The Darwinian Multilevel Selection of Constitutionalism as a Societal Structure

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ABSTRACT

The idea that law evolves is deeply established in legal thought. This article aims to explore the implications of some recent developments in evolutionary biology to the understanding of legal change and, specially, the evolution of constitutionalism. The first section of the article discusses the evolution of human cooperation from a biological perspective, stressing the important role of gene-culture coevolutionary processes and multilevel selection in the evolution of human 'normative' mind. The second section explores some implications of multilevel selection in producing entities that qualify as Darwinian individuals – i.e., entities which evolve through evolutionary processes such as, but not limited to, natural selection. The third part of the article applies this multilevel evolutionary framework to discuss the evolution of constitutionalism as a structure capable of stabilizing modern societies in the context of moral pluralism and functional differentiation. The paper argues that constitutions were the result of multilevel selection processes which selected constitutional societies as a societal structure that fosters cooperation in distinct levels of social reality, by coupling itself with the normative structure of the human mind, protecting social organizations and stabilizing functional differentiation.

Keywords: *Darwinism, social evolution, constitutionalism, multilevel selection, gene-culture coevolution, functionalism.*

INTRODUCTION

Biological evolution has produced many species whose members are capable of marvelous achievements through face-to-face cooperation. However, nothing parallels the increasing capacity of cooperating dis-

Social Evolution & History, Vol. 20 No. 1, March 2021 3–36
 DOI: 10.30884/seh/2021.01.01

played by *Homo sapiens*. And the degree of sophistication observed in human social action has risen in the last centuries to levels never seen before.

Although it is possible to find natural examples of animal species whose members live in societies based on sound cooperation, we are the only species whose social life is based on a culturally and institutionally complex environment. The unparalleled ability to cooperate and coordinate seen in modern complex societies induces us to acknowledge that, from a Darwinian theoretical stance, the emergence of complex societies in modernity is an evolutionary puzzle. This enigma can be at least partially addressed through the understanding of human societies as the product of nested multilevel selection evolutionary processes.

This paper argues that social action in complex societies turned out to be an evolutionary possibility because cooperation came to be structured in many layered and nested levels, ranging from microdynamic individual interactions, mesodynamic organizational interactions and macrodynamic sociocultural systems interactions. Constitutionalism played a major role in this process. The complex nature of modern, functionally differentiated societies, was deemed possible because they coped efficiently with the demands of each level through the means of a constitutional legal structure. The division of powers, the universal assignment of fundamental rights and the separation between religion and the state, among others institutions associated to constitutionalism, provided a highly complex structure responsible for coordinating social action. Constitutionalism is to be addressed, in this sense, as an evolutionary structurer selected as a result of its capacity of enhancing cooperation.

1. MULTILEVEL SELECTION AND THE DARWINIAN EVOLUTION OF COOPERATION

Although a popular image of Darwinism understands the evolutionary process as a product of competitive interaction, Darwin himself stressed the role of cooperation and altruism. In *The Descent of Man*, for instance, Darwin argued that ethical values such as courage and loyalty could evolve because bands composed by unselfish members would have a competitive advantage over groups of individualistic persons.

Darwin thought that individuals could evolve altruistic traits if they benefitted the group – a theory that came to be known as group selection. Although his insight was dominant for much of the twentieth century, eventually Darwin's hypothesis became discredited by

theoretical models based on individual selection and genetic evolution (Laland and Brown 2011: 74). More recently, multilevel selection based models have helped understand the nature of cooperation and its evolution.

1.1. Gene-Centered Theories of Human Cooperation

Gene-centered approaches to human cooperation became very popular after the publication of Richard Dawkins's *The Selfish Gene* (2006). According to this view, group selection is unlikely to be a major evolutionary factor. In a group composed both of altruists and free riders, the advantages of being selfish would be clear because they would earn the benefits of cooperation without paying its price (Williams 1996). Natural selection within the group would select free riders over altruists (Domondon 2013).

The gene-centered view proposed two distinct evolutionary mechanisms that could explain how cooperation emerged. In 1964, William D. Hamilton proposed that an individual's genes can spread faster if their carriers help genetically related individuals, given that a great proportion of their own genes would also spread through the population (Hamilton 1964). Altruistic behaviors could arise if the considered individuals had a high proportion of *shared* genes. Ranging from cellular reproduction to the altruistic behavior observed in honeybees, ants and wasps (Michod and Roze 2001), this theoretical model, known as *kin selection*, provided a model capable of explaining the evolution of cooperation in many circumstances. Kin selection, however, cannot explain the emergence of cooperation among genetically unrelated individuals.

Another evolutionary mechanism devised by proponents of the gene-centered view is *direct reciprocity* (also known as reciprocal altruism). Whenever non-related individuals interact over an indefinite amount of time, altruistic behavior might be selected if there is a high probability that the recipient of the benefits will reciprocate (Trivers 1971). When altruists refuse to cooperate with free riders and punish them (altruistic punishment), altruism can progressively emerge. This mechanism has also been successful in explaining the evolution of certain animal behaviors (Corning 2008; Newton-Fisher and Lee 2011).

However, direct reciprocity can only sustain cooperation in small societies. As the population grows, the costs of punishment decrease as it becomes easier for free riders to interact with altruists who have not been exploited yet (Dunbar 1998; Gowlett, Gamble, and Dunbar

2012: 695). It would pay to be selfish because there are always other altruists to exploit (Richerson and Boyd 2008: 200).

1.2. Gene-Culture Coevolution and Group Selection: Explaining the Origins of Human Cooperation

Aiming to address the limitations of kin selection and direct reciprocity, gene-culture coevolution theorists developed an evolutionary theory of cooperation that could account for these particularities of human sociality. Among these scholars, Peter Richerson and Robert Boyd advanced a compelling approach to understand the evolution of cooperation. According to them, culture was part of the natural environment that shaped the natural selection of genes responsible for generating an innate social psychology prone to cultural learning. As a result, culture and hominin minds coevolved in the course of the last 2,000,000 years. A more sophisticated mind became capable to cope with a progressively more complex cultural background while the increase in cultural complexity favored the natural selection of an even more circuitous psychology.

Their model assumes that, building on early features of human ancestor's evolved psychology, coevolutionary processes between culture and our genome allowed *Homo sapiens* to cooperate in large scale societies composed of genetically unrelated individuals. Two cognitive dispositions were of paramount importance in this process: the ability of *cultural accumulation* and *selective imitation* and engagement in *moralistic sanctioning*.

Culture evolved as a result of Pleistocene's social and environmental relative instability, which favored the evolution of species capable to adapt by imitating the most common behavior in the group. Imitation allowed our species to build on previous knowledge, advancing culture by slowly accumulating novel solutions to social and natural problems. This hypothesis relies on the idea that our ancestors could understand mental states of others and predict their behavior (Cheney and Seyfarth 2007: 197–198).

As a result of evolved cognitive biases, we are inclined to imitate selectively, copying the behavior of other group members, but not outsiders. Once culture is sophisticated enough, it helps identifying outsiders and ingroup members by producing symbolic markers (rituals, languages, and norms, among others) that produces cultural differences between groups. Once symbolic markers exist, ‘selection will favor the psychological propensity to imitate and interact selectively with individuals who share the same symbolic markers’ (Richerson

and Boyd 2008). By discriminating and punishing outsiders, moralistic punishment assure that the group will remain at least partially *culturally* isolated from the influence of other groups.

The combination of moralistic punishment and faithful imitation led to the return of group selection as an evolutionary mechanism, to which Richerson and Boyd resort in order to explain cooperation in large-scale societies. Group selection can succeed on the assumption that between-group selection is weak when compared with within-group selection, favoring the selection of individuals instead of groups. Cultural evolution provides the satisfaction of this stringent condition as a result of both imitation and altruistic punishment. Imitation assures that, over time, different groups produce different cultural trajectories through path-dependence. And moralistic punishment directed against free riders and outsiders protects a local group against cultural invasion, maintaining group differences.

The evolution of symbolically marked groups presupposes another psychological disposition, 'collective intentionality' (Tomasello 2014: 6). Instead of depending only on their own perspective (individual intentionality), the members of a particular group also reason through an 'objective' perspective assumed as a standpoint shared among the group. By doing so, they legitimize groups symbolic markers as the incarnation of communal values, traditions and normative standards (*Ibid*.: 82).

Whereas imitation and symbolic marking pave the way for cultural variation between different groups, moralistic punishment maintains it over time. By punishing outsiders adopting different memes, morality assures that group-selection is stronger than within-group selection. As a result of this highly summarized process, human *cultural* groups progressively displayed the conditions needed for evolution to work on: variation, inheritance/replication and differential fitness (Dennett 1996: 343). Human groups *vary* (Mesoudi 2011: 28) in cultural traits, *inherit* (Cavalli-Sforza 1986: 851) them through cultural transmission and these traits impact human groups in different ways, leading to *differential fitness* (Richerson and Boyd 2008: 207) not only between human individuals, but also between entire human communities (*Ibid*.: 133–134).

Richerson and Boyd's explanation of the evolution of cooperation in large-scale societies is based on a multilevel evolutionary perspective, based on three specific levels: the *cultural* group and the *psychological* level, caused by the evolution of our *genetics*. The evolution of increasingly larger societies produced an impact on our psychology. Culture evolved as an adaptation to cooperation problems posed by our

ancestors, who had large brains and could cope with progressively larger societies. As a result of this coevolutionary process, our psychology progressively evolved innate dispositions toward learning and understanding normative content (O'Gorman, Wilson, and Miller 2008: 76).

We are innately equipped with a 'normative mind' that relies on a cognitive architecture capable of evaluating the rightfulness/wrongfulness of concrete situations (Almeida 2013: 252–258). In parallel with Chomsky's theory about language acquisition (Chomsky 2012: 141), John Mikhail (2007) and Marc Hauser (2009) have proposed that our mind possesses a *universal moral grammar*, based on *universal principles* that are *parameterized* in different cultural contexts. As a result of evolutionary path-dependence, we should expect the universal moral grammar to be based on principles structured on the evolutionary history of our social psychology – ancient evolutionary principles of cooperation based on kin selection and the logic of reciprocal altruism, symbolic marking, in-group cooperation, suspicion of outsiders, and norm-based reasoning. Our normative mind, equipped with an innate moral grammar, would possess at least the following social tribal instincts: 1) a predisposition to take care of our kin and engage in reciprocal relations (de Waal 2009: 314–315); 2) altruism and empathy (Bekoff and Pierce 2009: 29; Masserman, Wechkin, and Terris 1964: 121; Batson 1987); 3) a psychological bias to punish free riders and to reap social benefits (Fehr and Gächter 2002); 4) egalitarianism (Dawes *et al*. 2012; Fehr, Bernhard, and Rockenbach 2008); and 5) a bias to identify with symbolic markers (Gil-White 2001).

Egalitarianism is of paramount importance here because it is particularly associated with group selection. Unlike other primates, almost every known hunter-gatherer band is egalitarian. Christopher Boehm claims that this is the result of coevolution between our psychology and cultural processes. Once our ancestors started to use weapons regularly (Boehm 1999: 177) and became capable of engaging in strong coalitions, physical strength gradually became less relevant, since weaker individuals could balance the odds against stronger opponents. Over time, human ancestors' bands reverted the hierarchy typical of primate societies by increasing the resistance against bully leaders and maintaining an egalitarian social structure. In Boehm's view, life in egalitarian communities in the last 500,000 to 250,000 years could have had a long-lasting impact on our psychology, which developed, over time, a cognitive disposition to life in egalitarian bands.

To sum it up: gene-culture coevolutionary theory proposes that human cooperation evolved as a result of nested evolutionary process-

es, operating both at the level of human individual innate psychology and at the level of entire human groups, which became *evolutionary entities* on their own right. However, the limitations of gene-culture coevolution seem to be evident. This evolutionary model can allegedly explain the evolution of hunter-gatherer bands of the Pleistocene and early Holocene, but clearly does not explain more complex societies.

2. THE EMERGENCE OF SOCIOLOGICAL ENTITIES AS DARWINIAN INDIVIDUALS

Explaining more sophisticated societies based on this model is feasible once we understand the evolution of human societies as a process of nested multilevel evolutionary processes. Evolution happens simultaneously on many ontological layers, selecting our genome, cells, entire organisms – and, extrapolating –, human groups and societies. Any human society, from human-gatherer bands to contemporary democracies, is the result of such processes. To advance such thinking, however, we must understand the evolutionary implications of thinking about human groups and entire complex societies as entities which evolve according to Darwinian processes.

2.1. What is a Darwinian Population?

A good departure point to discuss this issue is Peter Godfrey-Smith's book *Darwinian Populations and Natural Selection.* According to him, a Darwinian population is a collection of entities that can evolve through natural selection. But he regards evolutionary models that rely solely on the classic evolutionary preconditions – variation, inheritance (or reproduction) and fitness – as too simplistic. Nature is full of examples in which some of the classic features are missing and, nonetheless, are considered cases of evolution through natural selection. He mentions, for example, how the branches of the same oak tree can be genetically different as a result of divergent evolutionary paths resulting from cell division in the apical meristem, and chimerism, which occurs whenever the same entity displays two sets of genotypes (Godfrey-Smith 2009: 76).

Godfrey-Smith proposes that we should understand evolution not as a uniform application of the textbook principles, but as a multidimensional space. There are paradigmatic Darwinian populations, which score well on all meaningful evolutionary features, and marginal cases which barely satisfy these criteria. All of them would be considered evolutionary cases because they all satisfy a minimal set of criteria, being a ‘collection of causally connected individual things in

which there is variation in character, which leads to differences in reproductive output (differences in how much or how quickly individuals reproduce), and which is inherited to some extent' (Godfrey-Smith 2009: 39).

The first dimension of this multidimensional space on which every evolutionary entity should score is Heredity (H). Every evolutionary process is an inheritance system, but there are high-fidelity systems, such as genetic evolution, and less-reliable systems, like the cultural evolution of traditional societies relying on oral communication. The other evolutionary dimensions, which can be satisfied on multiple degrees as well, are Variation (V), Competitive Interaction (α), Fitness and Intrinsic Character (S) and Continuity (C, for the relationship between phenotype and fitness change).

This perspective is not static: as a certain population evolves, it changes the involved organisms, *but it also modifies how the system evolves itself*. The evolution of a system brings about new entities that affect the evolutionary dynamics of the whole system, thus affecting the values of H, V, C, α and S for the next generations, suppressing one dimension or another, and even de-Darwinizing some parts of the system (Godfrey-Smith 2009: 66).

Godfrey-Smith's purpose is to explain how higher-level entities can emerge out of lower-level ones, as an organism emerges out of cells and – in our examined case – how a society can emerge out of individuals. In order to do so, he links *reproduction* to *individuality*. The production of the higher level Darwinian individuals is directly linked to reproduction, which produces, over time, transitions in individuality, creating higher-level novel entities grounded on lower-level entities.

There are three reproductive relationships that could, in principle, generate Darwinian individuals: *collective entities, simple reproducers,* and *scaffolded reproducers*. Collective entities evolve as a phenomenon based on lower-levelled simple reproducers, which have a proper capacity for reproduction on their own right. Entities as different as a buffalo herd, a bee hive or a multicellular organism qualify as a collective reproducer. Simple reproducers are the lowest-level entities that can reproduce based on 'their own machinery' (Godfrey-Smith 2009: 87) without resorting to even lower levelled entities – such as a bacterial cell. There is also a third set of replicating entities, nominated as *scaffolded reproducers*, which reproduce as part of larger units' reproduction but do not produce an evolutionary lineage in their own right (think about a chromosome). Godfrey-Smith argues that, over time, natural selection can introduce adaptations producing the basic param-

eters needed for collective reproducers to gradually evolve out of individual reproducers. These parameters – bottlenecks (B), germ lines (G), and integration (I) – are multidimensional and can be fully or partially satisfied.

Bottlenecks are the degree of division between generations (Godfrey-Smith 2009: 91). Reproduction involves the production of a new individual (offspring) similar and causally connected to another one (parent). In cellular division, the bottleneck degree is high because we can easily identify the division between generations. Bottlenecks are evolutionarily relevant because they force a developmental reboot at each generation. When reproduction occurs, the offspring starts from zero; it grows and develops from scratch, what opens an opportunity for mutations to affect the organization of the entire organism and to transmit new genes to future generations (Dawkins 1982; Godfrey-Smith 2009: 91). When B is high, there is a clear divide between generations. But even if B is low, closer to 0, it can generate a novel Darwinian entity, as it occurs among some kinds of plants, such as the aspen, which grows out of genetically identical ramets.

The second parameter is the production of a germ line, which accounts for the degree of reproductive specialization. When G is high, the collective entity reproduces itself through specialized elements (germs) implicated in the replication of the entire collective structure, while the other elements (soma) are unable to reproduce the system. When G is low, there are no parts specialized on the reproduction of the whole system. Every individual cell can produce an entire colony.

Integration (I) tracks the interdependence degree displayed within the collective entity, including 'the extent of the division of labor, the mutual dependence (loss of autonomy) of parts, and the maintenance of a boundary between a collective entity and what is outside it' (Godfrey-Smith 2009: 93). Complex multicellular organisms display a high level of integration because there is a huge division of labor amongst the various organs performing different functions and a high extent of mutual dependence between each element of the system.

When reproduction occurs in collective entities, an interesting phenomenon occurs: the *de-Darwinization of the lower-levels*. The emergence of collective reproducers results from the suppression of evolution (de-Darwinization) in their lower-level elements, insofar as the collective level organizes the lower-levels in such a way that their reproduction does not erode evolution in the higher-levels. Higher-level entities 'de-Darwinize' the replication of their low-level components via bottlenecks and specialized germ lines, therefore reducing

the strength of evolutionary competition at the cellular level. Germ lines (G) also work for the process of de-Darwinization because they are the only cells displaying heritable properties in the long term, reducing the evolutionary pressure on somatic cells.

Godfrey-Smith's approach is based simultaneously on a bottom-up and a top-down process. The replication of the collective reproducer is based on processes happening in its lower level elements (G), but the collective entity itself is organizing those elements for its own purposes, de-Darwinizing their processes of change.

The transition between low-level and high-level entities has been discussed under the label of 'transitions in evolution,' at least since John Maynard Smith and Szathmáry's *The Major Transitions in Evolution* (1997). The increase of complexity in the course of evolution is the result of major transitions in the transmission of genetic information between generations (Smith and Szathmáry 1997: 3). Some examples include the origin of eukaryotes, genetic codes (both RNA and DNA), and multicellularity.

In each of these transitions, lower level entities have somehow enabled the evolution of higher level entities even though natural selection was acting strongly on the lower levels to select the units that would be better fit at that level, possibly disrupting stability at the higher level (Smith and Szathmáry 1997: 7). Smith and Szathmáry argue that *kin selection*, *contingent irreversibility* and *central control* counterbalance these pressures of lower-level selection. Kin selection, as argued, is the result of bottlenecks that reduce the evolutionary pressure on lower-level entities by assuring that they are virtual clones (*Ibid.*: 7). Contingent irreversibility (or path dependence), on its turn, assures the improbability of evolutionary reversal to simpler beings (Desjardins 2011). Central control maintains systemic lower level integrity by monitoring free riders and suppressing them (*Ibid.*: 10).

The transition from low level to higher level entities becomes evolutionary stable because they induce the *division of labor* and the emergence of *new mechanisms of information transmission.* Through division of labor and integration, specialized units can be more efficient than units performing all the functions needed by the whole system (*Ibid.*: 12–13). Transitions also entail the emergence of novel ways to transmit information. The origin of the genetic code is a paramount example: long before DNA and RNA, information-based hereditary systems such as autocatalytic systems already existed, but DNA increased the efficiency of replication (*Ibid.*: 221–222).

The new, collective, Darwinian individual emerges when a fundamental change occurs. Everything starts as an association of different reproducers that could be said to reproduce marginally at the collective level. Later on, different reproducers might connect to the collective unit, gaining integration at the higher level, losing their autonomy and forming a Darwinian entity. By losing reproductive autonomy, the low-level components of the new individual are also partially de-Darwinized. Through bottlenecks (producing kin selection units), germ lines, integration, central control and eventually path dependence, evolution through natural selection gradually produces collective reproducers that progressively score higher on the multidimensional parameters (H, V, S, C and α) of individuality.

2.2. The Evolution of Sociocultural Darwinian Individuals

This digression brings obvious questions: can Godfrey-Smith's theory help us understand the evolution of sociological entities? Are there Darwinian populations at the sociocultural level? These questions are related to the problem of emergence in sociology and to the debate related to the micro-macro link, which has been pervasive in sociological thought (Sawyer 2001: 551).[1]

Godfrey-Smith's theory offers a multilevel selection approach towards the emergence of novel evolutionary entities that can be used to discuss these sociological issues. By accepting the premise, the gene-culture coevolutionary theory proposes that the evolution of human sociality has been the consequence of multilevel selection acting both at the level of individuals and cultural groups, we can attempt to understand human societies as Darwinian individuals on their own right. As a result, the Darwinian theory might explain the evolution of cultural and sociological entities.

From the human hunter-gatherer tribes to the emergence of ancient civilizations and nowadays constitutional democracies, human history can be described through Godfrey-Smith's theory as the emergence of novel sociological entities as Darwinian individuals. Initially, however, they were at best marginal Darwinian individuals. Natural selection acted more on individual human beings and cultural traits (memes) than on the group as such. In Okasha terms, they were more prone to the MLS1 kind of multilevel selection than to MLS2. While MLS1 processes occur when a group is selected due to the aggregate fitness of its members, and not to the *group's fitness* as such, MLS2 selected groups result from group-level traits which confer fitness to the entire group.

The process described by Richerson and Boyd in order to explain the evolution of human cultural groups in late Pleistocene is a MLS1 process, since it relies on mechanisms that act on the selection of individuals and, only indirectly, on groups. Group fitness is only the sum of individual fitness. The Brazilian philosopher Paulo Abrantes, however, puts forward a way of explaining how a MLS2 selected cultural group[2] could emerge. He advances a diachronic approach, claiming that MLS1 can be a stage on the emergence of a MLS2 Darwinian individual (Abrantes 2013). In the first stages, MLS1 mechanisms drive the transition of cooperative groups, and in the last stage MLS2 processes may stabilize them as Darwinian individuals.

Kin selection and reciprocal altruism can be described as MLS1 mechanisms, because they sustain cooperation among individuals while not producing any group-level adaptation. But some processes described by Richerson and Boyd can set the stage for MLS2 processes to emerge. Conformity and the moralistic punishment of free riders, outsiders and non-believers maintain uniformity and cultural inheritance within groups and foster variation between groups, creating the conditions for group-selection to work (Abrantes 2013). Gradually, human groups came to score better in terms of the parameters proposed by Godfrey-Smith for variation, competition between groups and inheritance.

Family and *small non-kin groups*, such as hominid ancestors and extant primates, score high on inheritance fidelity (H), but variation between groups (V) is still low because most difference occurs at the genetic level and not on cultural traits. The relationship between fitness and intrinsic properties (S) is also low because groups survive or perish as a result of intrinsic features of its members, not group-specific traits. These groups also score low on the parameters related to reproduction. There is no bottleneck or germ-soma specialization, and the bands are barely integrated.

Gradually, the evolution of large cooperative groups, capable to cooperate based on symbolic markers, came to score better on Godfrey-Smith's parameters. They score high on H as a consequence of cultural replication maintained through moralistic punishment, and also on V, as a major impact of path dependence maintaining differences between groups and other evolutionary forces operating at the lower level of cultural transmission, such as cultural mutation, drift, decision-making forces and natural selection (Richerson and Boyd 2008: 69). The S parameter is still low from the standpoint of the community. Although individuals in these groups adopt cultural traits and

collective practices that enhance more integration than loose small non-kin groups and families display, there is still no group-level feature that could account for an adaptation. They also score low in terms of the reproductive parameters B and G, although they score higher on I. Integration means 1) mutual dependence of parts, 2) division of labor, and 3) the maintenance of a boundary between the entity and its environment (Godfrey-Smith 2009: 93). By relying on symbolic markers as a foundation for cooperation, the members of these groups share what H. Patrick Glenn calls *chtonic traditions*, a belief system that embodies communitarian identity and which is transmitted orally through the network of its own individual members (Glenn 2010: 63–66).

Being closed units, large cooperative groups paved the way for the evolutionary transition to groups as entities resulting from MLS2 evolutionary processes, possessing group-level traits. The evolution of large cooperative groups gave rise to a selective pressure on individuals possessing particular tribal social instincts but, more than that, it established the preconditions for the selection of cultural groups as collective Darwinian individuals. By doing so, it allowed for the gradual emergence of social structures. In large cultural groups, collective intentionality (Tomasello 2014) paved the way for the transition to MLS2 selected groups because it enabled us to bridge the link between culture and social structure. Richerson and Boyd's concept of culture relates to information transmitted from individual to individual concerning technology, beliefs or weapons relative to and usable by persons, but not information concerning the *whole group structure.*

By taking collective intentionality into account, Tomasello allows us to bridge the link between persons and the community. Social norms are an obvious example of cultural innovation that achieves this structural status. Although embodied within the minds of each member of the group, norms also achieve an existence of their own. When individuals evaluate if others are complying with the rule-system, they are addressing the group standard, an *objective standard of rules*. This normative system is part of the group's identity and, as such, escalates from the individual mind to become a feature of the group on its own right. Other members *expect* the rules to be obeyed and sanctions to be applied when transgression occurs (Luhmann 2004: 9). Of course, *part* of the existence of the rules system is due to the fact that individual minds remember it and reinforce it, just as *part* of the human organism's existence is due to each cell doing its own work. Nonetheless, the group's normative system emerges as a social structure, acquiring and ontological status *per se*. Of course, the system of rules is

only one *feature* that can be attributed to the group as such, and irreducible to individual beliefs. The structure of government is another example: individuals can only expect that the expected position holders occupy the roles, but the network of positions and the interconnection between them are a social feature irreducible to beliefs.

Law emerged as an important collective adaptation which paved the way for the evolution of more complex societal forms. It evolved first not as a societal structure, but as a conventional one (Young 1998; Posner R. 1997; Posner E. 2000), in the sense that it emerged in a bottom-up process involving social norms backed by moralistic punishment (Gardner and West 2004; Guthrie, Rachlinski, and Wistrich 2002; Fehr and Fischbacher 2004), cultural transmission and a slow group-selection process. The gradual coevolution between more complex societies marked by novel forms of organization (social roles, hierarchy and division of labor) and social norms eventually produced a new form of societal structure – law as a normative system encoding societal structure.

Although irreducible to beliefs, these features are connected to them by means of collective intentionality. Cultural practices turn some features of the community – including its structure – into public knowledge, encouraging others to conform (Chwe 2003). Tomasello states that an important function of collective intentionality is precisely to produce public conventions and, through them, create institutional reality – the ontological realm of *sociological* collective entities (Tomasello 2014: 89).

The emergence of law was paramount for the transition between MLS1 selected human communities and MLS2 societies possessing societal-level traits. The increase in complexity, caused by evolution, results from a series of important evolutionary transitions that change the mode of information coding and transmission (Smith and Szathmáry 1997: 3–6). There is no reason to think that social evolution is not structured around this principle as well (Hodgson and Knudsen 2010: 180–213). In this regard, Hodgson and Knudsen highlight six major evolutionary transitions in social evolution: 1) the emergence of culture; 2) the emergence of language; 3) the transition from cultural groups to tribes based on the emergence of customs; 4) the creation of writing and other exosomatic mediums for storing and transmitting information; 5) the emergence of law; and 6) the institutionalization of science and technology (Hodgson and Knudsen 2010: 183).

According to them, the transition from egalitarian cultural groups such as the late Pleistocene hunter-gatherer bands to hierarchical tribes turned out to be possible because custom codified the implicit social structure. In their proposal, law emerged much later, after the development of independent judicial system of courts. However, their concept of law is overcharged with a biased view towards *modern* law, not accepting that law was already an important part of sophisticated societies such as Ancient Egypt, Greece, Persia or China. It is hard to describe the normative structure of those societies as being solely the result of custom.

Hodgson and Knudsen's description is flawed for not distinguishing between two senses in which law can be understood: as a social structure and as a social system. Their description of law as an independent judicial system of courts conceives of law as a functionally differentiated social system. Nonetheless, law is *also* a normative social structure, *the normative architecture on which the whole societal system operates*. Law as a social structure emerged much before law as a social system, imposing the normative architecture of archaic societies within a system of norms encoding social hierarchy and roles within social organizations (Luhmann 2004). In this sense, I attribute to law the role Hodgson and Knudsen assign to custom in archaic societies. The emergence of law as a social structure paving the road for the transition from cultural groups to tribes was the third evolutionary transition.

Conceiving law as a social structure is not unrelated to Luhmann's functionalist approach: law stabilizes congruently generalized normative expectations (King and Thornhill 2006: 40). By affirming this, Luhmann means that law is institutionalized: its expectations 'are based on the presupposed expectations of expectation on the part of a third party' (Luhmann 2014: 49). It is this feature that takes law out of the lower level of individual interactions to the *macrodynamic* structural level – as part of a society's phenotype (Jordan *et al*. 2013; Turner 2010a). Law is not simply a meme transmitted from individual to other individuals, because it is assumed as an intrinsic social feature of society and, as such, coordinates social organization. All members of a society, and in more complex societies, *all social systems*, formulate their expectations and guide their social actions based on *presupposed expectations* of the other members *and on the expectations of its own society, conceived of as a third party* (Luhmann 2014: 50).

This understanding of law as a social structure builds on the psychological capacity of collective intentionality (Tomasello 2014), the psychological ability to assign intentions to a collective beyond its

constitutive members. Following John Searle, the existence of institutions as social facts depends on this kind of intentionality because 'institutional structures require collective recognition by the participants in the institution in order to function' (Searle 1995: 57).

In this sense, law was essential in the evolutionary transition from human societies as MLS1-evolved marginal Darwinian populations to MLS2-evolved paradigmatic cases of Darwinian populations. MLS1 cultural groups such as those from late Pleistocene also possess social norms, which solve free-riding processes through symbolic marking and moralistic punishment. But these social norms carry only information about who is an in-group or an outsider (symbolic marking), and details about improper behaviors that deserve punishment. However, they still do not regulate social roles, hierarchy or a clear division of labor. They are limited to the *microdynamic* sociological level – individual interactions that depend on the evolved structure of human cognition (Turner 1988: 65–78; Turner and Maryanski 2008; Turner 2010b). The emergence of law as a societal structure produced a new sociological stratum – the *mesodynamic* level – constituted by organizations nested within society. The first forms of meso-level units – segmentary differentiation between families and small non-kin groups (Luhmann 2014: 110) within a larger encompassing society – could be organized with no need of specific codification within law, but would be the first step in the evolution of more complex societal forms.

3. CONSTITUTIONALISM, COOPERATION AND EVOLUTION: THE EMERGENCE OF COMPLEX SOCIETIES AS THE RESULT OF MULTILEVEL SELECTION PROCESSES

Law enabled the encoding of novel forms of social information, allowing for the arrival of new social mesodynamic and macrodynamic structures besides the egalitarian and segmented archaic societies. A clear consequence of the encoding of societal information was the evolution of social stratification – the sociological differentiation into unequal social subsystems, aligning the asymmetry between system/environment with equality/inequality (Luhmann 1982: 234). Without law, the consolidation of a rigid structure of roles and ranks, a pervasive trait in stratified societies, could not have stabilized.

But why did stratification evolve? Stratification is an adaptive structure because it enables new possibilities for the social system. As Parsons states, 'the society as a system gains functional advantages by concentrating responsibility for certain functions' (Parsons 1964:

343). First and foremost, the ruling elite concentrates political and religious roles, coping better with problems of internal order arising from population growth and territorial expansion, related to increasing violence, organizing military forces against outsiders and upholding the minimal conditions of civil life, such as norms concerning property, commerce and marriage (*Ibid*.).

3.1. Hierarchy Strikes Back: Law, Social Stratification and the Emergence of Human Societies as Darwinian Individuals

The arrival of stratification may seem to be an evolutionary puzzle due to the already mentioned human disposition against hierarchy and social dominance. Unlike our primate ancestors, we became capable of living in egalitarian communities whose members monitored cautiously the emergence of bullying leaders in order to avoid them to usurp and concentrate the incipient political power in their hands (Boehm 1999). In this sense, stratification might seem incompatible with our nature.

This paradox can be dissolved if the emergence of stratification is considered a result of evolutionary pressure acting on the higher level sociological entities (the *macrodynamic* and *mesodynamic* layers). In stratified societies, the incipient functional differentiation is organized around the hierarchical differentiation of roles. A stratified society can sustain division of labor, allowing for specialization in military, subsistence, religion, politics and other activities, resulting in more economic efficiency, the increase in cities size, technical innovation, better conflict resolution institutions and military prowess. In a conflict between a stratified society and an egalitarian hunter-gatherer band, the odds are much higher in favor of the former (Hodgson and Knudsen 2010: 194).

Besides these macrodynamic and mesodynamic advantages, stratified societies are also organized in such a way that each stratum is internally egalitarian, fulfilling the psychological dispositions to engage in horizontal relationships (microdynamics). And stratification is legitimized by ideological symbolic markers in such a way that twists only partially the egalitarian logic nested within our minds, as the archeologists Kent Flannery and Joyce Marcus have convincingly argued (Flannery and Marcus 2012).

Stratified societies were among the first ones to be qualified as truly MLS2 selected societies precisely and, for that reason, as Darwinian individuals (a collective reproducer). They were evolutionarily selected for their structural macrodynamic traits (MLS2), and not as the

result of indirect effects of microdynamic traits possessed by individuals on the group's fitness (MLS1). Stratification is a powerful sociological adaptation, institutionalizing division of labor and producing an efficient hierarchical structuration of social systems based on the novel mesodynamic organizations (temples, palaces, marketplaces, armies, among others).

Moreover, the evolution of stratified societies based on a legal normative is relevant for another reason. Law solves many problems related to the emergence of more sophisticated forms of social organization. According to Parsons, law must solve four problems – legitimation, interpretation, enforceability, and jurisdiction. Decisions issued within the legal system define the meaning of particular rules should be selected (interpretation), what the consequences of disregarding or observing rules are (enforceability), and what authorities are given the power to impose a given set of norms (jurisdiction).

Problems of legitimation are also foundational to legal systems. They concern the very reasons why individuals should conform to the particular rules of the legal system. This is a problem solved by Parsons within his theory of culture: the constitutive norms of a particular legal system should be observed because individuals share the same values packed within a cultural symbolic system (Parsons 1980: 61; Treviño 2008: 150).

Stratified societies were better integrated than archaic societies for two reasons: they[1] were organized under a solidified consensual system of cultural values, fostering cooperation within each stratum; and[2] they also organized the interaction between novel social systems, by institutionalizing the hierarchical differentiation of roles into unequal subsystems, aligning the asymmetry between system/environment with equality/inequality (Luhmann 1982: 234).

Stratification structured human cooperation to levels unseen before. Even if based on an unjust system based on extreme inequality, stratified societies extended human social life both in size and sociocultural complexity. Being based not only on our genetics or on cultural evolution as hunter gatherer bands were, but also on a particular social structure, stratification helped societies to extend their population size. And by hierarchically organizing social systems, they could produce more complex societies (Parsons 1966: 71–86).

However, we do not live in stratified societies anymore. Even if there is a huge amount of inequality in contemporary Western constitutional democracies (Piketti 2014), nothing like the endogamic stratum division existing in ancient Egypt, China, India or even Rome still

endures. Economic inequality and poverty is a problem in our contemporary condition precisely because we can see it as a normative issue. They simply do not conform well to the standards of a full constitutional democracy.

In a certain sense, then, another shift occurred in human history, bringing egalitarianism back to the game. This shift comes with some perplexity. Stratified societies evolved precisely because they solved public good problems through the division of labor. Law played an essential role in this process by maintaining the hierarchical structure stable through the means of normative enforcement. The following question consequently must be answered: if stratification is so efficient, why do not we live in stratified societies anymore?

3.2. Constitutionalism between Functional Differentiation and the Universal Moral Grammar: The Return of Egalitarianism in Human Societies

Stratified societies were subjected to little pressure from bellow that could rip them apart. The concentration of political, military and economic power in the hands of an elite legitimized by a religious cosmology obstructed any attempt of structural subversion. The slave and peasant revolts (Green 1961; Greatrex 1997; Runciman 1983; Blickle and Catt 1979), common during Ancient times and the Middle Ages, could hardly be seen as attempts to subvert the political order, but only as efforts to change the authority in place (Arendt 1965).

Medieval Europe, however, saw an abrupt change. By the twelfth century, the continent was a large experiment field for Darwinian group selection. The continent was ruled by almost five hundred sovereign bodies, ranging from federations of cities, religious orders, city-states, kingdoms and empires. According to Charles Tilly, 'the Italian Peninsula alone boasted two or three hundred distinct city-states. Around 1490 (...) South Germany alone included 69 free cities in addition to its multiple bishoprics, duchies, and principalities,' and Europe's 80 million people were 'divided into something like 500 states, would be states, statelets, and statelike organizations' (Tilly 1975: 43).

The evolution of the national state can be understood as a group selection process – or, more properly, as a case of multilevel selection process. The economist Samuel Bowles advances this thesis but, in his view, the national state was a result of being successful in war. It was either imposed to or emulated by other societies, leading other forms of political organization to extinction (Bowles 2012: 877). His explanation, however, is too simplistic. He attributes too much weight to

belligerence, disregarding the social conditions of Medieval Europe. As a consequence, he mixes up many different forms of political organization, including in the same kind (state) not only the modern constitutional state but also pre-modern states.

Things were far more complicated. Medieval Europe was a period of increasing functional differentiation. Niall Ferguson argues that Western societies developed fast during early Modernity due to the competition resulting from the European social environment. He even frames the process in terms of multilevel selection, highlighting, 'among other things, this multi-level competition, between states and within states – even within cities' as a major cause of the evolution of modern institutions (Ferguson 2011: 41). Besides that, other features of Western societies – Ferguson argues – paved the way to the Western prominence, including not only competition, but also the development of science, property, medicine, a consumer society and a work ethics (Ferguson 2011: 41). Social systems were quickly evolving and developing expanding cooperation to levels unseen before.

Ferguson's interesting insight ultimately describes the dawn of complex functional differentiation. Europe prospered due to its institutional success in steering the emergence of distinct social systems without losing social integration. And European nations managed to do so because they developed institutional arrangements that coped successfully with problems arising from functional differentiation, integrating their political and legal institutions with scientific, economic and religious organizations within normative standards that maintained stability and fostered the autopoiesis of each system by affirming their normative autonomy.

From an evolutionary perspective, functional differentiation also increases the risk of social disintegration. As a result of an inherent evolutionary conflict between the higher-level entity and its constitutive parts, the emergence of a collective individual depends on the suppression of evolution (de-Darwinization) occurring at the lower-levels. Otherwise, the conflict between distinct evolutionary levels would disrupt the cohesiveness needed for the emergence of higher-level individuals.

John Maynard Smith and Eörs Szathmáry propose four mechanisms that could do the job of suppressing the autonomous evolution of the lower-level components of a collective evolutionary system: kin selection, the extent of the division of labor between soma and germ, contingent irreversibility and central control. My argument is that constitutions perform two of those functions (structuring kin selection and

central control) at the societal level, producing the integration needed for the multilevel selection of a novel Darwinian individual – the constitutional society. This hypothesis depends on explaining how the emerging Darwinian individual better adapts to its own environment while, simultaneously, copes with internal pressures.

It must be clarified what is the environment of constitutional societies and how functional differentiation relates to their individualization as Darwinian individuals in the context of a world society. These issues result from Luhmann's description of modern society as a world society. All communications are entangled within a single all-embracing social context, which is primarily differentiated in functional systems (Neves 2015: 111). Functional differentiation is a feature intrinsic to world society; however, there is also regional variation. Luhmann's systems theory is sensitive to this point, acknowledging that some problems arise as a result of the asymmetrical development of the world society in different regions (Neves 2015: 112). The world society also has its centers and peripheries, and they are built around the territorial segmentation of political and legal systems in the form of states.

The evolutionary process that led to the origins of constitutional statehood also built what Hauke Brunkhorst denominates cosmopolitan statehood, an international legal order. This is a result of a niche construction process. The evolution of the state as a Darwinian individual also led to the construction of an international legal order that produced the evolutionary feedback effect of operating as a political and legal environment in which a particular kind of state was further selected. The emergence of statehood in Europe not only led to a new form of political organization (the state), but also to a novel structure, which progressively evolved from *ius gentium* to international law – what Brunkhorst calls the *co-originality of an international order and of a legal order of particular states* (Brunkhorst 2014: 74).

Progressively, the legal international framework imposed novel normative constraints on states, channeling their evolution. The novel cosmopolitan statehood is both (i) a consequence of direct group (structural) selection between states, with the affirmation of territorial sovereignty as a measure to end the controversies and structurally affirm states as *legal* and *political* individuals, and also (ii) as a result of external constraints (Sciulli 1992: 162). The very existence of states imposed constraints on the action of others against each state's sovereignty. The affirmation of the state as a sovereign legal form institutionalized a boundary between the state as an organization and its environment –

an important step to the construction of an integrated Darwinian individual (Godfrey-Smith 2009: 93). State constitutions are the *internal* side of the state's construction as an integrated and sovereign organization, insofar as they structure not only the normative framework on which law and politics are to perform their own social functions, but also normative parameters imposed to all other systems operating within a specific constitutional state. Even in a world society, the legal and constitutional constraints imposed by a polity can structure the relations between law, other states and other functional systems in many peculiar ways.

Since different states can impose slightly dissimilar normative regulations on other social systems, they react accordingly, resulting in distinct economic, political and social outcomes. The regional interactions resulting from the interaction between national states and the segmented organizations from all social systems produce more or less efficient communications as evaluated within each systemic domain. The result of this process is that there is *variation* (V) not only between states, but also between the cluster composed by states and other organizational units (businesses, universities, unions, *etc*.), producing, over time, regional differences in economic, scientific, political and legal payoffs.

World society is an environment constructed not only by states, but also by all social systems, encompassing all forms of communication. As such, it is not – in principle – subject to Darwinian processes of selection, insofar as there is no form of external selection. However, the world society can be regionally differentiated in clusters that become Darwinian individuals in their own right, embracing communications associated to organizations producing information related to many different functional social systems which become, over time, functionally coupled. The political state couples itself regionally with businesses (economic system) through the central bank and other forms of economic regulation, and with universities (science), schools (education), hospitals (medicine), churches (religion) through the means of *law* and, more specifically, *constitutional law*. *As a direct consequence, these clusters reproduce functional differentiation within their local sociological reality.*

These ‘clusters’ are *constitutional societies*. According to Luhmann, this terminology would be a mistake, since ‘a multiplicity of societies is conceivable only if there are no communicative links between them’ (Luhmann 2012: 40). Even though communication between different state nations as an obvious departure point, and

therefore I agree with Luhmann on the idea of a world society – as functional differentiation turned most communications across social systems global – it must also be acknowledged that local sociological realities also constitute regional cooperative units. *In this sense, the concept of constitutional society is related to cooperation, not communication*. Constitutional societies create institutional arrangements specifying how social systems cooperate locally by operating autopoietically and heterarchically.

As Brunkhorst proposes, the birth of cosmopolitanism was co-original with the origin of national statehood; the universal character of the world society is built upon regional, local structures of cooperation. As a result, there are two kinds of mutually dependent and interconnected societies: the world society, which encompasses all forms of communication; and constitutional societies, which embraces local communications, structurally bounded by a legal constitution. The *constitutional society* is the novel Darwinian individual made possible by the emergence of constitutions. As a result of institutional and cultural diversity, maintained through conformism and legal punishment, different constitutional societies structure and follow different paths, producing a pluralism of constitutional identities (Rosenfeld 1994: 1061; 2004; Brugger 2004).

When compared with other 'countries', one constitutional 'package' produces very different outcomes from the others, resulting in fitness differences as a result of the intrinsic features of the composition of the group (Fitness and Intrinsic Character (S)). Even though states do engage in wars, economic competition does not take place only between them, but also between business firms. There is also differential fitness in scientific prowess, political influence, educational skills, and so on. In this sense, competition between societies occurs at many different levels, for resources inherent to all social systems.

Nevertheless, a constitutional society is *not only a cluster of organizations*, since it possesses *at least* one adaptation at the societal level – the *political and legal constitution*.[3] The constitution is one essential feature of modern democratic societies because it provides the integration between organizations performing different tasks for the whole constitutional society, generating a strong mutual regional interdependence between social systems. Beyond that, a constitution also structures the relationship between a constitutional society and world society, its environment. Being integrated by a constitutional framework, a constitutional society can be understood as a full (MSL2) Darwinian entity –

one sufficiently cohesive individual capable of producing its own offspring through its own development and persistence.

The main function of constitutions at the mesodynamic level is to protect functional differentiation by preserving different systemic communications and defining the limits of organizational forms. Constitutions do so by assigning fundamental rights that institutionalize certain expectations beneath the legal system concerning organizations and systemic communications (Luhmann 2010: 99). When religious freedom is institutionalized, for instance, it protects *both* the state and churches from mutual interference, allowing for both to operate according to the systemic codes of politics and religion (Audi 1989: 261).

From a macro and mesodynamic level perspective, a constitution emerges with the increase in novel organizations claiming a *normative guarantee* to their autonomy. By protecting organizations (from the mesodynamic level standpoint), constitutions also protect heterarchical functional differentiation from the macrodynamic and structural perspective. In Europe, the process *started* in the eleventh century with the Papal Revolution and the development of a modern doctrine of associational legal form, which later on became essential to separate the identity of an organization from its members (Brunkhorst 2014: 120). This process was definitely finished by the eighteenth century with the formal institutionalization of constitutions, after the French and American Revolutions. As evolutionary events, nonetheless, it is always hard to impose definite moments.

By maintaining functional differentiation, constitutions provide the normative structure needed to maintain the division of labor between different social systems. The maintenance and spread of the division of labor is not only a consequence of social logic, but a major consequence of the evolutionary process. More than that, constitutions institutionalize a framework for the operations of two of the mechanisms proposed by John Maynard Smith and Eörz Szathmáry to explain the transition to higher level entities: kin selection and central control.

Kin selection structures the evolution to more complex entities insofar as it suppresses free riding between cells by assuring that their genetic identity. Constitutions do the same by attributing basic rights to all and formally acknowledging that all persons, individuals or legally recognized corporate persons are *equal bearers of rights belonging to the same constitutional society*. This is part of what constitutional concepts like the '*we the people*' do; they signal that all individuals are formally equal and, as such, there is no reason to struggle

against others for the formal recognition of rights. Instead of *genetic* relatedness, constitutions grant *legal* relatedness, enabling cooperation to emerge as a product of legal interactions, such as contracts, promises, investiture in public offices and legal attribution of authority. Consequently, constitutions de-Darwinize constitutional societies by reducing competition related to the recognition as an equal legal subject. As the competition between organic cells is reduced by assuring their genetic identity, individuals equal in rights can see themselves as *equal* members of a particular legal structure on which they can pursue their own interests.

Legal recognition of persons as right bearers – what Rawls would call the public conception of person (Rawls 2005) – is only a departure point for microdynamic interactions, which are held under the assumption of legality and the constitutional framework. Of course, individuals will disagree and pursue their own interests based on distinct conceptions of the good; but they will *also* be working within an integrated order in which all members perform legal functions and, as a result, maintain the constitutional structure operational. The patterns of social relationships (Parsons 1963: 234) are, as a result, maintained through the comprehensive allegiance to the rule of law. This is a distinct way to integrate society, since, unlike pre-modern societies, no *deep* fidelity to the religious tenets of a community is demanded from the citizens, but only a *narrow* commitment to law. By demanding so little metaphysical[4] commitment from its citizens, constitutions can integrate a vastly pluralistic population in a single cooperative environment.

Constitutional institutions also organize political arrangements in such a way that agents have incentives to prevent political free riding. Judicial review, separation of powers, the distinction between the Senate and House of Representatives, and even the distinction between Federal, State and Local levels are mechanisms devised to impose limits on each of these institutions, not only by assigning specific powers, but also in the hope that conflicts between them will prevent abuse (Przeworski 2010: 127–138). Other institutions, such as the police can be invoked to repress legal breaches and maintain the level of trust needed to support cooperation.

The constitutional state also performs central control within a constitutional society, structuring the rule of law and the cooperative conditions needed for the integration within law itself and between law and other social systems. By protecting functional differentiation, constitutions revert stratification and foster an egalitarian ethos. Constitutional

societies monitor free-riding by *spreading* and *constraining* political power. The separation of power between the Executive, Legislative and Judicial branches, regular elections, the majority rule in collegiate organs, and the institutionalization of a supermajority requirement to amend constitutions are obvious attempts to counter the risks of free riding within the political system (Cooter 2002: 211–239). From the standpoint of law, these institutions impose legal parameters according to which political power can be performed and disciplined. A more inclusive polity also tends to generate economic inclusion because, under the rule of law, no single economic enterprise is to be arbitrarily favored. Having no privileged status against other competitors, no one can legitimately block the process of creative destruction that continuously replaces old economic structures, producing new opportunities of economic inclusion (Schumpeter 1975).

As a consequence, constitutionalism brought egalitarianism back to the course of human history. In order to protect functional differentiation, social systems must operate according to their own functional criteria, which demands that participation opportunities are assigned to all citizens. Functional differentiation depends on promoting inclusion by granting universal access to the benefits of all functional systems (Neves 2013: 182; Luhmann 2013: 16–27). This is not only a demand coming from persons, but an imperative for the maintenance of functional differentiation, insofar as growing exclusion channels functional benefits (money, education, access to medicine, and so on) to specific segments. Functional differentiation becomes endangered by increasing exclusion both because the systemic operations become determined by other systems' operations and by criteria of status typical of pre-modern times. In this sense, the maintenance of functional differentiation requires an egalitarian dynamic sustained by formal constitutions.

From the standpoint of Godfrey-Smith's categories, it is important to highlight the already mentioned role of constitutions in integrating (I) not only its individual members (persons) and mesolevel individuals (organizations), but also heterarchical social systems performing different functions. By doing so, constitutions generate the ‘collective reproducers’ I have been calling constitutional societies. Constitutional societies score high in inheritance fidelity (H) not only as a result of cultural evolution, but also on the maintenance (reproduction), over time, of institutional traits such as the separation between church and state, the distinction between rights and values, the separation of powers, various checks and balances, and the constitutional structure as a

whole. The institutional architecture is transmitted from one generation to another through cultural transmission and is maintained relatively stable over time as a result of education, punishment and the democratic monitoring of power-bearers.

Constitutional societies also score high in the relationship between intrinsic properties and fitness (S). Their institutional structure affects their selection in comparison to other societies (structural selection). A flawed constitutional design that does not protect functional differentiation well and allows room for corruption and free riding will probably impact negatively the fitness of a constitutional society. In the long run, it will either disintegrate and eventually produce a new constitutional society (through a revolution), or be stalled in an institutional crisis over a long period of time.

From the standpoint of a multilevel evolutionary approach, constitutionalism is not only a macrodynamic structure that protects and fosters social action by assigning rights based on mesodynamic (organizations) and microdynamic (individuals) actors. It also derives its legitimacy from our innate psychology.

Constitutional societies are far different from any other societal kind. Modern egalitarianism is qualitatively different from the egalitarian pre-historical hunter-gatherer bands. Being different from any societal kind seen before, we should expect that constitutional societies are not compatible with our innate social psychology, which expects a social environment of moral monism, organized around the distinction between in-group friends and outsider foes. If constitutional societies were so incompatible with our innate psychology, however, they would not have lasted so long as they have endured. As a consequence, understanding *how* our mind copes with this novel sociological framework is necessary to make sense of how constitutionalism coped with individual psychology.

András Sajó was probably the first scholar to point out the relevance of this issue. In his *Constitutional Sentiments*, he considers the role of psychological emotions such as anger, fear, passion and shame in constitutional history. Sajó argues that constitutionalism would not have been possible if it had not been backed by our emotions (Sajó 2011: 25). However, he did not develop a theory about how constitutionalism links itself with our evolved psychological dispositions. His theory lacks a deep evolutionary approach and, as a result, he cannot see many adjustment issues between our psychology and the institutions associated to constitutionalism. What Sajó takes as a *proviso* –

the compatibility between constitutions and our innate psychological dispositions – must be explained.

Our minds evolved to cope with a monistic moral environment based on shared symbolic markers that provided a reliable cue to differentiate those who should be trusted ('friends') from the free riders that could pose a threat ('foes'). After the Protestant revolution, however, this assumption cannot be taken as granted anymore. The division of religion and morality in multiple doctrines brought up a new world for our psychology, demanding institutions to provide a novel framework adapted both to our cognitive dispositions and to the novel pluralistic social background.

How could our mind solve the resulting cognitive dissonance (Almeida 2014: 13)? By attributing equal rights to the bearers of distinct comprehensive religious/moral doctrines, constitutions and toleration laws turns the frontier between friends and foes fuzzy by institutionalizing new distinctions, such as the hierarchical *priority of the right over the good* (Rawls 2005: 173–211). Questions concerning fairness, law and politics, related to a democratic society normative structure have precedence over moral doctrines. Constitutions establish normative principles institutionalizing symbolic markers that redefine normative identity and the friend/foe distinction. In this sense, it is possible to say that constitutions can be understood as a civil religion, providing a collective sense of normative identity close to a Rawlsian *overlapping consensus* and a Habermasian *constitutional patriotism* (Habermas 1996: 500).

Constitutional theory is based on normative assumptions that turned the friend/foe distinction to a formal one, based on the respect for fundamental rights. The social identity of individuals is not attributed anymore by religious and moral values, but by the *legal* assumption that 'all men are created equal' and endowed with 'unalienable rights' (1776 American Declaration of Independence), or that all 'men are born and remain free and equal in rights' (1789 French Declaration of the Rights of Man and of the Citizen). These normative dispositions, as Lynn Hunt and Steven Pinker argue, were a rights widener that, over time, came to include virtually every single human being as right bearers. From the standpoint of our minds, this means that, in principle, no one should be regarded as a foe unless by posing a real threat to the rights of others. Constitutions gradually expanded the circle of individuals included as subject of moral concern (Singer 1981: 120).

Inbuilt normative principles of constitutionalism also trigger our universal moral grammar, insofar as they are well-suited to our innate

sense of fairness. First of all, the logic of fundamental rights evokes normative dispositions related to reciprocal altruism. Constitutional democracies preserve citizens as equals in rights by protecting them against perpetrators of actions violating such rights. A game-theoretic legal description of institutional monitoring of free-riders in constitutional societies could be understood from the standpoint of reciprocal altruism logic, in the sense that legitimate constitutions establish the institutions that punish free riders and, by doing so, fosters cooperation.

Besides that, constitutionalism evokes our innate egalitarianism. As the Pleistocene bands of hunter-gatherers, constitutional democracies organize an egalitarian polity by monitoring free-riding. Hunter-gatherer bands maintained egalitarianism by spreading power on the hands of every individual, who kept bullies under a tight leash. Quite differently, constitutionalism builds institutional and cultural firewalls that evoke the egalitarian dispositions nested within our minds and, through institutional means, controls abuse of power.

By providing normative premises of inequity aversion, power abuse, equality and freedom, the ideology of constitutionalism resonates in our minds and triggers egalitarian dispositions. Unlike the political ideologies that justified stratified social structures, the political ideas of liberalism and, later on, socialism and constitutionalism, were appealing to these psychological biases insofar as they offered psychological relief against inequality and a political path to overcome it.

NOTES

[1] It is important to add that the idea of emergence is not to be confused with the concept of causation. I assume that there is a weak sense in which low level entities are causally linked to higher level emergent entities. The existence of the lower level entities is a necessary condition for the emergence of the higher level ontological reality. By assuming this, I do not claim that the causal link between levels establish an ontological priority of the lower levels over the higher ones, but that it constraints the ontological possibilities of the emergent system. This position could be contrasted with a stronger one, in which the emergent system is causally determined by its low-level components, being a merely epiphenomenal reality. See, *e.g.*, Kim 1999; Emmeche *et al.* 1997; and Sawyer 2004.

[2] MLS1 and MLS2 refer to the causal processes involved in the production of certain kinds of individuals. It would not be precise to describe a group as MLS1 and MLS2. However, to avoid repetition, I will refer to MLS1 groups as those whose emergence can be explained through MLS1 mechanisms, that is, as a result of the sum of the group-member's fitness. In MLS2 groups, we can talk of group-fitness resulting from groups properties. As a result, 'MLS1/2 groups', from now on, should be understood as groups whose evolution can be explained through MLS1 or MLS2 processes.

[3] My point is not that the legal and political constitution is the only adaptation at the societal (structural) level any particular society has, since there are other structural features, such as its market-oriented infrastructure (economy) or its legitimacy foundation reinforced formally and informally in schools, families and other contexts (Callan 1997). Instead, the point to be highlighted is that the constitutional framework is one relevant and indispensable adaptation.

[4] The sense I am using the term 'metaphysics' here is related to the Rawlsian usage of the concept, as in Rawls 2005.

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