Legal Positivism and Evolutionary Psychology: Can Darwin Do Something for Positivist Approaches to the Study of Law?

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Law and the Evolutionary Turn: The Relevance of Evolutionary Psychology for Legal Positivism

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Abstract
In the present essay, I consider the relevance of Evolutionary Psychology (EP) for legal positivism, addressing the two main traditions in the legal positivist family: (1) The tradition I identify with the works of H.L.A. Hart and Hans Kelsen and characterize as “normativist”, as it tries to describe law as a purely or, at least, as an essentially normative phenomenon while remaining true to the ideal of scientific objectivity and value-neutrality. (2) The tradition I broadly refer to as “legal realism”, which equates law with adjudication and “legal science” with the task of explaining judicial behaviour. On the assumption that the claims of EP are correct, I try to establish whether EP could and should inform the legal theories that have developed within these two traditions. My conclusions warrant a degree of scepticism, although I am somewhat less sceptical about possible interconnections between EP and the legal realist approach than I am about the Hartian-Kelsenian brand of legal positivism. What motivates my scepticism is the nature of the normativist enterprise, how normativists construct their theories and delineate their subject-matter. The truth is EP has little to say about the questions that are of interest to legal positivists of that persuasion. The situation is slightly different for the legal realist tradition and the theories that try to study judicial behaviour in causal terms. The question, however, is whether EP can help generate new testable hypotheses about judicial decision-making.

Keywords: Evolutionary Psychology; Legal Positivism; Normativism; Legal Realism; Adjudication; Law and Evolutionary Biology;
1 Introduction

After the Critical Legal Studies and the Law and Economics movement “Law and Evolutionary Biology” seems well on its way to become the new rage in American law schools and the wave could well spill over to European law faculties.¹ That evolutionary theory will eventually revolutionize legal thinking may not be as obvious as the most enthusiastic advocates of the new creed would like to believe. But the movement has already spawned a rapidly expanding literature, which suggests that lawyers and legal academics may have something useful to learn from Darwin and his twenty-first century disciples. Skimming over the last batch of journal articles and monographs reveals that insofar as scholars regard evolutionary biology as a source of potential insights for the law it is primarily as a source of insights for law-making or for the normative discipline of legal philosophy. The relevance of evolutionary thinking for law is in answering questions such as ‘How can evolutionary biology help us design better, more efficient legal rules?’² or ‘What values and political philosophy can the law effectively realize


² See e.g. O. Jones, Time-Shifted Rationality….
given what evolution says about human nature? As those questions suggest, the concept of law implicit in the work of those who purport to explore the interconnections between law and evolutionary theory is essentially normative. Evolutionary biology is relevant to law because lawyers want to make the law more efficient and effective. Whether and to what extent evolutionary insights could also inform positivist theories of law and positivist approaches to the study of legal systems, by contrast, is a question that has not attracted much attention. On this score, law differs from economics and other social sciences, where the findings and methods of post-Darwinian evolutionary theory have been mainly deployed not as tools to improve policy-making but rather as a basis to revisit the theoretical foundations of disciplines conceived in primarily positive terms.

In the present essay I consider the relevance for legal positivism not of the whole edifice of evolutionary biology but of one its offshoots, namely Evolutionary Psychology (EP). In my

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3 See e.g. W. Zaluski, Evolutionary Theory…, p. 79 (arguing that the view of human nature emerging from evolutionary theory should determine to a certain degree our choice of political philosophy).

4 Wojciech Zaluski touches on the issue when he notes that “legal positivism […] does not postulate an interdisciplinary approach to law” (p. 132). In any case, he sees his own work as articulating a new theoretical current alongside legal positivism, Kelsen’s pure theory of law, natural law, legal hermeneutics, legal realism, law and economics and the Critical Legal Studies movement rather than as a source of insights for these various strands in legal philosophy (p. 130-137).

analysis I address the two main traditions in the legal positivist family: (1) The tradition I identify with the works of H.L.A. Hart and Hans Kelsen and call the “normativist” tradition, as it tries to describe law as a purely or, at least, as an essentially normative phenomenon while remaining true to the ideal of scientific objectivity and value-neutrality. (2) The tradition I broadly refer to as “legal realism”, which equates law with adjudication and “legal science” with the task of explaining judicial behaviour. On the assumption that the claims of EP are correct, I try to establish whether EP could and should inform the legal theories that have developed within these two traditions. My conclusions warrant a degree of scepticism, although I am somewhat less sceptical about possible interconnections between EP and the legal realist approach than I am about the Hartian-Kelsenian brand of legal positivism. What motivates my scepticism is the nature of the normativist enterprise, how normativists construct their theories and delineate their subject-matter. The truth is EP has little to say about the questions that are of interest to legal positivists of that persuasion. The situation is slightly different for the legal realist tradition and the theories that try to study judicial behaviour in causal terms. The question, however, is whether EP can help generate new testable hypotheses about judicial decision-making.

The essay is organized as follows. First, I provide a short outline of EP and briefly examine the rationales for the notion that what evolutionary psychologists say about the origins of human behaviour is of relevance for the social sciences in general. Next, I examine possible interconnections between EP and the legal positivist theories of law developed by H.L.A Hart and Hans Kelsen. Finally, I assess the extent to which insights from EP may enrich legal realist accounts of judicial decision-making.

2 What Is Evolutionary Biology and Why Should Social Scientists Bother?

2.1 Outline of Evolutionary Psychology

EP is a biologically informed approach to the study of human behaviour. It rests on a foundation of core premises. First, EP proposes that many, if not most, of the psychological mechanisms that drive human behaviour are adaptations. That is, biological dispositions that – just as our
four-chambered heart, our vertebrate eye, our liver or our immune system – evolved through natural selection as a response to features of the environment of our Stone Age ancestors – called by evolutionary psychologists the “Environment of Evolutionary Adaptedness” (EEA). In other words, the psychological mechanisms that underlie the behaviour of the modern man were selected for by evolution because individuals equipped with those mechanisms had better chances of survival in the EEA and, therefore, better chances of passing on their genes. Second, another central tenet of EP is the modularity of the human mind. The neural circuits of our brains are domain-specific, problem-solving mechanisms designed by evolution to solve the concrete survival challenges faced by our hunter-gatherer ancestors in the savannahs of the Pleistocene era. To borrow the conventional metaphor, the brain is a “Swiss army knife”. Input data are not drawn to a central, general-purpose computing unit. Instead they are processed by specialized, decentralized modules – sort of micro-computers – prior to the choice of a particular course of action. Evolutionary psychologists have hypothesized the existence of language acquisition modules as well that of incest-avoidance, cheater-detection or foraging mechanisms – to mention but a few. Third, the adaptation and massive modularity theses entail a third thesis, namely that the human mind is not a blank slate on which culture and experience can imprint any idea with equal ease but an operating system with an in-built circuitry that is already present at birth.6

To get a flavour of the kind of story evolutionary psychologists tell about the origins of human behaviour, consider the example of filicide by step-parents. The fact that an infant is hundred times more likely to be killed in a household with one step-parent than in a household where she has her two biological parents can be explained, evolutionary psychologists argue, by

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an evolved psychological mechanism called “discriminative parental solicitude”. In the EEA, a parent who diverted resources (such as food, protection from predators etc.) from his or her step-children to his/her biological children enhanced the survival prospect of the latter. Hence hominids more committed to their biological offspring than to their step-children had better chances of passing on their genes. Meanwhile, those equally dedicated to their biological and step-children were less likely to be selected for by evolution as the children carrying their genes benefited from a comparatively lower level of parental solicitude. Evolutionary psychologists assume that we are born with a propensity to favour kin over non-kin and that a specific module enables us to discern characteristics that were good indicators of genetic relatedness in the EEA (e.g. phenotypic similarities, frequency of interaction, physical proximity).  

EP draws on general evolutionary theory, borrowing the theory of natural selection to explicate the origins of fitness-enhancing psychological traits and the theory of sexual selection to explain the existence of adaptations that, while hindering survival, increased the mating opportunities of our Stone Age ancestors. EP also builds on middle-level evolutionary theories that emerged from the work of Robert Trivers in the 1970s. Trivers developed three very important theories, which underlie all evolutionary accounts of human behaviour. First, the theory of reciprocal altruism proposed that a certain form of altruism towards non-kin – Tit-for-Tat altruism or “delayed mutualism” as it is sometimes called – is itself a product of evolution. Individuals willing to cooperate could gain advantages from specialization and achieve economies of scale giving them a competitive edge over their more individualistic cousins in the survival battle. So, when there was a sufficient probability that the beneficiary of the altruistic act would subsequently reciprocate, altruism towards non-kin could function as a fitness-


8 Intermediate or middle-level theories are fully compatible but not strictly derivable from general evolutionary theory as they make additional assumptions. For a discussion of the levels of analysis in EP see D. Buss, *Evolutionary Psychology: A New Paradigm*…, p. 2-5.
enhancing mechanism. Second, Trivers’ theory of parental investment asserted that the sex making the largest investment in lactation, nurturing and protecting offspring will tend to be both more discriminating in selecting mates and less inclined to promiscuity, whereas the sex that invest less in offspring will generally be less discriminating in picking partners, more promiscuous and more likely to engage in competitive contest with members of the same sex for access to the other sex. The claim that these behavioural differences constitute evolved strategies designed to increase the odds of the members of each sex to transmit their genes to the next generation provides, of course, the basis for the view, common among evolutionary psychologists, that gender differences have biological underpinnings. Third, with his theory of parent-offspring conflict, Trivers hypothesized that conflicts over resources could arise between parents and their offspring in spite of their genetic relatedness because a parent and his/her children are 50% genetically related but also 50% genetically different.

EP is only one of four distinct, partly overlapping and, to a certain extent, competing research programmes drawing on evolutionary assumptions to explain human behaviour. The other three are socio-biology, behavioural ecology and gene-culture co-evolution. Of the three, EP is arguably closest to socio-biology, to which it owes much. So much that some scholars see EP as nothing more than socio-biology repackaged, with the change of name primarily meant to deflect the controversies in which socio-biology had been mired since the 1970s as some socio-biologists appeared to give a normative interpretation to the results of their research. However, EP and socio-biology seem to differ in focus and orientation. For one thing, socio-biology focuses on behaviour, whereas EP focuses on the psychological mechanisms that produce behaviour. While socio-biology is perhaps best characterized as an attempt to bring evolutionary insights to bear on sociology, EP is best understood as an attempt to bring, first and foremost, the discipline of psychology into the evolutionary picture. This difference in focus is the reason why socio-biologists have little to say about the modularity of the mind, a central concern to

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evolutionary psychologists. Moreover, socio-biology seems to regard our psychological
dispositions as sufficiently flexible to allow us to behave as fitness-maximizers in advanced
post-industrial mass societies just our ancestors did in the Stone Age. EP, by contrast,
emphasizes the possible mismatch between our adaptations, designed to solve the problems
encountered by our hunter-gatherer forefathers in the savannas of the Pleistocene, and our
current environment, where these problems have either disappeared or been replaced by
challenges of a wholly different nature. The adaptive-lag hypothesis has been invoked, for
example, to argue that we have an innate aversion to spiders and snakes but not to automobiles,
even though the latter represent, in our current environment a far greater threat to our life and,
therefore, to our ability to pass on our genes.\textsuperscript{11} Similar to socio-biology, the focus of
behavioural ecology is on human behaviour rather than on its hidden psychological springs. The
question that behavioural ecology seeks to investigate is how organisms, including humans,
adjust their behaviour to respond to changes in their environment. As in socio-biology,
behaviour is presumed to be equally adaptive, i.e. fitness-enhancing, today as it was in the Stone
Age. Contrary to EP, changes in the environment are thought to result not in maladaptation but
in changes in behavioural strategy to maximize fitness in the new setting. Finally, gene-culture
co-evolution (also known as “dual inheritance theory”) differs from EP in its emphasis on
culture as an additional variable in the equation of evolution. Gene-culture co-evolutionists
believe that culture can affect the course of evolution and that biological and cultural factors
influence each other to determine the direction of evolutionary processes. While agreeing that
evolution may sometimes produce maladaptedness, the proponents of gene-culture co-evolution
and evolutionary psychologists diverge on the need to appeal to culture to explain evolution and
the origins of our behavioural traits. Gene-culture co-evolutionists believe it indispensable.
Evolutionary psychologists, by contrast, view culture as a mere by-product of genetic selection.

No discussion of EP can fail to note that both the scientific merits of EP as a research
programme and the empirical validity of the (often lofty) claims made by its promoters remain

\textsuperscript{11} See A. Öhman and S. Mineka, \textit{Fears, Phobia and Preparedness: Toward an Evolved Module of Fear
intensely disputed. Philosophers have described EP as “a deeply flawed enterprise” And EP has been the target of heavy criticism from the ranks of mainstream evolutionists. Richard Lewontin and Steven Jay Gould had also dismissed the adaptationist approach on which it is founded as a tissue of “just-so stories”. Nonetheless, EP has made a big splash. Whether about gender differences, mating habits, rape, pornography, altruism, morality, family relationships or language, evolutionary psychologists have revived the age-old debate about nature vs. nurture and captured the public imagination with their promethean account of the making of human nature. Some evolutionary psychologists such as Steven Pinker have turned themselves into


media-stars (at least in the United States). And EP has attracted the attention of many a social scientist in quest of interdisciplinary insights.

2.2 The Rationale for the Relevance of Evolutionary Psychology for the Social Sciences

As controversial as EP might be, I will not take issue with its scientific merits here. Instead I will assume – for the sake of argument, as it were – that what EP says about human behaviour and the human mind is correct. However, alone this assumption does not guarantee that EP should be relevant for the social sciences, much less for positivist theories of law. As Brian Leiter and Michael Weisberg rightly point out, a sequential, developmental account of human psychology – that is a theory that primarily focuses on the genesis of human psychological traits – will be relevant for social sciences only to the extent that it helps researchers identify the degree of plasticity of human behaviour in its current environment. To put it differently, an account of the genesis of human psychological traits will be of interest to social scientists only to the extent that it helps identify sticky behaviour – that is, human conducts and tendencies that are less sensitive to institutions, incentives or to legal and social norms. Moreover, the significance of the resulting account of human nature for the social sciences will depend on its thickness. Obviously, a thin theory of human nature – in which the human mind is not quite a blank slate but remains, by and large, the product of social nurture – will have less far-reaching implications for the social sciences. On the other hand, a thick theory characterizing human nature as essentially non plastic should have wide consequences for any theory concerned with human behaviour.

These are the two rationales for the relevance of EP for the social sciences. Note, however, that both are problematic. For one thing, the story EP tells us about human behaviour is not a deterministic one. The adaptations underlying our psychological dispositions may be

16 M. Weisberg and B. Leiter, Why Evolutionary Biology Is (So Far) Irrelevant to Legal Regulation, Law and Philosophy 2010, vol. 31, p. 31-74
encoded in our genes. But our behaviour is not solely, or even never exclusively, a function of our genetically embedded mechanisms. It is also function of the environment we inhabit. The equation of behaviour is not: genes = behaviour. Rather it is: genes + environment = behaviour. If the environment is held constant, then behavioural variations among individuals might be explained by variations in their genetic make-up.\(^{17}\) But when the genetic dispositions dealt with are common to all members of the human race – in other words when the genetics are held constant – behavioural differences among individuals might nonetheless result as a consequence of variations in the environment of the individuals in question. How sensitive to environmental variations human behaviour is is, of course, decisive for the thickness rationale. But, for all the talk about “maladaptation” and “the adaptive-lag hypothesis”, the truth is that the work of evolutionary psychologists does not always allow us to systematically map and predict the range of behavioural change from the domain of environmental variations. To take one example, even if we accept the explanation of evolutionary psychologists for why step-parents are more likely to commit infanticide than genetic parents, it remains unclear whether and to what extent filicide by step-parents may be reduced or increased by changes in education, criminal law, cultural norms etc… Will a thirty year prison sentence do more to bring down the number of infanticides than a twenty-five year one? Would an advertisement campaign directed at step-parents have any impact? In brief, the contours of the picture of human nature offered by EP are still fuzzy in many places. Furthermore, given the methods used by evolutionary psychologists to test their hypotheses, it is not at all clear that their research can serve to identify sticky behaviour. To prove their point, evolutionary psychologists typically start from a phenotypic trait that is already known to exist and, from there, go on to work out its evolutionary origins. That is, the facts used to substantiate the theory are not facts from the Pleistocene era but observations about how human beings behave today. To borrow the words

\(^{17}\) This is basically the central hypothesis of the discipline known as “behavioural genetics”. While consonant with this tenet of behavioural genetics, EP, however, focuses primarily on the universally heritable psychological traits that everyone possesses by virtue of being human, see J. Tooby and L. Cosmides, *The Conceptual Foundations...*, p. 39.
of two proponents of the relevance of EP for the social sciences, we have good reasons to believe that a character of humans constitutes an evolved feature of our species when observation has revealed that it is “widely if not universally distributed among very different cultures”.\(^\text{18}\) Now, there is nothing intrinsically wrong about this approach to hypothesis-testing. Evolutionary accounts of human behaviour and traits also proceed that way in mainstream biology. However, to help social scientists in identifying non-plastic behaviour, it would seem that evolutionary psychologists should proceed the other way around. Unless the theory rests on evidence from the context of adaptation, the Pleistocene, about which relatively little is known,\(^\text{19}\) it cannot really help us discover things we did not already know about human behaviour. The past must explain the present. Not the present the past. The problem that this poses for those who seek to make EP relevant for the social sciences becomes even more obvious once we realize that the observations on which evolutionary psychologists rely to shore up their claims are commonly conducted using what are, in fact, standard methods in psychology and other social sciences: questionnaire, experiments, statistical analysis etc..\(^\text{20}\) Thus some social scientists may regard EP as adding an unnecessary layer of explanation to their theories. If we know that humans tend to behave in a certain way because of a particular psychological mechanism, what is the need to speculate on the evolutionary origins of the said mechanism?\(^\text{21}\) Others may simply draw the conclusion that social sciences have potentially more to contribute to EP than the other way around.


\(^{19}\) Especially considering that behaviour – unlike bones, skulls and stones – leaves few archaeological traces. See, however, the attempt of evolutionary psychologists to rebut this view J. Tooby and L. Cosmides, *The Conceptual Foundations…*, p. 23-25.


\(^{21}\) Many proponents of EP seem to argue that a theory explaining both the distal and proximate causes of a phenomenon is always preferable to a theory identifying only proximate causes, see e.g. J. Tooby and L. Cosmides, *The Conceptual Foundations…*, p. 25 (arguing that the evolutionary, adaptationist assumption, even if not amenable to falsification, provides at least a principled source from which to derive hypotheses). See also K. Smith, C. Larimer, L. Littvay and J. Hibbing, *Evolutionary Theory and Political Leadership: Why Certain People Do Not Trust Decision Makers*, Journal of Politics 2007, vol. 69, 283-
In any case, these remarks suggest that the extent to which EP can inform the work of social scientists is by no means a settled issue and will not be until more research is done to refine and substantiate its claims or to disprove them entirely. We need to keep this in mind when we move on to address the relevance of EP to the study of law and legal systems.

3 The Relevance of Evolutionary Psychology for Positivist Theories that Reconstruct Law as a Purely or Essentially Normative Phenomenon

Common to all positivist theories of law is the thesis that the existence and content of law ultimately depend on social facts and not on the moral or ethical soundness of legal commands. As John Austin put it: “The existence of law is one thing; its merit and demerit another”. 22

What distinguishes the “normativist” approach from other theories within the broader positivist family is that, while subscribing to both the ontological law-as-facts thesis and the Weberian epistemic ideal of value-free social science, it views law as a purely or, at least, essentially normative phenomenon. In the work of Kelsen and the Wiener Schule (Kelsen’s followers and like-minded fellow legal theorists), these commitments together with the normativity assumption were part of a broader project to lay the study of law, “legal science”, on sound epistemic and ontological foundations while avoiding two forms of reductionism: the Charybdis of reducing law to morality, and the Scylla of reducing law to sociology. Avoiding these two pitfalls, legal science would stand as an autonomous discipline, distinct from political philosophy, ethics, sociology and political science. In accordance with that objective, law was

284 (note 2) (acknowledging the infalsifiable character of evolutionary theories of ultimate causes but assuming that they are nonetheless better than theories that only address proximate causes). This assumption seems to expose EP and proponents of its application in the social sciences to the charge that their approach violates the principle of parsimony, a fundamental principle of theory choice (also known as Okham’s Razor) in the philosophy of science, see M. Weisberg and B. Leiter, Why Evolutionary Biology…. See also F. De Waal, The Inevitability of Evolutionary Psychology and the Limitations of Adaptationism: Lessons From the Other Primates, International Journal of Comparative Psychology 2001, vol. 14, p. 27.

characterized as a system of norms hierarchically arranged (with superordinate norms establishing the validity of subordinate ones), backed by coercion (sanctions) and globally efficacious (obeyed more often than not). The job of legal scholars was to describe the basic structure and the relations among the norms of this particular species of normative systems. The focus of legal science thus conceived was on what makes law distinct from other normative systems such as morality, etiquette and religion. Kelsen saw the “Eigengesetzlichkeit des Rechts” in the distinct way in which legal norms relate to each other, institutionalize their own change and organize their application.

Less ambitious, Hart did not purport to develop a fully-fledged epistemology for legal scholarship nor to constitute legal science as an autonomous academic field, describing his own work as an “exercise in descriptive sociology”. His concept of law, however, resembles Kelsen’s in many respects. Legal theorists often stress Hart’s distinct characterization of the law’s ultimate foundations (“rule of recognition” vs. “Grundnorm”). Yet, on the whole, their theories largely converge in their characterization of law as multi-layered system of norms backed by coercion and commanding a minimum of social obedience.

Whatever theoretical divergences exist between the Hartian and Kelsenian programmes, their approach – precisely because it focuses on law’s normativity – does not easily lend itself to interdisciplinary perspectives. The account of law they set out is, by definition, anthropologically spare. Although legal norms are there to regulate human behaviour, the focus

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26 For a systematic comparison of their theoretical positions see M. Pawlik, Die Reine Rechtslehre und die Rechtstheorie H.L.A. Harts, Duncker & Humblot, Berlin 1993.
is on the legal norms themselves, not on the actual behaviour of the legal subjects. This focus on norms and the normativity of law is reflected in the questions Kelsen and Hart spent most of their academic life grappling with: how the law constitutes itself; how law is distinguished from non-law; how new legal systems come to replace earlier ones; how the indeterminacy of legal norms affects law-makers and judges, and so on.

At first blush, it would seem that, since legal positivists all accept that law is ultimately a social phenomenon, any positive theory of law should be somehow open to interdisciplinary dialogue, especially with a line of research that attempts to shed light on the basic psychological mechanisms that shape social interactions. However, a quick review of the ontological and methodological assumptions underlying normativist approach shows why there are few potential intersections between EP and normativist jurisprudence.

3.1 Effectiveness as a Constitutive Attribute of Law

On the face of things, effectiveness would seem to be a potential entry door for behavioural insights into normativist thinking. In Kelsen’s *Pure Theory of Law*, effectiveness (Wirksamkeit) is elevated to a defining characteristic of law. For a normative system to qualify as legal system it must be socially effective, that is compliance must be the rule and not the exception. Using a slightly different terminology, Hart, in *The Concept of Law*, speaks of “habit of obedience” rather than effectiveness, but largely to the same purpose. A system of primary and secondary rules is and will remain a legal order only if its addressees habitually render it obedience.

27 H. Kelsen, *The Pure Theory*…., p. 208
29 There is a difference, though, in Hart’s treatment of the effectiveness issue that results from his distinction between the internal and external point of view. The external point of view is when a legal subject obeys the law only out of fear of punishment. The internal point of view is when she obeys not out of fear of coercion but because she accepts the system as it is. In “healthy societies”, Hart predicts, acceptance will be wide – that is many citizens will look at the law from the internal point of view. But as long as state officials accept the legal system from the internal point of view it may remain effective even in the face of widespread rejection on the part of its addressees. (See H. Hart, *The Concept of Law*…, p.
All the same, one would search in vain the works of the two legal theorists for a fully-fledged answer to the motivational question, the motives that drive people to comply with the commands of the law. They suggest that these motives are highly variegated and vary widely across individuals and societies. Some obey the law because they think it is “the right thing to do”, others out of fear of the consequences, still others out of indifference or inertia, etc.\textsuperscript{30} But beyond these superficial observations they do not offer anything approaching a general theory of legal obedience. Happy to leave the issue to sociologists and the sociology of law, Kelsen merely observes in passing that legal systems which do not prohibit certain conducts – such as stealing or murder – are unlikely to endure for very long. Even pirate communities, Kelsen argues, need some kind of coercively enforced order.\textsuperscript{31} But why such conducts have to be regulated by law rather than by (positive) morality or other social conventions is not a question that he even bothers to consider. To be fair, Hart has a bit more to say about the social preconditions of law’s effectiveness. His analysis starts out from the observation that survival is an undisputed end of mankind:

“an overwhelming majority of men wish to live, even at the cost of hideous misery.”\textsuperscript{32}

Therefore, in order to be viable, a legal system must ensure the survival of at least some members of the community. From this premise, Hart derives a list of items – he somewhat misleadingly calls “a minimum content of natural law” – that, by natural necessity, every legal system must protect or guarantee:

\textsuperscript{111-113.}) Following Hart’s analysis, a group of Mamluks, for example, may be in position to impose a legal system upon an otherwise hostile population and the system may remain effective as long as the Mamluks accept it from the internal point of view. As Hart appears to conceptualize acceptance from the internal point of view as a mental state, his approach to the question of effectiveness seems to presuppose, in contradistinction to Kelsen’s, some kind of psychological inquiry. In order to establish whether a legal system is effective, the observer must determine whether its high officials – the Mamluks in our example – accept it from the internal point of view. On this point see Pawlik, \textit{Die Reine Rechtslehre}….., p. 184-188.

\textsuperscript{30} H. Hart, \textit{The Concept}….., p. 112.

\textsuperscript{31} H. Kelsen, \textit{The Pure Theory}….., p. 49.

\textsuperscript{32} H. Hart, \textit{The Concept}….., p. 190.
(1) Because of the vulnerability of the human body, the law must restrict the free use of violence;
(2) Given the scarcity of resources, the law must protect some form of property;
(3) Since individuals are not self-sufficient, the law need to allow for the exchange of goods etc…
(4) Moreover, because humans possess only “limited understanding and strength of will”, sanctions of some sort must be attached to legal commands.\(^{33}\)

There is no gainsaying that these anthropological claims imply a universalistic conception of human nature. It is hard to see how to interpret Hart’s argument but as the contention that members of the human race have an in-born propensity to engage in violent behaviour, to appropriate the fruits of others’ labour and to free-ride partners in economic exchanges. It is to counter these natural proclivities that norms are needed. And if sanctions are needed too, it is because we are dealing with relatively non-plastic behavioural traits. This would suggest that, after all, EP does have something to contribute to the normativist approach. Drawing that conclusion is probably wrong, however. Indeed, insights from EP may well be used to revisit claims and assumptions about the necessity to prohibit certain actions to ensure the viability of a legal order, but the truth is that the assumptions in question are not essential to the kind of theoretical enterprise pursued by the likes of Hart and Kelsen. For Kelsen just as for Hart, effectiveness and obedience are not really part of their object of inquiry. Rather they are criteria that serve to identify this object of inquiry. Once it is clear that a normative system is effective and qualifies as a legal system, effectiveness ceases to be a concern for the kind of formal/conceptual inquiry they pursue.

### 3.2 Kant’s Law and the Domain of Norms: “Ought Implies Can”

Even so, one could invoke Kant’s law that “ought implies can”\(^{34}\) to argue that legal positivists cannot fully ignore the teachings of evolutionary accounts of human behaviour. Indeed, to study

law as a normative phenomenon appears to make sense only on the assumption that legal rules have or, at least, could have some effect on the behaviour of human beings. If rules cannot be obeyed or disobeyed, it would make little sense to have sanctions attached to them or even to have them in the first place. Nor would it make much sense to study them as norms regulating human behaviour. So the argument would be that legal positivists, even if they want to keep on studying law as a purely normative phenomenon, should at least make sure that the legal “ought” is within the realm of the logically and physically possible.35

In normativist thought Kant’s law has not been problematized as some might think it should have been. One reason is that legal systems rarely feature completely impossible regulations, prohibiting, say, pedestrians from walking to the moon or scientists to travel back in time (at least, until the day science makes it possible). This helps understand why EP cannot really spur legal positivists to devote more attention to the Kant’s law conundrum. EP does not really reintroduce the Kant’s law conundrum, for no evolutionary psychologist has ever argued, let alone proved, that a behavioural trait hitherto thought to be sensitive to legal incentives and disincentives is in fact thoroughly non-plastic. Admittedly, EP would reintroduce the Kant’s law conundrum if it propounded a deterministic account of the role of genetically encoded behavioural dispositions in shaping the conduct of human beings. But, as noted above, evolutionary psychologists have made it clear that they reject this kind of deterministic view of human nature.

As previously said, the main potential source of interdisciplinary insights from EP lies in its promise to offer a precise measure of the degree of plasticity of human behaviour – that is, a precise measure of how sensitive it is to environmental variations. But even if EP already

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offered such precise measure, it would still be irrelevant to the Hartian and Kelsenian approaches. Surely laws often fail the expectations of their framers. And when they do it is not always unreasonable to put it down to a failure to adequately make for the relative lack of plasticity of the behaviour in question. Nonetheless, legislation, however bad from a moral, economic, or political perspective, does not cease for that sole reason to be legislation in the eyes of the normativist scholar. Because the penalty imposed on car drivers is too small, a traffic regulation may fail to reduce excessive speed and to make roads safer. To the extent that most drivers do indeed get fined, however, the regulation will still be deemed effective from the vantage-point of legal positivism. What is more, even if completely ineffective, it will still be regarded as valid law as long as the legal system as a whole remains effective. And if the entire legal system collapses and ceases to be effective, the Hartian or Kelsenian scholar will simply move on to study the next one, regardless of what evolutionary psychologists may be able to say about the causes of this collapse.

3.3 Legal Norms as Linguistic Entities

Legal norms are linguistic entities and, arguably, the very existence of law presupposes the possibility of linguistic communication. Legal authorities must be able to articulate their commands in a language susceptible of being understood by their addressees. There cannot be any hope that a legal system will be effective if its addressees are unable to interpret its commands. Nor is a science of law likely to fare very well if there is no method to uncover the meaning of the language in which legal norms are enunciated. Thus, since the nature of meaning and language are central both to the law normatively conceived and to the normativist project,

36 On this issue, however, Kelsen modified his position between the first and the second edition of the Pure Theory of Law. In the first, he posited, as Hart would later on, that effectiveness can only be assessed at the system level, whereas, in the second edition, he held that an ineffective norm could not be regarded as valid, regardless of the effectiveness of the legal system as whole. See M. Pawlik, Die Reine Rechtslehre…, p. 170-172.
there might seem to be some connections or overlap with the interest of evolutionary psychologists for language and the language instinct.\(^{37}\)

Don’t believe it. In fact, the interest of legal theorists for linguistics is of a wholly different nature than that of evolutionary psychologists. Evolutionary psychologists are concerned with our innate ability to learn languages, whereas lawyers and legal theorists, whether positivist or not, are primarily concerned with the referential function of language, how language serves to refer to the extra-linguistic world. Admittedly an account of the semantics and pragmatics of natural languages – the aspects of linguistics of primary interest to legal theorists – should be broadly consonant with our knowledge about the inborn neurological circuitry that allows us to learn a language in the first place and to process linguistic data to understand and produce meaningful discourse.\(^{38}\) Beyond that, however, a theory purporting to explain the referential dimension of language need not be fully conversant with the details of this circuitry.\(^{39}\)

3.4 And the Origins of Law?

In light of the foregoing analysis, making EP relevant for this brand of legal positivism seems to be a lost cause. EP has little to say about the feature of social reality that normativist theories pick out for study. Still, there is perhaps one area where the two fields could be brought together, namely in investigating the historical and evolutionary question of when and how law first came into existence. In trying to answer this research question, EP will not be used to revisit or to challenge the methodological and ontological foundations of the normativist project. Instead, the point is to use the ontology as well as the definitions and analytical tools provided by normativist jurisprudence to speculate on the basis of evolutionary insights about

\(^{37}\) See S. Pinker, The Language Instinct…


the origins of law. Wojciech Zaluski attempts to do just that in a book trying to marry legal philosophy with evolutionary theory, where he uses Hart’s ontology of law to discuss the emergence of law in primitive, stateless societies and the transition to non-primitive law.\textsuperscript{40} As Zaluski’s work suggests, legal theorists and legal historians may use evolutionary insights and EP as a kind of epistemology, i.e. as a method to approximate when the first legal systems were brought into existence and what content they may have had.

4 Evolutionary Psychology and the Legal Realist Approach: A Darwinian Perspective on Judicial Behaviour?

Indubitably, EP holds out better prospects of interdisciplinary insights for legal realism, the other main theoretical tradition in the legal positivist family.

“Legal Realism” is a label that has been attached to the work of various scholars and groups of scholars, although most prominently to the work of Scandinavian and American academic lawyers who came to be known as, respectively, Scandinavian and American Legal Realists. While Scandinavian Legal Realism is all but dead\textsuperscript{41}, there are still a few modern-day scholars around who claim the label\textsuperscript{42} or acknowledge some parentage between their theoretical approach and the positions of American Legal Realists such as Karl Llewellyn, Max Radin, and Felix Cohen. What is more, there is a flourishing literature coming under the various labels of “judicial politics”, “law and politics” or “empirical legal studies” that follows in the same

\textsuperscript{40} W. Zaluski, \textit{Evolutionary Theory and Legal Philosophy…}, p. 60-78.

\textsuperscript{41} It died together with the philosophical doctrines of logical positivism upon which it was founded. For a time it was thought that chapter seven of Hart’s \textit{Concept of Law} had also demolished American Legal Realism. Hart, however, seems to have conflated the two, attributing American Legal Realists the rulescepticism of their Scandinavian counterparts, see B. Leiter, \textit{Rethinking Legal Realism: Toward a Naturalized Jurisprudence}, Texas Law Review 1997, vol. 76, p. 267-315.

tradition and can be viewed as a “New Legal Realism” trying to complete, through large-scale statistical studies, the research programme of the old.\textsuperscript{43} The central concern of legal realist theories of all stripes is judicial decision-making and its causal determinants. What distinguishes the legal realist approach from the normativist theories developed by Hart, Kelsen and the followers is that the latter are theories of law in general, whereas legal realist theories are theories of adjudication. Legal realists are not interested in the relationship among legal norms \textit{per se}. To the extent that they’re interested in the relationship between judicial decisions and other legal norms, this interest is only indirect: it is because legal norms – such as the plain meaning of statutory provisions or precedents – may be part of the judges’ decision-making calculus. In short, legal realist theories purport to identify causal relations between judicial outcomes, the dependent variable, and whatever factor is taken as explanatory variable – public support, political fragmentation, the ideological preferences of the judges, what they ate for breakfast (a suggestion famously attributed to Jerome Frank), etc….\textsuperscript{44}

Thus characterized the legal realist approach raises the same general questions about the determinants of human behaviour encountered in sociology, economics and political science. What is the potential contribution of EP in answering those questions? In discussing the implications of EP for the social sciences, evolutionary psychologists have made remarkably bold – not to say immodest – claims. EP is meant to supply “the necessary connection between evolutionary biology and the complex, irreducible social phenomena studied by anthropologists, sociologists, economists and historians”\textsuperscript{45} and to provide the basis to unite the social sciences with the natural sciences into a single framework, no less.\textsuperscript{46} Moreover, not content to wait for


social scientists to engage with their findings, evolutionary psychologists have confronted their work and theories head-on. While chastising social scientists for their failure to take biology and evolution seriously, they’ve taken issue in particular with what they perceive to be the “Standard Social Science Model” – the postulate that the human mind is blank slate or *tabula rasa.* In the charge brought by evolutionary psychologists, feminists, sociologists and anthropologists have featured as prominent targets. But economists and political scientists have not been spared the wrath of the evolutionary psychologists’ whip either.

Beyond the nature vs. nurture debate, EP seems to have potential implications for a number of key methodological issues in the social sciences. One follows from the hypothesis, central to EP, that the human brain is designed more to maximize the replication of our genes than our interests. If correct, the hypothesis would seem to call into question the methodological individualism that has become the dominant paradigm in many disciplines – most notably economics and (Anglophone) political science – and forms an implicit assumption in most theories of judicial behaviour. If our genes rather than our interests are in the driving seat, EP would seem to call for a form of methodological infra-individualism in which social phenomena are explained as ultimately resulting not from the actions of individuals but from the interaction of their genes with the environment. An account of human behaviour along those lines would in many respects resembles the sort of explanatory schema found in epidemiology, where explanations of infectious epidemic and pandemic commonly involve infra-individual entities.

Studies considering the heritability of party identification, the genetic basis of variations in

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49 L. Cosmides and J. Tooby, *Better than Rational*…
levels of political turnout, the connection of genetics to vote choice, or the genetically inherited, neural basis of representative democracy\textsuperscript{53}, already appear in political science journals.\textsuperscript{54}

In similar fashion, EP, along with research in the neurosciences, seems to challenge the fundamental tenets of rational choice theory, a theoretical paradigm that inform much of modern economics but also many an account of judicial behaviour. In short, rational choice theory attempts to explain human behaviour by positing (1) that human agents are able to rank their tastes and preferences in transitive fashion and (2) act so as to maximize those preferences. This implies that human agents act in fully conscious and purposeful manner. It also implies that human beings are able to perform complex cost-benefit analyses and to compare a broad range of states of affairs and strategy profiles before selecting a course of action. These assumptions do not sit easily with the views espoused by evolutionary psychologists. First, the cost-benefit analysis human agents are assumed to perform in rational choice models seems to require a kind of brain architecture incompatible with the massive modularity hypothesis. Rational choice presupposes a super-computer-like brain in which information is centralized to evaluate the consequences of multiple strategy profiles on various states of affairs. By contrast, according to EP, the architecture of the human brain is not that of a super-computer but that of a Swiss-army knife, with specialized modules designed to process information in a decentralized manner. Second, EP insist that much of what goes on in our brains is unconscious, which suggests that human behaviour cannot be entirely purposeful. Thus, as conscious desires may conflict with behavioural dispositions at the lower cellular-level, assuming that individuals have a single preference structure, as rational choice theorists do, looks questionable.\textsuperscript{55}

Now, coming to adjudication and judicial decision-making, it is obvious that not all of EP speaks to the topic of judicial behaviour. To take an example, the inclusive fitness

\textsuperscript{54} See also K. Smith et al., \textit{Evolutionary Theory and Political Leadership}….. See also R. Oxley et al., \textit{Political Attitudes Vary with Physiological Traits}, Science 2008, vol. 321, p. 1667-1670.
\textsuperscript{55} J. Alford and J. Hibbing, \textit{Biology and Rational Choice},
hypothesis – the tendency of human beings to be more altruistic towards their kin – is unlikely to explain much of what judges do. Judges are seldom called on to judge their kin. The same could be said of the most widely popularized claims of EP about the evolutionary origins of our disproportionate fear of snakes and spiders, of morning sickness in pregnant women, gender differences in mate selection or our innate capacity to learn languages. Nevertheless, some aspects of EP do seem to be relevant for the study of adjudication. To that extent, EP may serve both to reinterpret pre-existing explanations and to generate new hypotheses about the determinants of judicial behaviour. Given the relative imprecision of the field’s measurement tools and procedures, however, assessing the empirical validity of new hypotheses grounded in EP may prove difficult.

4.1 Reinterpreting Existing Hypotheses About Judicial Behaviour

In trying to explain why Justices Hugo Black and William O. Douglas had been so generous in construing the rights provisions enshrined in the Constitution, the American constitutionalist Alexander Bickel seemed to put it down to their libido. He observed, quoting a remark by Turreau about President Jefferson, “there is something voluptuous in meaning well”.\textsuperscript{56} The fact that Justice Douglas was a noted womanizer did perhaps something to inspire the idea. But there might be a way, albeit a very speculative one, of reinterpreting Bickel’s hypothesis in light of evolutionary theory. Indeed, one of the explanations advanced for the occurrence – though admittedly rare – of pure altruism is that it is a fitness and higher-status indicator resulting from sexual selection. In brief, males performing purely altruistic acts had better chances of passing on their genes because being altruistic was attractive to the other sex and help them to attract more sexual partners. In any case, this would suggest that the civil rights activism of certain judges (particularly certain male judges) is ultimately about carnal knowledge.

More seriously, taking a closer look at the literature on judicial behaviour, we do see a range of potential interconnections between theories of judicial decision-making and EP. Judge,

and law and economics guru Richard Posner provides a laundry list of preferences he believes
determine judicial behaviour: ideology, power, prestige, reputation, leisure time, income, and so
on.\(^5^7\) Also, a variety of institutional variables are thought to constrain judges in pursuing those
preferences. Among the most extensively studied are the collegial structure of judicial bodies,
the level of public support enjoyed by the judiciary or the degree of fragmentation affecting the
political system in which courts operate.\(^5^8\) There might be an evolutionary psychological
interpretation for why judges respond to these factors. As regards the internal, collegial dynamic
of judicial bodies, for example, one could perhaps argue that the willingness of judges to move
away from their ideological ideal point in the collegial game is made possible by their innate
disposition for tit-for-tat reciprocity. Similarly, there might be an evolutionary psychological
explanation for why judges pursue prestige, power, reputation, income and so on. There might
also be an evolutionary psychological interpretation (generalized reciprocity towards in-group
members would be one) for the finding that judges on international tribunals display a home
country bias in their decisions.\(^5^9\)

Gender difference in judging is another area where research findings can be
reinterpreted in the light of EP. Empirical studies have found statistically significant differences
between male and female judges in sex discrimination and sexual assault cases.\(^6^0\) An analysis of
the sentencing outcomes of the International Criminal Tribunal for the Former Yugoslavia
shows that female judges sentence men who assault women more severely than their male

Do Judges Maximize? (The Same Thing Everyone Else Does)*, Supreme Court Economic Review 2008,

\(^5^8\) See A. Dyevre, *Unifying the Field of Comparative Judicial Politics*….

\(^5^9\) See E. Voeten, *The Impartiality of International Judges: Evidence from the European Court of Human
Rights*, American Political Science Review 2008, vol. 102, p. 417-433 ; E. Posner and M. De Figueredo,

\(^6^0\) K. Boyd, L. Epstein and A. Martin, *Untangling the Causal Effects of Sex on Judging*, 2nd Annual
colleagues. In India, the perception that male judges were excessively mild with male rapists led the legislature to pass a law mandating that all rape cases be heard by female judges. These results and policies are consonant with the hypothesis advanced by evolutionary psychologists that rape is an evolved adaptation in men. Because by raping a woman a man increased his chances of passing on his genes, the argument goes, rapists were favoured by evolution – the rapist genes were naturally selected for. The rape adaptation hypothesis entails that men and women have different attitudes towards sex in general and coerced sex in particular. It is easy to see how the hypothesis can be deployed to explain gender differences in judicial behaviour in sexual assault cases: variations in sentencing outcomes between male and female judges simply reflect differences in the response of our male and female ancestors to evolutionary pressures.

4.2 Can Evolutionary Psychology Help Generate New Testable Hypotheses About Judging?

The reinterpretation of existing hypotheses is one thing. But the real litmus test to assess the possible contribution of EP to our knowledge of judicial behaviour is whether it can generate new testable hypotheses.

Generating new hypotheses might well turn out to be significantly easier than generating new testable hypotheses. Take a factor like institutional status. In the law and politics literature, a concern for the institutional standing and authority of their institution is often invoked as a factor prompting judges to behave strategically.

62 The Independent, 6 August 2006, Female Judges to Hear Rape Cases as India Admits Failures of Legal System.
many controversial rulings may soon face a public backlash or see its rulings overruled or, worse, ignored by legislators. A court with low institutional standing, whose rulings are often ignored, the hypothesis goes, will inspire less respect from the other branches. This in turn will increase the risk of non-compliance and further undermine the overall influence of the court. Hence judges may prefer to sacrifice their immediate policy preferences on particular issue to preserve the authority of their institution. Even if they prefer Outcome_1 to Outcome_2, they might still go for Outcome_2, if they fear that choosing Outcome_1 might result in a public backlash undermining the court’s standing. Now, EP offers insights that can be used to make more refined predictions about the way judges strike the balance between the satisfaction of their immediate policy preferences and the desire to preserve institutional standing. Arguably, judges do not value institutional standing *per se*. Rather, institutional standing is a means to an end. If judges want to preserve their institution’s standing, even at the expense of satisfying their immediate policy preferences, it is because institutional standing means influence and influence having a say in future policy debates. In other words, if judges are willing to sacrifice an immediate policy reward, it is because they hope thereby to preserve the chance of a higher policy reward in the future. In decision theory and in models that try to capture how decision-makers balance future and immediate rewards, it is usually assumed that agents discount future rewards in proportion to the expected delay. The same reward is valued less in ten years time then in one year time. One question is whether agents discount future rewards exponentially or hyperbolically. Traditionally, economists assumed that economic agents discount the future exponentially. It was thought that the agents applied the same discount rate over time. Experiments, however, have shown that this is not the case. Decision-makers discount the future hyperbolically. They do not apply the same discount rate over time. Instead, they apply higher discount rates to temporally more remote rewards than to less remote ones, which means that initially the value of a future reward rises slowly but then jumps as the moment of receiving it approaches. In cases where alternatives are fairly certain to occur, it generates inconsistency and preference reversal over time, as agents typically give in to the temptation of immediate reward but later come to regret it. The evolutionary explanation for this fact is that our Stone Age
ancestors had a short time horizon. Life expectancy was short and the future uncertain. Hence immediate gratification – *carpe diem* – was the optimal strategy in terms of survival. Again, hominids that had the tendency to prefer immediate rewards over long-term investments had better chances of passing on their genes.65

Figure 1 applies the same hypothesis to judicial decision-making.

The two curves represent the judge’s discounted utility, respectively, from policy $P_1$ and policy $P_2$. Both curves have a hyperbolic shape. The $P_2$ curve first rises slowly and then steeply as it draws closer to $t_1$ when the reward is received. The same goes for $P_1$, except that the steep decrease in the discount rate takes place later (after $t_1$) reflecting the fact that the judge has to wait until $t_2$ to get the corresponding policy reward. Here we assume that the two choices are mutually exclusive. If the judge makes the choice corresponding to $P_2$, she will not be in position to make the choice and receive the reward corresponding to $P_1$. What Figure 1 shows is that hyperbolic discounting makes the judges’ balancing of early and late rewards inconsistent over time. In the time interval $[t_0, t^*]$ she favours $P_1$ over $P_2$. But at time $t^*$ a reversal takes place, which makes her temporarily prefer $P_2$ over $P_1$. Finally, on getting closer to the point where she would normally receive the reward $P_2$, her preferences return to the initial ordering.

As in Figure 1, hyperbolic discounting means that human agents will often go for the smaller but more immediate reward. If that applies for judges too, we should expect judges to favour short-term policy outcomes over long-term goals such as institutional standing. However, putting hypothesis of this kind to the test is awkward given the relative crudeness of the procedures with which judicial preferences are measured empirically. To be sure, with the rapid progress of brain imaging technology, cognitive scientists and psychologists should soon

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be able to measure preferences directly.\textsuperscript{66} But persuading judges to submit to brain scans will be difficult. So, for the foreseeable future, students of judicial behaviour will continue to rely on proxies such as party affiliation, the political orientation of appointing authorities or past voting records to capture judicial preferences.\textsuperscript{67} As long they do so, however, it will be impossible to establish whether judges discount future policy rewards exponentially or hyperbolically and whether this results in preference reversals over time. In fact, empirical limitations are such that it is not even possible to test whether judges do discount future policy rewards.

\section{5 Conclusion}

For the most enthusiastic proponents of the Law and Biology movement, our conclusions may come as somewhat disappointing. In large part, however, they follow from the limitations of legal positivism, rather than from that of EP. With their focus on norms and law’s normativity, normativist theories of law offer little entry points for interdisciplinary perspectives, whether from biology or other field. For the legal realist approach, limitations have more to do with the state of empirical measurement techniques. But, in that area at least, there is a real potential for interdisciplinary dialogue. The influence of gender on judicial decision-making is one example. In any case, the relevance of biology and EP for law and the social sciences is not a settled issue and the discussion is likely to go on for some time.


\textsuperscript{67} A. Dyevre, \textit{Unifying the Field of Comparative Judicial Politics}....
Figure 1. Policy choice and hyperbolic discounting