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# HAYEK'S THEORY OF SOCIAL EVOLUTION IN THE LIGHT OF DARWIN'S DESCENT OF MAN

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# Hayek's theory of social evolution in the light of Darwin's *Descent of Man*

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Abstract This article proposes to reassess Hayek's theory of cultural evolution in the light of Darwin's Descent of Man. It is shown that Hayek and Darwin refers to the same theory of human nature which is borrowed from the founding fathers of political economy, Hume and Smith. Their respective conceptions of order, as well as the mechanisms and the product of evolution are then the consequence of this theory of human nature.

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# 1 Introduction

When he concludes his treatise on biological evolution, the *Origin of Species*, Charles Darwin suggests the possibility to use his theory "for far more important researches", namely to explain the evolution of human faculties and societies. Thus, and Darwin remains vague, one reads that "In the distant future ... Light will be thrown on the origin of man and his history" ([**?**]). He thus had the project to write a treatise on the origins of a very peculier specie, man, and the evolution of human traits and faculties. In effect, Darwin was rapidly - "in the year 1837 or 1838" (Autobiography, p. 131) while he is writing the *Origin of Species* - "convinced that species were mutable productions" (ibid.) and then he "could not avoid the belief that man must come under the same law" (ibid.). However, such views were obviously challenging to what people of his time believed. Therefore, Darwin decided to behave cautiously in the exposition of his theories, considering "useless and injurious to the success of the book to have paraded without giving any evidence my conviction with respect to his origin" (ibid., p. 132). And it is only when Darwin "found that many naturalists fully accepted the doctrine of the evolution of species", then "it seemed to [him] advisable to work up such notes as [he] possessed and to publish a special treatise on the origin of man" (Autobiography, p. 130). The *treatise* Darwin eventually publishes in 1871 is entitled the *Descent of Man and Selection in Relation to Sex* and its purpose is to show "that man must be included with other organic beings in any general conclusion respecting his manner of appearance on this earth" (Darwin, [7]). In other words, the book is indeed written with the important objective to complement the theses of the *Origin of Species*.

But, although the *Descent of Man* obviously occupies a non negligible place in Darwin's theoretical framework, the book has not been frequently refered to (quoted, cited or even mentioned) by economists. The latter only view Darwin as the author of one major book, a biologist whose concepts were used by others to develop theories of social evolution rather than as a biologist who indeed attempted to develop his own theory of social evolution. As a consequence, the focus has always essentially been put upon the *Origin of Species*, the *Descent of Man* being left aside (Marciano, [46]). The debates about Darwin and how his insights could help the establishment of a theory of social evolution were, and still are, methodological, epistemological or ethical: the questions that are thus asked relate to the possible transfer of concepts and mechanisms from biology to social sciences, from nature to human societies.

One of the most important - even if controversial - scholars with regard to social and cultural evolution, Friedrich Hayek significantly adopts the same attitude towards Darwin. Nothing indeed suggests that Hayek refers to the social evolutionist who wrote the *Descent of Man*. To the contrary, Hayek almost undoubtedly considers Darwin as a biologist *only*. He therefore equates Darwinism with biology, and a Darwinian theory with a biological theory of evolution as when he speaks of "the Darwinian or biological theory of evolution" (Hayek, [30], p. 24). Now, in Hayek's views, Darwinian explanations of social phenomena are not only biological but are also similar to the theories developed by Bagehot and Spencer and, therefore, belong to social Darwinism (see for instance, [22], pp. 243-244). Hayek was then cautious to distinguish his approach to social evolution from Darwinism and from social Darwinism. He thus insisted that "The Mechanism of Cultural Evolution is *Not* Darwinian" ([30] p. 23; emphasis added) because he viewed his theory as having features closer to Lamarck's theory than to Darwin's: "to refer to terms now used in biological discussion, cultural evolution *simulates* Lamarckism" (ibid. p. 25; emphasis in original).

Whether Hayek's theory of social evolution is indeed Lamarckian (Birner, [2]; Witt, [61], [60]) or Darwinian (Khalil, [41]) or both (Hodgson, [36]) has been debated. Beyond the answer itself, what is important to note is that commentators have always tried to compare Hayek's theory of cultural evolution with a biological (Lamarck's or Darwin's) theory of evolution. No comparison has ever been made with Darwin's theory of *social* evolution. This is the purpose of this paper: to compare Hayek's theory of cultural evolution to the theory of social evolution exposed by Darwin in his *Descent of Man* and to show that, in that case, it is possible to conclude that Hayek's theory of social evolution *is* Darwinian.

Our demonstration develops in two stages. First, we argue that the two theories rest on the same ontological or philosophical basis, that of the Scottish Enlightenment (section 1) and, second, that they are based on the same principles: a similar target and mechanism of selection (section 2).

## 2 The Scottish Enlightenment as a common background

The writings of the classical political economists undoubtedly form the "background" (Caldwell, [5]; see also Dupuy, [14]) that gives Hayek's theory of cultural evolution is meaning. Thus, Hayek has always insisted that one should not forget that Darwin inherited the important concepts, upon which

rests his theory of biological evolution, from classical political economists: "The idea of biological evolution stems from the study of processes of cultural development" ([30], p. 24)[1]. Hume, Smith, Ferguson and Stewart were, in Hayek's views, "Darwinians before Darwin" and, more specifically, "Hume may be called a precursor to Darwin in the field of ethics" (Hayek, [24], p. 107). Now, the reasoning Darwin leads in the *Descent of Man* has its roots in the same tradition. In effect, in the *Descent of Man*, the references to the classical political economists are much more frequent than in the *Origin of Species*. Darwin then interestingly refers to Hume's *Treatise on Human Nature* and Smith's *Theory of Moral Sentiments*. Thus, both Darwin and Hayek utilise the same theory of human nature when they reflect on the evolution of human societies.

## 2.1 Reason, between abstraction and imitation

Hayek and Darwin acknowledge the fact that human beings are granted with a specific capacity that can be qualified as "reason". Hayek claims that he is a "rationalist" and, on his side, Darwin states that "of all the faculties of the human mind, it will, I presume, be admitted that Reason stands at the summit" ([8], p. 292). However, both Hayek and Darwin retain a definition of reason that makes their rationalism very specific, compared to what could be considered as a standard, rational version of rationalism. On one side, Hayek's social philosophy, and also his theory of cultural evolution, rests on the distinction he makes between "individualism true" and "individualism false" (Caldwell, [5], p. 7). He criticises the "false" version of "constructivist" rationalism that he associates with Descartes and Cartesianism and upon which stand the theories of the *siècle des Lumières* (see Boettke, [3]; Horwitz, [37]). By contrast, he accepts and locates his theory within the limits of the "true" version of rationalism that corresponds to the spontaneous order tradition that culminates in the writings of classical political economists. On his side, Darwin does not explicitly but implicitly oppose to the cartesian tradition of rationalism. In effect, even if the French rationalist philosopher is not quoted nor mentioned in his writings, Darwin nonetheless indicates that he belongs to the opposed tradition, that of the Scottish Enlightenment of Smith and Hume.

These philosophers, and of course this is the very reason why Hayek and Darwin refer to them, develop a theory of human nature that clearly differs from cartesian rationalism. They propose a sensualist theory of human na-

[1] See the analyses by Gordon, [16], Depew and Weber [10], and Schweber [51], [52].

ture, in which senses replace reason in the perception of the world and the building of human knowledge (Marciano, [44], [45]). From their perspective, human reason is only a limited capacity that does not allows individuals to question and correct what they perceive from the external world. To the contrary, in Hume's view for instance, human reason is a bounded capacity that "only" combines the impressions – the "data" or "information" – that individuals perceive through their senses and receive from the external world. In fact, the mind does not receive indistinctively impressions from the environment. Hume thus explains the that individuals do not memorise independent and isolated impressions. Rather, the mind stores sequences of impressions (or cognitive sequences) that will then make the perception of new impressions possible. To some extent, one may say that Hume develops a theory in which "pattern recognition" plays a decisive role. Thus, perception is past- or path-dependent: the capacity to perceive objects increases with the number of perceptions. Furthermore, past perceptions screen and filter future ones.

This theory of human nature is similar to Hayek's philosophy of mind and his related theory of perception. Our mind is supposedly made up of abstract categories that serve to interpret and select and then classify incoming information. Therefore, abstract categories precede and make possible, temporarily and logically, conscious thinking and our aptitude to explicitly form more complicated abstractions (Hayek, 1980, p. 34); one should not confuse the abstract schemata that result from experience and allow perception with abstract scientific theories. As a consequence, the abstract schemata that compose the human mind depend on the experience previously accumulated: "every sensation, even the 'purest', must therefore be regarded as an interpretation of an event in the light of the past experience of the individual or the species" ([21], p. 16; see also[31], pp. 35-49; [30]). Therefore, the differences that indeed exist between the cognitive capacities of grown up adult, children or animals are only a matter of quantity of accumulated experience. No qualitative differences distinguish animals and children and adults. They all possess the capacity to perceive the external world through abstract categories

> "The baby and the animal certainly do not live in the same sensory world in which we live. But this is so, not because, though their 'sense data' are the same, they have not yet been able to derive from them as many abstractions as we have done, but because of the much thinner net of ordering relations which they possess — because the much smaller number of abstract

> classes under which their subsume their impressions makes the qualities which their supposedly elementary sensations possess much less rich" ([31], p. 44).

On his side, Darwin he claims that, as soon as human beings as well as animals are able to classify what their perceive through their senses – the impressions they receive from the external world – into existing categories, then they are able to conceive general ideas. In this regard, there are no differences between man and animals. They both perceive their environment through abstract categories – "general concepts" – that help them to identify or recognise "patterns". He thus notes that "the greatest stress seems to be laid on the supposed entire absence in animals of the power of abstraction, or of forming general concepts" ([8], p. 296). However, "when a dog sees another dog at distance, it is often clear that he perceives that it is a dog in the abstract; for when he gets nearer his whole manner suddenly changes if the other dog be a friend" (ibid.). He thus departs from rationalism – in which the existence of rational reason marks the difference between man and animals – and accepts the idea that "there is no fundamental difference between man and the higher mammals in their mental faculties" (ibid.)[2]. Furthermore, as a previous quotation shows it, Darwin tellingly illustrates his description of how human reason functions by examples of the behaviours of animals ([8], pp. 292-294). Then, if there are differences and indeed there are, between man and higher mammals, they depend on the on the amount of accumulated experience. He thus notes that

[2]What can be called "evolutionist continuity", between man and animals is a controversial issue. Yet, Darwin viewed this continuity as a key element, that could guarantee the consistency of the theories presented in the *Origin of Species* and *the Descent of Man*. Thus, in his autobiography, he writes "As soon as I had become, in the year 1837 or 1838, convinced that species were mutable productions, I could not avoid the belief that man must come under the same law. Accordingly I collected notes on the subject for my own satisfaction, and not for a long time with an intention of publishing" (Autobiography, p. 131). Man was then "a leitmotiv" (Herbert, [33], p. 197) and also "an issue of its own merit" (ibid.; emphasis added) for Darwin since 1837, thirty-four years prior to the publication of the Descent of Man, when he filled his transmutation notebooks (from 1837 to 1841). Why is it so? The importance of a theory of human behaviour for Darwin "simply" rests in the possible generalisation of his theory of biological evolution. Indeed, this early conviction indicates both his optimism and satisfaction "about the general prospects ... and ... the explanatory powers of his theory" (Herbert, [33], pp. 201-2). The confidence thus gained led him to raison "questions concerning the evolution of instincts, emotions, language and intelligence", and to ask "how one can explain sociability and the evolution of human societies and their institutions" (Schweber, [51], p. 232).

> "no doubt, as Mr. Wallace has argued, much of the intelligent work done by man is due to imitation and not to reason; but there is this great difference between his actions and many of those performed by the lower animals, namely, that man cannot on his first trial, make, for instance, a stone hatchet or a canoe, through his power of imitation. He has to learn his work by practice" ([8], pp. 288-289; emphasis added).

In other words, Darwin claims, the repetition of purposeful actions allow human beings, and higher mammals as well, to acquire a certain experience of the relationships that exist between events. Then, practice and experience give birth abstract classes that in turn breed more experience and increase the individuals capacity to reason. Therefore, to claim, as Darwin does, that reason stands at the "summit" of human faculties does not mean that this faculty stands "above" other human faculties.

In this view, Hayek and Darwin seemingly share a similar conception on reason: this capacity is not the cause of knowledge and perception of the outside world; to the contrary, it results from the fact that human beings (and animals) receive perceptions from their environment. Human beings do no construct a priori, speculative and independent abstract categories about the world. To the contrary, these categories result from being part of the world. To put it in other words, cognitive processes and the acquisition of knowledge result from participation in the world, rather than in speculation about the world as it is in Descartes' perspective (see Livingston, [43] on the difference between 'participative' and 'speculative' knowledge). Reason thus results from being part of the world; Reason results from the experience that human beings draw from their environment, and therefore from the use and exercise of other capacities and faculties[3].

Then, another question arises. Each individual subjectively perceives his or her environment. Therefore, the abstract classes that result from individual experience are also personal. Reason depends on the private, personal and subjective, experience accumulated. How do these dispersed and subjective experience lead to harmonised knowledge?

[3]Significantly, Darwin describes reason after having described the other mental faculties, namely "attention" (p. 291), "memory" (p. 291), "imitation" (pp. 291-292) and "imagination" (p. 292). The order reveals that reason does not replace but complete other human faculties. Reason can only exist after other faculties have developed.

## 2.2 Social and moral instincts and human nature

The perspective adopted by the founders of classical political economy, that is the assumption of a non-constructivist rationalism, necessarily implies that civil societies were not created by a social contract. Individuals are not able to envisage and build institutions that they have not experienced. And institutions actually exist because they have always existed. In effect, in contrast to what individualist theorists – in particular social contract theorists like Hobbes – have argued, human beings never lived in have never lived isolated and separated from others; they did not rationally choose to live with others in social groups. Human beings have always lived in social states. If a state of nature ever existed, it never resembled to what Hobbes describes. To the contrary, the "very first state and situation" of man is a "social state" in which "Cordial affection, compassion, sympathy, were the only movements, with which the human mind was yet acquainted" (Hume, [40], p. 494). Sociability is not acquired but innate or rather, as both Hayek and Darwin claim, instinctive. On his side, Hayek argues that the model Hobbes proposed to explain the origins of societies that considers individualism and isolation as the primary form of life is "mythical" – "the primitive individualism described by Thomas Hobbes is ... a myth" ([30], p. 20). Similarly, Darwin insists that the first stages of human or animal life were social: "Every one will admit that man is a social being" ([8], p. 76). In both cases, the explanation given to justify the elementary fact of social life refers to instincts. Hayek: "The savage is not solitary, and his instinct is collectivist" ([30], p. 20).

Instincts thus form the "cement" of primary and elementary social groups, first of all because of their biological nature. They exist before any other faculty and, accordingly, make the development of mental faculties possible. To some extent, this means that original instincts develop and grow, turning into something more complex. This also means that they never disappear. This is indeed a typical feature of the evolutionary perspectives that Hayek and Darwin adopt – and this is consistent with the evolutionary continuity that exists between man and animals. Human beings never loose their natural, and thus biological, origins. In fact, evolution does not imply or mean that instincts will eventually disappear, but their role changes and the number of behaviours driven by instincts progressively decrease with evolution; while the role of reason and experience complementarily increase. However, Darwin is clear about the fact that the presence (or lack) of instincts cannot be used as a criterion to mark a difference between man, higher animals and lower animals. On his side, Hayek also emphasises that, even in open

societies, there remains a part of each individual that react as a primary man, as a savage who takes into consideration only what happens in small groups ([27], p. 181).

Interestingly, the last quotation reveals that instincts play a social role – sociability rests on instincts – but they also play an important role in interactions with others because of their moral dimension. In other words, instincts do not only allow human beings to coordinate their activities, they also affect the way they behave. From this perspective, it seems that both Darwin and Hayek envisage human interactions as having a twofold dimension, based on instincts and morality. In other words, individual behaviours and interactions are not only immediately and directly instinctive and also have a moral dimension. The two aspects cannot be separated and even, instincts and morality reinforce each other. First, sociability gives birth to morality: "any animal whatever, endowed with well-marked social instincts [...] would inevitably acquire a moral sense or conscience" (Darwin, [8], p. 304; emphasis added). Reciprocally, morality breeds sociability. More precisely, the very existence of morality makes social interaction possible and allows the development of higher faculties, like reason and intelligence. Hayek:

> "Man is not born wise, rational and good, but has to be taught to become so. It is not our intellect that created our morals; rather, human interactions governed by our morals make possible the growth of reason and those capabilities associated with it" ([30], p. 21)

Darwin provides a specific explanation to the link that exists between morality and sociality. He thus argues that the moral sense that characterises human beings takes the form of sympathy, a concept that he explicitly links to Smith and "the excellent first chapter of [his] Theory of Moral Sentiments"[4]. Thus, sympathy "forms an essential part of the social instinct, and is indeed its foundation-stone" ([8], p. 304). However, evolution

[4]Darwin's views on the role and importance of sympathy have changed. In his notebooks, Darwin notes "sympathy is very unsatisfactory because it does not like Burke explain pleasure" (série M, p. 108, Août 1838). Then, in the Descent of Man, he stresses: "Adam Smith has formerly argued [...] that the basis of sympathy lies in our strong relentiveness of former states of pain and pleasure. Hence, ≪the sight of another person enduring hunger, cold, fatigue, revives in us some recollection of these states, which are painful even in idea≫. We are thus impelled to relieve the sufferings of another, in order that our own painful feeling may be at the same time relieved. In like manner we are led to participate in the pleasures of others" ([8], p. 308).

transforms - even if it does not suppress them - moral sentiments and instincts, and modifies their role by comparison to the role played in primitive societies. Therefore, the functioning of what Hayek names "large societies" and Darwin "civilised societies" is different than that of primitive groups. In large or civilised societies, instincts may play a role in the interactions of friends and acquaintances; however, it plays no role in the interactions with strangers. Then, self-interest, and therefore reason, complements the role of instincts, moral sentiments and sympathy.

Yet, even if Darwin and Hayek seem to consider the important moral role of instincts (or the role of moral sentiments), they nonetheless do not the same words to describe the nature of moral relationships between human beings. While Darwin utilises the concept of sympathy, a concept that Hayek, quite surprisingly with regard to his debt towards the founders of political economy, never employs. Rather, he describes morals relationships in terms of "altruism". Is it only a matter of semantics? Or are there conceptual differences between sympathy and Hayek's altruism? The question is all the more important that sympathy differs from altruism and egoism. Hume and Smith do not equate sympathy with altruism et do not consider that sympathy excludes egoism[5]. Or, in other words, egoist behaviours remain possible even in a world in which sympathy supposedly characterises human nature. In fact, sympathy and egoism are complementary: when sympathy ceases to operate, egoism (or altruism) can take place[6]. This can be explained by the fact that sympathy only takes place among family members, close friends or acquaintances (see for instance Hume, [40], p. 534). This is one of the features that Darwin accepts and includes in his analysis: "sympathy is directed solely towards the members of the same community, and therefore towards known, and more or less beloved members, but not to all the individuals of the same species" ([8], p. 309). This is also a feature that, in Hayek's view, characterises altruism. In effect, the moral sentiments that individuals possess are the consequence, the evolved form of the feelings that individuals naturally adopted towards the other members of the group (see

[5]Adam Smith begins the Theory of Moral Sentimens by stating that an individual may feel sympathy and, at the same time, be selfish: "How selfish, soever, man may be supposed there are evidently some principles in nature which interest him in the fortune of others, and render their happiness necessary to him, though he derives nothing from it except the pleasure of seeing it" (1976, p. 9).

[6]"Sympathy, however, cannot ; in any sense, be regarded as a selfish principle [...] That whole account of human nature, however, which deduces all sentiments and affections from self-love, which has made so much noise in the world, but which so far as I know, has never yet been fully distinctly explained, seems to me to have arisen from some confused misapprehension of the system of sympathy" (Smith, 1976, p. 317).

for instance, (1982, p. 106). Hayek even speaks of "moral socialism" (ibid.).

Thus, altruism and sympathy share, beyond their differences, the features to be both instinctive and to operate in small groups. This aspect plays a decisive role from the perspective of a theory of social evolution. Let us now turn to the analysis of Hayek's and Darwin's respective theories of cultural evolution.

## 3 The mechanisms of selection

In the theories that he develops in the *Origin of Species* and in the *Descent of Man*, Darwin utilises a principle of selection to explain evolution. But, and this is the reason why it is possible to speak about a theory of cultural evolution, the mechanism of selection does not function in the same ways in the two areas, nature and culture. Darwin adapts the mechanism of selection to the domain in which his theory applies. In a similar perspective, Hayek seeks to demonstrate that a biological theory of evolution can possibly be used as a model to understand the evolution of institutions. Certainly, there are differences between biological evolution and social or cultural evolution. However, there remains that in both cases, evolution can be described as "a process of continuous adaptation to unforseable events, to contingent circumstances which could not have been forecast" (Hayek, [30], p. 25). Social order, just like biological order, then follows the same evolutionary logic: there is no global purpose that guides evolution. This is common element can be used as a starting point to explain the use by Darwin and Hayek of the same mechanism of selection to explain social evolution (3.1). However, culture differs from nature. To take into account these differences, the two scholars propose a theory in which the group is the target of the process of selection (3.2). The process of cultural selection that then takes places at the group level mostly consist in a transmission of acquired characters (3.3) that involve individuals but rest on imitation (3.4).

### 3.1 The principle of selection

In the works he devotes to cultural evolution, Hayek frequently includes references to biology. The reason is straightforward: although there are differences that have to be stressed, and that will be discussed later, between nature and culture and the process of evolution in the two spheres, there also exist similarities to emphasize. More than analogies that would allow superficial comparisons, Hayek claims that social evolution "follows

in many respects the same pattern as biological evolution" (Hayek, [31], p. 292), that cultural evolution "looks very much like biological evolution" (Hayek, ibid.) because "it also rests on a sort of natural selection" (ibid.). In other words, biological and cultural evolution "both rely on the same principle of selection: survival or reproductive advantage. Variation, adaptation and competition are essentially the same kind of process, however different their particular mechanisms, particularly those pertaining to propagation" (Hayek, [30], p. 26).

Similarly, Darwin's analysis of social evolution also assumes an evolutionary continuity that exists between nature and culture. Even if Smith's *Theory of Moral Sentiments* and Hume's *Enquiry on the Principles of Morals* are referred to in the course of the exposition of his theory of social evolution, "Malthus's" struggle for life and even Spencer's survival of the fittest are nonetheless not absent from the theory that Darwin develops. This is not surprising. In effect, one should not forget that Darwin wants to apply the concepts he used in his theory of biological evolution to model social evolution. In other words, his purpose is to describe the evolution of moral, mental and intellectual human faculties in terms of natural selecti-ton. Darwin thus frequently reminds his reader that one cannot explain the evolution of man and social faculties without a reference to natural selection and struggle for life: "I have now endeavoured to shew that some of the most distinctive characters of man have in all probability been acquired, either directly, or more commonly indirectly, through natural selection" ([8], p. 47); or "The early progenitors of man must ... occasionally have been exposed to a struggle for existence, and consequently to the rigid law of natural selection" (ibid., p. 39); and "Such social qualities [as sympathy, fidelity, and courage], ... were no doubt acquired by the progenitors of man in a similar manner, namely, through natural selection" (ibid., p. 321). Therefore, Darwin claims, natural selection guides biological as well as cultural evolution. By contrast with other naturalists of his time, who nonetheless defended the explanation of the dynamic evolution of social order based on a principle of selection, Darwin is one of the rare to demonstrate that natural selection does not stop to operate at the frontier of the cultural sphere.

Yet, culture is not the extension of nature. Continuity, or the lack of rupture between culture and nature, does not mean that these are exactly the same mechanisms that apply in the two spheres. Both Darwin and Hayek adopt perspective in which natural selection does not suffice to explain the entire and complex phenomenon of social evolution.

## 3.2 Social evolution and group selection

The first very important difference that exists between cultural and biological evolution concerns the *target* of selection. Thus, although the same principle ("natural selection") applies in culture and in nature, competition or "struggle-for-life" do not take place between the same entities in nature and in culture. In this view, the most noticeable feature of Hayek's and Darwin's theories is that cultural evolution is modelled as a process of group selection, rather than a process of individual selection. Therefore, the individual is not longer viewed as the target of selection or, still in other words, individuals no longer bear the reproductive advantage as in biological selection.

On his side, it is now admittesd that Hayek - and this aspect of his theory has been the subject of many discussions - indeed proposes a theory of social evolution in which groups play a decisive and crucial role. In fact, as shown in particular by Caldwell ([5]), Hayek "explicitly added the mechanism of group selection to his description of cultural evolution" in the late 1960s[7], then it became an increasingly prominent theme in Hayek's writings about social evolution ([5]; see also Angner, [1]; Steele ([54]) and it lasted until *The Fatal Conceit* in the 1980s. There are not many direct and explicit references to "group selection" in Hayek's writings. Hayek first mentioned the necessity to refer to groups in an explanation of social evolution - this is his "first articulation of the notion of group selection" ([5], p. 15) - in 1967, when he notes that

> "For the understanding of animal and human societies the distinction is particularly important because 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*" (Hayek, [25], p. 67; emphasis in original).

Then, he explicitly mentioned "group selection" in a footnote: "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 is of the great importance for cultural evolution (Hayek, [28], p. 202, note 37), the first occurrence of "group selection" (Caldwell, [5], p. 16). And, while aware of the limits of group selection explanations in biology, Hayek insists

[7]Precisely when group selection was attacked by Hamilton([18],[19] and Williams [58].

that this is one of the major differences that exist between cultural selection and biological selection: "whether group selection also operates in biological evolution remains an open question – one on which my argument does not depend" ([30], p. 25). Then, he eventually wrote that "cultural evolution is founded wholly on group selection" (Hayek, [29], p. 318) or that "cultural evolution operates largely through group selection" ([30], p. 25).

About one hundred years before Hayek wrote these words, another biologist, namely Darwin, also built a theory of social evolution in which selection operates at the group level. Thus, it can be argued, as Borello for insance does, that, "some form of group selection was indeed a part of his original theory" ([4], p. 43); in that case, group selection was already used in the *Origins of Species* and more specifically in the part devoted to social insects. At least, it can be claimed that Darwin remained "resolutely opposed group selection in the non-human world" (Ruse, [49], p. 626) but "when it came to our own species, Darwin ... "became a group selectionist" (ibid.). In effect, Darwin's group selectionism is explicitly at the core of his analysis of how human faculties evolve, that is in the *Descent of Man*. Thus,

> "with strictly social animals, natural selection sometimes acts on the individual, through the preservation of variations which are beneficial to the community [...] With the higher social animals, I am not aware that any structure has been modified solely for the good of the community [...] In regard to certain mental powers the case [...] is wholly different; for these faculties have been chiefly, or even exclusively, gained for the *benefit of the community*, and the individuals thereof have at the same time gained an advantage *indirectly*" ([8], p. 285-286; emphasis added).

Or

> "A tribe including many members who, from possessing in a high degree the spirit of patriotism, fidelity, odedience, courage, and sympathy, were always ready to aid another, and to sacrifice themselves for the common good, would be victorious over most other tribes" ([8], p. 322).

Therefore, quite interestingly, Darwin does not only focus on the group as the target of selection; he also draws the most immediate and important consequence of this assumption: social selection is made possible because individuals are ready to sacrifice themselves for the benefit of the group.

## 3.3 The transmission of acquired characteristics

A second important, and paradoxical, feature of the theories of social evolution that were proposed by Darwin and Hayek has to be investigated, namely the conservation or transmission of acquired characteristics. Usually, the possible transmission of acquired characteristics, that obviously happens in human societies, is assumed to be typical of Lamarck's theory rather than that of Darwin. Then, it cannot be *Darwinian* and should not be found in a *Darwinian* theory of evolution. Yet, both scholars envisage social and cultural evolution as a process in which the traits and practices that have been acquired can be transmitted to the other members of the group and then to other groups.

Hayek thus explains that "although biological theory now excludes the inheritance of acquired characteristics, all cultural development rests on such inheritance – characteristics in the form of rules guiding the mutual relations among individuals which are not innate but learnt" ([30], p. 25). That could be problematic to claim that Hayek's theory is Darwinian from the perspective of a comparison with Darwin's theory of biological evolution. However, the problem disappears if one refers to Darwin's *Descent of Man*. In effect, Darwin claims that intellectual and moral faculties are partly the product of the effects of natural selection and of learning, habit and therefore are partly inherited. Thus, he notes that "the intellectual and moral faculties of man ... are variable; and we have every reason to believe that the variations tend to be inherited" ([8], p. 89). Or, "The greater intellectual vigour and power of invention in man is probably due to natural selection, combined with the inherited effects of habit" ([8], p. 372); or "It is not improbable that after long practice virtuous tendencies may be inherited" (ibid., p. 376). These are but two references to "inheritance". The *Descent of Man* seems to be entirely built on a two forces, natural selection *and* the transmission of acquired characteristics.

## 3.4 Cultural selection, groups and individuals

Theories of cultural selection in which the target is the group and acquired characters are transmitted have been criticised, in economics as well as in biology, for being unable to face problems of incentives and free riding: why would individual accept to sacrifice themselves for the group? How to explain that indviduals innovate if their innovation benefits in the first place to others? And then how and why these innovations spread (are transmitted) from one individual to others and then from one group to others. Many are

those who have stressed how contradictory group selectionism could be from the perspective of supposedly individualist approaches such as Hayek's and Darwin's (see in particular Gray, [17], pp. 52-53; Vanberg, [55], [56]; Steele, [54]; Hodgson, [34], [35]; Witt, [59]). In these views, the way practices and traits are invented and transmitted from one individual to others and then from one group to others is hardly understandable. Two types of answers can be put forward to answer these criticisms.

First, group selection does not evacuate individuals from social evolution. In effect, group selection is "not incompatible with methodological individualism, once it is recognized that methodological individualism does not depend upon individual organisms being the (sole) unit of selection" (Whitman, [57], p. 62). Social evolution, as described by Hayek and Darwin, thus involves two completary levels, the lower individual *and* the higher group level. More precisely, this is of great importance, a hierarchical relationship links these two levels of selection, individuals and the groups to which they belong, the former being the necessary condition for the latter to develop. As, for instance, Gick and Gick ([15]) have stressed in Hayek's theory of social evolution, the role of individuals is necessary to innovate: it is not only that individual selection "is a process that operates on a subjectivist plane" (Gick and Gick, [15], p. 157) but also that each invidual's perceptions "are sligthly different from altrady existing ones and hence lead to the *creation* of new rules" (ibid., p. 156, emphasis in original). On his side, Darwin, who does not enter into the details of the origins of innovation, nonetheless locate innovations at the individual level. But, innovation is not a consequence of incentives: it results from the differences that exist between subjective perceptions and subjective classification of external stimuli. This thus makes sense if viewed from the perspective of Hayek's, and Darwin's, theory of cognition described in the preceding section.

Second, one must not forget that the theories of social evolution we are discussing are rooted in the *Scottish Enlightement* tradition[8], in which individuals are not capable, because of the weakness of their reason, evaluate or calculate the benefits of their actions. Therefore, they cannot rationally, deliberately and explicitly decide or choose to adopt a practice or even a "trait" (a moral quality) that is adopted by other individuals - such a cal-

[8]As Steele claims, "Thus Hayek's repeated insistence on the importance of cultural group selection is part of his general case against what he regards as excessive reliance on reason" ([54], p. 173). But, this is for this reason that Hayek's theory of group selection assumes the legacy of classical political economy, precisely because he does not view individuals as rational beings

culus would require capacities that human beings do not have. Rather, and both Hayek and Darwin insist on this, the transmission of traits and practices among the membres of a given group rest on learning. More specifically, learning *through* the imitation of the other members of the group is decisive in a process of cultural selection. The capacity to imitate others, as Hayek notes, the "ability to acquire skills by imitative learning" ([30], p. 21)", is "perhaps the most important capacity with which the human individuals is genetically endowed, beyond innate response" (ibid.)[9]. On his side, Darwin claimed that "The principle of IMITATION is strong in man" ([8], p. 54), listed the "tendency to imitation" as one "of the faculties, which have been of inestimable service to man for his progressive advancement" ([8], p. 67) and accepted Wallace's statement that "much of the intelligent work done by man is due to imitation and not to reason" (ibid., p. 51). More importantly is the fact that Darwin explicitly links imitation with the adoption of innovation within a group: "if some one man in a tribe ... invented a new snare or weapon, or other means of attack or defence, the plainest self-interest, without the assistance of much reasoning power, would prompt the other members to imitate him" (ibid., p. 90).

Therefore, once an individual has innovated, his or her innovation may (or may not, if it is not adopted by the group) spread *within* the group, among the members of the group. Therefore, and this is the reason why one may speak of group selection, both in Hayek's and Darwin's views, a successful innovation has to be adopted *within* a group (this is a necessary condition) before being transmitted to (i.e. adopted by) other groups.

This raises a final question that a theory of group selection has to deal with, namely the transmission of a trait or practice, that were selected and adopted within a given group, to other groups. In other words, the question is: how do the practices adopted within a group tend to displace those used in other groups? How do successful groups succeed and impose their practices to others? With regard to this question and Hayek's answers, commentators have noted how imprecise they were: "Hayek should be criticised ... for failing to incorporate additional processes of selection above the group level" (Hodgson, [35], p. 177; see also,a nd among others, Zywicki, [62], p. 87; or Steele, [54], pp. 173 sq). Curiously, Darwin was not more precise in the *Descent of Man*, even if he seemingly attributed the same role to

[9]It is interesting to note that the first time Hayek describes imitation ([25], p. 47), he explicitly refers to the chapter entitled "sympathetic imitation" written by Dugald Stewart. And one reminds that Darwin get acquainted with Smith and sympathy when reading Stewart.

imitation between groups as within groups. I thus appears that for Hayek and for Darwin as well, what seems to be important is the result of the process of social selection, namely that successful groups "would increase their populations relative to other groups"; successful groups are wealthier, more populous than others (Hayek 1988:120–22) Zywicki ([62], p. 87). Thus, population growth was the key to success in inter-group competition. The explanation Hayek gives parallels the one proposed by Darwin; the latter links the increase in population of one group with the transmission of innovative practices or traits:

> "We can see, that in the rudest state of society, the individuals who were the most sagacious, who invented and used the best weapons or traps, and who were best able to defend themselves, would rear the greatest number of offspring. The tribes, which included the largest number of men thus endowed, would increase in number and supplant other tribes. Numbers depend primarily on the means of subsistence, and this depends partly on the physical nature of the country, but in a much higher degree on the arts which are there practised. As a tribe increases and is victorious, it is often still further increased by the absorption of other tribes" [8], p. 89

or, "If the new invention were an important one, the tribe would increase in number, spread, and supplant other tribes" (ibid., p. 88); and "Nevertheless the more intelligent members within the same community will succeed better in the long run than the inferior, and leave a more numerous progeny" (ibid., p. 90).

## 4 Conclusion

The purpose of this paper was to show that Hayek's theory of cultural evolution can indeed be considered as Darwinian. To reach this conclusion, in contrast to the usual perspectives on Hayek and Darwin, we have compared Hayek's and Darwin's theories of social evolution. It then appears that both theories belong to the same philosophical or ontological tradition, that of the Scottish Enlightenment. Furthermore, they both take into consideration the specificities of cultural evolution with regard to biological evolution: both Hayek and Darwin consider that selection takes place at the group level and both of them argue that acquired characteristics are transmitted. The

latter element is interesting; it helps to clarify the differences that exist between Hayek and Darwin, on one side, and Lamarck, on the other side. The major difference being that Hayek and Darwin envisage the transmission of acquired characteristics from the perspective of spontaneous order where Lamarck views this feature as taking place in a teleological process.

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