was in line with what he aimed to do in the socialist calculation debate. Hayek's cultural evolution theory serves clearly to reinforce on empirical grounds his analysis of what makes the superiority of the market economy over the centrally planned and directed economy. I argued that the kind of comparative superiority Hayek had in mind when opposing liberalism to socialism was only relative, and never absolute superiority. Hayek never argued that political economy could scientifically prove market economy to be the best ever possible historical result. I also stressed that economic superiority, even if it is for Hayek explainable in terms of just rules of conduct and perception, did not at all concern what is to be "good" in a moral sense. And I insisted

moreover that for Hayek this system of rules defining liberalism was surely not necessarily bound to emerge in human history, for the market economy is a thoroughly contingent expanding spontaneous order. But I also made clear that its duration in time and its eventual domination evidently provides for Hayek an empirical argument in favor of its efficient superiority in comparison with a centrally planned and directed economy. Nothing seemed to be logically or methodologically deficient in Hayek's line of reasoning.

This being said, even if we cannot reach consensus on what to think about Hayek's case in favor of the superior efficiency of a market economy over a state economy, we should at least be able to converge on what Hayek's argument is not about. We should indeed be clear on the fact that Hayek does avoid the pitfalls of historical determinism and of the naturalist fallacy. Anyhow, what I intended to show is that, contrary to what is usually believed, Hayek's methodological individualism is not of a reductionist brand. MI is without a doubt one of the main tenets of Hayek's methodological stance, and he clearly distinguishes between a "true" and a "false" individualism. It should be noticeable that the Hayekian brand of MI is "emergentist" as opposed to "reductionist", and is conceptually consistent with the general idea of cultural group selection. It does not have to come within a precise theoretical model that one could find in evolutionary biology, if only because we are not talking here of an evolutionary process in the neo-Darwinian sense. I have argued that, logically speaking, cultural groups *supervene* on individuals, meaning that more successful rules of just conduct and perception followed by individual economic agents may confer superiority to some communities of interacting individuals over other populations. I highlighted the fact that group selection in the Hayekian sense is the surface effect and never the root cause of individual action. As a social reality, it forms in itself a paradigmatic kind of unintended consequence. Hence, for Hayek, human groups, as if they would form complex super-individual entities, which they are not, simply do not act, for only human individuals can make decisions and act accordingly. Furthermore they are not observable as such, for only individual entities are and can be. In this sense methodological individualism is completely consistent with Hayek's conjecture of cultural evolution even if it is based on the idea—perhaps a bit hazy—of group selection.

NOTES

- 1 According to Hayek, "(...) economics has come nearer than any other social science to an answer to that central question of all social sciences: How can the combination of fragments of knowledge existing in different minds bring about results which, if they were to be brought about deliberately, would require a knowledge on the part of the directing mind which no single person can possess?" (Hayek 1937 [1948], p. 54). See also Hayek, 1945 [1978].
- 2 There is a controversy over whether this last publication, written while Hayek was seriously ill, really reflects what he was thinking rather than the ideas of William Bartley, the first editorial director of Hayek's *Collected Works*, in which, paradoxically, Hayek's last book, *The Fatal Conceit—The Errors of Socialism*, appeared as the very first volume. Chapter 39 of Alan Ebenstein biography of Hayek (Ebenstein 2001, pp. 306-313) described how hard it was for Hayek to write his last work, which he so wanted to be of the highest quality. Ebenstein writes that, in the end, Hayek was dissatisfied with the result, adding that "he was also disappointed that he did not complete the work himself" (p. 312).
- 3 For sure Hayek never wrote that socialism would necessarily lead to serfdom (he disputed this point with Samuelson who saw an "inevitability thesis" in Hayek's argument: on this see Caldwell 1997, p. 1868, note 7) as he never claimed that competitive economies would always give optimal results.
- 4 Referring to the phrase "the impossibility of socialism", Hayek clearly rejects this wording of the problem: "(...) Mises had occasionally used the somewhat loose statement that socialism was impossible, while what he meant was that socialism made rational calculation impossible" (Hayek 1935a, p. 76). Hayek prefers to talk of the "impracticability" of socialism (p. 69 and *passim*).
- 5 For instance, Jean-Pierre Dupuy is very critical of Hayek's evolutionary argument precisely because it comes with a strong 'optimalist' view concerning the market economy. He writes: "Critics have been sensitive to what seems to be the major contradiction of Hayek's social philosophy. It relates to the status of the demonstration that establishes the absolute superiority of the market. Only the abstract orders that pass through the filter of cultural evolution can claim the highest rank. Never in particular can the human mind or reason conceive of such complex orders than those selected by evolution. The problem is obviously that Hayek can hardly claim that the market has passed the test successfully, since his work is a critique, as radical as it is 'rational' could we want to write, of modern civilization, guilty of having let itself be seduced by the sirens of constructivism. Therefore only one of two things can be true. Either Hayek must renounce his theory of cultural evolution and the superiority of the market based on rationalist arguments, or, if he sticks to it, he must admit that the extended market order is not the best that can be (Dupuy, 2002, p. 198, my translation).
- 6 Gould and Lewontin (1979) distinguished between three forms of 'adaptation': "what physiologists call 'adaptation': the phenotypic plasticity that permits organisms to mould their form to prevailing circumstances during ontogeny (...) Physiological adaptations are not heritable, though the capacity to develop them presumably is" . . . . Secondly, we have a 'heritable' form of non-Darwinian adaptation in humans (and, in rudimentary ways, in a few other advanced social species): cultural adaptation (with heritability imposed by learning). Much confused thinking in human sociobiology arises from a failure to distinguish this mode from Darwinian adaptation based on genetic variation. . . . Finally, we have adaptation arising from the conventional Darwinian mechanism of selection upon genetic variation (p. 264). Hayek was obviously speaking about the second kind of evolutionary adaptation by way of cultural selection.
- 7 "... [Hayek] could not use and he has not really used the criteria of adaptation and survival to establish that a structure like the market is effectively able to efficiently promote the proper functioning of society. If such a structure could, in his view, have resulted from the spontaneous evolution of societies, one was not to conclude that any evolution was bound to result in a structure of this type. It would therefore also be unjust to see Hayek in a sort of unconditional apologist of the status quo that would justify this simply because it would be the fruit of a long evolution or even a long tradition. The market, according to Hayek, rather resembles a fragile structure that is imperfectly realized in the concrete history, a structure that the trials and errors of humanity risked destroying as much as they succeeded establishing" (Lagueux 1988, p. 96, my translation).
- 8 (...) the anti-teleological dimension of selection can not intervene decisively when comes into play the choice of institutions (...). The sole quality of being *spontaneous* does not bring by itself anything on which a value judg-

ment on the ‘social order’ or on ‘justice’ can be based” (p. 102, my translation). This analysis is rightly praised by Bruno Jossa (1994, p. 83).

- 9 Jossa’s references are the following: Viner 1961, pp. 166-7; Buchanan 1975, pp. 130-1; Buchanan 1976, pp. 13-24. It should be noted that these texts were written long before Hayek’s evolutionary ideas had been cleared up.
- 10 This paper was extensively revised by Vanberg, with many additions, in his 1994 book *Rules & Choice in Economics* (Vanberg 1994, Ch. 5, pp. 77-94.).
- 11 Pierre Garrouste (1999) is perhaps the only one to maintain loud and clear that “the Hayekian conception of evolution is consistent” (p. 99) and “coherent” (p. 100). In addition to chapters and books previously referred to, many other insightful comments are to be found in Bianchi (1994), Prisching (1989), Voight (1993) and Witt (1994).
- 12 V. C. Wynne-Edwards, *Animal Dispersion in Relation to Social Behavior*, Edinburgh: Oliver & Boyd, 1962.
- 13 Hayek follows in fact Popper and writes that “cultural evolution *simulates* Lamarckism” (Hayek 1988, p. 25).
- 14 Hayek indicates in *Scientism and Social Sciences* (Hayek 1942-43) [2010], p. 102, n. 4) that he borrowed the term ‘compositivo’ (a translation of the German word *synthetisch*) from a handwritten note by Carl Menger on his own copy of the review of Menger’s book *Methoden der Sozialwissenschaften* that Schmoller had published in *Jahrbuch für Gesetzgebung* (N. F., VII, 1883, p. 42). Schmoller had himself used the term “*deduktiv*” and Menger had written “*synthetisch*” just over it. (Cf. Hayek 1953, p. 130, n.33.) For a thorough historical study, see Cubeddu (1986).
- 15 The eminent British philosopher G. E. Moore reintroduced the concept of supervenience to modern philosophy. He did it through the english translation of passages from Aristotle’s *Nicomachean Ethics*. In the sense we understand today, we owe it to the eminent American philosopher Donald Davidson to have initially introduced it in order to say that mental characteristics are in some sense dependent on physical ones without being identical to them.

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