

LAW AND NEUROSCIENCE

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Abstract: Localizing the brain correlates related to moral judgments, using neuroimage techniques (and also studies on brain lesions), seems to be, without doubt, one of the big events in the history of the normative social sciences. The best neuroscientific model of normative judgment available today establishes that the ethical-cerebral law operator counts on, in his neural evaluative-affective systems, a permanent presence of requirements, obligations and strategies, with a "should be" that incorporates internally rational and emotional reasons, that are constitutively integrated in all the activities at the practical, theoretical and normal levels of every process of exercising the law.

Localizing the brain correlates related to moral judgments, using neuroimage techniques (and also studies on brain lesions), seems to be, without doubt, one of the big events in the history of the normative social sciences. Indeed as neuroscience allows an ever more sophisticated understanding of the brain, the possible moral, juridical and social implications of these advances in the knowledge of our sophisticated ontogenetic cognitive program begin to be seriously considered under a much more empirical light and with respect for scientific methods. The object would be, in principle, the intention to clarify the location of high cognitive

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functions understood as *Homo sapiens* apomorphisms of the capacity to elaborate moral judgments.

But there is no doubt that, from the evidence obtained, we can go much further. These advances, however, in addition to their extraordinary scientific relevance, also carry important philosophical, juridical and moral connotations, particularly regarding the understanding of the superior cognitive processes related to ethical juridical judgments, which are understood as functional states of brain processes. It starts from the conviction that, to understand this essential part of the ethical juridical universe, it is necessary to go inside the brain, to the brain substrates responsible for our moral judgment and whose genesis and functioning should then be reintegrated in the evolutionary history of our species.

And although cognitive neuroscience research into moral judgments and normative judgment in law and in justice is still at a very early stage, its use seems to be undoubted. With one condition: that in an area as delicate as that of neuroscientific investigation, results should be considered with great caution. Because science, that certainly will serve to ensure more knowledge about human nature, will not be able to guarantee, by itself, moral values as they can be a greater respect to human life, equality and liberty.

This is perhaps the reason why questions and philosophic and moral doubts abound in the crossover area between neuroscience and law: we are in the case of moral judgment or other similar perceptive phenomena, before much more unitary and discreet cognitive processes, or are they only phenomena that emerged from many psychological mechanisms articulated in time and space? Are these dead processes or a series of processes that have some aspect of universal character, in

the sense that they have some common nuclear component capable of determining in each individual his particular valorization of what is or is not just? Will it be possible some day to describe this process or processes (or their key components) in more objective terms? Should their origin be sought in some idiosyncratic pattern of neuroactivity that contains at least some identifiable time sequences shared by all the individuals? Unlike what seems to occur in the neural base of the artistic faculties (Changeux, 1994; Vigouroux, 1992) , there are some neural areas whose specific intervention is in a certain way critical and universal in the mark of the widely distributed activity that a very probably subjugates – as in all the and superior cognitive program services (Vigouroux, 1992) – to the phenomenon of the moral experience? How much do the heredity and learning history of each individual contribute to starting or activating of this supposed functional pattern? Can the modern neuroimage techniques be useful not only to locate the brain seat of such an activity trait, if only, but also, to identify the differential implication of certain distributed circuits?

Especially regarding the juridical phenomenon the problem of localizing the brain correlates that dictate the sense of justice raises the following questions: what is the relationship between the results of neuroscientific investigation on moral and juridical cognition and the theoretical perspectives of the law? At what point can it be linked confidently and so decisively so that cognitive neuroscience questions the results of juridical comprehension and exercise? How can a neuroscientific model of normative judgment in law and in Justice offer powerful reasons that could come to account for the subjacent falsity to the common conceptions of human psychology (and rationality)? How much does this neuroscientific perspective have to do with

the current theoretical and methodological edifice of juridical science? Or, as we are, how will it change our conception about Man regarding the cause and purpose of law and, consequently regarding the task of the jurist-interpreter to give “hermeneutic life” to positive law?

Well, one of the most common fetishes of current juridical science, inherited from the traditional concept of the juridical method that aims to rescue the values of juridical order, truth and security, is to ensure that the judges should limit themselves to applying to individual cases the general norms to cases dictated by the legislator, following a formal process of logical and subjective deduction. It is a merely descriptive operation, cognoscitive of a previously established and “reproductive” norm of the legislator’s will (who has the exclusive responsibilities of the axiological and normative intentions established in the laws). Such an operation, starting from the supposition of emotional neutrality, of the rationality and objectivity of the interpreter, reduces the judge to a mere technician in applying the mechanisms of the law, as the responsible for the search (or simple knowledge) of his will, as the description, that can be true or false, of its prior and pre-existing authentic significance to the interpretive activity itself.

Indeed, all the hermeneutic construction and the unit itself of the realization of the law elaborated by the contemporary theories assume, nowadays, the dominant way of explanation of the theory of rational choice, constructing a rational image from what seems to be, in itself, irrational. Its fundamental concept is that, above all else, the judges are essentially rational and objective in their value judgments about the justice of the decision: they examine as well as they can the facts pertinent to the case and ponder, always neutrally and without emotion, the probable results that

would follow from each of the potential choices. The preferred (“just”) option is that the best fits the criteria of rationality and objectivity by which it was generated.

The indicated analysis process contains, in essence, an operation incompatible with the knowledge accrued by neuroscience. That is constructing a model of extreme rationality (of the judge’s decision) from something that is configured essentially as an activity with accentuated irrational components.

But this does not seem to be an adequate image of how the brain functions when we formulate moral judgments about the just or unjust, such as the acceptance of the undoubted presence of illogical elements and, in general, from the values in juridical reasoning meaning that, nowadays, they already do not consider acceptable or legitimate the fact of continuing considering the hermeneutic task as an operation or set of operations ruled exclusively by deductive or cognitive syllogism. Indeed, the human mind seems to be full of traits and defects in design that cover up our biological inheritance regarding full objectivity and cognitive rationality.

The most influential theorists of positive law from the last century (especially Kelsen, but also Hart, with the necessary backgrounds) do not offer us a theory of application of the law, but rather limit themselves to considering that where there is no mechanical application or subjection we should speak discretion in a strong sense, in other words, of the creative activity of the law, understanding this to be an act of discretionary will in which reason appears in a merely instrumental condition. For Kelsen, for example, every act of interpretation is of voluntary, and not cognitive, nature. From this one understands that the active “application” of the law consists in reality of an authentic decision, a constructive act and not merely a declarative act, similarly to what happens with the acts of the legislator.

Furthermore, not only are the majority of judicial decisions taken with relative speed, in complex scenarios and with partial and incomplete information and even under conditions of uncertainty - as the judges - in the process of exercising the law, do not stop being human beings imbued with every ethical concern, with certain values, preferences and moral intuitions, so that it does not seem legitimate or reasonable to interpose, in the application of the law, an impassable barrier between the desired objectivity and the emotional subjectivity of the interpreter. The process of exercise the law on the part of the judge implies, in the last analysis, a task that can be considered constructive and emotional, personal and creative in a certain sense, although not absolutely free or without links to the judge.

Indeed, a single solution cannot be spoken of, a single correct response, meaning precisely that who applies the law can choose among various possible solutions, all of them correct, in other words, all of them derivable from the norms that integrate the juridical system and following the procedure established in it. And if it is thus, if several correct solutions or responses are possible for the same juridical problem, the final choice, necessarily unique, is then presented as not derived exclusively from the system, circumstance that immediately raises at least three basic questions: of epistemological order, of axiological-political order and of subjective-individual order of the jurist interpreter.

And it is this finding that makes not only the notion of habitual rationality in juridical science the objective of drastic revisions, but the same idea that juridical science is founded on objectivity, neutrality and rationality of the operator of the law has been assaulted recently from all directions. Soon, starting from some tendencies in philosophy and in philosophy of law, but also, and maybe more

incisively and strongly, on the part of the cognitive scientists, of the philosophers of the mind and the advances from cognitive neuroscience. And with the result that, although when some notion of rationality in the process of exercising the law seem undoubtful (to accept the idea that intentionality is not required a task previously condemned to failure), the process of value derivation is not of a basically neutral, objective or rational nature.

If it is certain that moral choice cannot exist without reason (individual preferences and instrumental reason), it is no less certain that “intuition” is the characteristic human range of emotions that produces the proposals, goals, objectives, wants, needs, desires, fears, empathy, aversions and the ability to feel other people’s pain and suffering. We formulate moral judgments on the just and unjust not only because we are capable of reason (as expressed in the game theory and the juridical interpretation theory) but, rather, because we are equipped with certain innate moral intuitions and emotional stimuli that characterize human sensitivity and allow us to connect potentially with all other human beings.

Definitely, due to the fact that the evolutionary pressure did not increase (in an “optimal” way) human rationality, any construction of a juridical theory of exercising the law should imply a re-dimensioning of the psycho-biological understanding of the access to reason itself. In particular, it should start by rejecting of any conception about rationality objectivity and neutrality caused by ignorance of the functioning of our brain, especially those related to the brain correlates that intervene in the cognitive process of forming moral judgments to decide between the just or the unjust.

In other words, if the last factor of individualization of the response or conclusion of the juridical reasoning does not proceed from the juridical system (although it should be compatible with it), it seems obvious that the personal convictions of the operator of the law must take precedence. And because for hermeneutics the subject-object model is not viable in the human science ambience, the subjectivity present in every act of understanding, interpretation and juridical application should be approached by analysis of the brain processes of the law operator. Paraphrasing the warning by Philip Tobias (1997) regarding language, judgement is a brain activity.

Thus the ethical juridical judgment based not only on reasoning but also on emotions and moral sentiments produced by the brain cannot be considered as totally independent from the constitution and functioning of this organ that, in a first analyses, seems not to have a single and differentiated head centers for moral cognition. The best neuroscientific model of normative judgment available today establishes that the ethical-cerebral law operator counts on, in his neural evaluative-affective systems, a permanent presence of requirements, obligations and strategies, with a "should be" that incorporates internally rational and emotional reasons, that are constitutively integrated in all the activities at the practical, theoretical and normal levels of every process of exercising the law.

Indeed, the neuroscientific model of normative judgment in the law and justice seems to suggest that juridical reasoning implies a wide recruiting and use of different systems of mental skills (related both to rational and emotional thought) and various information sources (Goodenough & Prehn, 2005). It is the coordinated and integrated activity of various brain structures that makes human moral conduct

possible, that is, that moral judgment integrates the frontal regions of the brain with other centers, in a processes that implies emotion and intuition as fundamental components. And further, that each one of these brain functions intervenes in a wide diversity of cognitive operations, some related with social intelligence and others not (Green et alii 2001 and 2002; Moll et alii, 2002 and 2003).

It seems beyond doubt the fact that the investigations in cognitive neuroscience of the moral, and a very especially of the normative judgment in Law and Justice, may provide an enormous and rich contribution to the detailed understanding of the internal functioning of the human brain in the act of judging – of forming moral judgments about the just and the unjust. Neuroscience may subminister the necessary evidence about the nature of the brain zones activated and the brain stimuli implied in the decision process, on the degree of personal involvement of the judges and the cultural conditioning in each concrete case, and also on the limits of rationality and the degree of influence of the emotions and the human sentiments in the formulation and conception about the “best decision”.

Without forgetting of course, other distinctive aspects of the nature of human behavior at the time of deciding on the sense of concrete justice and the existence of a moral universe determined by the biological nature of our cognitive (neuronal) architecture. After all it is the brain that allows us to have a moral sense, that gives us the necessary skills to live in society and solve certain social conflicts and that serves as a base for the most sophisticated philosophical discussions and reflections on rights, duties, injustice and morality.

So the neuroscientific investigation of moral and juridical cognition has, in a certain way, revolutionized our understanding about the nature of thought and

human behavior, with profound consequences that may affect the domain itself of the juridical phenomenon. And as there seems to be no human institution more fundamental than the juridical norm and, in the field of scientific process, nothing more fascinating than the study of the brain, the union as these two elements (norm/brain) ends up representing a naturally fascinating and stimulating combination, since the juridical norm (its interpretation and application) and the behavior that seeks to regulate it are both products of mental processes.

It is also precipitate to think that the first neuroscientific investigations about moral and normative judgment already open the door to a better humanity. I fear that this would be to simplify things to extremes. Thus as ingenious creationism can condemn human beings to a permanent minority age, thus also an incomplete neuroscientific model can lead us to conceive incorrect illusions. Because it is not absolutely certain that more and better knowledge of the neuronal conditioners of humans will automatically give us a more dignified human life. If only things were so simple!

To think that the brain/moral/law relationship is everything can lead us to forget that the measure of the law, the idea in essence of the law, is human whose nature results not only from a very complicated mix of genes and neurons but also from experiences, values, learning and influences from our equally complicated social and cultural life.

The mystery of man consists precisely in warning that each person is a secret to himself. Neuroscience will help us to understand a series of elements that form the mystery, but they will not completely eliminate it.

Thus, assuming the mystery will always remain, science may lead us to understand better that the search for an adequate methodological criterion to understand and realize the law can be considered, above all, as the archeology of these structures and brain correlates related to the processing of ethical juridical information.

It could even help us to understand that the hermetic activity is formulated precisely from an anthropological position and triggers the phenomenal energy of human action; that only from the point of view of the human being and from his nature can the judge represent the sense and the function of the law as a unit in a vital, ethical and cultural context. This context establishes that human beings live the representations and meanings designed for corporation, dialogue and argumentation and processed in their brain structures. That in their “exist with” and situated on a certain historical existential horizon, members of humanity continuously complain about others, whose changeability is accepted, that justifies their choices bringing the reasons that subject and motivate them.

But although we still do not know much about the functioning of our brain, converting this sea of speculations into certainly a task waiting for science, in the exact sense that a deeper understanding of the ultimate causes (rooted in our nature) of human moral and juridical behavior may be very useful to ascertain which are the limits and the conditions of possibility of ethics and the law in the context of contemporary societies.

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