On the Cognitive Foundations of Legal Reality

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ABSTRACT
In this paper, I deal with how cognitive science can enrich our understanding of the ontological problem of legal philosophy by identifying and describing the cognitive foundations of law, legal institutions, and legal facts: namely, the cognitive features that human begins must possess to act in light of legal facts they believe to be existent, and hence to support the existence of these facts and their connected legal institutions. I will start with social institutions, of which legal institutions are an instance. Then I will introduce some peculiar features of legal institutions, putting forward three theses about them. Finally, I will explain how the proposed analysis, which is theoretical, can have significant practical consequences: in particular, I will argue that if legal institutions and legal facts require some cognitive capacities and dispositions, weakening the latter could entail weakening the former. This approach can lead to a cognitive-based theory of legal pathologies, the possibility of which jurists should be aware of.

KEYWORDS
ontology of law, nature of law, institutional facts, social ontology, cognitive science

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1. *Introduction*

There is a traditional distinction, discussed among others by Norberto BOBBIO (2011, chap. 3), among three main problems for philosophy of law. The first problem is ontological, and it has to do with the analysis and understanding of our basic legal concepts: What is law? What are legal facts and legal institutions? This is the traditional problem of the concept and nature of law. The second problem is methodological, and it relates to the criteria of correctness for legal reasoning and the epistemological status of legal science: What counts as a justification in the legal domain? The third problem is labeled by Bobbio as deontological, and it is the problem of justice and its nature. As Bobbio notes, this last problem connects legal philosophy with political philosophy. One could note, however, that also the other two problems connect legal philosophy with other philosophical disciplines: metaphysics, social philosophy, logic, epistemology—and, by the way, a fourth problem identified by Bobbio, that of the relation between law and society, clearly connects legal philosophy with sociology. Perhaps this is one of the reasons why legal philosophy is such a broad-ranging, encompassing, and inspiring discipline.

Philosophers, and hence legal philosophers, have their conceptual tools and methods to address these problems. A typical way to proceed for them is called "conceptual analysis": when considering the question "what is law", for example, one could start from the ordinary concept of law (a concept that, as speakers of a given language, we all know), derive from that concept some paradigmatic instances of it (judges issuing a ruling, parliaments enacting provisions, etc.), and consider whether the concept and its instances suggest some necessary conditions that something must fulfill to be law. Conceptual analysis is standardly associated with the strand of philosophical thought that is labeled "analytic philosophy" and that emerged in the second half of the 20th century. Still, in a sense, this kind of method—considering and problematizing our notions about a given thing, asking for its essential elements, taking into account mental experiments to investigate into the boundaries of concepts—has been *the* philosophical method since its origins.

In parallel with standard philosophical conceptual analysis, however, some philosophers consider empirical sciences important and relevant to address philosophical problems. Depending on the kind of relation you have in mind between philosophy and science, you can qualify yourself in different ways. For example, one could consider empirical findings to complement standard conceptual analysis or to completely substitute it. If you go in the second direction, you can qualify yourself as a "reductionist" of some sort and describe your research project as a sort of "naturalization" (of legal science, of normativity, of truth, etc.). If you

instead opt for the first alternative, you can use empirical knowledge of the paradigms of a given concept to complement and possibly correct our ordinary understanding of that concept. This chapter will adopt this last attitude.

The kind of empirical knowledge considered here falls under the domain of cognitive science. "Cognitive science" is a broad expression, encompassing various disciplines from cognitive psychology to neurophysiology. Basically, it includes the empirical sciences that aim to explain the machinery of human cognition: how we perceive, believe, and know things. The methods that cognitive sciences adopt are experimental but can vary considerably, going from the statistical study of the behaviors of human subjects under certain controlled conditions to the observation of neurological mechanisms activated in certain controlled situations. Here, I will be quite ecumenical in using the findings of cognitive science: if relevant to my topic, I will use studies in cognitive psychology, observations made by developmental psychologists, or research about how our brain works.

What is my topic? I will deal with how cognitive science can enrich our understanding of the ontological problem of legal philosophy by identifying and describing the cognitive foundations of law, legal institutions, and legal facts. "Cognitive foundation" or "root" could be seen as a misleading metaphor (see CHIASSONI 2021, 498), so let me clarify what I am aiming at with that label. I want to understand which cognitive features of human beings are necessary for them to act in light of legal facts they believe exist and hence to support the existence of these facts and their connected legal institutions. To my knowledge, the amount of work devoted to how cognitive sciences can enrich the ontological inquiry in legal theory is much smaller than that dedicated to the methodological and the deontological problem[1]. When it comes to the methodological problem, and hence to legal reasoning, the question of how that can be affected by theories of human decision-making has produced much discussion in recent years, particularly related to a systematic exploration of biases and heuristics in judicial decision-making[2]. Problems of justice typical of the deontological problem are instead raised, for example, by the question of whether cognitive-based kinds of manipulation should be admitted and regulated by law when used by private actors (like in the case of so-called "neuro-marketing") or public institutions (in the form of "nudge-like" regulations: THALER, SUNSTEIN 2008). And, of course, deontological is also the question whether our findings on how human intentional activity works should impact criminal law, possibly changing our overall theory of punishment (see for example HAGE & WALTERMANN 2021). Instead, I will try to see if we can put cognitive sciences to use in perfecting our answer to the ontological problem of philosophy of law.

My main thesis will be that our knowledge of how the human mind develops from childhood to adulthood, as well as our hypotheses on the evolution of human cognitive capacities in relation with those of our evolutionary ancestors (primates in particular), can significantly contribute to a better understanding of how legal facts and legal institutions can exist and have a role in our social life, because law's existence depends on human minds. This thesis is not new: Scandinavian legal Realists traceable to the Uppsala School (Axel Hägerström, Karl Olivecrona, Alf Ross) and Polish-Russian legal realists (Leon Petrażycki in particular) have insisted on the inherent connection between law and psychology since the first half the 20th century[3]. However, these scholars had in mind a kind of psychology very different from everyday cognitive science, which has strengthened the rigor of its experimental methodology and, even more importantly, has undergone the revolution of the neurosciences.

[1] With some notable exceptions, particularly focused on legal normativity: BROŻEK 2013; BRIGAGLIA & CELANO 2018; BRIGAGLIA 2022.

[2] See for example GUTHRIE et al. 2001; GUTHRIE et al. 2007; WISTRICH & RACHLINSKI 2017; HOFFMAN 2021.

[3] See for example HÄGERSTRÖM 1953; OLIVECRONA 1971; PETRAŻYCKI 1955; see also in this regard PATTARO 2016 and FITTIPALDI 2016.

At least three methodological objections could be raised against the research project whose current results I present in this chapter. The first is that such a project is inevitably speculative, both because many of its conclusions about legal institutions can have very different explanations, all of them in some way coherent with the available empirical data, and because the empirical theories assumed as starting points are in their turn the object of strong debate in the respective disciplines. It seems to me that a similar objection can be raised against any kind of scientific endeavor: different explanations are available, and assumptions can be debated. The crucial point is the extent to which the proposed theory and its assumptions resist and accommodate potential counterexamples. Hence, I will propose my view, but I will also try to clarify the possible alternatives and the problems at stake. In this way, if the reader finds the final reconstruction not sufficiently reliable, she will at least have a clear conceptual map of some necessary steps that must be taken to build her alternative.

The second objection addresses not the empirical assumptions of my reconstruction of the cognitive underpinnings of legal facts and institutions but rather the viability of proposing a unified theory of the nature of legality. One could say, for example, that it is not possible to identify the necessary features of law on conceptual grounds because the historical reality of law is so complicated and diversified that different things have inevitably fallen under the scope of this concept in different cultures and/or at different times: every theory of the nature of law will inevitably be a projection of our parochial, limited view (see SCHAUER 2012; TAMANAHA 2017a). This objection can be understood either as a kind of skepticism against armchair conceptual philosophy ("You cannot understand the essential features of law a priori, you must study history and sociology to do so!") or as a general thesis about law's metaphysics ("there are no essential features of law, any theory of this kind will be false!"). In specific relation to my work, Pierluigi Chiassoni argues that the phrase «'Metaphysics of (the) law' fatally evokes the premodern idea of a set of 'principles' or 'essential features' calling for a philosophical enquiry capable of grasping the very 'nature' (the very 'ontology') of legal phenomena by delving into their depths in ways that are not available to different forms of investigation» and that we should «abandon the phrase» in favour of «some less obscure, less misleading, and plainer expressions, like, for example, 'law' or 'legal reality'» (CHIASSONI 2021, 497). As Chiassoni rightly points out, the terms "metaphysics" and "ontology" of law, that I use, should not evoke in the reader the idea that this research is a kind of essentialist theory closed to empirical revision: it seems to me that metaphysics does not imply dogmatism, and I agree with the idea that conceptual philosophy must be complemented by empirical disciplines (indeed, this is exactly the methodology underlying this chapter). However, I think that dismissing the possibility of essential, or at least typical, features of law is the outcome of a dogmatic attitude, not so different from that which is assumed by scholars who think that conceptual armchair analysis is perfectly self-sufficient. How can one rule out a priori the possibility of an encompassing description and explanation of law? It is certainly possible to falsify by way of counterexamples the explanatory conjectures to refute and improve them: this entails, however, participating in the endeavor of (science-based) legal ontology rather than dismissing it.

Finally, a third possible objection to this research could be that the legal domain is so complex and includes so many different kinds of entities that a single and unified ontological theory to explain it in its entirety could not be possible (legal reality could be "disunified": PLUNKETT & WODAK 2022). This objection puts forward an important caution rather than a thesis: we should take seriously the possibility that not all legal entities can be explained by a single theory. Here, too, one should consider the proposed alternatives to show this is the case. My theory, however, will have to do with legal institutions and rule-constituted legal facts: so, even if it does not capture the whole of legally-relevant entities, it is aimed at explaining a significant part of it.

Let me present how I intend to proceed in this chapter. Section 2 will form its bulk, explaining why legal facts depend on human cognitive capacities and what these capacities are. In the first part of that section, I will start with social institutions, of which legal institutions are an instance (Sections 2.1-2.3). In the second part, I will instead introduce some peculiar features of legal institutions, putting forward three theses about them (Section 2.4). In Section 3, I will explain how the proposed analysis, which is theoretical, can have significant practical consequences: in particular, I will argue that if legal institutions and legal facts require some cognitive capacities and dispositions, weakening the latter could entail weakening the former. This can lead to a cognitive-based theory of legal pathologies, the possibility of which jurists should be aware of. Finally, in Section 4, I will conclude by summarizing the theory and putting forward a normative question that, in light of it, deserves serious reflection: If there are institutional frameworks that we cherish as political ideals, shouldn't we consider the nurturing of its cognitive underpinnings as a political priority?

2. *The cognitive underpinnings of legal facts, step by step*

2.1. *Legal facts are a subset of institutional facts*

Facts in the world are typically not dependent on humans: the fact that it rained today or that Jupiter revolves around the sun depends on how physical reality is framed. Other kinds of facts, however, could not exist without humans, particularly human society: workers protest for their rights during a strike, colleagues have a conversation in front of a coffee machine, a country falls into an economic recession, Fascists ruled Italy starting from 1924. These facts involve entities that become possible only when human beings organize and conceptualize their social life: groups of humans (workers, Fascists), speech acts (conversation), social events (strikes, economic recessions), social entities (the Western World, Italy) depend on a way of "carving the world" that is impossible without the emergence of society. This is why they are called social facts, and the philosophical discipline that deals with the nature of these facts (with the metaphysics of society) is called social ontology (see on this EPSTEIN 2018). I assume that legal facts are included among social facts, and hence, when legal philosophy deals with the ontological problem, it is a subset of social ontology.

Among social facts, some are peculiar. Consider the fact that workers protest for their rights during a strike, for example. The fact that there is a group of workers or that they protest is slightly different from the fact that they perform a strike and even more different from the fact that they have a right to do so. Legitimate strikes, and hence the right to strike, are regulated by the law, and the law attaches to them both proper conditions of performance (for example, that they are allowed only under certain conditions) and normative consequences (for example, that workers do not get their salary, but their behavior does not count as a breach of contract). Strikes, chiefs within a tribe, walls that are the boundaries of a community's territory, or even wooden pieces that have a meaning within a shared game, all these entities and facts we may call institutional. Why "institutional"? Because all these facts involve statuses, which require a sort of fixed normative framework, a set of rules, and in most cases, these rules are general. A social group can decide that a specific individual, say, Mr. Rex, has the status of the King. Still, typically members of the group will develop a rule about it: *in general*, if someone is chosen/is the son of.../is ordained by priests, then he will have the status of the King, which means that it will have some kind of power. This is an institution in that group, and the facts made possible by the existence of that institution are, therefore, institutional facts. To be sure, the notion of institution used here is very broad because it can include normative frameworks going from religion to politics and games as well. But, independently of how broad should the notion of

institution be, it is evident that legal facts are a subset of institutional facts. When we make a contract, elect the President, enact a statute, find someone guilty, counter-examine a witness, or give a grade to students, we do acts or instantiate facts that are institutional because they have a status connected with normative consequences defined by the rules of an institution. I borrow the elements of this description of institutional facts from the social philosophy of John Searle, which is assumed here as the starting point of my analysis[4].

2.2. *Social institutions have a common structure*

The question, then, is whether institutional facts (and legal facts among them) have a recognizable common structure apart from the generic reference to rules. When we attribute a status connected with normative consequences to an entity (e.g., someone is the President), a fact (two persons reaching an agreement), or an event (our reaching the age of 18), we do so by way of rules that are slightly different in function from other, more ordinary kinds of rules. Typically, when we regulate an activity, for example, by stating that smoking is not allowed in public places, the regulated activity can exist even if the rule does not exist. Indeed its previous, independent existence is why we want to regulate it. So smoking is something that some people do whether or not there is a rule about it, and we create a rule exactly because we do not want people to harm the well-being of other people. In the case of statuses and institutional facts, however, these cannot exist without rules. Rules create them and make them possible: without constitutional provisions, you could not have a President of the Republic, just as you could not have a contract or the age of majority without a civil code. You could not have a game, nor the activity of game-playing, without the game's rules. This is the main peculiarity of institutions and institutional facts, namely, that the rules making up the institution are constitutive of the facts that are regulated by them. In contrast, in the case of ordinary, regulative rules, the relevant facts are already there and are perfectly possible even in the absence of the rule. Institutions thus require *constitutive* rules, namely, rules that "constitute and regulate"[5].

Constitutive rules are often described in the literature as having a common structure in the form "X counts as Y in context C", or better, "X counts as Y, which implies Z in context C" (this is known as the "XYZ formula": HINDRIKS 2005, 123 ff.). This is a useful formula to appreciate the capability of these rules to constitute statuses connected with normative consequences: these rules indeed state the conditions, consequences, and the relevant context of institutional statuses. Thus, the basic structure of the constitutive rule of the President of the Republic can be described as "a person with some properties elected under certain circumstances (X) counts as the President of the Republic (Y) in the Italian constitutional system (C), which entails a specific institutional function and a set of duties and powers (Z)". Similar rules can be formulated for contracts, the age of majority, game pieces and more in general for all institutional statuses. The formal, "count as" structure, however, should be considered more as a useful mnemonic than as a strict requirement. Constitutive rules can have a seemingly regulative form, as in the case of "professors must teach at least one course at the University" or "bishops must move in diagonal in chess" (see CONTE 1995), and in most cases only the overall system of rules about a given institutional status can be framed in the "count as" form. Conversely, not all rules having a "count as" structure are constitutive: if we say, for example, that «Deputies engaged in activities outside the Chamber premises [...] shall be counted as present for the purpose of establishing the presence of a quorum» (Art 46, par. 2 of the *Rules of*

[4] For further details, see SEARLE 1995, 2010; a further distinction concerns constructivist facts, which will not be treated here: see HAGE 2022.

[5] On constitutive rules see, among many others, SEARLE 1995; SEARLE 2010; HAGE 2018; LORINI & ŻEŁANIEC 2018; RAMÍREZ LUDEÑA & VILAJOSANA 2022; ROVERSI 2022.

Procedures of the Italian Chamber of Deputies), this rule states simply an equivalence and does not constitute any kind of institutional fact.

Institutions, conceived as the framework that makes institutional facts possible, are sets of rules, some constitutive. If a given community frames only regulative rules, you can have a social regulation of behavior but not institutional facts: for example, the fact that people do not smoke in public is not institutional, whereas the fact that they marry is, and indeed it requires a constitutive rule about what counts as marriage. Some argue that institutions can be possible without rules. Human behavior can also be regulated by way of standards, for example, and more in particular by referring to paradigmatic examples of correct behavior and institutional statuses: one can define what the king is by pointing to important kings of the past, and some communities can have constitutive paradigms rather than constitutive rules (see on this RUST 2021). This is an important qualification, needed to stress that constitutive rules cannot be traced to a single, common structure and that the "counts as" form is simply a rough generalization covering many kinds of regulation. This said, even a regulation by constitutive standards is, in the end, a regulation by rules: to create an institutional status, people will have to infer a rule from standards. And typically, this activity will be open to many interpretations because standards will provide very vague answers to the question of how a given institutional status can be instantiated and its precise normative powers. Hence, a regulation by constitutive standards eventually turns out to be a regulation by competing, and most often alternative, constitutive rules derived from those standards.

Institutions also have a function—one could say a purpose or a point (see MACCORMICK 2007, 36 f.)—in the form of a given social role for which they have been built: this purpose shapes the overall institutional structure, and both the conditions and the normative consequences of the institutional elements are framed accordingly. So, the function of the President of the Republic in the Italian Constitutional system is to represent the Nation's unity and to safeguard the Constitution. For this reason, the election of the President must be performed within specific boundaries that enhance the role's representativeness and the President's powers are framed to enable its role as a constitutional guarantee. It is important to note that the institution's point is not constituted but is rather presupposed by the constitutive rules: it forms an important part of those rules' *ratio*, namely, the purpose they serve. Hence, the overall point of the institution is *meta*-institutional rather than institutional, properly speaking: you cannot have an institutional structure if not inscribed within a meta-institutional, pre-existing social framework, just as you could not have the game of chess, with all its rules, if the idea and concept of game-playing did not exist in society (see on this, among others, LORINI 2000, ROVERSI 2018).

Some scholars find this idea of constitutive rules rather mysterious. It is argued, in particular, that it seems possible to describe the structure of institutions using simpler, more intuitive notions like those of regulative rules plus definitions of terms. Hence, an institutional concept like "property" can be seen simply as the aggregate of certain conditions and certain consequences, like, for example, «[i]f a person has lawfully acquired a thing by purchase, judgment for recovery shall be given in favor of the purchaser against other persons retaining the thing in their possession» (ROSS 1957, 819; see also HINDRIKS & GUALA 2015) Property, under this analysis, is simply defined as the overall set of these conditions and consequences, and in the end is nothing else than the outcome of regulative rules in the form "do this... if you want to achieve...": more generally, institutions and institutional concepts are considered here as being nothing else than "shortcuts" to systematize sets of regulative rules. Analyses of this kind result from skepticism towards the idea of facts and entities "made possible" by rules: How can rules make possible reality? Where should these institutional facts exist if they are not concrete, empirical facts? They seem to be the outcome of an unwarranted hypostatization, namely, the fallacious attitude of treating as real things that are not.

I cannot enter here into this reductionistic attitude towards constitutive rules, but in general, I think that, though intuitively attractive, it is ultimately misguided (see ROVERSI 2021). Hypostatization is not a fallacy but a feature of human minds, of how humans talk and categorize the world. We hypostatize when we talk about games, fiction, ideas, theories, projects, values, history, and of course, when we talk about rules and their content. In general, as humans, we can consider the product of our linguistic practices as an object, an entity out there, something that exists given our social framework. Reductionists insist that these things cannot be said to exist, and of course, they do not exist as part of the natural world; they would not be part of the universe if humans did not exist. But the same could be said of many other things, such as buildings, screwdrivers, databases, cars, weapons, bottles, etc. These are artifacts built by humans to serve their purposes. Among these, there are symbolic artifacts, namely, entities that serve their purpose by a meaning we assign to it: some of them are at least partly concrete, such as jewelry or neckties or crowns, some of them are completely immaterial, like works of art, games, fairytales, and social institutions. Just like material artifacts, immaterial artifacts are meant for interaction with other human beings: Dante's *Inferno*, for example, is a set of words in vulgar Italian meant to express something to other people who are supposed to understand those words. In the case of institutional artifacts, you need rules that must be practiced, not simply sentences that somebody must understand: to have the institution of property, you need to state by way of rules the conditions under which somebody can own something, the normative consequences of owning, and, more in general, the meaning of the status "owner". But, just like the sentences of Dante's *Inferno* are constitutive of the poem, the rules are constitutive of property. They create something that remains "out there", in the domain of our symbolic artifacts, that populate the human world just like screwdrivers and cars. Hence, I do not see anything mysterious in social institutions, institutional facts, and constitutive rules: they are simply an instance of the general capacity of human beings to build artifacts by way of language (on the "artifact theory of law" see BURAZIN et al. 2018).

2.3. *The grammar of cooperation: collective intentionality*

Institutions would be only on paper if people did not collectively intend to accept and practice the relevant rules. But what do we mean by "collective intention and acceptance", and how can humans have them, given their cognitive makeup?

There are several ways in which we can do something together with others. We could, for example, walk in a park where other people are walking: but, in this case, we would be doing something together in a very weak sense because we would merely be co-present in performing an activity. Or we could agree to read something together: but, here too, apart from the explicit agreement and perhaps our meeting at a certain time, the activity would be performed by each of us in parallel, so to say, without much coordination or interdependence. The most central case of "doing something together" is rather when two or more individuals intend to cooperate to bring out an activity, as when we decide to collectively paint a house or cook a recipe together.

Despite its simplicity at first sight, this idea of collective intention is not so easy to analyze. Intending to cook together is not simply a sum of individual intentions: I can intend to cook the recipe, and my wife can intend to do the same, but if we do not conceive this intention as collective, we simply end up performing activities in parallel, as in the reading example above. The point is not that *I* intend to cook the recipe *and* that my wife intends to, but rather that *we* intend to do it together, cooperatively. Several analyses in contemporary social ontology try to explain how a collective intention is different from an individual one, going from a more collectivistic to a more individualistic approach. According to a purely individualistic approach, it is sufficient that individuals share a goal and have individual intentions (see, for example, MILLER 2001) plus some mutual beliefs about others' intentions; these individual intentions

must, however, interlock so that the general plan of the shared activity is specified along sub-plans the individuals intend to realize, and these sub-plans effectively mesh to realize cooperation[6]. Some scholars, however, criticize the idea that individual, interlocking intentions and mutual beliefs are sufficient. They rather argue that sharing intentions with others changes the nature of our intention: we intend as part of a group, in a we-mode (TUOMELA 2016), and this can be a modality of intending encoded in the human brain, just as the capacity to intend on an individual level (see SEARLE 1995, 23-6). All these approaches, however, share at least two basic elements about explaining collective intentions, namely, that human beings can share *attention* over a given activity and coordinate their intentions with that of others by doing their part and supporting their partners in doing theirs. This is the foundation of human cooperative endeavors and legal institutions.

Cooperation typically requires commitment. When my wife and I cook together, we give for granted that we will not give up without explanations and do our best to perform our part and support our partners. Our cooperative attitude presupposes these commitments, giving rise to specific expectations: My wife expects me to whisk the eggs with cream at the right time, for example. If I do not, she will react by protesting or urging me to do what I am expected to do. Intending to do something together has, therefore, an inherently normative structure[7].

However, this basic, normative layer of cooperation must be enriched and elaborated for social life to be effectively organized, and this can happen because humans can collectively intend and commit to supporting a set of rules, regulative and constitutive. Apart from cooking, my wife and I commit to the rule that teeth should be brushed before going to bed (regulative rule), and we would very much like our children to do the same. Or our kids and we commit to the rule that Friday evening is our "family cinema evening" and that everyone in the family is supposed to stay home, watch a movie, and comment on it (constitutive rule). Members of an association could intend to support and commit to the rule that they should adhere to a formal dress code when attending monthly meetings (regulative rule), or that all presidents of the association who have served in that capacity for at least five years are to be recognized as honorary founders of the association (constitutive rule).

In moving from the mere normativity inherent in cooperation to the acceptance of social norms, a passage in perspective must be clarified. If I commit to cooperating with my wife, my duty depends on her and my relationship with her. This normativity is based on a second-person perspective: I must do X because you expect me to do this. But in accepting and sharing a social norm, we all must do what is required by the norm because there is a norm, not in virtue of the expectations of a specific community member. We enter here into a third-person perspective: norms are objectified and become the source of duties. In this perspective, my normative pressure on others becomes possibly disinterested, it is not connected with my relationship with a cooperative partner but rather with the group's existence. We are not cooperating only to fulfill a specific task but to support the group by enforcing its norms. Even in this case, however, the basic normative structure of social cooperation in terms of collective intentions and commitments forms the bedrock of normativity: hence, of all kinds of social institutions, the legal ones being (as we saw) a kind of these last (see TOMASELLO 2016, 67-70, 73-5).

One could say that this passage is too quick and rough: one thing is two persons cooking together a cake or a small association having an internal code of behavior; another is 60 million people sharing a legal system. Do I expect every citizen of Italy to intend to cooperate with other citizens in supporting the law? Political systems, and the legal institutions that derive from them,

[6] See BRATMAN 1992, 2014; for an application of this idea to institutions, see BRATMAN 2022.

[7] See GILBERT 1989, 2000, 2006, 2014, 2018; Bratman does not agree on the idea that joint intention can by itself generate normativity: BRATMAN 1999; recent discussion on normativity and joint action can be found in GOMEZ-LAVIN, RACHAR 2019 and 2021, LÖHR 2022.

are the outcome of all kinds of historical contingencies, which very often show a high degree of violence, dominance, and fear of sanction—in a word: the actual *power* of chiefs, rather than the peaceful collaboration of all community members—as the real backbone of social regulation (see CANALE 2014 for a powerful formulation of this objection). Moreover, the more a community becomes large, the less likely it is that a significant part of its members have not a strong sense of social cohesion and cooperation, and this is even more true in large, liberal, multicultural countries where different worldviews co-exist, and the life of individuals is much more impacted by the mechanisms of the capitalistic global market than by political identity. In this context, people can go along passively with a very rough idea of the content of legal provisions they are subject to: In what sense do they cooperate with others in supporting the system?

This is an important objection, and perhaps legal theory can be helpful here. In describing the structure of a legal system in his classic masterpiece *The Concept of Law*, of 1961, H.L.A. Hart drew a sharp distinction between two classes of people that are relevant for the existence of that system: ordinary citizens, or the mass of the population, on the one hand, and legal officials or experts of the legal system, on the other hand. Hart argued, in particular, that, though an ideal legal system would be grounded on the acceptance of all members of the community, in practice this is not required: rather, it is sufficient that ordinary people, in general, conform to the legal norms of conduct, whereas officials and experts must have an internal point of view, and hence a supportive attitude, about both the norms of conduct and what Hart calls the "secondary rules" of the system, which are power-conferring and constitutive (see HART 2012 [1961], 60 f., 114-6). This view makes it possible to reply effectively to the objection just raised. Even though one should not assume a cooperative attitude in all citizens of complex, multicultural, hierarchical political systems, even in these systems, there is at least a group of people where this supportive, cooperative attitude must be assumed for legal institutions to exist: the group of officials and experts of law who apply, enforce, and practice the norms of the legal system. Hence it is true that cooperation cannot be everything that matters for the law's existence, but it is its ultimate foundation.

Apart from officials, how can we describe the attitude of other community members, then? This is a form of collective recognition rather than intention. Recognition is a weaker attitude than intention: you can recognize or accept, in a weak sense, that something happens even if you do not actively cooperate with someone to make that happen. In this sense, even simply going along with an existing social framework without criticizing or endorsing it is a kind of recognition (SEARLE 2010, 56-8). And, of course, you can have degrees of recognition, going from this kind of indifference to a disposition to support and cooperate, but only if it is necessary and if explicitly requested to do so. Hence, even if it is true that in complex societies most community members cannot be said to have a collective intention to support the institutional framework—this is an attitude that only legal officials are supposed to have—they nevertheless can be described as collectively recognizing (or accepting in a weak sense) it[8].

What about mere dominance? Could not legal systems be the outcome of hierarchical arrangements where the subordinates simply obey the commands of people in power? Undoubtedly, there is an element of fear of sanction in the attitude of acceptance that most people hold towards a legal system in force, and it is certainly true that there are, and have been in history, systems of law where this element of fear was pushed to extremes to achieve obedience. This may not be true for democratic constitutional systems, but it is when we consider dictatorships or totalitarian regimes. However, this does not show that there is no cooperation at the core of law: it shows that the contrary is the case. If we keep in mind Hart's

[8] Elaborate discussions about how to apply the concept of collective intentionality to Hart's description of law can be found in SÁNCHEZ BRIGIDO 2010 and TOH 2022.

distinction between officials and ordinary citizens, we can realize that legal systems based on hierarchical dominance require even stronger cooperation on the part of officials than in the case of democracies, this precisely to ensure the actual application of sanctions and ubiquitous surveillance of all aspects of social life. In these systems, officials must be trained and indoctrinated to become cooperative supporters of the status quo to the point of fanaticism. Hence, cooperation is necessary here, too: only it is restricted to officials and possibly to other supporters of the status quo in the social community, a group that the regime typically supports, nurtures, and aims to expand.

Some scholars believe that rules do not play such a fundamental role in the construction of social institutions: They are rather the outcome of something more basic, namely, of the typical ways in which individual preferences can converge. These patterns of convergence of individual preferences are called "game-theoretic equilibria" in contemporary economic theory, and an example of them can be the following. Imagine that we must collectively decide how to drive our cars: our main individual preference will be that of being able to drive without constantly risking a car accident, so we will need to agree on a rule. In this case, the kind of rule that we agree on—whether to drive on the left or the right—is not particularly important, but we need a rule that we all accept. This shows that, from this perspective, rules are simply devices to coordinate individual preferences: the reason why institutions understood as sets of constitutive rules emerge is not ultimately explained by our acceptance of rules but by the most efficient combination of our underlying interests[9]. I doubt that this "strategic" account of institutions can really explain the contingent and chaotic character of real-life society: even if there may be an element of efficiency in their emergence, social institutions are the outcome of unpredictable factors that are highly contextual and historically dependent. However, it is important to note that, even if one accepts the view that social institutions are accepted for strategic, individual reasons, collective intentionality does not fade away from the picture. Rather, it is still the main machinery needed to keep in place the social institution that represents the equilibrium. Cooperation, commitment, constitutive rules, and norms do not disappear from this account: they are not the "most basic" thing but are still crucial[10].

Let me summarize what I have been maintaining so far. Social institutions are structured along rules, some of which are regulative and others constitutive of statuses. These rules must be collectively recognized by the population and supported—in the sense of an active, collective intention to support cooperatively—by officials. A collective commitment to these rules is part of creating a social community; it is a central element of the glue that gives the group a sense of membership and cohesion. There are, therefore, three progressively more complex layers in the construction of social, institutional facts: (1) intending and committing to cooperate on an activity, (2) intending and committing to cooperate on the support of shared rules, (3) intending and committing to cooperate on the support of shared constitutive rules about statuses. My question is: how are these three layers possible in human beings? Part of the answer to this question is psychological: humans can do these things because their minds and brains are framed accordingly. Let us see, then, what contemporary cognitive science can tell us about humans' mental capacities and dispositions that make these shared activities possible.

[9] Game-theoretic analyses of the emergence of conventions and social norms trace back to LEWIS 1969 and ULLMANN-MARGALIT 1977, and significant developments of these models have more recently been provided by BINMORE 2005 and BICCHIERI 2006, among others. A deep and thought-provoking application of this approach to social ontology, and to the ontology of social institutions in particular, can be found in GUALA 2016.

[10] See on this GUALA 2016, 71 ff., which explains institutions as solutions to problems of coordination in the form of rules, even though he rejects constitutive rules: but see ROVERSI 2021 for a counterargument to this last point.

2.4. *Social institutions require certain cognitive capacities*

2.4.1. *The ontogenesis of social institutions*

An important preliminary distinction for this analysis is between "ontogenesis" and "phylogenesis", two concepts used in the biological sciences. Both concepts are connected with the idea of development, but they apply this idea to two different entities: given a biological species, ontogenesis is the development of one instance of that species from birth to maturity, whereas phylogenesis is the development, or better, the evolution of the species itself. Hence, for example, ontogenesis is the process through which a single human goes from birth through childhood to adulthood. In contrast, phylogenesis is the process through which the human species evolved through time. Biological features have, therefore, this double aspect: you can analyze them from an ontogenetic perspective, asking how they emerge in the growth of an individual, or from a phylogenetic perspective, considering the problem of how they emerged as the outcome of natural selection, in the overall evolution of the species that individual belongs to. A description of cognitive features is twofold in the same way. My question is, what are the cognitive capacities of human beings that make social institutions and institutional facts possible? I will first address this question from an ontogenetic perspective: how do these capacities emerge in humans?

Human children can share attention and a simple goal with a caregiver since they are six months old, so this is a very basic ability: already at the age of twelve to fifteen months, they show active interaction and capacity to coordinate actions with a caregiver (see TOLLEFSEN 2004, TOMASELLO et al. 2005), and they understand the basic normativity of joint commitment, typically attempting to reengage their partner if the shared activity is interrupted abruptly (see WARNEKEN & TOMASELLO 2009). At this stage, some argue that human children already have a primitive capacity to attribute beliefs about the shared activity to their partner because they are surprised if their behavior is inconsistent with the belief they have hypothesized (ONISHI & BAILLARGEON 2005, BAILLARGEON et al. 2013). Emotions, and particularly social emotions, play an important role in the development of collective intentionality: the capacity to cooperate with others for human children around two years of age is connected with the capacity to detect the emotions of others and be touched by them; hence with the development of empathy, because if we had to rely only on strategic rationality, our default mode towards shared activities should be cautious and non-cooperative, and it would bear high cognitive costs (see MICHAEL 2011, MICHAEL & PACHERIE 2015). On the contrary, what we observe in human children already at that stage is that sensitivity to the expectations of others, as well as an attitude of expecting others to cooperate reinforced by emotions like anger and shame in case of non-compliance, is the default (see MICHAEL et al. 2016, 8 f.). At three years, this default disposition to cooperate shows a full development: explicit commitments are taken, and hence expectations become stronger, along with the capacity to resist temptations to give up. If a child wants to leave the joint activity, at this stage, he or she feels the responsibility to communicate it to the partner and make some amends (GRÄFENHAIN et al. 2009). In general, all the participants in the joint activity are supportive even if they have already earned their reward, so for the sake of cooperation rather than merely for individualistic gain (HAMANN et al. 2012, GRÄFENHAIN et al. 2013).

This full-fledged, not necessarily self-centered, supportive attitude towards cooperation that emerges at three years of age is at the core of the second level of the construction of social institutions, namely, commitment and support towards shared norms. We saw above that this passage requires the shift from a second-person perspective, where normativity depends on the expectations of others, to a third-person perspective, where norms are objectified and normative pressure can become disinterested, that is, can be in place even when there are no expectations of a specific person involved, rather being the outcome of interest towards the existence of the

group in itself. Children start to internalize normative behavior by way of imitation: already at the age of three, they are particularly disposed to imitation, to the point that they imitate behavior even when it is not causally efficient (see HORNER & WHITEN 2005) when this can require them to sacrifice a strategy they previously considered efficient (see HAUN & TOMASELLO 2011), and when warned not to imitate actions that seem "silly" (see LYONS et al. 2007)—an attitude called "over-imitation". Children consider the behavior they imitate to be normative also from a third-person perspective (see KENWARD 2012), and for this reason, they intervene to correct deviant behavior and to protect the rights of others (for example, property rights), even when they are not directly affected (see ROSSANO et al. 2011; on the significance of imitation for the emergence of normative behavior, more in general, see BROŻEK 2013). The emergence of these normative attitudes is connected with the idea of a group, of the importance of belonging to it, and hence with reputational concerns, which are explicit in human children at the age of eight and perhaps implicit already at the age of five (see SHAW et al. 2013) and which are, even in adulthood, crucial in deciding whether to cooperate (see ROCKENBACH & MILINSKI 2006). In the passage from the age of three to the age of five, human children also reinforce their third-person perspective by understanding that some norms are less conventional than others, particularly those related to physical assault (see in this regard TURIEL 1983, but also KELLY et al. 2007 for skeptical remarks on this point). They show a transcultural conception of fairness, modulated by cultural parameters only at a later stage (HOUSE et al. 2013, 14590). The emergence of language in humans, starting from age two, plays an important role in the objectivization of norms. The third-person perspective towards norms is considered absent or, at best, embryonic in primates, while present in human children, even by some of those theorists who underscore the strong cooperative and normative attitude of non-human primates (DE WAAL 2006, 54; DE WAAL 2014, 197-200), and this could be indirect support to the idea that those processes are reinforced, if not constituted, by linguistic practices: However, caution is needed about this connection, because the lack of evidence, for example, on third-person punishment in chimpanzees could be due to flaws in experimental settings (see ANDREWS 2020, 49). Shared language plays an important role in the way young children communicate social norms to their peers and in the way they treat them as objective (see GÖCKERITZ et al. 2014), and also, more in general, in defining the boundaries of the relevant group: children prefer to trust and imitate more people whose language they understand (see KINZLER et al. 2011, BUTTELMANN 2013).

Moreover, language becomes crucial in the emergence of the third level of the construction of social institutions, which focuses on commitment and support of shared norms constituting institutional statuses. To understand the idea that someone must be regarded as the King or the President, it is necessary to have the cognitive capacities to endow physical entities with a value they do not have in virtue of their physical features: a symbolic, not merely instrumental value (see on this BRIGAGLIA & CELANO 2021)—and, of course, language is a system of symbolic values, in which sounds and marks are given meaning. Human children engage in symbolic games of pretend-play with objects since the age of two[11], when language also emerges, and they understand the normative structure of the game; that is, they protest if its constitutive rules are not respected by a partner (RAKOCZY et al. 2008). To have all the elements of institutions in place, however, it is also necessary (as we saw above) to have in place a network of mutual beliefs: we all accept and believe that someone elected by the Parliament under certain circumstances is the President of the Republic, I accept this and believe that you accept it, and I believe that you believe that I accept it, and so on. This capacity to attribute beliefs to others and to understand that others' beliefs can be false and yet guide their behaviors—this theory of

[11] See RAKOCZY et al. 2005a, 2005b; see also, on "pretensive shared reality", KAPITANY et al. 2022.

mind, and false beliefs—requires a high-level perspective taking that starts to develop in human children only at the age of four to five[12], an age at which they start to understand semantics, hence the idea that language is based on rules, to the point that the two capacities may be conceived as connected (see DOHERTY & PERNER 1998). From that point, the normative, constitutive framework becomes the preferred way to understand social roles and to predict social behavior according to them (see KALISH & LAWSON 2008), and institutional objects like banknotes are conceptualized as standard artifacts, namely, perfectly objective. Only at a later stage, starting from the age of eight, do children understand that these objects—as well as much of their constitutive normative framework—depend on shared beliefs and intentions within the community (NOYES et al. 2018).

My picture of the ontogenesis of legal institutions can thus be summarized as follows. To understand institutional facts, human children must first understand social cooperation and its normative, second-person framework, which they start to practice at the age of one and intertwine with structured social emotions starting from two. At the age of three, a third-person perspective over social norms and a disposition to support them emerges in connection with a strong interest in imitation, group belonging, and reputation within the group, factors facilitated by the progressively stronger capacity to use a shared language. From the age of four to five, children develop a theory of mind and false beliefs and an understanding of semantics, two factors that make it possible for them to attribute symbolic meaning to objects and hence to understand the constitution of institutional objects. At first, they conceptualize institutional entities as ordinary, objective artifacts, while they understand the conventional and symbolic nature of these things only later, from age eight. From that point on, all the cognitive elements necessary for social institutions to exist in the perspective of a single human individual are in place. Now a further question is: apart from the individual perspectives, how did these capacities evolve in the human species as a whole? This is the question regarding phylogenesis.

2.4.2. *The phylogenesis of social institutions*

The human brain is made up of layers, so to say, and these layers are the outcome of evolution: the lower and deeper the layer is, the more ancient it is in evolutionary terms. To put it in a very simplified way: the brain stem is the primitive part, sometimes called also the "reptilian brain", which mediates sensations, bodily perceptions, and the default reactions concerning survival, namely, fight, flee, or freeze; the limbic systems, which coordinate adaptive responses to the environment (among which the amygdala, crucial in the elaboration of emotions), developed later with the emergence of the first mammals; the cortex, which is the more external and recent part of the brain, developed in various ways in mammals (see FRANCHINI 2021), but in its most developed form is necessary for abstract thinking, self-reflection, and self-consciousness, mental capacities that are typically considered to be only human. There is a parallelism between how the brain develops in childhood and how it developed by adding progressively more complex layers during the evolution of the human species: ontogenesis, at least when it comes to understanding "what came first", reproduces phylogenesis. This is an important point because, as we saw, human children become able to understand all the elements of institutional facts only between 5 and 8 years of age, which means that at least the most cognitively complex among these elements are, from an evolutionary point of view, a more recent outcome than those regarding social emotions and basic normativity. And, of course, this should not come as a surprise: humans of the species *Homo sapiens* have institutions, whereas

[12] See WELLMAN et al. 2001, WELLMAN 2018; but see also ONISHI & BAILLARGEON 2005, BAILLARGEON et al. 2013, and SLAUGHTER 2014, who attribute basic, implicit mind-reading capacities and understanding of false beliefs also to infants and toddlers.

other animals, including primates, do not, at least not at a comparable level of complexity. So, a possible story that can be told here is one in which, given the cognitive abilities we found when analyzing the ontogenesis of social institutions, at least some of them evolved particularly in human beings and not in our evolutionary ancestors, namely, primates. But where should we find this turning point that makes it possible for us, but not for chimpanzees, to have Presidents? This is a very complex question, and its answers are inevitably speculative, based on different interpretations of the available empirical data.

Here is a possible account, obtained mostly by combining insights drawn in large part from Dubreuil 2010, Tomasello 2016, and Wrangham 2019. To have evolutionary success and survive, humans had to cooperate, and they found an extremely elaborate way to cooperate, namely, by way of norms and, eventually, of social institutions. This process of self-regulation and the progressive abandonment of dominance as the typical way of regulating relationships started with *Homo habilis* (approximately 2 million years ago) in a context where climatic changes made competition for food harsher than normal. Cooperation was, of course, crucial in group hunting big mammals, but it also became important to share the responsibilities of children breeding among females, thus giving them some time to gather food and other resources. Individuals started to commit to cooperation, sharing their prey and protesting if others did not comply. A reputation connected with cooperation gradually became crucial for survival, eventually becoming a selective trait: cooperative agents could get better support in a group and thus have a higher success rate in reproduction. The process, by prompting anatomical and neurological changes like the enlargement and re-organization of the cortical areas of the brain and reduced dimorphism between males and females, gradually became self-reinforcing because it required even more cooperation: the brain took longer to develop in children, and this required more support to mothers in pregnancy and after birth; moreover, the process of domestication of human males made them more oriented towards the expectations of others.

The first migrations out of Africa, attested with *Homo erectus* (approximately 1.8 million years ago), made it possible for humans to perform a huge leap forward in the competition for food with other animals: they became able to explore the environment by overcoming distances of a completely new scale, something which required even more structured and strong cooperation and ability to communicate. The first normative notions emerged: individuals had expectations towards their partners which gradually produced the idea of cooperative duties, these duties became connected with the roles and tasks they fulfilled in the cooperative activity, and progressively these normative ideas, at first connected only with cooperative partners, became constitutive of the very idea of a group organized around collective activities, tasks, and roles. The second-person perspective became a third-person perspective: the norms started to be perceived as objective and independent from other individuals, and from personal interests, full-fledged normativity reinforced the cooperative bonds of the group. Inhibition of selfish reactions, risk assessment in cooperation, and social and emotional integration are capacities required in this process that involve elements of the brain cortex, so a further increase in brain size must be hypothesized at this stage, and it is attested in *Homo heidelbergensis*.

The crucial elements to arrive at the stage of *Homo Sapiens* are the remaining cognitive capacities that we have seen necessary for social institution properly speaking, namely, symbolization and the capacity to read others' beliefs and thus take their perspective. These are conjectured to be at the core of a cognitive evolution between 300.000 and 100.000 years ago that required an expansion of the temporal and parietal cortices, which resulted in the reshaping and globularization of the human cranium. Objects acquired symbolic value, as in the case of shell beads painted and considered to be ornaments or other objects painted to have a ritual value in burial sites, thus opening the possibility of endowing concrete things with a meaning that goes beyond their mere physical nature. This required shared representations based on the capacity to read others' beliefs (like in "we all believe that this thing X means/has value Z"),

representations made possible by an increase of phonological working memory and the emergence of semantics ("we all believe that this sound or mark X means/stands for Z"), which in turn formed the background to build symbolic, institutional hierarchies ("we all believe that X counts as Y, which has power Z")[13]. At this point, a new potential for social cooperation is opened: *Homo Sapiens* eventually became the only dominant human species.

2.4.3. *Some challenges to this theory*

I have provided above an account of the development and evolution of the cognitive features underpinning social institutions in human beings, but, as said, this is only one possible story, and one which underlines the discontinuity between humans, on the one hand, and animals—primates in particular—on the other. This discontinuity could need significant revision if we include in the picture recent theories about the possibility of (at least naïve) normativity in animals (see ANDREWS 2020; see also LORINI 2018). If mammals, and primates in particular, have developed normative capacities even in the absence of meta-representations of rules, it seems unlikely that normative capacities evolved as a cooperative break in the species *Homo*, but rather more plausible to assume a gentler continuum between the cooperative capacities of *Homo erectus* and those of our closest ancestors. Some authors argue that several elements of this account, like a sophisticated form of cooperation, recognition of the role and status of other members of the group, a capacity to attribute beliefs and intentions to others, and even a strong sense of fairness and reciprocity in interpersonal dealings is already present in chimpanzees (see DE WAAL 1998, 2006, 2014, 2016; KRUPENYE et al. 2016), while others deny it, arguing that great apes can at most do the same thing together, but not act under a shared plan in which everyone has its role (see TOMASELLO 2016, 20 ff.) and they cannot inhibit their cognition in light of the beliefs they attribute to others (see TOMASELLO & MOLL 2013, see also TOMASELLO 2020). This debate is important for our purposes because it is clear that primates do not have legal institutions in all their complexities; hence, the cognitive elements that theorists consider to be necessary and sufficient for institutions to exist cannot already be present in our evolutionary ancestors, at least not to the same degree: but what exactly is lacking? If legal institutions are argued to be based on symbolic behavior, and this last is hypothesized to require a structural reshaping of the brain that can be found only in *Homo Sapiens*, like the globularization of the human cranium, then legal institutions, as well as symbolic behavior, should be absent in animal species that do not possess those structural features. A similar problem emerges concerning the other species of the genus *Homo*: In this sense, any evidence of proto-legal practices and symbolic behavior in *Homo Neanderthalensis* (and, of course, *a fortiori* in non-human animals) would require us to significantly qualify this theoretical model (see for example LEDER et al. 2021 for recent evidence).

The ones just mentioned are empirical questions and hence possible sources of falsification for the theory, which will then have to be adapted meaningfully or discarded. However, more general issues can be raised about the *prima facie* plausibility of this reconstruction. One is connected with the problem of cognitive overload: If social institutions always require such a complex network of mutual beliefs and intentions, should we assume this cognitive machinery is present in the minds of all community members? Wouldn't this be an enormous cognitive cost for normal individuals, who have a lot of other things to do and think about in their own lives apart from supporting the community's institutional framework (for a similar objection to some theories of collective intentionality, see PACHERIE 2011)? This is an important question,

[13] See on this also ROMEO 2011, who instead phylogenetically connects symbolic behavior with normativity more in general.

which highlights the fact that collective intentionality at the basis of social institutions will inevitably end up having two features: it will never be completely collective, and it can very well be tacit and/or dispositional. In every community, a significant part of its members will not enthusiastically endorse the relevant institutions, and in most cases, they will not have a complete understanding of it: in this sense, Hart's already-mentioned distinction between officials and ordinary citizens (see above, 2.3.1) can be generalized as a distinction between a portion of the community which supports the institution by understanding and practicing it and a portion which merely goes along without resisting (as noted, the notion of "collective acceptance" can also be understood in a very weak sense to include also this passive attitude). Moreover, it is not necessary to assume that the mental states required by collective intentionality be explicit and always present in a subject's consciousness: they can rather be thought to be tacit or dispositional, not actual properties of individuals, namely, subjects could be ready to activate the relevant mental states only if the circumstances required them to do so.

A related general concern about this approach is that, while it stresses too much the role of conscious acceptance and beliefs, it seems to completely rule out a very significant portion of the inner lives of individuals, namely, emotions. Under this model, cooperation seems to emerge as a prudent evaluation of other people's cognitive states and institutions as the outcome of an endeavor that we simply decide to participate in together. But, as the primatologist Frans De Waal shows, cooperation is often the outcome of emotional empathy, namely, the outcome not so much of an understanding of others' beliefs but of feeling their frustration, rage, and possible sources of joy. Under this reading, emotions create the background for and give place to the more developed cognitive empathy and perspective-taking required for full-fledged third-person morality and legal institutions (see on this DE WAAL 2006)[14]. The main consequence of such an approach is to significantly extend the degree of cooperative capacities that humans and primates are argued to have in common. If cooperation is based on emotional contagion and not on a complex web of cognitive mental states, it is much more plausible to assume that humans are less a discontinuity in evolution than it may seem at first sight. I do not have an answer to this significant challenge, and I explicitly stated (above, 2.3.2) that the role of social emotion can very well be crucial. Still, I think that this is not a lethal blow to the overall theory. If emotional contagion is at the core of the kind of cooperation that is necessary for legal institutions to exist, it is nevertheless evident that primates do not have the kind of legal institutions and symbolic behavior that humans have. Indeed, this is a point that De Waal himself seems to concede (see above, 2.3.2).

Further, it could be argued that the one provided here is an account of the emergence of norms and social institutions that stresses too much the role of human cooperation and not sufficiently the role of domination, competition, and conflict. As Richard Wrangham conjectures, for example, normative attitudes in humans could have arisen because non-cooperative individuals were executed by coalitions of cooperative ones (the so-called «execution hypothesis»: see WRANGHAM 2019, ch. 7): in this view, cooperation, goodness, tolerance would be nothing else than the outcome of the distinctively human, amazing capacity to organize violence in more elaborated, planned forms—what Wrangham calls the «goodness paradox». As previously mentioned (see above, 2.3.1), however, the presence of hierarchies in human societies is not a counter-example but rather a support to the idea that human institutions are based on social cooperation: cooperation must also be ensured by those who created and maintained the hierarchies, among those who inflicted violence based on complex plans and rituals. The idea that human social institutions require cooperation does not in any way entail that they are inherently peaceful or egalitarian or that they cannot include regulation of violence[15].

[14] An elaborate analysis that argues for a strong connection between emotions and the emergence of norms can also be found in FITTIPALDI 2022.

[15] Wrangham himself acknowledges the crucial role of joint intentionality in his account: see WRANGHAM 2019, ch. 13.

Finally, of course, it is possible to conceive alternative explanations of the emergence of social institutions, particularly if we connect this problem with the rise of normative behavior, a much more explored topic in the literature. Apart from the already-mentioned proposals of De Waal and Wrangham, which insist on social emotions and aggressiveness, respectively, I should mention at least the recent proposals of Jonathan Birch (BIRCH 2021) and Evan Westra and Kristin Andrews (WESTRA & ANDREWS 2022). According to Birch, normative cognition is the evolutionary result of technical cognition, namely, the human capacity to build and use tools. In his view, the competitive advantage for humans in developing the ability to build complex and efficient tools required the evolution of a cognitive capacity to control performance, an affective disposition to react negatively (by way of shame or anger) in case of failure, as well as standardization of procedures. These elements, in turn, set the background for normative behavior. Hence, Birch argues, a sort of technical cooperation, namely, cooperation in developing and teaching technical skills, provided the cognitive toolbox to make normative behavior and social institutions possible. Westra and Andrews, on the other hand, advocate a pluralistic theory of the psychology of normativity: in their view, normativity is an ambiguous concept. They propose to replace the concept of norm, conceived psychologically, with that of a normative regularity, which can be based on different kinds of phenomena, cognitive underpinnings, and evolutionary history. Though Westra and Andrews argue for pluralism by isolating wonderfully different aspects of normative behavior, the most cognitively complex among these aspects seem traceable to human cooperative capabilities.

2.5. *Legal institutions involve certain additional cognitive capacities*

2.5.1. *A concept of law: legal institutions involve authority, sanctions, and validity*

I have so far provided an account of the ontogenesis and phylogenesis of social institutions. As mentioned, within these social institutions, all kinds of institutional facts can happen: facts, entities, or events endowed with a status connected with normative consequences. This characterization is very broad, however, and can include facts about games, religious rituals, social customs, and perhaps also particularly formalized versions of morality. What, then, is the peculiarity of legal facts among social-institutional facts? Is it possible to draw the boundaries of law within this vast domain? A concept of law is needed to do this, and for sure, identifying it is not easy, given that legal philosophers have been working on this problem for centuries. What I will try to do, then, is to provide a minimal concept able to avoid some of the most common pitfalls and counterexamples identified in philosophy of law, with the understanding, however, that assuming this concept as a starting point cannot but be done tentatively, and to a certain extent in a stipulative manner. The reader, then, will eventually find the overall analysis reliable to the extent that he or she will consider this starting point to be safe, and it is necessary to point out that the possibility of defining the essential features of law is a matter of debate in legal theory (for critical approaches see LEITER 2011, SCHAUER 2012; TAMANAHA 2017a; see also GIUDICE 2015).

I propose to define law as a social practice consisting of following a set of formally-valid rules that regulate social behavior through serious social pressure (typically in the form of sanctions) and that constitute the authority to create rules and apply them. This definition—Hartian in spirit—is less demanding than it may seem at first sight. First, one could object that there can be instances of law without any kind of centralized, state-like authority, as in the case of multiple coexisting sources of legal authority in medieval Europe up to the 18th century (see TAMANAHA 2017b, 105 ff.), but this is not inconsistent with the proposed definition. Law is said to organize authority, possibly also a plurality of competing legal authorities, and similarly, even though reference is made here to criteria of validity, it does not entail that these criteria must be unique and supreme. Second, we can imagine a society where law is applied to regulate

disputes but where there is no violation and hence sanctions are not necessary (a "society of angels": see RAZ 1999 [1975], 159 f.; but see HIMMA 2020, ch. 10 for a counter-argument), and this is why primary reference is made in my definition to the application of law and only "typically" to sanctions as a way to apply it[16]. Third, and finally, it could be argued against this definition that law has primarily a moral function, such as that of coordinating free choices in a coherent plan or creating a morally desirable community, and hence that institutions are neither necessary nor sufficient for law to exist: but this view—which we could label as a generic form of non-positivism—would, in any case, require rules to specify the relevant moral ideal and authorities endowed with the task of realizing it. The definition seems to be sufficiently broad to avoid several traditional problems and alternatives that have emerged in the legal-theoretical discussion on the nature of law.

One could wonder at this point whether that definition is too broad, to the point of being overinclusive: you can have rules supported by serious social pressure and authority to create and to apply them in social contexts which are different from law, such as religion, or games, or even private associations (see again, on this, TAMANAHA 2017b, 44 ff.). This, in my view, is not a counterargument to the proposed definition but rather a way of stressing an important fact, namely, that the domain of rituals, religious justification, games, and in general of social organizations are connected, from a historical and anthropological point of view, with that of law. Legal authority originally emerged from a religious background. However, religion necessarily has a transcendent and supernatural objective, and it regulates social life given this objective, which is primary in the sense that you can have completely transcendent religious practices without any kind of regulation of social life. And in the case of games, typically, game-playing practices are performed for fun, and violation of their rules may lead to protest and some kind of normative reaction, which, however, cannot be seen as organized social pressure. Private associations can be seen to have "their own" internal law, and deciding whether this is law only derivatively, namely, only when connected with State's law, is a matter of debate between legal pluralism and statualism. Modern State law typically claims superiority over other kinds of normative arrangements, which, however, does not entail, in my definition, that this is the only kind of law possible.

2.5.2. *Revenge is cognitively ancient, sanctions are not*

Given the definition of law I have assumed, we can now specify the cognitive underpinnings of those aspects that make legal institutions peculiar. One central aspect, as we saw, is serious social pressure, typically through organized sanctions. At a very basic level, punishment finds its root in personal reaction to damage or goal frustration, a reaction that can be found in other animals and that is ancient and deep from a neurological point of view, being based on the emotions of rage and disgust generated by the limbic system (see PINKER 2011, ch. 8). Basically, we have a natural attitude, that we share with primates and other animals, to react aggressively when threatened, and we also share a disposition to be disgusted by certain kinds of behaviour whose specific criteria are certainly cultural, but whose cognitive grounds can be universal (see HAIDT 2012, ch. 7, sec. 5). However, as Richard Wrangham shows, humans are comparatively less aggressive than chimpanzees, for example, at least when reactive aggressiveness is concerned, and the reason could be that reactive aggressiveness is inherently disruptive for social cooperation: so a capacity to plan reaction, rather than react instinctively, evolved as an important trait to maintain social bonds (see WRANGHAM 2019). This seems to be coherent with findings according to which the degree of reaction in humans is strongly and peculiarly

[16] On "characteristic", rather than "essential" features of law see recently POSTEMA 2022, 40.

connected with expectations; namely, it escalates only when a threshold of unexpected unfairness is surpassed, thus showing a tendency to tolerate violation—and to temper punishment—if one could expect it (see DUBREUIL 2010, 23-27).

Humans are still quite animal in formulating judgments about punishment: they may be calculators when it comes to crimes in general and in judging punishments in the abstract, but they are still emotional deontological retributivists when that crime affects them directly (see GREENE 2008), and they also tend to overestimate the damage received and to underestimate the damage done (see SHERGILL et al. 2003). However, perhaps differently from other mammals and also primates, humans show a capacity for indignation when they perceive that a norm is violated even when this violation does not directly affect them: in these cases, the motivation to punish is less strong (see FEHR & FISCHBACHER 2004), but humans show that they can adopt a third-person perspective, namely, to play the role of a third party who is not directly involved in the relationship between an offender and an offended, but who can nevertheless feel to be involved "in the name of the group" (see also above, 2.3.2 on third-person normativity). Of course, the capacity to adopt this kind of third-party perspective is crucial to experience the passage from mere reaction, or even revenge, and what we can intuitively label as a legal coercion or punishment, which also involves a kind of delegation of reaction.

As mentioned (above, 2.3.4), Richard Wrangham put forward a complex and articulated description of how this human tendency to organize sanctions and engage in cooperative, third-party support in punishing even when we are not directly affected may have emerged in the evolutionary history of humanity. According to this reconstruction, in ancient human groups, males who were more able to control their impulses and thus cooperate reacted strongly against males prone to reactive aggressiveness and violence: by way of planning and cooperation—a kind of aggressiveness that Wrangham calls "proactive", which requires strong inhibition of the limbic system on the part of the pre-frontal cortex (see WRANGHAM 2019, ch. 2)—these latter became able to form coalitions to kill the former, and this explains why a cooperative attitude towards punishment, a disposition to delegate sanctions to the group, general attention to group reputation and norm conformity was selected as an adaptive trait in humans (humans basically "auto-domesticated" themselves in this process: see WRANGHAM 2019, ch. 3, 6). This general, evolutionary explanation provides a description of organized sanctions as something disposition for which is not culturally dependent but rather genetically determined, at least in its basic coordinates, and this seems confirmed by studies according to which the propensity to punish wrongdoers, and also the identification of some core crimes such as physical aggression, takings without consent, and deception in exchange is highly cross-cultural (see ROBINSON & KURZBAN 2007, also compare HERMANN et al. 2008 for cross-cultural variations).

Thus, even though reactive aggressiveness and second-person reaction are certainly a core element of the cognitive machinery behind sanctions that we share with other animals, sanctions in the legal sense, as something centralized, delegated, organized, and performed from a third-person perspective involve impulse control, capacity to plan, trust for cooperation, a narrative about group belonging and about the legitimacy of the power which coercion is delegated to, all elements that involve complex cognitive activities that depend on cortical areas of the brain. In this sense, the human disposition to organize sanctions has a twofold cognitive foundation, resulting from dialectics between emotional and impulsive reactions located in the deeper layers of the brain, on the one hand, and complex representations based on its higher layers, on the other hand. It is important for lawyers to be aware of this double cognitive nature when discussing the nature and function of punishment. While the normative question of the role that punishment must serve in our legal system cannot be reduced to the descriptive question of what we think and perceive when processing punishment in our cognition, it seems reasonable to assume that the function of punishment in our social life cannot be detached completely from the cognitive conditions for our thinking about it.

2.5.3. *Authority is not cognitively connected with fear of sanctions but with group belonging*

Authority is a status: hence, it requires status attribution, which involves the complex cognitive machinery we saw above, including a collective, normative symbolization and high-level mind-reading. This means that authority as a core element of law is a completely human phenomenon from the cognitive perspective, requiring a great deal of high-level cortical activities. Apart from symbolism, which is indeed a cognitive precondition of authority, there is another conceptual element of this notion that was described with great analytical clarity by Joseph Raz (see RAZ 1979) and that requires an explanation in cognitive terms: delegation of power, namely, the mechanism by which authoritative pronouncements can become "exclusionary" in the reasoning of human agents, excluding other reasons for the very fact that they come from authority (provided that the authority is perceived to be legitimate). How is this mechanism possible?

Ontogenetically, there are certainly some passive elements involved in the construction of authority: preschool children tend to conflate the notion of obligation, and hence (in legal-theoretical terms) that of a "strong" reason for action, with the idea of an authority's desires (see KALISH & CORNELIUS 2007), paternal and maternal authority being of course, in this case, the paradigmatic examples, but significant cross-cultural variations have been found in the way preschoolers defer to adults' assessments and choices (see HARRIS & CORRIVEAU 2013). In adults, however, respect for authority is connected not so much with mere conformity nor with fear of sanctions but with a narrative for the authority's justification and legitimacy. Hence, the passive aspect of conformity must be complemented with an active aspect regarding the identification with a group and a set of purposes and values (see TYLER 1997, TYLER 2006). Experiments made within the paradigm provided by Stanley Milgram (see MILGRAM 1974, BURGER 2009), in which the experimenter requests subjects to deliver potentially lethal electric shocks on other humans "for the sake of science", show the effects of perception of legitimacy on behavior, and they can be interpreted in terms of identification within a group (see REICHER et al. 2012). Moreover, analyses of the famous "Stanford prison experiment" (see HANEY et al. 1973a, 1973b), in which participants were selected to play the role of prison guards against other participants acting as prisoners, argue that considerations of social identity played a strong role in justifying the impressive escalation of cruelty that guards showed (HASLAM et al. 2019). Hence, in human adults, deference to authority seems to be an essential part of a given social and normative identity—we delegate judgment to authority because we believe it to be a constitutive part of our social community and consequently of what we are. In this sense, Raz's insistence on the conceptual connection between authority, deference, and legitimation seems to be on the right track from a cognitive point of view.

It is important to bear in mind, however, that conformity to authority can also be, at least to a certain extent, a matter of unreflective and automatic habitual behavior, so even the psychology of habits can be relevant to understand this "alienated" aspect of conformity to the law[17]. The reader may recall in this connection the well-known dialectics in legal theory, traceable to Hart's *The Concept of Law*, between Austin's explanation of sovereignty as based on "habits of obedience" and Hart's alternative perspective on authority as based on the internal point of view towards rules (see HART 2012 [1961], ch. 4). This opposition can serve here, rather than simply as a legal-philosophical debate between two views that claim superiority, as a

[17] That of "habit" is a very complex notion, both philosophically and psychologically: see BARANDIAN & DI PAOLO 2014 for a conceptual map, and RAMÍREZ-VIZCAYA & FROESE 2019. secs. 1-3 for useful references. For an interesting perspective about how habits can be connected with social norms from a neurological point of view, see LORINI & MARROSU 2018.

guideline to highlight two aspects that may be complementary in understanding the psychology of legal authority.

Philogenetically, authority and hierarchies were the outcome of an evolution that has been described as distinctively U-shaped, consisting in a peak with high level of dominance based on bullyism on the part of stronger, alpha males in primitive humans closer to apes, low level of dominance in proto-egalitarian bands of hunter-gatherers, and finally, the highest level of dominance in symbolic, normative authority based on a linguistic narrative for its legitimacy in *Homo Sapiens* (see BOEHM, ch. 6). Some authors have conjectured that authority ranking is an elementary form of human relation for all social groups (see FISKE 1991) and that it emerged as an answer to the problem of groups' enlargement: given that, in bigger groups, sanctions could not be consistently applied by the collective, sub-groups were created with "chiefs" or "leaders" as their representatives, who guaranteed for the trustworthiness of the other members of the group but also had the power, delegated by the community, to punish them in case of violation (see DUBREUIL 2010, 164 ff.). Other, less functionalist and more conflictualist readings, such as the already-mentioned one provided by Richard Wrangham (above, 2.3.4, 2.4.2), trace authority simply to a kind of monopoly of violence held by a set of cooperative males over all the other members of the group—what Wrangham, tracing back to Ernest Gellner, calls «tyranny of the cousins» (see WRANGHAM 2019, ch. 8, 10). One could also conjecture, drawing from Birch's skill-centered approach (above, 2.3.4), that normative authority emerged from epistemic authority over technical skills. Alternative explanations are possible, and perhaps all of them may capture an element of truth. For sure, authority in the full-fledged human sense emerged by virtue of its organizing role. It was grounded on symbolic meta-representations, and it was backed both by a capacity to sanction deviation and an appeal to the superior epistemic and practical skills of those entrusted with power. This is shown clearly by the fact that legal authority was originally based on magical and cosmological grounds, which provided a story about the actual, superior concrete powers of those who held normative power: Marc Bloch's well-known description of the "thaumaturge kings" (*Les Rois thaumaturges*) in the Middle Ages is a vivid and wonderfully described example of this ancient, conceptual connection between normative powers and factual powers (a kind of metaphoric transformation: see ROVERSI 2016, 251-3 on this).

2.5.4. *Validity is a matter of categorization*

Law is in large part a matter of formal properties: directives must come from a certain source to be "legal", not any norm can count as law. A fundamental element of any legal reasoning consists of normative qualification, namely, in the subsumption of an individual act or fact under a general and abstract notion. From the cognitive point of view, this process, by which, for example, we come to say that this agreement counts as a valid contract for the purposes of civil law or that a given behavior counts as sexual harassment under criminal law, is not different from ordinary classification of things or events under a given category: this thing is a cat, that thing is a bird, this object is a biscuit and not a cake. Hence, cognitive theories about categorization play a crucial role in the domain of law: of course, these theories are relevant in general for any kind of epistemic activity, but in the legal domain, serious and immediate practical consequences can follow from different categorizations of the same thing.

Categorization is a huge field of research for contemporary cognitive psychology, and several different conceptions of it are available[18]. The so-called "Classical Theory of Concepts", which

[18] See MARGOLIS & LAURENCE 1999, 2019 for an introduction to the topic; MARGOLIS & LAURENCE 2015 for recent developments; see KALISH 2015 on normative concepts.

has been dominant in philosophy at least until the first half of the 20th century, is very close to the standard legal picture: concepts, in this view, are constituted by a set of necessary and sufficient conditions for their application, specified by rules in the form of definitions. This is a kind of top-down approach, in which concepts are defined in general terms as sort of platonic entities and then applied to concrete things: against this view, several other theories have emerged which showed that human categorization very likely works the other way around, namely, as a bottom-up rather than top-down process. This is the case, for example, with prototype theories (see ROSCH & MERVIS 1975, ROSCH 1978, LAKOFF 1987), according to which conceptual categorization is made by assessing degrees of similarity (or even metaphorical connections: see LAKOFF & JOHNSON 1980) between the categorized entity and some prototypical entities which are taken to be standard instances of the class; or with exemplar-based views (see MEDIN & SHAFFER 1978, WILLS et al. 2015) in which concepts are represented simply through specific instances. Another view that is radically different from the standard, classic conception is that put forward by embodied cognition theories (see BARSALOU 1999, 2008), according to which categorization consists of a re-activation of sensory and motor neural patterns that are activated when interacting with an instance of the category: in this perspective, categorization is not a kind of subsumption of the concrete under the general, nor an assessment of similarity between representations of concrete things, but rather a re-enactment of an experience of sensory and motor interaction, and this raises the problem—particularly relevant for the legal domain, where many crucial concepts are abstract—of how this experience can be sensory and interactive, rather than purely linguistic when dealing with abstract concepts (see BORGHI & BINKOFSKI 2014).

Several legal theorists have studied the effect of prototype theory on the categorization of legal acts and transactions (see PASSERINI GLAZEL 2005) and on legal interpretation in general (see ZEIFERT 2022, 2023); others have studied conceptual metaphor theory in connection with legal reasoning (see WINTER 2001, JOHNSON 2007, SARRA 2010, WOJTCZAK 2017), with the development of legal institutions (see ROVERSI 2016), or also with specific reference to single concepts (such as the concept of "standing" in U.S. constitutional law: see WINTER 1988) or specific legal domains (such as copyright law: LARSSON 2017). Recently, an experimental study has been performed within the paradigm of embodied cognition to highlight some differences between legal conceptualizations in experts and non-experts (ROVERSI et al. 2022), and embodied cognition has also been connected with the problem of the ontology of legal concepts (see JAKUBIEC 2021). Moreover, experimental jurisprudence studies show that legal officials can categorize ordinary concepts differently depending on the tools they use for assessing semantic content, whether dictionaries or linguistic corpora (see TOBIA 2020).

Should we assume that a single theory of categorization can account for all cognitive processes involved in legal reasoning? Probably not: at first sight, any subsumption of a fact under a legal concept defined by a provision seems to involve a top-down, criterion-based mechanism, whereas application of a precedent or filling a gap in the legal system seems to require a kind of analogical, prototypical reasoning from the bottom-up, but in reality, both kinds of reasoning involve elements taken from both a top-down and bottom-up approach. Perhaps the best way to describe legal categorization in cognitive terms is by way of a kind of dialectics between rule-dependent criteria and prototypical exemplars, a mechanism by which we both construe a prototype of the possible application of a provision, by reasoning about the definitions set forth in that provision, and then we assess the similarity of the case at hand with that rule-dependent prototype. In this sense, recent hybrid categorization models influenced by both rules and exemplars (see THIBAUT et al. 2018) seem best suited to account for legal, normative qualifications.

Moreover, in law categorization is almost never a "pure" cognitive mechanism but is also mediated by consequentialist reasoning about the practical outcomes of a given solution: as Hart

famously showed in his discussion of mechanical jurisprudence, that of an unreflective and automatic categorization is not an ideal that we should cherish if we want to avoid unreasonable consequences, because any judgment about how to subsume a possible case under a legal concept should be balanced against the practical purpose of the provision in which that concept is included (see HART 2012 [1961], ch. 7). This kind of balancing between conventional categories and purpose seems to be something that humans learn to perform quite early: young children tend to assume that categories in general are natural kinds, but it also seems that already since such an early stage they can also understand that some categories are conventional and can be construed in different ways depending on the goal one is aiming to achieve (see KALISH 1998). No doubt this is a crucial cognitive capacity to "think like a lawyer", using Frederick Schauer's well-known phrase (see SCHAUER 2009).

3. *Arguments for a theory of the cognitive pathologies of legal institutions*

My overview of the cognitive foundations of legal institutions and legal facts is thus complete. To summarize, legal reality is possible only when agents are capable of:

1) joint intention and joint commitment;
2) adoption of a third-personal normative perspective based on a sense of group belonging;
3) mind-reading and perspective-taking;
4) symbolic behavior and status attribution;
5) control of reactive impulses and delegation of proactive aggressiveness;
6) conceptual categorization.

Although some of these cognitive capacities—joint intention, some degree of mind-reading, inhibition of reactive impulses, and perhaps of third-person normativity—can be attributed to other animals, particularly primates, the combination of these and their most complex elements are typically human. This is why law is a distinctively human phenomenon: only we humans have the combination of cognitive features that make it possible. Other animals may show a strong degree of social behavior, even be better than us at behaving as a collective entity, but they cannot have the law.

One could say at this point that this conclusion is not striking at all—we know intuitively that other animals do not have courts, tribunals, and legislators—and that the analysis provided in this paper does nothing else than provide evidence for an obvious conclusion. One could also say that this research may have some relevance from a philosophical point of view but not from a legal point of view: after all, what difference can the cognitive grounds of legal institutions make when it comes to discussing cases in courts or to advising people about their enforceable rights or duties under an actual, positive legal system? Lawyers focus on the content of conventional norms, the "rules of the game", not the capacities of the players' minds.

As said at the beginning (above, 1), I think this kind of inquiry is very relevant for legal philosophy, particularly the traditional, ontological inquiry into the nature of law and legal practices. How can we understand what law is if not by understanding how we can create it, given that law is essentially created by the human mind? In this sense, any lawyer interested in this traditional and millenary question should consider this inquiry seriously: this does mean that he or she should accept my conclusion, of course, but at least consider "the cognitive foundations of law" as a relevant legal-philosophical topic. To be honest, if this paper sufficed to convince the reader about the necessity of an interdisciplinary approach to the ontological problem in legal theory, I would already have reached my main objective. Perhaps, however, I can give some elements to suggest that even a practical lawyer should be open to this kind of research.

To put it straight: if legal institutions and legal facts are based on the cognitive capacities of humans, then if these capacities are impaired and weakened, the legal domain gets weakened to the point of losing relevance for humans. And, given that legal facts are the kind of facts practical lawyers are experts of—the kind of facts that they must be able to describe accurately to earn their pay—if these facts gradually become less vivid and relevant for humans because their cognitive capacities to understand and support them are weakened and impaired, then this can become a problem, even for a practically-oriented lawyer. This is not surprising because ontological problems always lay the grounds for any other discussion: if these discussions' underlying ontological grounds are stable, they can go on as if ontology was irrelevant, but when those grounds change, everything else that is built on it changes. "But how can ontology change?" One may ask. "Isn't metaphysics the kind of thing that is supposed to remain stable and necessary?" Let me reply using metaphysical terminology in a somewhat mouthful way: Not the laws of grounding law may change, but the grounding base of law. What I mean is that even if one identifies the kind of human attitudes and capacities necessary for legal rules, institutions, and systems to exist, nothing rules out the possibility that those attitudes and capacities get weakened and even go out of existence.

What I have in mind here is similar to what Hart called a "pathology" of a legal system. In Chapter 6 of the *Concept of Law* (see HART 2012 [1961], 117 ff.), Hart describes his theory of the foundations of law and presents in detail his concept of legal validity based on the well-known "rule of recognition", which consists of a social rule and hence of a kind of behavioral attitude of legal officials. Also, in the same chapter, Hart explains at length how the existence of a complex legal system requires that some social facts obtain, namely, at least that officials, for the most part, adopt an internal point of view toward the rule of recognition and that ordinary people, for the most part, obey primary legal rules of obligation. In case these facts do not obtain, or in case some ambiguities arise on the fact that they obtain, Hart says, a situation emerges that can be labeled as "pathological" for law: «a breakdown in the complex congruent practice which is referred to when we make the external statement of fact that a legal system exists. There is here a partial failure of what is presupposed whenever, from within the particular system, we make internal statements of law. Such a breakdown may be the product of different disturbing factors» (HART 2012 [1961], 117 f.). I submit that, just as in Hart a change in the sociological factors that underlie the legal system can represent a pathology for it, so can a change, weakening, or impairment in the cognitive capacities that make legal institutions possible. In these cases, we could talk about "cognitive pathologies" of law, legal systems, and legal institutions.

What could these "cognitive pathologies" be? Of course, it depends on whether the analysis provided above is reliable. Still, if it is, it provides an interesting and somewhat illuminating guide about what we should nurture and protect as lawyers, apart from normative rights, rules, and policies. A cognitive pathology of law could be a widespread incapacity on the part of members of the legal community to understand that in supporting the law— their legal community, or even the international or global legal community, depending on context—they are involved in a collective endeavor, and that they are so involved for a reason that relates to what they are, to their normative identity as persons. Another cognitive pathology of law could be a reduced ability to understand the symbolic nature of rituals, objects, and roles: the fact that some objects, persons, and behaviors can *mean* much more than what they concretely are and that they do so mean because we collectively support that meaning. Finally, an incapacity to control our reactive impulses, delegate reactions at a collective level, and take the perspective of others is certainly pathological for law. As we have seen, our understanding of normative frameworks crucially depends on our ability to see what others think, to see what they believe and intend to do, and to understand that they can act on beliefs that we consider false but they take to be true. This requires a capacity to control the impulse to make our perspective

completely dominant in our mind, focus on the social dimension as an integral part of our individual reasoning, and of course, postpone the immediate pleasure of reaction and revenge.

4. *Conclusion… with a normative question*

In this work, I have provided an analysis of the cognitive underpinnings for the existence of legal facts and legal institutions. I have argued that, for legal facts to obtain, there must necessarily be humans capable of joint intention, joint commitment, capacity to understand the group narrative of the legal community, symbolic thinking and thus status-attribution, mind-reading and perspective-taking, self-control and inhibition of reactive aggression. I have described how these capacities emerge in human children and how they may have emerged in the evolution of the genus *Homo*, from *Homo erectus* to *Homo sapiens*: thus, of the ontogenesis and phylogenesis of legal institutions. Finally, I have concluded that if these cognitive capacities are necessary for legal institutions to exist, a weakening or impairment of these cognitive capacities can undermine their existence and that a theory of the cognitive pathologies of law is, therefore, possible and useful for lawyers.

These are mostly descriptive questions, but they introduce a normative one: Should we avoid, as a collective, nurturing the cognitive pathologies of law? Of course, this depends on how much we value our legal framework and, more in general, law as a kind of social organization. If we assume that these things have a value—and lawyers, for the most part, make this assumption—then there are some statements framed as a "should" that seem to follow from the analysis I have provided, statements that hold for lawyers first, and more in general for all people who find legal institutions in their community to be valuable.

First, given that an incapacity for joint intentions, commitment, and perception of the group narrative is a cognitive pathology of legal institutions, lawyers should work to protect and cultivate the sense of a "we" behind a legal community: A purely formalistic attitude, that reduces the law to a set of normative structures, procedures, and rules that are meant to be treated scientifically, so to say, or technically, could thus in the long run weaken, or even impair a perception that is crucial for the law to exist. Such a formalistic attitude should at least be complemented with a narrative about why law, and its formal procedures, should be accepted as an integral part of our collective and individual normative identity.

Second, given that symbolic behavior and status attribution is crucial for legal institutions, lawyers should avoid, and even fight against, any kind of reductionistic attitude about symbols, because the legal domain is, in part, the outcome of a hypostatization of symbols. Symbols are there for a reason, and this reason relates to a group narrative, which again can be the constitutional narrative of our legal community or even, depending on context, of a broader, international, and global community. In any case, a purely instrumental attitude, according to which all legal meanings are eventually reduced to a practical outcome in terms of loss and gains, could turn out to be pathological for law in a cognitive sense, namely, because it could elicit a mode of thinking that in the long run threatens the very existence of legal institutions. Moreover, lawyers should remember that law is made of meanings, hence of language, and thus should support all the collective endeavors that protect linguistic culture, high linguistic capacities, as well as capacities for abstract and symbolic thinking in their legal community: conversely, they should resist and problematize all social changes that may impair these capacities, for example by gradually replacing writing and speaking with pictorial, image-oriented modes of thinking. Mere visual perception is insufficient to convey symbolic legal meanings: from a merely visual perspective, banknotes and contracts are only pieces of paper, and a Parliament is nothing but a building or a bunch of people. Thinking in terms of words, and not simply in terms of images, is a cognitive ability that is

essential for the existence of law, an ability that we should nurture rather than dismiss if we want to keep legal institutions strong.

Finally, given that mind-reading, perspective-taking, and inhibition of aggressive, reactive impulses is essential for legal institutions, lawyers should fight against any social and economic tendency to nurture reactive impulses and disseminate an image of self-control as a kind of weakness or incapacity to enjoy life. In this sense, «limbic capitalism», conceived as «a technologically advanced but socially regressive business system in which global industries [...] encourage excessive consumption and addiction» (COURTWRIGHT 2019, 6), can also be interpreted—and perhaps not so intuitively—as a threat for the very existence of law and legal institutions.

These normative conclusions are certainly tentative, speculative, and they highly depend on the reliability of the theory I have provided. The general argument, however, seems to me sound: if indeed it is possible to frame a theory of the cognitive foundations of law and legal institutions, and if we consider these last to be valuable, then we should protect the cognitive abilities that are necessary for them to exist. In a recent and wonderful book, Gerald Postema argued that an essential part of the ideal of the Rule of Law is people's fidelity to it, namely,

> «a general willingness to submit to law's governance and to give deference to its limits and requirements [...]. It is not enough that people believe in the rule of law and see it as "a necessary and proper aspect of their society." Most crucially, the rule of law needs, in addition, the active engagement of officials and citizens in holding each other to their responsibilities under the law» (see POSTEMA 2022, 66).

Understanding the Rule of Law is a complex cognitive phenomenon because it requires us to make sense of the highly symbolic, abstract, and intangible idea that Laws—and not dangerous persons able to threaten people by way of punishment—are Sovereign. If Postema is right, and if the analysis of the cognitive foundation of legal institutions that I have provided is accurate, at least in its essentials, and, finally, if we consider the Rule of Law to be a value, then it seems that the battle for fidelity to the law must be fought not simply on a political and social level. It must be fought, at a deeper level, in people's minds.

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