

Colin-Jaege, Nathanaël

**Working Paper**

## Can we design spontaneity? The tension between evolution and design and the defense of liberalism in Hayek

CHOPE Working Paper, No. 2021-05

**Provided in Cooperation with:**

Center for the History of Political Economy at Duke University

*Suggested Citation:* Colin-Jaege, Nathanaël (2021) : Can we design spontaneity? The tension between evolution and design and the defense of liberalism in Hayek, CHOPE Working Paper, No. 2021-05, Duke University, Center for the History of Political Economy (CHOPE), Durham, NC, <https://doi.org/10.2139/ssrn.3841087>

This Version is available at:

<https://hdl.handle.net/10419/234316>

**Standard-Nutzungsbedingungen:**

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

**Terms of use:**

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*

CAN WE DESIGN SPONTANEITY?  
THE TENSION BETWEEN EVOLUTION  
AND DESIGN AND THE DEFENSE OF  
LIBERALISM IN HAYEK

NATHANAËL COLIN-JAEGER

CHOPE WORKING PAPER No. 2021-05  
MAY 2021



CENTER FOR THE  
HISTORY OF POLITICAL ECONOMY  
AT DUKE UNIVERSITY

# Can we design spontaneity?

*The tension between evolution and design and the defense of liberalism in Hayek*

Nathanaël Colin-Jaeger<sup>1 2</sup>

*Abstract:* F.A Hayek is one of the most important and influential advocates of liberalism in the 20<sup>th</sup> century. His theory is famously based on the concept of spontaneous order, an order emerging from the interaction of individuals without central control and appears critical of every form of interventionism. At the same time Hayek also defends the necessity to improve or even to constitute a liberal order. This seminal tension, between an evolutionary strand and a designing strand in Hayek's political theory, gave birth to a set of debates regarding the consistency of Hayek's thinking. In this article I argue, against several commentators and critics, that the theory of spontaneous order, which draws on complexity theory and cultural evolution, does not clash with Hayek's defense of liberalism, but allow for a better understanding of it. My analysis puts forward the importance of a liberal design of a framework enhancing spontaneity, a radical liberalism, which goes beyond a whiggish liberalism defending the slow piecemeal evolution of social norms and institutions. I thus defend that Hayek provides a theory of a liberal design of spontaneity. Since Hayek is concerned by the liberal framework allowing for the growth of a beneficial spontaneous order, his liberalism should not be defended on evolutionary grounds, which are flawed, but on normative grounds, which are debatable.

*Keywords:* Hayek; Liberalism; Spontaneous order; Complexity; Cultural Evolution

*JEL:* B25; B31; B41; B53

---

<sup>1</sup> ENS de Lyon, France, Triangle / Center for the History of Political Economy, Duke University, USA, nathanael.colin@ens-lyon.fr

<sup>2</sup> I would like to thank Kevin Brooks, Thomas Delcey, Morgane Delorme, Malte Dold, Hester Van Hensbergen, Kevin Hoover, Philippe Huneman, John Kroencke, Alexander Linsbilcher, Steven Medema, Åsbjørn Melkevik, Gabriel Monette, Cédric Patternotte, Alexander Schaefer, Philipp Schoenneger, John Staddon and in particular Bruce Caldwell and Alexander Rosenberg for their helpful comments on an earlier draft. I also benefited from comments from the participants at the Center for the History of Political Economy Workshop, where it was presented in February 2021, from the participants of the 'Money from Nothing' seminar and the Brown Bag seminar in Colorado State University, where it was presented in March 2021.

## Introduction

For many students of the work of F.A. Hayek the title of this paper may sound like an oxymoron. Indeed, Hayek is mostly known for two things. The first is his criticism of economic and social planning as a form of deliberate design, the second is his depiction of the market, but also of other social institutions, as a spontaneous order. The will to design is criticized as being inconsistent with the spontaneous nature of our complex societies. In the second half of his career Hayek even embraced evolutionism, the phenomenon of cultural evolution being another spontaneous order and Hayek often referred to the "twin concepts of evolution and spontaneous order",<sup>3</sup> to explain the origins of our social institutions (Hayek, 1979, 164) and of our moral codes (Hayek, 1988, 69).<sup>4</sup> Hayek defended that most of what constitutes our societies and civilizations were the "result of human action but not of human design" (Hayek, 1967b). But the same author also made a lot of radical propositions, most dramatically exemplified by his ideal constitutional model (Hayek, 1979, chap. 17) and never ceased advocating the necessity to improve the "governmental framework of the spontaneous order" (Hayek, 1988, 37). The problem has been clearly noted: why would Hayek defend a constructivist stance, *i.e* the possibility to change and shape the rules and institutions of society, when he himself criticized these attempts as a form of *hubris*?

The work of Hayek would stand on two conflicting legs: his normative defense of liberalism and his positive research program, based on his theory of cultural evolution and his study of

---

<sup>3</sup> See Hayek (1973, 23; 1979, 158; 1988, 146).

<sup>4</sup> A fairly common exercise in history of ideas and political philosophy is to distinguish between different phases in a thinker's life. Hayek is not an exception and many understandings of his journey have been proposed. For example, Fleetwood (1995, 4) distinguishes between a Hayek I, II and III, followed by Mirowsky (2007) and Kolev (2021). Others highlight the 'transformation' of Hayek (Hutchison, 1981; Caldwell, 1988) at certain time of his career, while some argue that these kinds of distinctions are irrelevant (Boettke, 2018). I do not intend to take side in this discussion, but only to raise the uncontroversial claim that Hayek came to develop and apply an evolutionary conception by the middle of the 50s, which grew in importance and culminated in the end of the 80s.

complex systems. The contribution of one of the leading modern advocates of liberalism would thus be plagued by the worst sin for a theoretical thinking: *a contradiction*. This 'Hayek problem' provoked the rise of an extensive literature in the last three decades, sustained by critics and supporters alike.<sup>5</sup> Hayek would navigate between Charybdis and Scylla: his defense of liberalism would be based on his evolutionary views and would thus be Panglossian<sup>6</sup> or else his evolutionary views are purely descriptive and his evolutionism would be able to justify other contradictory positions.<sup>7</sup> Consequently, the evolutionary turn of Hayek's thinking is also a challenge for policymaking, since it seems to disparage the possibility of conscious and rational reforms.<sup>8</sup> The relation between evolution and design – or spontaneous order and rational construction–, is thus broadly recognized as a 'tension' or an 'ambivalence' within Hayek's theory.<sup>9</sup> This tension would constitute one of the "substantial and difficult" remaining tensions in the work of Hayek.<sup>10</sup> Beyond Hayek the problem at hand is of the utmost importance for political philosophers more generally because Hayek exemplifies an attempt to produce a defense of liberalism based on a non-ideal and positive understanding of the epistemological challenge of modernity.<sup>11</sup> How can the liberal

---

<sup>5</sup> I will not discuss all the problems debated in the extensive secondary literature on Hayek. We may find example of the problem I formulated in Vanberg (1986) followed by Steele (1987), Barry (1989), Yeager (1989), Miller (1989), Kukathas (1990), Voigt (1992), De Vlieghere (1994), Gray (1996), Leroux (1997), Angner (2004). This critic is reiterated, more recently, by Beck (2015, 2018), Faria (2017) and Wilson (2020).

<sup>6</sup> Doctor Pangloss is a character in Voltaire's philosophical tale *Candide*. In the story he embodies a form of caricatural Leibnizian, for whom "everything is for the best in the best of the worlds". This character was later used in Gould and Lewontin's famous article "The Spandrels of San Marco and the Panglossian Paradigm" (Gould and Lewontin, 1979), as an illustration of naïve adaptationism.

<sup>7</sup> The accusation of panglossianism is stated in Denis (2003) but is also the core of Buchanan's critic (Buchanan, 1975, 211n1; Buchanan and Brennan, 1985, 13).

<sup>8</sup> See for this concern Peart and Levy (2008), Vanberg (2011) or Servant (2017).

<sup>9</sup> The words are from Sugden (1993, 393) and Caldwell, 2000, 2002, 254).

<sup>10</sup> See Boettke (2018, 286sq) and (Boettke and King, 2020, 14). A *contradiction* ought to be distinguished from a mere *tension*. A *contradiction* arises when two propositions are mutually exclusive, while a *tension* is not necessarily the sign of a logical flaw, but of an incomplete development or obscurity. Ultimately all the theories which aim at being systematic produce tensions and/or contradictions, think of Descartes' conception of the relations between mind and body. Tensions are not necessarily fatal but can lead to new solutions and interpretations. Of course, the distinction between a contradiction and a tension is not well defined, and often depends on the appreciation of the reader or the commentator.

<sup>11</sup> For a critique of ideal theories in the realm of political philosophy as applied moral philosophy, see Gaus (2016) for whom Hayek is one of the most important figures to build a non-ideal political philosophy.

principles themselves be justified in the light of the epistemological criticism displayed by the complex system theory and cultural evolution?

Many attempts to solve or reduce this significant tension have been made, often highlighting the differences between rule generation and rule selection, or the importance of piecemeal changes in a given system of rules.<sup>12</sup> While building on these arguments my approach defends that to resolve this tension one must interpret Hayek as defending a *radical liberalism* as the only way to make sense of Hayek's positions. I distinguish between a *whiggish liberalism* and a *radical liberalism*, following Gaus (2020), regarding the scope of possible change. While the whiggish liberalism goes hand in hand with piecemeal changes in a given framework, radical liberalism aims to define the framework itself. Hayek therefore defended the possibility of *designing a liberal spontaneous order*. Thus, his liberalism is not subordinated to his evolutionism or his understanding of complexity, but should be understood the other way around, as a theory that teaches us how to form a beneficial liberal complex and spontaneous order.

My argument goes as follow. The concept of spontaneous order draws on complex system theory and offers a strong epistemic argument against central planning and the capacity to recreate the overall order of society (section I). To explain how the rules of conduct we live in emerged Hayek thus must develop an evolutionary theory of cultural rules, *i.e* a theory of cultural evolution (section II). This evolutionism is often perceived as the normative foundation for Hayek's liberalism, but I show that this cannot be (section III). To understand Hayek's liberal claim, we must understand it as a claim relative to the possibility of shaping the framework for a specific spontaneous order, the order of the liberal society (section IV). Therefore, in the end liberalism

---

<sup>12</sup> We may find such attempts in Nemo (1988), Sugden (1993), Caldwell (2002, 295-296), Gaus, (2018, 2020) and Boettke and King (2020, 15).

should be justified on normative premises (section V). I conclude on the problems which are left open, or remain problematic, within my understanding of Hayek's liberalism (section VI).

## I. The study of the social order: spontaneous order and complexity

The concept of spontaneous order is inextricably tied up with the concept of complexity. By the end of the fifties Hayek saw complex orders everywhere (Caldwell, 2000, 19)<sup>13</sup> and imported, for the sake of his own theory, the concepts developed by Ludwig Von Bertalanffy in system theories, Norbert Wiener in cybernetics, Warren Weaver on complexity and Lloyd Morgan on emergence.<sup>14</sup> If Hayek distinguishes the concept of spontaneous order and the concept of complexity, since some spontaneous orders are not complex (Hayek, 1973, 35), the kind of orders which Hayek is interested in are spontaneous *and* complex orders. Hayek later came to realize that the concept of spontaneous order was more precisely expressed with the vocabulary of complexity sciences (Hayek, 1982).

*What is complexity, exactly?*

The study of complex systems is still to a certain degree an emerging field. Nevertheless, some features of complex systems are nowadays well-known and have been listed by Ladyman and Wiesner (2020) in their synthesis on complex systems.<sup>15</sup> The authors develop ten "truisms" of

---

<sup>13</sup> Hayek himself writes of *Sensory order* (1952) as a turning point (Hayek, 1979, 199-200, n26). The mind, in this essay, is described as a complex spontaneous order, continuously rearranging itself without the help of any central direction. On the ubiquity of orders in Hayek see Lewis and Lewin (2015).

<sup>14</sup> Paul Lewis (2012, 2015, 2016a, 2016c) shows in greater extent how and why Hayek borrowed to these authors. The study of complexity in Hayek is by no means new and has been the topic of much research since the 90s, see for example Chaumont-Chandelier (1999), Vaughn (1999), Kilpatrick (2001), Fiori (2009) and Axtell (2016). Gaus (2006, 2007, 2018, 2019, 2020) is the example of a philosopher who massively built on Hayek's study of complexity to work out the implications on liberal political philosophy.

<sup>15</sup> Strangely Hayek is not mentioned in the book, while the authors often refer to the economy as a paramount example of a complex system. Axtell (2016) indeed showed how Hayek anticipated some important ideas on complexity.

complexity (Ladyman and Wiesner, 2020, 10), which include the necessity for an important number of elements, the absence of central control, feedback loops, non-equilibrium, spontaneous ordering and emergence, adaptive behavior, or robustness. Rather than defining all these terms technically let me give an example. One typical example of a complex system is the Climate System (*Ibid.*, 33sq). The Climate System is made up of an important number of elements, from microbes and particles to animals and societies, and is not the product of a central direction but of a co-evolution, between climate and life on earth. The production of atmospheric oxygen was for instance driven by microbes interacting with geochemical cycles. Feedback loops are ubiquitous, from the changing composition of the ocean impacting the whole to human influence. We may distinguish negative feedbacks (which stabilize the system) and positive feedbacks (which destabilize it). One example of a negative feedback is temperature regulation through the formation of clouds characterized by water evaporation when the sunlight increases the temperature, while an example of a positive feedback would be the melting of the polar snow since the snow reflects the sunlight and its melting enhance the increase of the overall temperature. This processual feature implies that the system can display local equilibria (the weather is not chaotic, *i.e* we may predict with reasonable certainty the weather tomorrow)<sup>16</sup> and show regularities (we may find large scale stable patterns in ocean's streams for example). Nevertheless, the system is dynamic due to internal forces as well as external influences (such as the position of the earth relative to the sun). Here non-equilibrium means above all the openness *of the system* and its dynamic nature, which can bring about *local equilibria* and stable situations. Finally, the structures and the orders making the Climate system are emerging from the components of the system through repeated interactions and constitute a spontaneous order which is to a certain degree robust to perturbations because the

---

<sup>16</sup> Of course, we must distinguish the weather and the climate. The Climate System is the aggregation of the weather over several decades. Seeing snow outside in April is by no means an argument against global warming for example.



components of the system can adapt to change. Humans can for example modify their behavior to react to climate change.

*Hayek theory of spontaneous order as being consistent with Complex System Theory*

Hayek refers directly to complex systems in two articles, "Degrees of Explanation" (1955a) and "The Study of Complex Phenomena" (1964), but complexity is what fuels all most of his texts from 1950 on, and is certainly the "key idea" to understand his later work (Gaus, 2006, 232). Indeed, even if Hayek wrote when complex systems theories were still in their youth, his thinking fits remarkably well with the truisms of complexity. The social spontaneous orders which interest Hayek, such as the evolution of society, the economy, or the human mind, all display *an important number of elements*, be it individuals, groups, or neurons. Human societies are composed, furthermore, of *heterogeneous individuals* with diverse preferences, especially in the modern society (the Great Society) characterized by a process of differentiation. Hayek underlines the importance of *feedback loops*,<sup>17</sup> giving the example of the market as an illustration, since individuals must renew their expectations based on past experiences, especially when their expectations previously failed. This dynamic process is a defining feature of Hayek's approach, which is based on a *non-equilibrium* understanding of social processes.<sup>18</sup> This mechanism is the reason of the *robustness* and the *adaptiveness of the system*.

Another important concept is the concept of *emergence*. Some rules and norms are not the result of human design but emerge from the interactions of the individuals (see Hayek, 1967b;

---

<sup>17</sup> See Hayek (1976, 71, 125, 158).

<sup>18</sup> Hayek (1937) famously criticizes the methodology of the general equilibrium analysis. Please note here that dynamic does not equal non-equilibrium, since DSGE models display both features. But Hayek's theory clashes with the equilibrium metaphor, since a stable state of compatibility of expectations is never fully reached in the process of competition and discovery of new information by the individuals. On this topic see Caldwell (2012, 4-5), Boettke and O'Donnell (2013) and Colin-Jaeger and Delcey (2020).

Lewis, 2015).<sup>19</sup> Two classic examples for Hayek are language and money, which evolved without anyone directing the *complete* process. Of course, some parts of the process are the result of control and planning – the rules of the Académie Française on the French language or the creation of money from a central bank are examples of conscious design – but the result in the order of actions is often not the result of what was planned, and new rules, habits, and norms incidentally being formed in the process. This exemplifies the distinction made by Hayek between the *system of rules* and the resulting *order of actions* (Hayek, 1967a, 66).<sup>20</sup> Some rules can be the result of human design, but the relation between a rule incorporated into a more encompassing system of rules and the resulting order of action is *chaotic* in the sense that predictions are very hard to make regarding the details of the resulting order.

#### *What to do with complexity?*

What kind of claim for the defense of liberalism can Hayek make based on this? First and foremost, the use of complexity should be understood as a part of a positive research program. Hayek was interested by the explanation of the working of the social order and its properties. As for making a claim for liberalism it is mostly a *negative one*. We cannot make any detailed prediction for a complex system, but only pattern predictions (Hayek, 1955a, 15). The typical example is the theory of biological evolution (Hayek, 1964, 31-32). We can certainly say that a species will adapt and display some kinds of adaptations in the long run to the formation of a new environment, applying Darwin's principles of adaptation and natural selection. Nevertheless, we cannot predict, for Hayek, the specific adaptations which will appear during the process. In a strong understanding of

---

<sup>19</sup> This covers the distinction between *nomos* and *thesis*, which I deal with in section IV.

<sup>20</sup> Two reasons are developed to explain why this distinction should be made: (i) a same order of action can emerge from two different sets of rules, (ii) conversely the same set of rules in different environments can give birth to two different orders of action.

complexity even Laplace's demon would not be able to offer such a prediction – because of emergent properties. Economics is on the same boat. We can certainly make some broad predictions based on the premise that people prefer a high income to a lower one (Hayek, 1964, 35), or the laws of offer and demand, but we cannot predict the next innovation in a market or tell with a sufficient degree of certainty the correct price of a financial asset in ten years.<sup>21</sup>

The corollary of this is of the utmost importance. If we cannot predict in detail the result of a change, we cannot manipulate the overall order either. Some parts of the order can certainly be managed, but the spontaneous order constituting our society is beyond our powers of prediction. In a spontaneous and complex order, nobody can guarantee that a modification in the rules of the system will produce the expected results, especially when we aim at realizing a specific end. The study of complexity thus offers a powerful argument against planning as a manipulation of a complex order. I will come back in greater length to the implications of this lesson in section IV.

## II. How the rules emerge: the theory of cultural evolution

If human societies are complex systems, the order of actions we live in cannot be the result of human design. The following question arises naturally: how did it happen? Evolution is the "only

---

<sup>21</sup> I mostly explain Hayek's position here, giving extreme examples (innovation and future prices in a financial market). The extent of the uncertainty in a social setting is however subject to further inquiry. Indeed, the fact that we cannot have a perfect foresight does not mean that we cannot have, in some situations, a reasonable guess of what the prices will be next year. Nowadays econometricians and even financial analysts can roughly offer some estimates regarding the prices of commodities and assets in the markets in the future. These rough estimates will not necessarily be *good enough* to make profit. But what count as good enough for Hayek remains undecided.

game in town" (Rosenberg and McShea, 2008, chap. 1) when design has been ruled out (be it human or divine), and thus the only available complement to Hayek's understanding of complexity.

Hayek's expressions are well-known and are often viewed as the trademark of his liberalism. Human reason is the result of an evolutionary process and not its cause (Hayek, 1979, 75), civilization is the result of an adaptative evolution (Hayek, 1960, 23, 59; 1973, 46), and most rules of our current societies have not been the result of conscious choice (Hayek, 1973, 50). All of this is especially true for our economy: '*We have never designed our economic system. We were not intelligent enough for that*' (Hayek, 1979, 164, italics in the original).<sup>22</sup> Because most of the criticisms are targeting the Hayekian theory of cultural evolution it is worth developing it a bit further.

Hayek mostly develops his theory of cultural evolution in three distinct pieces and for twenty years, *i.e* in "Notes on the evolution of systems of conduct" (Hayek, 1967a), the postscript of *Law, legislation and liberty*, "Three sources of human values" (Hayek, 1979) and *The Fatal Conceit* (Hayek, 1988). Hayek often highlights the Scottish lineage of his theory of evolution<sup>23</sup> but the most striking influence is definitely Darwinian evolution and his theory can be seen as a precursor by contemporary researchers in cultural evolution (Wilson, 2020, 152).<sup>24</sup>

Hayek is first and foremost concerned with the evolution of norms, rules and traditions, which constitute our way of interacting with each other's, but also to perceive things in a specific fashion (Hayek, 1962; 1988, 12). I will from now on refer to these cultural norms and traditions under the simpler umbrella term "*rules*". The phenomenon of interest is the one of the evolution of

---

<sup>22</sup> For a historical treatment of how this theory appeared in Hayek's work, see most notably Caldwell (2000, see also 2004) and Angner (2002).

<sup>23</sup> See for example Hayek (1973, 23; 1979, 154; or 1988, 23-24). Another noticeable influence would be Menger.

<sup>24</sup> Angner (2002) makes the case for a decisive biological influence on the evolutionary conceptions of Hayek, through the importance of Oxford zoology, *e.g* Carr-Saunders, Wynne-Edwards or Julian Huxley.

societies which brings about the 'extended order', this complex order emerging roughly during the XVIII<sup>th</sup> century. His evolution is cultural, characterized as follows:

Culture is neither natural nor artificial, neither genetically transmitted nor rationally designed. It is a tradition of *learnt rules of conduct which have never been "invented" and whose functions the acting individuals usually do not understand.*

(Hayek, 1979, 155, emphasis added).

Rules can be learnt but are not necessarily consciously accepted.<sup>25</sup> Hayek writes about the "stratification of rules" (Hayek, 1979, 159) and distinguishes three layers: (i) unconscious and non-expressible rules (such as our ability for language), (ii) expressible rules which are the result of long-instituted practices and (iii) consciously adopted rules, which we can express clearly. Hayek does not deny that biology shapes our brain and our cognitive abilities (*i.e* the layer (i)) but denies that biology would mechanistically produce results in our behaviors, since human behavior depend on local circumstances and specific histories. Cultural evolution produces quick adaptations to the environment, which are faster than what would a biological adaptation allow, therefore cultural adaptation "swamps biological evolution" (Hayek, 1979, 156) and mimics Lamarckism (Hayek, 1988, 25).

### *Cultural evolution and biological evolution*

---

<sup>25</sup> Gaus (2006, 247-252) and Lewis (2015) develop the process of incorporation with a careful reading of *Sensory Order*. Learning a social rule is also creating a system of classification linking sensorial inputs with behavioral outputs. This creates a class of recognizable phenomenon. The mind is indeed described as a system of classification: "By "classification" we shall mean a process in which on each occasion on which a certain recurring event happens it produces the same specific effect, and where the effects produced by any one kind of such events may be either the same or different from those which any other kind of event produces in a similar manner. All the different events which whenever they occur produce the same effect will be said to be events in the same class, and the fact that every one of them produces the same effect will be the sole criterion which makes them members of the same class (Hayek, 1952, 48).

Since cultural evolution focuses on the evolution of rules and not on genes, Hayek is careful to distinguish his approach from the gene-centered views which dominated biology at the time.<sup>26</sup> Sociobiology is because of that a recurring target of Hayek's criticisms for its gene reductionism (Hayek, 1979, 153; 1988, 24).

Nevertheless, Hayek's views on cultural adaptations are consistent with the definition of biological adaptations, as can be seen with the following presentation offered by Rosenberg and McShea (2008, 16):

1. There is reproduction with some inheritance of traits in the next generation.
2. In each generation, among the inherited traits there is always some variation.
3. The inherited variants differ in their fitness, in their adaptedness to the environment.<sup>27</sup>

An evolutionary theory must identify a unit of selection, an interactor, a source of variation, a mechanism of variation and a replicator (Caldwell, 2000; Gaus, 2006). The unit of selection is the rules which constitute a group; thus the rules are the equivalent of the gene pool. Social rules are *reproduced* by the next generations, producing specific kinds of behaviors (*traits*). The group themselves are the interactors and compete against each other's.

The source of the variation is an entrepreneurial-like process within groups. Hayek (1979, 161) mentions how some individuals break or modify the rules and thus introduce variations among a set of existing rules. It is difficult to propose a general theory of the emergence of this kind of behavior, but we can make the hypothesis (Gaus, 2006, 246) that a variation emerges when the group encounters some problems. In a problematic situation the tension between the existing rules

---

<sup>26</sup> For the debates about gene-centered evolution and multi-level selection see Okasha (2006) and Rosenberg and McShea (2008, chap. 6).

<sup>27</sup> I focus here on adaptation, and will not address genetical drift, the other key factor to explain evolution, applied to cultural evolution.

and the environmental stress encourages change.<sup>28</sup> The replication of the rules also entails the production of variation. Indeed, three replicators are possible within Hayek's theory. We can replicate rules via imitation or through language, both intermediaries producing some variations in the process.<sup>29</sup> Nevertheless, social rules earn our loyalty: rules are not merely subject to imitation and discussion, they also shape our minds to create a similar mapping of the sensations and perceptions of our environment. As such, we also *incorporate* the rules.

This being said a different group in the same environment would produce different rules. These rules are more or less adapted to the environment, which explain why Hayek relies heavily on a specific mechanism of selection, *viz.* group selection. Let me use an example to illustrate the logic of the argument here. Two groups, A and B, developed two sets of rules. Group A and group B are competing in the same environment and are characterized by the order of actions which emerge from the set of rules they possess. The emerging orders which is the result of the two sets of rules can be equivalent in fitness and they would show an equal amount of success (think of Rome and Carthage before the Punic Wars). In the long run however, it is probable that one group would see the emergence of a rule which would give it an evolutionary advantage. One obvious example would be the appearance of money. Group A with money would develop trade and commerce in greater extent, allowing for the growth of comparative wealth, and thus would overthrow group B characterized by a barter economy. Sugden (1993, 399) rightly points out that Hayek's model is *very general* and compatible with multiple explanations: group A can succeed by

---

<sup>28</sup> The argument is sound: when we are confronted with a problematic situation the rules we otherwise apply unconsciously become conscious. Think for example of the change of social rules when you visit another country. This change may be deliberate, but it does not mean that the individuals modifying the rules or creating a new one is directing the evolutionary process as a whole. This explanation of rule-modification clarifies why cultural evolution mimics Lamarckism.

<sup>29</sup> Hayek mentions this explicitly, see Hayek (1960, 59; 1979, 75, 155; 1988, 12, 21). However, every person who has played to an imitation game where we must repeat to the others the meaning of a sentence knows that in the long run the meaning is modified. Think also of rumors and gossip.

exterminating group B, spreading its rules to group B, or enroll the members of group B. But while Sugden states this as being repulsive, it can also be seen as a strength, because comparative fitness cannot be judged on the basis of one specific mechanism (extermination of the opponent, rule-spreading or enrollment of the other group members).<sup>30</sup> In any cases Hayek's theory is certainly rudimentary and difficult to apply as such.

### *An evolutionary liberalism?*

The evolutionary turn in Hayek's thinking is without doubt of the utmost importance for his social theory. Because of this it has been the target of an important number of criticisms.<sup>31</sup> If group-selection allows for the more adapted set of rules to prevail then the road of evolution would lead to progress, and liberalism would be defended as the last product of this historical trend. We would have to show deference to the rules we inherited because, even if we do not like them, the set of rules would be the best adapted and allowing our prosperity (Hayek, 1960, 61). This criticism of Hayek's later views is wide-spread, and was iterated recently by Naomi Beck, among others:

---

<sup>30</sup> Of course, this is at best a toy-model. More complex and detailed analysis of cultural evolution can be found in Bowles and Gintis (2013). The generality of Hayek's model can also be a weakness because real historical situations can be a mix of different kinds of successes. The Romans conquered the Greeks (two centuries before our era), but the Hellenistic culture spread to Rome and Greek became the main language of the roman aristocracy. In this situation it is difficult to say which rules were selected and which group prevailed without a more specific model.

<sup>31</sup> I set aside the abundant criticisms about group-selection, yet related to our topic, because they would lead us to technical discussions about the levels of selection. It is sufficient here to say that group-selection was in a bad shape until the 90s. The devastating criticism was formulated by Maynard Smith and pointed out that if cooperation could be an advantage for in-between group competition, a cooperative group was always at the mercy of opportunistic behaviors within group. The hypothesis however regained supports among biologists and in the emerging field of cultural evolution, after Sober and Wilson (1998) and more recently Boyd and Richerdson (2005). One logic of the new defenses of group selection is that groups can apply sanctions to non-cooperative behavior and then enforce cooperation. For the authoritative reference on this topic see Okasha (2006, chap. 6). Another problem was the compatibility of group-selection with Hayek's alleged methodological individualism (Vanberg, 1986; Hodgson, 1991, 1993). Nevertheless Caldwell (2002) and more recently Lewis (2020) showed that Hayek kind of individualism was complex and even maybe a fantasy. Shaefer (forthcoming) provides a compelling account on how group-selection and methodological individualism could be reconciled.



Hayek's depiction of modern civilization as an order that evolved wholly independently of the intentions and desires of the individuals who compose it could be characterized as an alternative version of the claim that history follows inevitable laws of progress.

(Beck, 2018, 102-103).

Hayek would *draw normative conclusions* from his evolutionary views. Hayek's evolutionism would be the Austrian version of the Hegelian vision of history, with liberalism replacing the Prussian State. The criticism which underlines the naïve adaptationism of Hayek, the panglossianism of his positions and *ergo* the contradiction between his liberalism and evolutionism are understandable. Hayek himself was not always very clear about these topics, and especially in his later works tended to say that socialism and alternative institutions are wrong *because* of their misunderstanding of (cultural) evolution (*e.g* Hayek, 1988, 6). In addition, he sometimes seems to advocate for evolutionary meta-ethical stand, which would take the maximization of population as an ethical criterion.<sup>32</sup> The next section explores why, if Hayek were to base his views in his evolutionary conceptions, his liberalism would be in jeopardy.

### III. Can complex systems and cultural evolution justify liberalism?

---

<sup>32</sup> The passage is worth quoting: "Whether we desire further increases of production and population or not, *we must* (...) strive after what, under favorable conditions, will continue to lead, at least for some time, and in many places, *to further increases* [of population]." (Hayek, 1988, 134, emphasis added). Of course, the claim is ambiguous, because population growth can be understood as a byproduct of something else: we may not desire the increase of population, but we would produce it anyway because we desire good institutions (which will have this undesired effect).

In this section I will develop three arguments which are decisive against the evolutionary defense of liberalism. But first, we must consider the stake. Hayek's liberalism would not only wrestle with external criticism, but also with issues about internal consistency. In *The Road to Serfdom* we can indeed read:

The liberal argument is in favour of making the best possible use of the forces of competition as a means of co-ordinating human efforts, not an argument for leaving things just as they are. It is based on the conviction that where effective competition *can be created*, it is a better way of guiding individual efforts than any other. *It does not deny*, but even emphasises, that, in order that competition should work beneficially, *a carefully thought-out legal framework is required, and that neither the existing nor the past legal rules are free from grave defects*

(Hayek, 1944, 37, emphasis added).

Did Hayek change his mind across 44 years in more than a self-evident way? Did he reject the ordoliberal influence of his youth – *i.e* the german liberal theory standing for the conscious and intentional construction of a liberal framework – in profit of a more conservative, and problematic, evolutionary view? (Kolev, 2021). The byproduct of this section and the next one is to show that he did not.<sup>33</sup>

### *Self-destruction of evolved complex orders*

The first argument is the past existence of evolved complex orders, *i.e* societies, which were led to self-destruction. One example, albeit not necessarily historically exact, is the self-destruction of

---

<sup>33</sup> As the quoted passage shows, the tension between a spontaneous order (the competitive order) and the necessity of design (the thought-out legal framework) was already a key problem addressed by Hayek at the time. The problem was shared by the other liberals at the time, *i.e* Lippmann, Rougier, Eucken, Röpke or Polanyi. On this shared commitment see Köhler and Kolev (2011), Jackson (2012) or Colin-Jaeger (2021). Hayek's evolutionism can be seen as a way to solve this problem with an understanding of how the liberal rules emerged.

the Rapanui society, in the Easter Islands, according to Diamond (2005).<sup>34</sup> This society was constituted of multiple chiefdoms. One important factor of the competition between chiefdoms was the capacity to build important statues. The exacerbated competition between the groups produced a deterioration of most of the forest of the island, which destroyed biodiversity. The deforestation led to an increase dryness because the soils were not protected from the winds and fertilized by the forests, and a destruction of the system itself, resulting in the fall of the Rapanui society. This debated example shows that it is at least possible for an evolved complex order to destroy itself because of its own productions (here beliefs and social order), which were the result of an evolutionary process. No society is *a priori* protected against this kind of fate because nothing guarantees that our systems will remain stable and that the product of evolution will be viable in the future. The liberal institutions may have emerged but are not predestined by god – or any other entities with the same powers anyone can imagine – to stay or to be the last word of history. As species go extinct, societies can too.

### *Sub-optimality and destructive rules*

Even without such dramatic examples, evolution itself can lead to sub-optimal local equilibrium. Social rules may well perform social functions, but these functions are not necessarily desirable.<sup>35</sup> Evolutionary 'solutions' to a problem are often quick and dirty. The most famous examples are the keyboards letters QWERTY, which are kept only because of path-dependency. But there is more. If local equilibrium can be sub-optimal, some may even be particularly dreadful, such as some social rules. One example could be the foot-binding tradition practiced in China for centuries as

---

<sup>34</sup> John Staddon taught me that Diamond's account was controversial. The reader should keep in mind that the Easter Island example is not there to be absolutely accurate, but to illustrate an argument.

<sup>35</sup> I am indebted, for this discussion of functionalism, as well as the example of foot-binding below, to Alexander Rosenberg, who kindly sent me his article (Rosenberg, 2017), Mackie's article, and accepted to answer my questions about the normative uses of evolutionism.

described by Mackie (1996).<sup>36</sup> Foot-binding was adopted a thousand years ago at a time when only wealthy families could afford the practice (since for these women manual labor was forbidden). This trait was linked to wealth and control over women's sexuality and procreativity choice. The practice extended because virginity was valued. With the technical and economic development of those societies more and more families were able to afford the practice, the latter eventually prevailing as a social practice for all families, which would be otherwise excluded from any matrimonial exchanges. When the practice became generalized its original goal was destroyed, because it no longer conferred any distinction to the families practicing it. This is a dramatic example of a social rule emerging and incurring costs for everyone (on the women themselves, but also on the families, the social order etc.). Social rules may thus have a function (distinction and control of women) but nothing guarantees that the performed function is beneficial to a group. Social rules can therefore act like parasites in human societies (Rosenberg, 2017) and need conscious effort to be suppressed.

#### *Evolutionary delay and moral atavism*

Finally, the evolution of the environment produces the obsolescence of some rules. The fitness of a specific rule is not its goodness judged from any normative standard, but only the fact that it is more or less adapted to a given environment. Thus, if the environment changes the rule loses its beneficial aspects. Nothing guarantees, here again, that social rules we deem beneficial now will not evolve to become parasitic. The paramount example of evolutionary delay, culminating in a moral atavism is given by Bowles and Gintis (2013, 5) and Storr and Martin (2008), *i.e* nationalism, xenophobia, systems of discriminations and bigotry. Nationalism and *cie* certainly embodied a

---

<sup>36</sup> But these traditions directed against women are not specific to Asia of course, and one may find plenty of traditions of this sort in Europe too.

function in the Pleistocene (group coherence), but a function is by no means an equivalent to a quality.<sup>37</sup> The problem with this kind of spontaneous production of evolution is that rules are often self-enforcing, and do not disappear without a direct intervention.

*What about Hayek liberalism?*

These criticisms would sound the death knell of any attempt to justify liberalism on evolutionism or complexity. If Hayek were to defend his liberalism on such weak foundations he would be doomed to oblivion. Yet we can find explicit passages where Hayek makes the same kind of arguments than I just proposed.<sup>38</sup> Indeed, Hayek considered nationalism as being as dangerous as socialism for liberalism (Hayek, 1976, 111), and refused to consider the result of evolution as something we ought to defend and value.<sup>39</sup> Hayek thus does not commit to any form of naturalistic fallacy and neither does he consider, even in the more evolutionary texts, that evolution can justify market institutions (Hayek, 1988, 20-21). Moreover, Hayek encourages the use of reason against some of the results of evolution (Hayek, 1988, 8) and proposes to improve the existing institutions through the legal process (I develop this in the next section). Some critics argue that this is a fatal contradiction at the crux of Hayek's philosophy, because the spontaneous order Hayek advocates would not be, in the end, spontaneous at all!<sup>40</sup>

As for complexity Hayek does not make a political claim from evolutionism but an epistemological one. It does not offer any positive argument in favor of liberalism, but only

---

<sup>37</sup> One ambiguity lies in the concept of efficiency. We may say that the evolutionary process produces efficiency, in term of adaptedness, but this concept of efficiency is not related to the concept of efficiency we may use in economics, or in moral philosophy.

<sup>38</sup> See also, on the same topic Shearmur (1996), Whitman (1998, 2003) and Caldwell and Reiss (2006).

<sup>39</sup> "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, 27).

<sup>40</sup> Gray (1996), L  g   (2007), or Beck (2018) are echoing this concern.

imposes constraints on the use of our reason. This is expressed directly by Hayek: “We must always work inside a framework of values and institutions which is not of our own making” (Hayek, 1960, 63). Nevertheless, complexity and evolutionary theories stand in the background of Hayek's liberalism, and shape the possibilities of its development. Many of the criticisms of Hayek's liberalism therefore miss the mark because they fail to see that the defense of liberalism is historically and logically anterior to his interpretation of evolution or complex systems. The next section shows how we should connect the constraints imposed by the positive program with the normative defense of liberalism.

#### IV. Whiggish or radical liberalism?<sup>41</sup>

The traditional way to vindicate Hayek's liberalism and its consistency with his evolutionary views is to emphasize the whiggish aspect of his thinking. If we must "start from where we are" and cannot start from scratch (Sugden, 1993), the defense of liberalism should take the form of *immanent criticism* and *piecemeal reform*.<sup>42</sup> Without denying the textual evidence for such a claim, I argue in this section that we must go beyond this reading to make sense of Hayek's case for liberalism. I demonstrate, taking two instances where Hayek defends such a position, *i.e* the gardener and the commonlaw judge, that Hayek's argument presupposes a liberal framework. I therefore make the case for an understanding of Hayek as a radical liberal and show how this understanding is not at odds with his views on evolution and complexity.

---

<sup>41</sup> The distinction owes to Gaus (2020). Nevertheless, Gaus does not develop nor provide an argument and see the two liberalisms as being in tension.

<sup>42</sup> See Nemo (1988), Shearmur (1996), Caldwell (2000), Boettke (2018) and Boettke and King (2020).

*Immanent criticism: the judge and the gardener*

The use of reason is not forbidden but must take place in the inescapable context of our given society. Reason, after all, was shaped by the long evolution of rules and traditions. The textual evidence for this claim is the hallmark of Hayek's position. All progress must be based on tradition (Hayek, 1979, 167), and deliberate choice can only gradually improve the results of a spontaneous order (Hayek, 1973, 100). Ultimately all improvements must take the form of piecemeal reforms (Hayek, 1988, 69).

The theory of the common law judge, developed in the first opus of *Law, legislation and liberty*, is certainly the most important example of such an attitude.<sup>43</sup> The well-known distinction proposed by Hayek is between the "law of liberty", the *nomos*, (Hayek, 1973, 94) and the legislation, the *thesis* (*Ibid.*, 124). Hayek praises the role of the common law judge, who does not create law by legislation, but is a servant of the spontaneous order (*Ibid.*, 119). The judge does not invent or create law, but discovers it, because law is a precondition for the mere existence of human societies (*Ibid.*, 72-76) and exists unarticulated and tacitly before being expressed. Established customs precede codified rules. Posner (2005) reads Hayek as a conservative legal thinker based on this account. If the judge's only activity must be the discovery of what already exists, she has no possibility to correct or improve the process.

Two important elements make Posner's reading incomplete. First, as noted by John Hasnas (2004) we must distinguish between *customary law* and *common law*. Customary law corresponds to the spontaneous growth of law where the judge is only expressing what was already implicitly

---

<sup>43</sup> Because of this the common law has been the subject to scrutiny in the literature, *e.g* see Nemo (1988), Sugden (1993), Hamowy (2003), Hasnas (2004), Posner (2005), Mack (2006), Ferey (2008) and Cubeddu (2020). I am grateful to Bruce Caldwell for the references to Hasnas and Cubeddu's articles and the Robert Bork's interviews. Hasnas plays indeed an important role in the argument of this section.

in practice. The English common law commented by Blackstone is an example of customary law. But the common law evolved in the United States, especially in the second half of the XIX<sup>th</sup> century and should be seen as a "legislation at the margins" (Hasnas, 2004, 98). This legislation at the margins is exactly, in my view, what Hayek defends.<sup>44</sup> The judge cannot accept passively the results of the spontaneous process simply because the established traditions may be contradictory or the application conditions unclear. The judge must always decide something and even a *laissez-faire* attitude is a choice.<sup>45</sup> This is where the immanent criticism comes into play. The judge can decide which rules he must enforce based on the consistency of the system and may correct rather than create. Rules may well emerge spontaneously but can be chosen consciously too.

The second element is that Hayek does not rule out legislation. Legislation may be necessary because nothing guarantees the smooth evolution of the spontaneous legal system (Hayek, 1973, 88). This defense of the importance of legislation is one of the main differences with another grand theorist of the spontaneous growth of the legal system, *i.e* the Italian legal theorist Bruno Leoni (Cubeddu, 2020, 90-91). One of the main reasons for the necessity of legislation is evolutionary delay. Sometimes the legislator must intervene because the system of rules and the spontaneous growth of the legal system is too slow to cope with the changes of societies or keep enforcing bad rules. The foot-binding may be one example of a social rule which necessitates a

---

<sup>44</sup> I disagree with Hasnas on this point, who contends that Hayek conception of the common law is in fact customary law. Two historical hints may reenforce this view. First the references to Holmes or Pound are, for example, positive ones (Hayek, 1960, 85; 1973, 106). If Hayek criticizes the progressive legal movement in the US, he mostly refers to the later representant of this movement in the 1930, such as Jerome Franck (Hayek, 1955b, 190-192). Another important actor of the renewal of liberalism in the 1930s, Walter Lippmann, was very close to the American common lawyers, such as Holmes, Pound, Frankfurter or Brandeis. Long before Hayek, Lippmann developed, in *The Good Society*, an evolutionary understanding of law based on the common law account. Hayek refers multiple times to Lippmann's positions (see for example Hayek, 1976, 182).

<sup>45</sup> This entails that the distinction between *thesis* and *nomos* made by Hayek is not a sharp one.



legislative intervention. As in any complex system the spontaneous evolution can lead to local equilibrium which is harmful.

*How do we know exactly* that we are improving the order with a legislative action or a legislation at the margins? To answer this crucial question Hayek should specify a criterion which allows to say that a resulting order is *better* than the previous one. Hayek is aware of this problem and offers a normative answer (Hayek, 1973, 100-103): the judge *should* strive to improve the number of valid expectations, thus fostering cooperation. I will come back to this criterion in next section. It is sufficient here to notice that this answer raises three problems. *The epistemological problem* is encapsulated by the judge's position, which possesses an advantaged standpoint to assess what should be considered as an improvement and what should not.<sup>46</sup> *The social problem* is relative to the fact that Hayek's solution presupposes consensus among judges on what should count as a good law. Some judges may prefer to defend social goals or to promote a form or another of perfectionism, *i.e* the moral position where the state ought to intervene to foster a specific conception of the good life. *The political problem*, finally, is that such piecemeal change is unable to consist in a defense of liberalism because it cannot produce liberalism from a non-liberal order. What would piecemeal changes and immanent criticism do in the soviet legal system? The three problems can only be solved if immanent criticism and piecemeal change take place *in a liberal society*.

The same claim can be defended with the other example Hayek gives of what a liberal should do given the complexity of our societies, *i.e* the metaphor of the gardener (Hayek, 1955a,

---

<sup>46</sup> Hayek's parry would consist in a defense of legal experimentation (Hayek, 1973, 102-103). But the problem re-emerges as to what should count as a successful experiment or not. This epistemological criticism of Hayek's position is inspired by Scheall (2020, chap. 4). Scott Scheall also develops, in the same book, the problems of a liberal transition, which constitutes the political problem.

19; 1964a, 40). The gardener illustrates the liberal attitude since he does not create the plants, the fruits, and the vegetables of his garden, but help them to grow in accordance with their inner nature. We must distinguish between a mere *intervention* and an *interference*. An intervention is the action of the gardener which helps the garden to grow slowly – Hayek may prefer here the English gardens to the French Le Nôtre-like gardens. An interference is an action which "brings about a particular result which is different from that which *would have been produced if the mechanism had been allowed unaided to follow its inherent principles*" (Hayek, 1976, 129, emphasis added). But what exactly are the mechanism and the 'inherent principles' whose development we should seek to preserve? Certainly, it cannot be any natural or randomly given mechanism, otherwise the gardener would just let weeds grow in his garden, or insects invade it. Even the English gardens are creation of the gardener, who imitates the wilderness of the nature. The gardener certainly lets room for spontaneous growth, but it is a controlled spontaneity. The only way to make sense of this example is to understand the role of the gardener as a model of what a liberal should aim to do *within a liberal society*.<sup>47</sup>

#### *The background of the liberal civilization*<sup>48</sup>

The assumed background for immanent criticism and piecemeal change is the liberal civilization. I do not decipher any Hayekian esoteric arcana here. Indeed, Hayek says, in the first pages of the *Constitution of Liberty* that "Men have sought for alternative social orders more often than they have tried to improve their understanding or use of *the underlying principles of our civilization*"

---

<sup>47</sup> The alternative would be to understand Hayek as a Spencer-like theorist. Nevertheless, I think this reading is mistaken because Herbert Spencer is often referred to as one of the responsible for the decrepitude of the liberal creed. See Colin-Jaeger (2021) for the shared criticism of Spencer by Lippmann and Hayek.

<sup>48</sup> For a more historical demonstration of the importance of the thinking on the liberal and Western civilization among liberals in the 1930s and 1940s, see Beddeleem and Colin-Jaeger (2020).

(Hayek, 1960, 1-2, emphasis added). This statement is reiterated strongly in *Law, legislation and liberty*, in a passage worth quoting at full length:

There are, undoubtedly, many forms of tribal or closed societies which rest on very different systems of rules. All that we are here maintaining is that we know only of one kind of such systems of rules, undoubtedly still very imperfect and capable of much improvement, which makes the kind of open or 'humanistic' society possible *where each individual counts as an individual and not only as a member of a particular group*, and where therefore universal rules of conduct can exist which are equally applicable to all responsible human beings. *It is only if we accept such a universal order as an aim*, that is, if we want to continue on the path which since the ancient Stoics and Christianity has been characteristic of Western civilization, *that we can defend this moral system as superior to others*-and at the same time endeavour to improve it further *by continued immanent criticism*.

(Hayek, 1976, 27, emphasis added).

First it is a consequence of Hayek's own positive theory of cultural evolution that we are above all members of our own societies. What Hayek perceives as the history of his own civilization, the Western civilization, which constitutes the background in which the immanent criticism should proceed, is a trend towards liberalism, based on the recognition of individual value. This last element produced an open society, where the individuals are highly heterogeneous for their preferences and conception of the good life. Hayek explicitly favors one result of spontaneous evolution among others. Second, this Western civilization – or rather the underlying principles which causes its flourishing for Hayek – should be defended against other tendencies and traditions of western societies<sup>49</sup>, such as the French rationalistic tradition (Hayek, 1960, chap. 4)<sup>50</sup>. Third,

---

<sup>49</sup> Hayek (1988) is particularly dramatic on this matter. The book indeed closes on the idea that we must strive for the "survival of our civilization" (Hayek, 1988, 140).

<sup>50</sup> Hayek often criticizes the French thinkers as the incarnation of social engineering and planning. Descartes, Rousseau, Condorcet, Saint-Simon or Comte are his favorite victims. Nevertheless, some French thinkers are representatives of

one may not necessarily interpret this passage as a cue of western ethnocentrism – although one may do so. If for the anthropologist such a statement would be preposterous it is not the case for the liberal, because her civilization can only be maintained when she considers the other civilizations as inferiors (Hayek, 1979, 172-173), and thus preserve the internal consistency of its principles. Discussing this argument would lead me astray given my current purpose, but I will come back to it in section VI.

### *Designing a liberal order*

Liberalism is not only a method of gradual change, but also a substantial stance, "a successful defence of freedom must be dogmatic" (Hayek, 1973, 61). Liberal improvement can only take place in a liberal society, when the spontaneous process is guided by the meta-rules of a "truly radical liberalism" (Hayek, 1949, 433). The meta-rules are for Hayek the components of the rule of law<sup>51</sup> (impersonality, generality, publicness and permanency) as well as the declaration of individual rights (on oneself and property) and define what kind of laws can be enacted or not. I suggest to read Hayek's theory as one involving two phases: (i) we must defend the implementation of liberal principles, which supposes that we are able to identify in our traditions which one should be supported and (ii) within this liberal framework we must preach for a gradual improvement once a liberal spontaneous order is constituted. Without a liberal framework the spontaneous order can destroy individual freedom and liberalism as such. Thus, Hayek's liberalism is *a theory of the design of a liberal spontaneous and complex order*. Such a conception is the crux of Hayek's liberalism:

---

what he calls the English tradition, such as Montesquieu and Tocqueville (one may add Turgot, Bastiat, Molinari, Garnier, or even Proudhon). Conversely, some English philosophers are corrupted by the French constructivism, such as Bentham or the late Mill (or rather Harriet Taylor).

<sup>51</sup> For the rule of law as a meta legal doctrine see Hayek (1955b; 1960, 203).

It is only by constantly holding up the guiding conception of an internally consistent model which could be realized by the consistent application of the same principles, that anything like *an effective framework for a functioning spontaneous order will be achieved*

(Hayek, 1973, 64-65, emphasis added).

Hayek does not defend any spontaneous order, but a *functioning spontaneous order which takes place within a liberal framework*, which must be *created*. As soon as 1955 Hayek explicitly stated this aspect of his theory. In the Cairo Lectures we could indeed read how we could "produce" or "create" an order in society (Hayek, 1955b, 161), and Hayek even gives advices for the "Liberty-Loving Statesmen" who want to "assist the formation of a spontaneous order" (Hayek, 1955b, 192).

Hayek's constitutionalism is not at odds with this project, but the first stone of the theoretical structure because it allows to *order the order* ("we are able to bring about an ordering of the unknown only by causing it to order itself", Hayek, 1988, 83). This ambition is not an anomaly, but a consistent claim of Hayek when discussing the role of the government, whose function is to "provide a beneficial framework for the free growth of society" in order to foster the "growth of civilization" (Hayek, 1979, 152)<sup>52</sup>.

How is that not contradictory? Design is indeed the antithesis of what Hayek often recommends. As Mack (2006, 263, emphasis added) puts it, for Hayek "a well-ordered society exhibiting rational coordination among its members *need not be a designed* and commanded order", yet I suggest reading him exactly as a philosopher who defends the possibility to design an order. The reason is simple: the word "design" (and one could make the same case for "planning") covers two different concepts. The first concept of design refers to the action of directing a process

---

<sup>52</sup> See, on the same topic, Hayek (1960, 222-223).

to produce a specific result. Actions of this type, associated with organization rather than orders for Hayek, clashes with his understanding of complex systems. In "The errors of constructivism" (1970) Hayek advances a ferocious criticism of such hubris. This is the concept one may have in mind when referring to the Hayekian contempt for human design. The second concept of design entails no such dire consequences. The radical liberalism of Hayek is designed not to produce particular results (such as an equal distribution of wealth and goods), and the rule of law is even the political aspect of the epistemological possibility of pattern prediction. Moreover, Hayek's radical liberalism offers an adequate framework for the growth of a spontaneous order, respecting the feature of a complex social order. Designing the framework is precisely refusing to direct the individual actions towards specific ends, to allow them to pursue their own ends. One concept of design is coercive while the other is constitutive.<sup>53</sup>

In the context of the Western civilization the design of a liberal framework would not be a problem, because the traditions of the civilization are already at least partly liberal. The liberal constitutional maker would not have to create something from scratches but would have to reinvigorate past or existing traditions and to use the resources of culture. This process may not be easy, because other forces are at play and may be contradictory with the liberal values, but an intellectual and political venture is possible. In a way this is exactly what Hayek strived for when he was writing the *Constitution of Liberty* or creating the Mont-Pèlerin Society. The differences of tone between Hayek in the 1940s and the later Hayek can thus be explained by an evolution in the

---

<sup>53</sup> Melkevik (2020), proposing a close reading of Hayek, argues rightly that all rules are in a sense coercive. Here coercion should be read in a specific sense, where coercion is a direct command on an individual will. By distinction, the general liberal rule allows for the formation of individual valid expectations and thus does not command them but allow them to chose what they want. There would be a lot to say on these problems, but I refer the reader to Melkevik (2020, chap. 4).

context. If in the 1940s liberalism had to be defended positively against totalitarianism, the later work are embedded in the context of western liberal societies.

At this point my reading has shown how Hayek's liberalism could be articulated with his positive program and how, in doing so, the tension between evolution and design is greatly reduced. My analysis shows how the defense of liberalism and the lessons of complexity and cultural evolution can be coherent. Nevertheless, we are left with a puzzling question: *Why would we want such a radical liberalism?* If we cannot ground liberalism on the positive program, we must seek normative justifications. The next sections explore the normative justifications Hayek can offer.

## V. The normative arguments

Sugden (1993) and Gaus (2018) aside, surprisingly few commentators address this question from the normative standpoint. Perhaps this is not much of a surprise, because Hayek's writings do not fit well with the deductive reasoning of classical political philosophy, illustrated by Rawls' magnum opus *A Theory of Justice*. Nevertheless, Hayek claimed multiple times the "superiority of the market order" (Hayek, 1974, 27), which is one of the defining features of his liberalism. The immediate justification given multiple times by Hayek is a direct implication of his study of complex systems, and it is that the market order, as a spontaneous order, allows greater utilization of knowledge than alternative institutions. But we may go one step further and ask why is that a good thing at all. We can find three interconnected arguments developed by Hayek which deserve

to be elaborated:<sup>54</sup> the common good of the coordination framework, the defense of individual freedom as a meta-value, and the pluralism and experimentation allowed by the liberal society.

*The common good of the coordination framework*

This first argument was sketched by Sugden (1993, 413). Hayek is usually a critic of "the common good" or the "general interest", but he uses the term positively when he writes about catallaxy (the Greek name Hayek gives to the economic relations constituting our society) : "We have seen that *the common good* in this sense is not a particular state of things but consists in an abstract order which in a free society must leave undetermined the degree to which the several particular needs will be met." (Hayek, 1976, 114, emphasis added). In this setting the common good is the good perceived from the perspective of the individuals. Sugden calls this a contractarian justification.<sup>55</sup>

We can go one step further and ask what criterion is used by Hayek to judge a *good institution* or an *improvement*. I think we can formulate the following principles:

*Principle of maximization of individual expectations (PMA):* an institution can be said to be beneficial, or a change to be an improvement if and only if it allows the validity of a maximum of individual expectations for their plans.

---

<sup>54</sup> I will set aside one direct justification given in *The Fatal Conceit*. Capitalists' institutions are defended as superior to the socialist ones because they (i) allow for a growth of population and (ii) increase wealth (see Hayek, 1988, 8-9, 27). (i) is empirically debatable and (ii) is unpersuasive. The USSR showed a more important population growth than the western societies, and the same could be said for China. Increase of wealth cannot constitute a satisfying normative criterion, see for example the debates about the wealth maximization criterion defended by Posner (1979), discussed by Dworkin (1980).

<sup>55</sup> *Contractarianism* must be distinguished from *contractualism*. Contractarianism is a social contract tradition which starts from the depiction of the individuals as being *rational*. It is usually considered as a social contract theory which inherits from Hobbes, and whose contemporary manifestations are David Gauthier, Ken Binmore or Robert Sugden himself. Contractualism is based on a different account of the person, emphasizing *reasonableness* as a necessary precondition for social cooperation. The main reference is Kant, and more recently John Rawls, Thomas Scanlon or Brian Barry. We develop this distinction and its implications in Colin-Jaeger, Dold and Gascoin (2021). I will not discuss here if Sugden is right to read Hayek as a contractarian.



In the *Constitution of Liberty* we could indeed read that "So far as possible, our aim should be to improve human institutions so as to *increase the chances of correct foresight*" (Hayek, 1960, 30, emphasis added). The idea of maximization is explicitly mentioned by Hayek in the first volume of *Law, legislation and liberty*, when Hayek refers to the criterion which should guide the judge's decisions : "Which expectations ought to be protected must therefore depend on *how we can maximize the fulfilment of expectations as a whole*" (Hayek, 1973, 103, emphasis added), and the same principle is referred to in his defense of the catallactic order (Hayek, 1976, 125). This epistemic criterion expresses an important idea, *i.e* that the liberal order enables, with its general and impersonal framework, the improvement of the chances for anyone to pursue its own ends, or rather anyone *taken at random* (Hayek, 1976, 130). Of course, like in any game there will be losers, and some people will not succeed, but their loss is acceptable only if the invalidity of their expectations allows for more people to meet theirs.<sup>56</sup> The process of competition is the paramount theoretical example of a process where some expectations are sacrificed on the altar of beneficial effects implied by the discovery of new information.<sup>57</sup> Overall, the liberal order can be justified as a fair game that individuals *would* accept if they were in position to choose, it is a society "in which we would prefer to place our children if we knew that their position in it would be determined by lot" (Hayek, 1976, 132).

### *Individual freedom as a meta-value*

The defense of a liberal complex order goes hand in hand with a defense of individual freedom from coercion. It is *because* the system is complex that freedom should be protected since it leaves a room for adaptive behaviors. In a liberal order freedom is "essential to the *functioning of the*

---

<sup>56</sup> "It is only because countless others constantly submit to disappointments of their reasonable expectations that everyone has as high an income as he has" (Hayek, 1976, 128).

<sup>57</sup> Hayek (1964) and Buchanan and Vanberg (1991).

*process*" because it allows "each individual... to act on his particular knowledge, always unique... within the limits known to him and *for his own individual purpose*" (Hayek, 1960, 29, emphasis added). Individual freedom is defined by Hayek as the protection against the arbitrary coercion from another's will (*Ibid.*, 12) and thus the possibility to follow its own ends, only guided by general and abstract rules (Hayek, 1976, 123). Thus, the *PMA* has for direct consequence the extension of individual freedom in a stable environment since it guarantees that a maximum of expectations will be met, and thus a maximum of compatible individual ends.

At this point we may think that the defense of freedom is a defense by default. It is because of our ignorance that we should preserve individual freedom. Such a defense of freedom as the byproduct of complexity is only able to appeal to a liberal. But Hayek adds another element to his defense of liberty. The next step is to show that only when we defend individual freedom can we also defend other values. This is the explicit goal of Hayek's liberalism: "We must show that liberty is not merely one particular value but that *it is the source and condition of most moral values*" (Hayek, 1960, 6). To understand the argument, consider the extreme case of an integralist government (*i.e* a government dominated by the Catholic faith, where Catholicism is the basis for civil law and public policy). In this case some values are directly aimed for, say in the best-case scenario the Christian values of, charity, justice, temperance and so on. These values may well fit many of the people's preferences in the given society, but it also restricts the extent of the possible values some person could follow. An atheist libertine would certainly be arrested, even if he holds less extravagant preferences than the Marquis de Sade (effectively sent to prison and in asylum). In comparison the liberal order is compatible with a more important set of values, because the society does not aim at realizing specific ends but is built on the idea of creating the conditions for

the co-existence of competing values. One can be the Marquis de Sade (in the limits of consent) or Thomas of Aquinas equally.

Hayek nevertheless does not say that liberalism is compatible with all values. Here we encounter the dreaded problem of *neutrality* in liberal theories. Surely Hayek is right to say that *most but not all* moral values are made possible by the meta-value of individual freedom. Some preferences are expected to be rejected, such as the value one could find in torturing babies, or, less dramatically, stealing others. More importantly Hayek's liberalism collides with a classical problem of liberal political philosophy, which is the justification of the liberal framework from an alternative standpoint. If the integralist believes he holds the truth he has no reason to preach tolerance. The Hayekian argument can only appeal to the moderate sceptics about the possibility to be certain of ultimate ends.

#### *Pluralism and experimentation*

The defense of freedom allows for pluralism, the great society being characterized by the flourishing of various forms of lives (Hayek, 1988, 62-63). The individuals can *emancipate* themselves from the morals of the close community.

Pluralism is at the same time a cause of the emergence of the extended order, since heterogeneity gives rise to complexity, and a consequence to cherish. It is to cherish because it makes experimentation possible, the invention and constant modification of rules by different individuals, and ultimately adaptation within the system possible. This experimentation aspect is praised explicitly by Hayek: "It is through this free gift of the knowledge acquired by the experiments of some members of society that general progress is made possible" (Hayek, 1960,

43), and experimentation itself is only possible when the individuals follow their own different ends, guided by various values.

Of course, these multiple justifications are not beyond criticism. But they make clear that Hayek defends the liberal order not by conservatism – which would be the consequence of a purely evolutionary liberalism – or by a taste for the *statu quo*, but because he thinks that the liberal order and its institutions are the conditions for individual flourishing and is therefore desirable.

## VI. Escaping the design/evolution tension and assessing Hayek's defense of liberalism

This article demonstrates that the tension between evolution and design in Hayek's defense of liberalism is overstated and takes its roots in the flawed belief that Hayek justifies his liberalism on his positive analysis of evolution and complexity. Rather I showed that no political theory can be defended ultimately on the study of cultural evolution or complex system theories, but that this positive program can only teach us the limits of our pretensions. Hayek was aware of this problem, and his liberalism does not only seek to improve gradually existing institutions but defends the necessity of a liberal framework, allowing the upholding of a *beneficial* spontaneous and complex order. This normative appreciation is the result of epistemic considerations, which ultimately show the importance of individuals ends, freedom and pluralism.

There are good arguments for Hayek's positive program. Cultural evolution is as energetic as ever, and complexity sciences are increasingly popular among scientists. Both theories certainly

offer us precious knowledge to reshape our normative beliefs about social organization. The work of Gerald Gaus (2019) is a good example of how complexity and cultural evolution theory can help us to think anew the traditional problems of political philosophy and political sciences, for example democracy.<sup>58</sup> But I do not want to insinuate here that all is for the best in the best of Hayekian world and impersonate a Hayekian Pangloss. If my understanding of the design/evolution tension certainly shows that the dreaded contradiction does not arise, and that Hayek is more consistent than most would think, it also puts the spotlight on other important issues.

I will restrict myself to two major issues that did not provoke nearly as much attention as the ones surrounding the topic of this article. The first issue is the civilizational one. Whereas Hayek is often a critic of any philosophy of history (Hayek, 1974, 31), his own understanding of the growth of western civilization constitutes a dubious philosophy of history. The exercise can of course be understood as a rational reconstruction of the historical process, but it still displays an understanding of history where the liberal could select and sort the wheat from the chaff, and where the Western civilization is itself oddly essentialized. This substantializing of Western traditions and civilization – and the call to preserve the purity of the civilization with a hierarchy – is at the same time historically and theoretically debatable. Moreover, it makes Hayek's usefulness marginal for contemporary times marked by multiculturalism.

The second issue is epistemological. The criterion Hayek explicitly gives to judge the beneficial function of an institution, or to judge an improvement, what I called the *PMA*, is at odds with his own theory. Indeed, to *maximize* the total amount of anticipation one would have to know

---

<sup>58</sup> Aside from Gaus, three other examples would be Robert Sugden (2018) later work as defending the case for the maximization of individual opportunities allowed in the market order, against the thesis of behavioral economics, or more recently Scott Scheall (2020), who draws on Hayek knowledge problem while considering the eventual problems within Hayek's theory, and Melkevik (2020), who develops a classical liberal theory of social justice.

the distribution of probabilities and the opportunities given to each member of a society. Maximization is an empty concept without a way to *quantify* the maximand. Such distributions can, however, not be given without introducing a god-like standpoint on society, be it the judge or Hayek's. But this knowledge is not given to anybody. Without this specific standpoint we cannot really say if the market order really advantages everyone or if the general and impersonal rules produce systematic differences (*e.g* for women or other minorities), above all if Hayek is sceptic about the possibility to give a solution to longstanding inequalities?<sup>59</sup> In this respect the Hayekian call to a liberal faith<sup>60</sup> is understandable according to his own principles, but certainly unable to convict anybody who is not already a liberal. It is not rare indeed that a modification in the rules of a game produces systematic advantages or disadvantages to some individuals. Let us think of the difference between the rules in European basketball and NBA basketball. In European basketball there is no time restriction for a center in the paint while there is the three second rule in the US. The rule is of course a systematic disadvantage for the centers, who cannot defend as efficiently as they could. This situation produces systematic asymmetries which are not random but directly related to some characteristics of the individuals. Such a flaw would eventually undermine Hayek's epistemic case for freedom too, since it is not sure that the market order enhances and maximizes individual freedom for all (defined as the capacity of the individuals to effectively pursue their ends).<sup>61</sup>

---

<sup>59</sup> Talking about the fact that some groups may be systematically disadvantaged, Hayek says that "unless such injustice is clear and recent, it will generally be impracticable to correct it" (Hayek, 1976, 131).

<sup>60</sup> See Hayek (1960, 400): "In looking forward, they lack [the conservatives] the faith in the spontaneous forces of adjustment which makes the liberal accept changes without apprehension, even though he does not know how the necessary adaptations will be brought about."

<sup>61</sup> The basketball rules example is not a definitive argument and the analogy is at best suggestive. Nevertheless, it showcases a plausible mechanism of inequality production based on individual characteristics.

On these issues and on others, we may well have to go beyond Hayek's defense of liberalism and sort the wheat from the chaff too.

## References

- Angner, E. 2002. "The History of Hayek's Theory of Cultural Evolution", *Studies in History and Philosophy of Biomedical Sciences*, 33: 695–718.
- Angner, E. 2004. "Did Hayek Commit the Naturalistic Fallacy?", *Journal of the History of Economic Thought*, 26(3): 349-361.
- Axtell, R. 2016. "Hayek Enriched by Complexity Enriched by Hayek", *Advances in Austrian Economics*, 21: 63-121.
- Barry, N. 1989. "The liberal constitution: Rational design or evolution?", *Critical Review*, 3(2): 267-282.
- Beck, N. 2015. "The garden of orderly polity: F.A. Hayek and T.H. Huxley's views on social evolution", *Journal of Bioeconomics*, 17: 83-96.
- Beck, N. 2018. *Hayek and the Evolution of Capitalism*, Chicago, Chicago University Press.
- Beddeleem, M. and Colin-Jaeger, N. 2020. "L'héritage conservateur du néolibéralisme", *Astérion*, 23.
- Boettke, P. and O'Donnell, K. 2013. "The failed appropriation of F.A. Hayek by formalist economic. Critical Review", 25(3-4): 305–341.
- Boettke, P. 2018. *F.A. Hayek: Economics, political economy and social philosophy*, London, Palgrave-Macmilan.
- Boettke, P. and King, S. 2020. Hayek and the Hayekians on the Political Order of a Free Society", in *Hayek's tensions*, Heffele, S., Stein, S. and Storr, V. (eds.), George Mason, Mercatus Center: 7-26.
- Bowles, S. and Gintis, H. 2013. *A Cooperative Species*, Princeton, Princeton University Press.
- Bowles, S., Kirman, A. and Sethi, R. 2017. "Retrospectives: Friedrich Hayek and the Market Algorithm", *Journal of Economic Perspectives*, 31(3): 215-230.
- Boyd, R. and Richerdson, P. 2005. *Not by genes alone: How culture transformed human evolution*, Chicago, Chicago University Press.
- Buchanan, J. 1975. *The limits of liberty*, Indiannapolis, Liberty Fund.
- Buchanan, J. and Brennan, G. 1985. *The Reason of rules*, Cambridge, Cambridge University Press.
- Buchanan, J. and Vanberg, V. 1991. "The market as a creative process", *Philosophy and Economics*, 7(2), 167–186.
- Caldwell, B. 1988. "Hayek transformation", *History of Political Economy*, 20(4): 513–541.



Caldwell, B. 2000. "The Evolution of Hayek's Ideas on Cultural Evolution", *Review of Austrian Economics*, 13: 5-22.

Caldwell, B. 2002. "Hayek and cultural evolution", in *Fact and Fiction in Economics*, Mäki, U. (ed.), Cambridge, Cambridge University Press: 285-303.

Caldwell, B. 2004. *Hayek Challenge*, Chicago, Chicago University Press.

Caldwell, B. Reiss, J. 2006. "Notes and Commentary Hayek, Logic, and the Naturalistic Fallacy", *Journal of the History of Economic Thought*, 28(3): 359-370.

Caldwell, B. 2012. "Introduction", in *The Market and Other Orders*, Caldwell, B. (ed.), London, Palgrave MacMillan: 1-35.

Chaumont-Chandelier, F. 1999. "Hayek's Complexity", *Journal des économistes et des études humaines*, 9(4): 543-564.

Colin-Jaeger, N. 2021. "Reconstructing Liberalism: Hayek, Lippmann, and the Making of Neoliberalism", *Oeconomia (forthcoming)*.

Colin-Jaeger, N. and Delcey, T. 2020. "When efficient market hypothesis meets Hayek on information: beyond a methodological reading", *Journal of Economic Methodology*, 27(2): 97-116.

Colin-Jaeger, N., Dold, M. and Gascoin, A. 2021. "Realism and Deliberation in Constitutional Political Economy: The Fruitful Intellectual Dialogue between James Buchanan and John Rawls", *Working paper*.

Cubeddu, R. 2020. "Leoni and Hayek on Nomos and Physis", *Il Politico*, 85(2): 58-95.

Dawkins, R. 1976. *The selfish gene*, Oxford, Oxford University Press.

Denis, A. 2002. "Was Hayek a Panglossian Evolutionary Theorist? A Reply to Whitman", *Constitutional Political Economy*, 13: 275-285.

De Vlieghere, M. 1994. "A Reappraisal of Friedrich A. Hayek's Cultural Evolutionism", *Economics and Philosophy*, 10: 285-304.

Diamond, J. 2005. *Collapse: How Societies Choose to Fail or Succeed*, New York, Penguin Books.

Dworkin, R. 1980. "Why Efficiency? – A response to Professors Calabresi and Posner", *Hostra Law Review*, 8(3): 563-590.

Faria, F. 2017. "Is market liberalism adaptative? Rethinking F.A Hayek on moral evolution", *Journal of Bioeconomics*, 19(3): 307-326.

Ferey, S. 2008. "L'économiste et le juge, réflexion sur la théorie hayékienne du droit", *Cahiers d'économie politique*, 54(1): 57-83.

Fleetwood, S. 1995. *Hayek's Political Economy: The Socio-Economics of Order*, London, Routledge.

- Gaus, G. 2006. "Hayek and the evolution of society and mind", in *Cambridge Companion to Hayek*, Fessler, E (ed.), Cambridge, Cambridge University Press: 232-258.
- Gaus, G. 2007. "Social Complexity and Evolved Moral principles", in *Liberalism, Conservatism, and Hayek's Idea of Spontaneous Order*, Hunt, L. and McNamara, P. (eds), London, Palgrave Macmillan: 149-176.
- Gaus, G. 2016. *The Tyranny of the Ideal*, Princeton, Princeton University Press.
- Gaus, G. 2018. "Hayekian "classical" liberalism", in J. Brennan, B. van der Vossen, and Schmidtz, D. (eds), *The Routledge handbook of libertarianism*, London and New York, Routledge: 34-52.
- Gaus, G. 2019. "What Might Democratic Self-Governance in a Complex Social World Look Like?", *San Diego Law Review*, 56: 967-1012.
- Gaus, G. 2020. "A Branch on the Mainline: Hayek's Analysis of Complex Adaptive Systems", *Cosmos + Taxis*, 5-6.
- Gould, S.J and Lewontin, R. 1979. "The Spandrels of San Marco and the Panglossian Paradigm", *Proceedings of the Royal Society of London*, 205(1161): 581-598.
- Gray, J. 1984. *Hayek on Liberty*, New York, Basil Blackwell.
- Gray, J. 1996. "Postscript: Hayek and the dissolution of classical liberalism", in *Hayek on Liberty*: 141-156.
- Hamowy, R. 2003. "F.A. Hayek and the Common Law", *Cato Journal*, 23(2): 241-264.
- Hasnas, J. 2004. "Hayek, The Common Law and Fluid Drive", *NYU Journal of Law & Liberty*, 1: 79-110.
- Hayek, F. 1937. "Economics and Knowledge", in *Individualism and Economic Order*, Chicago, Chicago University Press: 33-56.
- Hayek, F. 1944. *The Road to Serfdom*, London, Routledge.
- Hayek, F. 1945. "The Use of Knowledge in Society", in *Individualism and Economic Order*, Chicago, Chicago University Press: 77-91.
- Hayek, F. 1949. "The Intellectuals and Socialism", in *Studies in Philosophy, Politics and Economics*, Chicago, Chicago University Press: 178-194.
- Hayek, F. 1952. *Sensory Order*, Chicago, Chicago University Press.
- Hayek, F. 1955a. "Degrees of Explanation", in *Studies in Philosophy, Politics and Economics*, Chicago, Chicago University Press: 3-21.
- Hayek, F. 1955b. "The political Ideal of the Rule of Law", in *The Market and Other Orders*, Caldwell, B. (ed.), London, Routledge: 121-194.
- Hayek, F. 1960. *The Constitution of Liberty*, Chicago, Chicago University Press.

- Hayek, F. 1962. "Rules, Perception and Intelligibility", in *Studies in Philosophy, Politics and Economics*, Chicago, Chicago University Press: 43-65.
- Hayek, F. 1964. "The Study of Complex Phenomena", in *Studies in Philosophy, Politics and Economics*, Chicago, Chicago University Press: 22-42.
- Hayek, F. 1967a. "Notes on the Evolution of Systems of Rules of Conduct", in *Studies in Philosophy, Politics and Economics*, Chicago, Chicago University Press: 66-95.
- Hayek, F. 1967b. "The Results of Human Action but not of Human Design", in *Studies in Philosophy, Politics and Economics*, Chicago, Chicago University Press: 96-105.
- Hayek, F. 1969. "The Primacy of the Abstract", in *New Studies in Philosophy, Politics, Economics and the History of Ideas*, Chicago, Chicago University Press: 35-49.
- Hayek, F. 1970. "The Errors of Constructivism", in *New Studies in Philosophy, Politics, Economics and the History of Ideas*, Chicago, Chicago University Press: 3-22.
- Hayek, F. 1973. *Law, legislation and liberty*, I, London, Routledge.
- Hayek, F. 1974. "The Pretense of Knowledge", in *New Studies in Philosophy, Politics, Economics and the History of Ideas*, Chicago, Chicago University Press: 23-34.
- Hayek, F. 1976. *Law, legislation and liberty*, II, London, Routledge.
- Hayek, F. 1979. *Law, legislation and liberty*, III, London, Routledge.
- Hayek, F. 1982. "Consolidated preface to one-volume edition", in *Law, legislation and liberty*, London, Routledge: xv-xxi.
- Hayek, F. 1988. *The Fatal Conceit*, Chicago, Chicago University Press.
- Hodgson, G. 1991. "Hayek's theory of cultural evolution: an evaluation in the light of Vanberg's critique", *Economics and Philosophy*, 7: 67-82.
- Hodgson, G. 1993. *Economics and Evolution: Bringing Life Back into Economics*, Ann Arbor, Michigan University Press.
- Hodgson, G. 1994. "Hayek, evolution, and spontaneous order", In *Natural Images in Economic Thought*, Mirowski, P. (ed.), Cambridge, Cambridge University Press: 408-447.
- Hutchison, T. 1981. *The politics and philosophy of economics: Marxians, Keynesians and Austrians*, Oxford, Oxford University Press.
- Kilpatrick, H. 2001. "Complexity, Spontaneous Order, and Friedrich Hayek: Are Spontaneous Order and Complexity Essentially the Same Thing?", *Complexity*, 6(3): 16-20.
- Kolev, S. 2021. "When Liberty Presupposes Order: F. A. Hayek's Learning Ordoliberalism", *Freiburg Discussionpapers on Constitutional Economics*, Working Paper.

- Kukathas, C. 1990. *Hayek and Modern Liberalism*, Oxford, Clarendon Press.
- Ladyman, J. and Wiesner, K. 2020. *What Is a Complex System?* New Haven, Yale University Press.
- Légé, P. 2007. "Hayek : penseur génial ou incohérent ?", *L'économie politique*, 36(4) : 46-59.
- Lewis, P. 2012. "Emergent Properties in the Work of Friedrich Hayek", *Journal of Economic Behavior and Organization*, 82(2): 368-378.
- Lewis, P. 2015. "Notions of Order and Process in Hayek: The Significance of Emergence", *Cambridge Journal of Economics*, 39(4): 1167-1190.
- Lewis, P. 2016a. "Systems, Levels of Organisation and Structural Properties: The Influence of Ludwig von Bertalanffy on the Development of F.A. Hayek's Work on Complexity", *Research in the History of Economic Thought and Methodology*, 34(A): 125-159.
- Lewis, P. 2016b. "The Emergence of 'Emergence' in the Work of F. A. Hayek", *History of Political Economy*, 48(1): 111-150.
- Lewis, P. 2017. "The Ostroms and Hayek as Theorists of Complex Systems: Commonality and Complementarity", *Advances in Austrian Economics*, 22: 35-66.
- Lewis, P. 2020. "Tensions and Ambiguities in Hayek's Social Theory", in *Hayek's tensions*, Heffele, S., Stein, S. and Storr, V. (eds.), George Mason, Mercatus Center: 85-114.
- Lewin, P. and Lewin, P. 2015. "Orders, Orders, Everywhere... On Hayek's The Market and other Orders", *Cosmos + Taxis*, 2(2): 1-17.
- Mack, E. 2006. "Hayek on Justice and the order of actions", in *The Cambridge Companion to Hayek*, Feser, E. (ed.), Cambridge, Cambridge University Press: 259-286.
- Mackie, G. 1996. "Ending Footbinding and Infibulation: A Convention Account", *American Sociological Review*, 61(6): 999-1017.
- Marciano, A. 2009. "Why Hayek is a Darwinian (after all)? Hayek and Darwin on social evolution", *Journal of Economic Behavior and Organization*, 71(1): 52-61.
- Melkevik, Å. 2020. *If You're a Classical Liberal, How Come You're Also an Egalitarian?* London, palgrave macmilan.
- Miller, D. 1989. "The Fatalistic Conceit", *Critical Review*, 3: 310-323.
- Mirowski, P. 2007. "Naturalizing the market on the road to revisionism: Bruce Caldwell's *Hayek's challenge* and the challenge of Hayek interpretation", *Journal of Institutional Economics*, 3(3): 351-372.
- Nadeau, R. 2016. "Cultural Evolution, Group Selection and Methodological Individualism: A Plea for Hayek", *Cosmos + Taxis*, 3(2-3): 9-22.
- Nemo, P. 1988. *La société de droit selon Hayek*, Paris, Presses Universitaires de France.

- Okasha, S. 2006. *Evolution and the Levels of Selection*, Oxford, Oxford University Press.
- Peart, S. and Levy, D. 2008. "Discussion, construction and evolution: Mill, Buchanan and Hayek on the constitutional order", *Constitutional Political Economy*, 19: 3-18.
- Posner, R. 1979. "Utilitarianism, Economics, and Legal Theory", *The Journal of Legal Studies*, 8(1): 103-140.
- Posner, R. 2005. "Hayek, Law and Cognition", *NYU Journal of Law and Liberty*, 1: 147– 65.
- Rosenberg, A. 2017. "Why social science is biological science", *Journal for General Philosophy of Science*, 48: 341-369.
- Rosenberg, A. et McShea, D. 2008. *Philosophy of biology*, London, Routledge.
- Schaefer, A. 2021. "Hayek's Twin Ideas: Reconciling Methodological Individualism and Group Selection", *Working Paper*.
- Scheall, S. 2020. *F.A Hayek and the epistemology of politics*, London, Routledge.
- Servant, R. 2017. "Let's agree not to agree: F. A. Hayek's 'calculus of consent'", *Cambridge Journal of Economics*, 41: 259-281.
- Shearmur, J. 1996. *Hayek and After: Hayekian Liberalism as a Research Programme*, London, Routledge.
- Sober, E. and Wilson, D. S. 1998. *Unto Others*, Cambridge, Harvard University Press.
- Steele, D. 1987. "Hayek's theory of cultural group selection", *The Journal of Libertarian Studies*, 8: 171-195.
- Storr, V. and Martin, N. 2008. "On Perverse Emergent Orders." *Studies in Emergent Orders* 1(1): 73-91.
- Sugden, R. 1993. "Normative judgments and spontaneous order: the contractarian element in Hayek's thought", *Constitutional Political Economy*, 4(3): 393–424.
- Sugden, R. 2018. *The Community of advantage*, Oxford, Oxford University Press.
- Vanberg, V. 1986. "Spontaneous Market Order and Social Rules: A Critical Examination of F. A. Hayek's Theory of Cultural Evolution", *Economics and Philosophy*, 2: 75– 100.
- Vanberg, V. 2001. *The Constitution of Markets*, London, Routledge.
- Vanberg, V. 2011. "Liberal constitutionalism, constitutional liberalism and democracy", *Constitutional Political Economy*, 22(1): 1–20.
- Vaughn, K. 1999. "Hayek's Theory of the Market Order as an Instance of the Theory of Complex, Adaptive Systems", *Journal des économistes et des études humaines*, 9(2 – 3): 241–256.

Voigt, S. 1992. "On the Internal Inconsistency of Hayek's Evolutionary Oriented Constitutional Economics— some General Remarks", *Journal des économistes et des études humaines*, 3(4): 461–76.

Whitman, D. G. 1998. "Hayek contra Pangloss on Evolutionary Systems", *Constitutional Political Economy*, 9: 45– 66.

Whitman, D. 2004. "Group selection and methodological individualism: Compatible and complementary", *Advances of Austrian economics*, 7: 221-249.

Wilson, D. 2020. "Updating Hayek on Cultural Multilevel Selection", in *Hayek's tensions*, Heffele, S., Stein, S. and Storr, V. (eds), George Mason, Mercatus Center: 151-172.

Yeager, L. 1989. "Reason and cultural evolution", *Critical Review*, 3(2): 324–335.