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On the naturalisation of law

O naturalizacji prawa

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Abstract:

The goal of the paper is to formulate a new conception of the naturalisation of law. I begin by highlighting the conceptual problems connected to the notion of naturalisation. I then proceed to describe and criticise three different approaches to the naturalisation project: separation, radical naturalisation and moderate naturalisation. I argue that the theoretical problems surrounding these three views are so profound that a novel perspective on the naturalisation of law is needed. Finally, I try to provide such a perspective by formulating a theory which stresses that naturalisation is a matter-of-degree and that it is measured by the level of coherence between legal and scientific knowledge.

Keywords:

law, legal ontology, naturalisation of law, coherence, supervenience, Kelsen, Hart

Streszczenie:

Celem artykułu jest próba sformułowania nowej koncepcji naturalizacji prawa. W pierwszej części opisuję problemy pojęciowe związane z ideą naturalizacji. Następnie przechodzę do opisu i krytyki trzech stanowisk odnośnie do naturalizacji prawa: separacji, radykalnej naturalizacji oraz umiarkowanej naturalizacji. Twierdzę, że problemy teoretyczne powiązane z tymi trzema koncepcjami są tak poważne, iż należy szukać innego, nowego spojrzenia na naturalizację prawa. Proponuję taką nową perspektywę formułując teorię, zgodnie z którą naturalizacja jest stopniowalna, a jej miarą jest poziom spójności pomiędzy wiedzą prawniczą i wiedzą naukową.

Słowa kluczowe:

prawo, ontologia prawa, naturalizacja prawa, spójność, superweniencja, Kelsen, Hart

On the naturalisation of law[1]

The problem of naturalisation has become a subject of heated philosophical debates in recent years[2]. In this essay, I would like to present a proposal on how to understand the naturalisation of legal knowledge. I will, however, begin by presenting a controversy over the very concept of naturalisation (point 1). Then I will analyse and criticise three basic views on the problem of naturalisation, which I call separation (2), radical naturalisation (3) and moderate naturalisation (4). Finally, I shall point out an alternative concept, which is summarised in the thesis that the measure of the naturalisation of law is the degree of logical coherence of its descriptive presuppositions with the findings of the natural sciences (5).

1. What is naturalisation?

The naturalisation of various branches of knowledge became popular with the publication of Willard Van Orman Quine's 'Epistemology naturalised' in 1969[3]. Since then, naturalisation of various philosophical disciplines has been considered - from aesthetics to the philosophy of law. However, one can argue that the idea of naturalisation is as old as philosophy itself: after all, the dispute between Plato and Aristotle can be seen as the first debate between an anti-naturalist and a naturalist.

Paradoxically, however, this fact does not make it easier for us to define naturalisation. From a general perspective, two types of naturalism can be distinguished, and thus two kinds of naturalisation. Ontological naturalism is a thesis that 'reality has no place for 'supernatural' or other 'spooky' kinds of entity'[4]; in this context, the naturalisation of epistemology, aesthetics or law would be to demonstrate that cognition, aesthetic values and legal norms are not 'supernatural' phenomena. It is also clear that any practical application of this definition requires a prior definition of what are natural and supernatural phenomena. However, it turns out that this is not a simple task. For example, medieval thinkers such as John Buridan believed that the term 'natural phenomenon' refers to 'the ordinary course of things,' undisturbed by the miraculous interventions of God. But one who would think that Buridan's understanding of 'nature' was similar to ours is wrong as for Buridan the structure of the 'ordinary course of things' included not only the laws of physics but also moral precepts[5]. In a more contemporary context, the term 'natural' includes beings that can be placed in space and time; one can also use it in a broader sense, including some emergent phenomena. In this second view mental processes and in some conceptions also moral norms and mathematical objects are natural beings.

Methodological naturalism, on the other hand, is the view that the scientific method is the only method we should use in our cognitive efforts as it is incomparably more effective than any alternative[6]. Consequently, naturalisation

[1]The project has been financed by the National Science Centre under Decision No. DEC-2012/04 / A / HS5 / 00655.

[2]Cf. Leiter, B. Naturalizing Jurisprudence, Oxford 2007.

[3]Quine, W.V.O. (1969) Epistemology Naturalized, in: idem, Ontological Relativity and Other Essays, New York.

[4]Papineau, D. Naturalism, in: The Stanford Encyclopedia of Philosophy (Spring 2009 Edition), ed. E. N. Zalta, http://plato.stanford.edu/archives/spr2009/entries/naturalism/.

[5] Brożek, B. (2010) The Double Truth Controversy, Kraków, chapter 1.

[6]Papineau, D. Naturalism, op. cit.

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in the methodological sense means applying scientific methods - and only them - to every problem encountered either in epistemology, aesthetics or law. Similarly, as in ontological naturalisation, in its methodological variation a lot will depend on how we understand the term 'scientific method'. The history of the twentieth-century philosophy of science shows clearly that it is already difficult to define the method of physics; the more problematic is the definition of methods of biology, psychology or sociology, and these sciences can be relevant to the project of the naturalisation of epistemology, aesthetics or law. There simply is no clear criterion for distinguishing the 'natural' methods of psychology from the rules governing purely philosophical discourses[7].

All this makes the discussion of the problem of naturalisation of law (or another area of knowledge) very complicated, if not impossible. The process of naturalising can be defined in so many ways and possible definitions depend on the acceptance of so many ontological and epistemological assumptions that the very concept of naturalisation becomes almost incomprehensible. In the face of these comments, it seems that alternative ways of understanding naturalisation need to be considered. My suggestion is as follows. Assuming that at a given moment one can - more or less - compile a set of sentences that constitute scientific knowledge (**SK**), there is a relation **R** between the **SK** and the knowledge of a given discipline **DK** (e.g. epistemology, aesthetics or law). The postulate of the naturalisation of a discipline **D** is reduced to the thesis that the relation **R** between **DK** and **SK** should assume a certain form. As I will argue below, proponents of radical naturalisation will claim that **R** is the material equivalence between **DK** and the corresponding fragment of **SK** (that is, **DK** is a subset of **SK**); moderate naturalisation recognises that there is a weaker logical relationship between **DK** and **SK** (for example, supervenience); and those who do not believe in the possibility of naturalisation will claim that there is no relation **R** between **DK** and **SK**. Let us illustrate these definitions with concrete examples. Since a proponent of radical naturalisation of epistemology recognises that human cognitive processes, justification criteria and so forth can only be investigated by scientific methods, then she recognises that the knowledge about human cognitive processes is a certain piece of scientific knowledge and nothing more. On the other hand, an advocate of the moderate concept of naturalisation of epistemology will argue that there are aspects of cognitive processes that can be directly studied by scientific methods, but there are also those that require philosophical methods (for example the problem of substantiating theorems), although the latter are related in various ways to the first type of issues; in other words, the moderate naturalisation of epistemology ultimately comes down to the thesis that the statements belonging to this discipline of knowledge are in a certain logical relation to scientific statements, but this is not always a material equivalence. Finally, an opponent of naturalisation will say that epistemological considerations are *a priori* in relation to all the findings of science, and therefore nothing a psychologist or a neurobiologist has to say can influence what standards we should use in our cognitive efforts.

From the foregoing considerations it follows that in order to speak about the naturalisation of law one must first characterise legal knowledge (**LK**). The analysis of its structure I fol-

[7]Hohol, M. (2012) Wyjaśnić umysł, Kraków.

low here is not necessarily complete, although I think that, given the purpose of this essay, it is sufficiently comprehensive. In my opinion, legal knowledge *sensu stricto* and *sensu largo* should be distinguished. The first includes legal norms, judicial decisions and dogmatic and theoretical conceptions (including theories of the application of law and legal interpretation). In turn, legal knowledge *sensu largo* includes philosophical, psychological and sociological theories of law. The criterion for distinguishing between the two types of legal knowledge is the manner in which they are used in legal discourse. Laws, precedents, dogmatic theories and theoretical conceptions are directly applicable in the process of applying the law, while philosophical, sociological and psychological theories are, in a sense, external to legal discourse: they may prove useful but are generally not used directly in legal argumentation.

It is noteworthy that legal knowledge *sensu stricto* is normative. Legal norms define what kinds of conduct are obligatory, prohibited, and permitted; judicial and other legal decisions are individual-specific norms; dogmatic theories define how to interpret the law and how to solve actual or imagined legal cases; the status of the legal theory is more complex since it contains both normative and descriptive constructs. I do not want to say that the 'ought' involved in all these spheres of legal knowledge is the same. For example, it seems that the 'ought' imposed by the legal norms is, from an intuitive point of view, stronger than the obligation to interpret the rules according to some dogmatic theories. These differences, however, are not relevant to the thesis that what I call legal knowledge *sensu stricto* is of normative rather than descriptive character.

On the other hand, the legal knowledge *sensu largo* is mostly descriptive. This is certainly the case with sociological and psychological theories that relate to the practice of law. A bit more complicated is the case of the philosophy of law: models constructed on its ground can be both descriptive and normative. The question about the naturalisation of legal knowledge *sensu largo* can thus be answered as follows: sociological and psychological theories describing (explaining) legal practice are simply a part of scientific knowledge and, as such, are fully naturalised. The philosophy of law is a separate case, but it is part of the more general problem of the naturalisation of philosophy as such (a similar statement can be made about the theory of law, if these two domains can be distinguished at all). For this reason, I will only be interested in the question of the naturalisation of legal knowledge *sensu stricto* (with the exception of the theory of law). I will start with the question of the possibility of naturalising legal norms, but in the last part of this essay I will postulate that other elements of legal knowledge (court decisions and dogmatic theories) may also be subject to naturalisation.

2. Separation

Proponents of the separation of the factual and normative spheres claim that law cannot be naturalised, i.e. that there is no logical relation between LK and SK. Perhaps the most spectacular example of a separatist doctrine is that of ethical realism, whose representatives argue that moral norms, values and in some cases morally good states of affairs exist regardless of the facts. The 'good', as George Edward Moore wants, cannot be defined in natural terms because good has nothing in common with natural properties; consequently, moral norms are not only impossible to be reduced

to facts, as would be wished by the advocates of radical naturalisation, but it is also impossible to indicate any formal relation between scientific knowledge and morality[8].

In the philosophy of law it is difficult to have a similarly spectacular example of separatist view, perhaps because it is more difficult for the lawyer to ignore the facts (which is a very interesting fact in itself). At first sight, the philosophy of law, which implies the doctrine of separation, is Kelsenian normativism. Hans Kelsen's main thought is best expressed by the title of his opus magnum - the idea of creating a pure theory of law. What does it mean that law is supposed to be 'pure'? Kelsen explains it as follows:

The purity of the theory or – amounting to the same thing – the independence of the law as an object of scientific cognition is what I am striving to secure, specifically in two directions. The purity of the theory is to be secured against the claims of a so-called 'sociological' point of view, which employs causal, scientific methods to appropriate the law as a part of natural reality. And it is to be secured against the natural law theory, which, by ignoring the fundamental referent found exclusively in the positive law, takes legal theory out of the realm of positive legal norms and into that of ethico-political postulates[9].

Kelsen's goal is to demonstrate that the law is independent of both natural law theories (axiological considerations) and of sociological and psychological facts. To achieve it, the author of *Reine Rechtslehre* notes that the law should be understood as a system of 'ideally existing norms' belonging to the sphere of pure 'ought'. Such understanding of the legal norm - and the related understanding of the legal obligation - makes the law applicable regardless of any social or psychological facts or moral standards. However, this 'purity' comes at a cost which is most easily seen by analysing Kelsen's vision of the legal system. He believes that such a system is hierarchical: a norm superior in the hierarchy establishes the competence to issue a lower-ranking norm. The closure of this dynamic system is the so called Basic Norm (*Grundnorm*). What is *Grundnorm*? It is difficult to answer this question given that Kelsen describes it as, among other things, the presupposed norm, presupposition, a norm included in a supposition, juristic hypothesis, ultimate hypothesis of positivism, ultimate ground of the validity of the legal system, thought norm, genuine fiction, judicio-logical constitution, constitution in the transcendental-logical sense, transcendental-logical concept, or transcendental-logical condition of the interpretation in legal sciences[10]. These terms, though so numerous and different from each other, point to two characteristic features of the Basic Norm. First of all, it is an assumption or a hypothesis that allows to 'close' the system of law and separate it from other normative orders. Secondly, this assumption is a fiction: Kelsen is aware that morality, economics or politics actually affect the shape of law, but emphasises that a lawyer - thinking as a lawyer - should act *as if* the influence did not exist. He observes that such a strategy has nothing revolutionary in itself, and 'merely makes conscious what most legal scientists do, at least unconsciously, when they understand [legal] facts not as causally determined, but instead

[8]Moore, G. E. (2004) Principia Ethica, Mineola, Nowy Jork.

[9]Kelsen, H. (1911) Hauptprobleme der Staatslehre, Tübingen, p. 3–4.

[10]Bindreiter, U. (2001) Why Grundnorm?, Dordrecht, p. 17–18.

interpret their subjective meaning as objectively valid norms, that is, as a normative legal order, without basing the validity of this order upon a higher, meta-legal norm, that is, upon a norm enacted by an authority superior to the legal authority (…). The theory of the Basic Norm is merely the result of an analysis of the procedure which a positivistic science of law has always applied[11].

So it would seem that Kelsen's philosophy is an example of a vision in which the law has nothing - and cannot have - to do with facts, and therefore is not subject to - and cannot be subject to - naturalisation. In other words, having assumed at the outset that law is an autonomous discipline, Kelsen claims that LK has no association with SK. This autonomy is possible at the price of certain fiction - assuming that a legal system is based on a purely conceived or 'fictional' Basic Norm.

Things become complicated, however, when we consider Kelsen's analysis of the relationship between the concepts of validity and the efficacy of law. Here are the definitions of both concepts:

By 'validity' we mean the specific existence of norms. To say that a norm is valid, is to say that we assume its existence or – what amounts to the same thing – we assume that it has 'binding force' for those whose behaviour it regulates.

Efficacy of law means that men actually behave as, according to the legal norms, they ought to behave, that the norms are actually applied and obeyed[12]

What is the relationship between the analysed phenomena? 'Although validity and efficacy are two entirely different concepts", Kelsen notes, 'there is nevertheless a very important relationship between the two. A norm is considered to be valid only on the condition that it belongs to a system of norms, to an order which, on the whole, is efficacious. Thus, efficacy is a condition of validity; a condition, not the reason of validity. A norm is not valid because it is efficacious; it is valid if the order to which it belongs is, on the whole, efficacious[13].

Given the pivotal role of the Basic Norm in the structure of any legal system, Kelsen's conception pertains to the relationships between the the following three claims:

(V) Legal order is valid.

(N) The Basic Norm is valid.

(E) The norms of the legal order are, by and large, efficacious, i.e. they are actually applied and observed.

What do these relations look like? Let us consider the following interpretation.

Interpretation 1. Material implication. Let us consider whether the relationship between the validity and efficacy of law can be expressed by means of modal logic. The following sentence seems to be a natural expression:

(1) □ (V→E)

(we use the operator of necessity '□here to highlight that the relationship between validity

[11]Kelsen, H. (1967) Pure Theory of Law, Berkeley, p. 204–205.

[12]Ibidem, p. 30, 39.

[13]Kelsen, H. (1949) General Theory of Law and State, Cambridge, MA, p. 41–42.

and efficacy of the legal order is conceptual, i.e. it occurs in every possible world.) The sentence (1) states that, necessarily, if the legal order is valid, it is efficacious. In other words, it is not possible for a legal norm to be valid and inefficacious, but it is possible that some norms are efficacious (E is true) but no legal system exists (V is false). Kelsen explicitly allows this possibility when he writes that an absolutely efficacious norm can be considered invalid if it is not treated as a legal norm at all[14]. Let us note, however, that Kelsen also postulates the existence of a close connection between the validity of the assumed Basic Norm and the validity of the entire legal order, which is best encapsulated as:

(2) □(N→V)

(this formulation captures the intuition that the norms of the positive legal order are valid because the fundamental rule governing their creation, i.e. the Basic Norm, is valid.) However, if (1) and (2) obtain, the transitivity of the implication also yields:

(3) □(N→E)

This formulation is problematic - Kelsen does not want to say that whenever the Basic Norm is valid, the legal order is efficacious (sentence (3)), although he clearly states that whenever the whole legal order is valid, it is also efficacious (sentence (1)). We are forced to conclude that our first interpretation does not properly reflect the conceptual relationships that Kelsen describes.

Interpretation 2. Presupposition. One may want to consider whether the efficacy of the legal system is not a presupposition of its validity:

(4) V ***PRES*** E

The relation of presupposition between two sentences A and B occurs when a sentence A is meaningful (i.e. it can be attributed the value of truth or falsehood) only if its presupposition, a sentence B, is true. Thus, sentence (4) expresses the idea that it is meaningful to speak of the validity of a legal order (V) only if the order is, by and large, efficacious (E). However, the thesis (4) leads at the same time to the conclusion that the recognition of a legal order as invalid (¬V) requires that it was, by and large, efficacious (E), which is an outright nonsense. Thus, an attempt to interpret Kelsen's conceptual scheme using the mechanisms of presupposition turns out to be inadequate.

Interpretation 3. Defeasible implication. Yet another possibility of reconstructing Kelsen's views is provided by the so called defeasible logic[15]. In this view, the relation between the validity of the Basic Norm and of the entire legal order as well as the efficacy of this order can be expressed as:

(5) N◌̆V

(6) ¬E→¬V

Formula (5) uses the so called defeasible implication which has a peculiar feature: it may be used to derive the consequent (V) from the antecedent (N) as long as no contradiction occurs. In other words, sentence (5) states that if the Basic Norm is valid, one can *assume* that the legal order – as a whole – is valid. Formula (6), using material implication, states that if a legal order is not efficacious, it cannot be said

[14]Ibidem, p. 39.

[15]Prakken, H. (1997) Logical Tools for Modelling Legal Argument, Dordrecht.

that it is valid. This formal reconstruction captures the following intuition: until we conclude on the basis of (6) that the legal order is invalid, we are entitled to say, using (5), that if the Basic Norm is valid, then the entire legal order is valid. It seems that this formalisation reflects Kelsen's intentions well. On the one hand, the link between the validity of the Basic Norm and of the legal order is much stronger than between the validity of the order and its effectiveness: N is a constitutive condition of V, which cannot be said about E. On the other hand, formulas (5) and (6) do not force us to conclude that there is any logical link between the existence of the Basic Norm (N) and the efficacy of the legal system as a whole (E).

The adequacy of the formalisation with the use of defeasible logic shows at the same time a certain weakness of Kelsen's conceptual scheme. Let us recall that by defending the autonomy of law against other spheres of cognition, he is obliged to postulate the existence of a certain fiction: a merely presupposed Basic Norm which is the reason for the validity (and therefore existence) of the legal order. It turns out, however, that even at the expense of fiction, a lawyer cannot completely escape the facts: a legal order that is inefficacious cannot be considered valid. Kelsen cannot, however, say that efficacy is a reason or a constitutive condition for law's validity since in such a case it would be difficult to speak of any autonomy of law. The consequence of this is a complicated construction in which efficacy, although influencing the recognition of the legal order as valid, performs a different function from *Grundnorm*, which remains the sole foundation of the existence of law. This conception can, as we have seen, be formalised in defeasible logic.

The point is that defeasible logic is based on certain epistemological assumptions: it is a logic that allows the reconstruction of a cognitive situation of an imperfect agent, i.e. one who does not have full access to information. Defeasible implication of the form 'AðB' is a useful tool because it allows to formalise the parts of human knowledge that are used to derive conclusions, despite agent's incomplete information. For example: one sometimes make arguments based on the conditional clause 'If x is a bird, then x flies', even though it is known that there are birds that cannot fly. The formal features of the defeasible implication show how such conclusions are possible but also make the 'x flies' conclusion open to defeat when it turns out that x is an ostrich or a penguin. Thus, the use of the defeasible implication is useful when our cognitive situation forces us to draw conclusions based on incomplete knowledge[16]. If A obtains, we can conclude that B, although we know that there may be (foreseeable or unforeseeable) exceptions that will force us to reject B. Thus, the use of a defeasible implication is meaningful when our cognitive situation forces us to make conclusions with incomplete knowledge of facts.

In the meantime, formula (5) NðV is neither open to unforeseeable exceptions nor describes the situation of an agent devoid of the full knowledge of facts. Kelsen explicitly points out that there is only one situation in which a legal order based on a valid Basic Norm can no longer be considered valid - it will be when that order, by and large, ceases to be efficacious. Accordingly, formalisation in defeasible logic, consisting of sentences (5) and (6), is *pragmatically equivalent* to the following formalisation in the classical logic:

[16]Brożek, B. (2004) Defeasibility of Legal Reasoning, Kraków, chapter 1.

(7) (N-E) → V

In this regard, both the validity of the Basic Norm and the efficacy of the legal order have the same status: they are necessary conditions for the validity of the entire legal order.

This analysis of Kelsen's views on the relationship between the validity and the efficacy of law is extremely instructive for anyone who would like to insist on separating normative and factual spheres. A lawyer cannot completely cut off the realm of facts but as Kelsen's doctrine shows, it is difficult to imagine a partial isolation. I do not want to say that this is certainly impossible because it is difficult to draw such conclusions based on one - although very characteristic - example. However, one may admit that the advocates of separation are condemned to the following dilemma: either they recognise the absolute independence of the normative sphere from the factual one which is a pure fiction, one very difficult to maintain, or they advocate for a partial autonomy of law, but then will probably be forced to recognise that the relationship between LK and SK is much stronger than they would like to admit.

3. Radical naturalisation

Radical naturalisation (or naive reductionism) is a view that legal knowledge (LK) is simply a part of scientific knowledge (SK); in other words, the relation between LK and (the corresponding part of) SK is material equivalence. Let us look at an example. In *The Path of the Law* Oliver Wendell Holmes argues that the law amounts to the prophecies of what the courts will do in fact, and nothing more pretentious[17].

Holmes wants to say that the statement that there is a legal obligation or a legal norm is equivalent to a certain prediction of the behaviours of the judge. In other words, a norm:

(N) Do not harm others.

is equivalent to the statement:

(H) If x harms y, then the court will order x to redress the damage.

Another example is provided by Leon Petrażycki's psychological theory, for whom the norm (N) is equivalent to the formulation:

(P) If x imagines that he causes damage to y, then x will experience an imperative-attributive emotion motivating x not to cause harm to y[18].

The sentences (H) and (P) belong to SK in the sense that the best way to formulate predictions of the behaviour of courts or the existence of certain emotions resulting from imagined situations is to use appropriate scientific methods.

The idea of radical naturalisation – or if we prefer: naive reductionism - is subject to various objections. The first of these can be call the intuition-based argument and may be summarised in the statement that - from the point of view of basic linguistic intuitions - (N) is neither equivalent to (H) nor to (P), and the recognition of such equivalence would lead to paradoxical consequences. This is illustrated by Herbert Hart's criticism of the predictive theory of law

[17]Holmes, O. W. (1897) The Path of the Law, Harvard Law Review, Vol. 457, No. 10, p. 393.

[18]Petrażycki, L. (1985) Wstęp do nauki prawa i moralności, Warszawa. In both cases – Holmes's and Petrażycki's – the reconstructions proposed here are, of course, certain – not exaggerated – simplifications.

presented in *The Concept of Law*:

If it were true that the statement that a person had an obligation meant that he was likely to suffer in the event of disobedience, it would be a contradiction to say that he had an obligation, e.g. to report for military service but that, owing to the fact that he had escaped from the jurisdiction, or had successfully bribed the police or the court, there was not the slightest chance of his being caught or made to suffer. In fact, there is no contradiction in saying this, and such statements are often made and understood[19].

The intuition-based argument, however, is not strong enough to result in the renunciation of radical naturalisation. The fact that equivalences such as (N) ŇH (H) or (N) ŇP (P) are incompatible with our linguistic intuitions, or lead to the consequences that we perceive as paradoxical, is precisely what the proponents of this method of naturalising law claim. Holmes and Petrażycki know how the law is perceived from the perspective of common sense, and it is with this understanding that they fight. The intuition-based argument may be enough for someone who, like Hart, seems to assume that the analysis of the functioning of ordinary language can shed light on the nature of law or other social phenomena. But without this assumption the intuition-based argument loses its force, and may even be counterproductive: for someone who is looking for a 'scientific basis' of law, a common sense approach to the problem is, by definition, a suspicious one.

The second argument against radical naturalisation is the argument from the methodological schizophrenia. Let us return to the predictive theory of law. As Holmes observes, 'if you want to know the law and nothing else, you must look at it as a bad man, who cares only for the material consequences which such knowledge enables him to predict.'[20] It turns out that reducing norms and legal obligations to predictions of court behaviour is not a purely theoretical manoeuvre but it has a purpose: only making these predictions as accurate as possible will allow the 'bad man' to properly assess the consequences of his own actions[21]. But why is the 'bad man' concerned about these consequences? The only consistent answer is that the 'bad man' is someone who always chooses the actions that will bring him the most benefit. In other words, such a person acts in an instrumentally rational way. The model of instrumental rationality can be understood in two ways: the descriptive (when we say that people actually behave as if they maximised their utility functions) or the normative (when we say they should behave like that). If Holmes's 'bad man' was a normative model this would lead to a specific 'methodological schizophrenia' because we would argue that the norms and legal obligations are in fact predictions that are needed for the bad guy to behave as he should, i.e. in the way that brings him the most benefit. In other words, one would reduce legal duty to a description of some facts only to show how it is possible to fulfil another, extra-legal (prudential) duty. Of course, under such circumstances an explanation would be needed what is it that distinguishes legal and prudential duties so that only the latter are genuine, while the former are 'facts in disguise'.

One can argue, however, that Holmes's 'bad

[19]Hart, H. (1994) The Concept of Law, 2nd ed., Oxford, p. 84.

[20]Holmes, O. W. The Path of the Law, p. 458.

[21]Ibidem, p. 462.

man' simply acts in such a way as to maximise his utility function - the thesis that we always choose the actions that bring us the most benefit can simply be considered as a description of our actual behaviour. Thus, Holmes could defend himself against the objection of methodological schizophrenia, noting that prudential duty - like the legal duty - can be reduced to facts. There is, however, a key aspect of Holmes's theory in which this strategy fails. 'Even if it is plausible to think that a working attorney advising his client the Bad Man is trying to predict what a judge would decide, it seems ludicrous to suppose that this is what the judge himself is doing'[22]. Holmes indirectly recognises this difficulty when he says: 'I think that the judges themselves have failed adequately to recognise their duty of weighing considerations of social advantage. The duty is inevitable, and the result of the often proclaimed judicial aversion to deal with such considerations is simply to leave the very ground and foundation of judgments inarticulate, and often unconscious'[23].

So Holmes unequivocally states that it is the duty of a judge to do such a thing which benefits the public. One may wonder whether this obligation is legal or moral. However, there is no doubt that this is a duty that cannot be reduced to any prediction, which reinforces the allegation of the methodological schizophrenia. Holmes ought to clarify why some obligations (of the addressees of the law) are in fact 'hidden predictions,' while others - such as the judicial duty to issue such rulings that maximise social utility - are genuine obligations, irreducible to any facts.

It is worth mentioning that Petrażycki's encounters similar difficulties when considering the role of the legislator. Petrażycki writes in this context:

'The essence of the legal policy problems boils down to scientifically justified prediction of the effects of enacting legal provisions. Legal policy aims at developing such principles, which – introduced into the legal system or in some other way – would yield the required effects'[24].

Thus, it turns out that the legislator does not act like a mere mortal, motivated by emotions generated by certain imagined situations, but in an instrumentally rational way by setting goals and selecting the best means for their realisation[25]. Thus, the legislators' actions cannot be described in a scheme that explains the behaviour of the addressees of law. This generates a different version of the methodological schizophrenia: legal duties are reducible to emotional states and motivational mechanisms, but the duties of the legislator have an altogether different nature, being independent of those states and mechanisms.

More generally, the argument from methodological schizophrenia states that the reduction of norms and legal obligations to descriptions of certain facts is always only partial. Even if we determine the equivalence of such propositions as (N) and (H) as well as (N) and (P), then such a norm (legal or non-legal) must appear, which is irreducible to facts. In Holmes's conception it is a norm for the judges to maximise social utility, while in Petrażycki's tradition it is

[22]Haack S. (2005) Pragmatism. Where Does 'The Path of the Law' Lead Us?, American Journal of Jurisprudence, Vol. 50, p. 80.

[23]Holmes, O. W. The Path of the Law, p. 72.

[24]Kripke, S. (2007) Wittgenstein on Rules and Private Language, Cambridge, Mass.

[25]Motyka, K. (2007) Leon Petrażycki's Challenge to Legal Orthodoxy, Lublin, p. 48–49.

the rule of the instrumental rationality governing the actions of the legislator. In these cases we encounter a serious theoretical problem: why should one insist on reducing legal norms and obligations to the descriptions of certain facts, when ultimately one is forced to acknowledge that certain norms and obligations are not subject to such reduction?

The defender of radical naturalisation facing this accusation has two solutions: either to admit that such a schizophrenic situation actually takes place, or to become a 'heroic naturalist' and to maintain that all norms and obligations - legal, moral, prudential, conventional, linguistic and other - ultimately are reducible to facts. In the first case, one may speak of 'local naturalisation" only, which is possible in relation to some norms and obligations but not in relation to others. Such a position is theoretically flawed: what is the difference between law, morality and the social convention, or what is the difference between a person acting as a judge and the same person acting as a 'normal addressee of law", to justify double standards in explaining the nature of the normative? On the other hand, the second possibility which I call 'heroic', may be undermined with the argument from performative contradiction.

The argument from performative contradiction is directed at those who argue that there are no rules of conduct or duties, that they are all reducible to facts. The proponents of this radical thesis usually take advantage of Saul Kripke's interpretation of some passages from Ludwig Wittgenstein's *Philosophical Investigations*[26]. This interpretation leads to scepticism towards rule-following: there is no such thing as rules of conduct, duties or norms. The justification for this thesis is to be found in Wittgenstein's rejection of three conceptions of rules understood as dispositions to act in some way, mental images and platonic objects[27]. Since rules cannot be said to belong to any of these three categories, it remains to admit that we speak of following rules or having various duties just because there is some convergence in social behaviour - for example, if someone does not keep their promise, incorrectly uses a linguistic expression or steals, they will encounter a more or less severe negative social reaction. In other words, there is no such thing as rules of conduct or duties, but from the perspective of the community, we can understand where the way of speaking comes from which suggests that we are acting in accordance with rules or in fulfilment of obligations. Kripke notes that the problem posed by Wittgenstein is similar to Hume's analysis of causality. Hume argued that we have no basis for claiming the actual existence (or nonexistence) of causal relationships, but our mental habit allows us to understand why we use the category of cause and effect. Hume is therefore a skeptic about the existence of causal relationships, just as Wittgenstein is skeptical about the existence of rules.

Apart from the fact that Kripke's interpretation does not necessarily correspond to the intentions of Wittgenstein[28], it leads to far-reaching consequences. Susan Hurley concludes:

[I]t is not an adequate answer to say that the solution [to the problem of rule-following] practices provide is a skeptical one, that nothing underwrites content and we just, contingently,

[26]Cf. Kripke, S. (2007) Wittgenstein on Rules and Private Language, Cambridge, Mass.

[27]Brożek, B. (2013) Rule Following.-From Imitation to the Normative Mind, Kraków, p. 27–33.

[28]Ibidem, chapter 1.

happen to agree in doing this rather than that. (…) [T]he full force of the skeptical view dissolves our capacities for intentional action, for trying and choice, however arbitrary, as much as for perception and thought. It takes the ground out from under the feet of pragmatism and conventionalism, as much as Platonism and psychologism. It rules out appeals by the skeptic to our intentional responses, our attributions, our constructions, our investigations, our procedures of verification or ratification, etc.[29].

Hurley points out, therefore, that the recognition that there are no rules, duties, and normative criteria leads to questioning the reality of a number of fundamental phenomena, such as intentional action, choice-making or justification. 'Heroic skepticism' towards rules is therefore extremely counterintuitive. Moreover, it seems also intrinsically contradictory, at least in performative sense. What does a heroic skeptic do? He argues that there are no rules of conduct. In other words, with the help of certain rules, he justifies a claim that no rules exist. This is a case of performative contradiction: *it does not obtain between sentences uttered by the 'heroic skeptic', but between what he says and what he does.*

Thus, proponents of radical naturalisation out of necessity fall into one of two pitfalls: either they must admit that naturalisation is possible only in relation to a part of what we commonly call the normative sphere (for example, law), while another part (for example, morality or rationality) remains immune to naturalistic reduction; or they must become heroic skeptics challenging the existence of any normative criteria and standards, at the price of committing a performative contradiction. I do not claim that this fact constitutes a final argument against radical naturalisation. After all, a supporter of such a view may say that he is content with the methodological schizophrenia, or that he does not understand why he would have to worry about performative contradictions. Such a defence is, of course, permissible but it makes the concept of radical naturalisation indisputable and as such no longer an interesting theoretical option.

4. Moderate naturalisation

Moderate naturalisation (or refined reductionism) is the conception according to which the relationship between SK and LK is not as strong as material equivalence; it can take the form of supervenience or a similar relation (we say that the set of properties A supervenes - in the global sense - on the set of properties B if and only if all possible worlds which are indistinguishable with relation to B are also indistinguishable in relation to A). The naturalisation project, understood in this way, can be found in Hart's version of legal positivism. Let us recall the basic assumptions of Hart's doctrine. Hart recognises that in order to speak of social rules one needs to take into account two points of view: internal and external. Here's how he defines these terms:

[I]t is possible to be concerned with the rules, either merely as an observer who does not himself accept them, or as a member of the group which accepts and uses them as guides to conduct. We may call these respectively the 'external' and the 'internal points of view'. Statements made from the external point of view may themselves be of different kinds. For the observer may, without accepting the rules

[29]Hurley, S. (2002) Consciousness in Action, Cambridge, Mass, p. 234.

himself, assert that the group accepts the rules, and thus may from outside refer to the way in which they are concerned with them from the internal point of view. (…) Such an observer is content merely to record the regularities of observable behaviour in which conformity with the rules partly consists and those further regularities, in the form of the hostile reaction, reproofs, or punishments, with which deviations from the rules are met. After a time the external observer may, on the basis of the regularities observed, correlate deviation with hostile reaction, and be able to predict with a fair measure of success, and to assess the chances that a deviation from the group's normal behaviour will meet with hostile reaction or punishment. (…) If, however, the observer really keeps austerely to this extreme external point of view and does not give any account of the manner in which members of the group who accept the rules view their own regular behaviour, his description of their life cannot be in terms of rules at all, and so not in the terms of the rule-dependent notions of obligation or duty[30].

Hart argues, therefore, that a pattern of behaviour can be regarded as a social rule only if it 'passes the test' of both external and internal points of view: it must be observed in principle, but also recognised as a standard of conduct in a given community. There are important interpretative doubts as to how to understand Hart's 'internal point of view'[31]. In connection with this problem Hart notes:

The internal aspect of rules is often misrepresented as a mere matter of 'feelings' in contrast to externally observable physical behaviour. (…) But such feelings are neither necessary nor sufficient for the existence of 'binding' rules. There is no contradiction in saying that people accept certain rules but experience no such feelings of compulsion. What is necessary is that there should be a critical reflective attitude to certain patterns of behaviour as a common standard, and that this should display itself in criticism (including self-criticism), demands for conformity, and in acknowledgements that such criticism and demands are justified, all of which find their characteristic expression in the normative terminology of 'ought', 'must', and 'should', 'right' and 'wrong'[32].

On the other hand, in the *Postscript* to *The Concept of Law* Hart notes:

Indeed, even the weaker condition that for the existence of a social rule it must only be the case that participants must believe that there are good moral grounds for conforming to it is far too strong as a general condition for the existence of social rules. For some rules may be accepted simply out of deference to tradition or the wish to identify with others or in the belief that society knows best what is to the advantage of individuals. These attitudes may coexist with a more or less vivid realisation that the rules are morally objectionable[33].

Therefore Hart seems to understand the 'internal point of view' very broadly. In particular, it is not true that the 'internal' acceptance of social rules must be of a moral nature - the basis of this acceptance may be the habit or other,

[30]Hart, H. L. A. The Concept of Law, p. 89.

[31]Cf. Holton, R. (1998) Positivism and the Internal Point of View, Law and Philosophy, Vol. 17, p. 597–625; Shapiro, S. (2006) What is the Internal Point of View?, Faculty Scholarship Series, Paper 1336, http://digitalcommons.law.yale.edu/fss_papers/1336.

[32]Hart, H. L. A. The Concept of Law, p. 85–86.

[33]Ibidem, p. 257.

non-normative psychological phenomenon. So, in my opinion, I would attribute to Hart the following view: when one wants to know what social (including legal) norms exist, one must establish certain sociological and psychological facts (i.e., in a given community there actually are behavioural patterns and they are considered by the members of the community as binding). Hart does not claim that social (including legal) rules are fully reducible to facts (social and psychological), but he recognises the relationship between them. If these facts could not be established, there would be no reason to believe that the community in question had any social (legal) rules. Social and psychological facts are not social norms, but if they do not change, the relevant social (legal) rules do not change as well. There is, therefore, a relation of supervenience (or a relation similar to it) between LK and SK.

It is easy to see the difference between Hart's and Kelsen's visions of law in this perspective. For Hart, the change of relevant facts (social and psychological) leads to a change in the content of the legal system - if people (in particular, judges and civil servants) behave differently than before and recognise other patterns of conduct as binding, the legal system has a different shape; for Kelsen, the fact that a certain legal order (conceived regardless of how the addressees of the law behave and perceive their duties) ceases to be efficacious, it is not valid anymore (and hence ceases to exist).

More direct references to the idea of moderate naturalisation can be found in these contemporary approaches to law, which refer to the findings of evolutionary theory and cognitive science[34]. These conceptions assume that the law (as well as morality and even culture *tout court*) is a product of evolution. It is difficult to escape such a conclusion if it is considered that normative systems and other cultural inventions are 'evolutionarily newborns' – they appeared only a few thousand years ago, which in the scale of biological evolution is a period of neglect. It is generally accepted that the human capacity to create culture must be the result of relatively small biological adaptations, which have allowed humans to take advantage of the cumulative cultural evolution. For example: Michael Tomasello claims that what differentiates humans from other primates is rooted in their tendency to identify themselves with their own species. This tendency manifests itself in human mutualism: the innate inclination to help others, to cooperate with them and to behave in a way that is characteristic of one's own social group. These motivational mechanisms - along with appropriate cognitive abilities - allow learning by imitation: people, unlike other primates, tend to take over patterns of behaviour from others. This, in turn, allows the spread of such patterns and their transmission from generation to generation. Tomasello calls it 'the ratchet effect': various patterns of behaviour, from tool use, through language, to social institutions, need not be 'reinvented' in every generation - imitation allows us to pass them on from generation to generation, leading to the accumulation of practical and theoretical knowledge[35].

The law, understood as a social institution whose purpose is to regulate human behaviour would be impossible without these biological adaptations (i.e., the appropriate motiva-

[34]Załuski, W. (2009) Ewolucyjna filozofia prawa, Warszawa; Brożek, B. (2012) Normatywność prawa, Warszawa.

[35]Tomasello, M. (1999) Cultutral Origins of Human Cognition, Cambridge, MA; idem (2009) Why We Cooperate, Cambridge, MA.

tional and cognitive mechanisms leading to close identification with the representatives of one's own species and learning by imitation), but also without thousands of years of cultural evolution, which - by the accumulation of a huge number of patterns of behaviour and ways of conceptualising the world - has provided the foundations for the functioning of modern, complex legal systems. The same can be said about other cultural products as well - science, cuisine, sport, etc.; they, too, like the law, are made possible by the human co-operative tendencies. All this shows that the thesis of the proponents of moderate naturalisation is in fact trivial, for - at least from the evolutionary perspective - all cultural products, including law, are based on certain (sociological and psychological) facts. LK is in a certain relation (supervenience or similar) to SK because the whole of what we call culture is dependent on certain sociological and psychological facts, which are the product of the motivational and cognitive mechanisms deeply rooted in our evolutionary past.

I do not mean to say that Hart's conception and similar theories are valueless - it is sometimes difficult to initially recognise the truth of what from *ex post factum* seems obvious or even trivial. However, it does not change the fact that the vision of moderate naturalisation, whose main thesis is that the law supervenes on regular social behaviour and mental attitudes, is 'almost' tautological: in evolutionary terms, culture (including law) is, by definition, such a supervenient entity.

5. How to naturalise law?

In face of the problems identified above, it seems reasonable to look for a different conception of the naturalisation of law, one that would enable a more precise account of the relationship between LK and SK. However, before I make an attempt to develop such a conception, let us have a look at three examples of the links between legal and scientific discourses.

The first example concerns the evidence reasoning in a criminal trial. Let us compare two situations: in the first, we determine the presence of the accused on the crime scene by means of ordeals (for example, fire trials); in the second, we use the DNA analysis of the biological traces (e.g., blood) left at the scene. Obviously, in the second situation the court proceedings are more consistent with the standards developed by science. Are we dealing here with the naturalisation of legal discourse? There are two types of questions that we face in every judicial proceeding: *quaestiones facti* and *quaestiones iuris*. The determination of facts is the subject of the evidence proceedings and should take advantage of the best knowledge available. On the other hand, *quaestiones iuris* pertain to the validity, meaning and the applicability of legal norms, and make use of specific tools and forms of reasoning, different from the methods developed in the natural sciences. In other words, the fact that *quaestiones facti* are (or should be) settled according to scientific standards is not a manifestation of the naturalisation of law, since *quaestiones iuris*, which constitute the essence of legal thinking, lie outside of the limits of the scientific methods.

Let us look at another example. According to Article 58 of the Family and Guardianship Code, on divorce the court must determine custody over the minor common children of the spouses in accordance with the best interest of the child. The best interest of the child in the legal

dogmatic literature is understood in terms of the appropriate conditions of the child's mental and intellectual development. Let us imagine that, when deciding on divorce, one court always gives exclusive custody to the mother of the child (sharing a dogmatic theory that the child's welfare can only be secured by the mother); another court always points towards the parent who can provide the child with better material conditions (referring to a dogmatic theory that binds the child's welfare solely to his or her economic well-being); and the third court - to the parent who is able to provide a more harmonious emotional and intellectual development in accordance with the findings of the modern developmental psychology. Of course, it is the third court takes full advantage of the findings of contemporary science. However, it is a peculiar use of science, as it does not pertain to *quaestiones facti*, but rather to *quaestiones iuris*: the three courts differ in their interpretation of the expression 'the best interest of the child'. The interpretation of the provision of the Family and Guardianship Code adopted by the third court is more coherent with the findings of developmental psychology than the interpretation of the other two.

My third example is more abstract - it concerns the fundamental conception of the civil law, i.e. the doctrine of the declaration of will (intent). Article 60 of the Civil Code defines the declaration of will as follows: *'Subject to the exceptions provided for in the law, the will of a person performing a legal act may be expressed by any behaviour of that person which manifests his will sufficiently (…)'.* This concise formulation is further explained in the civil law doctrine. According to the traditional view of the declaration of will: *'... it is an outcome of a process in which two important stages can be distinguished. First: the stage of internal will formation. It starts with a motive, the idea of declaring an intent. Then there is the motivational phase, where the idea is properly verified, and when that happens, a decision, i.e. an act of internal will, is reached. After that only one element is needed for the successful declaration of will, which is the manifestation of the will to the external world. This is yet another stage in the decision-making process, usually called the external will*[36].

This legal-dogmatic description of decision-making could easily be included in a monograph on the history of psychology reporting how, in the eighteenth and nineteenth centuries (especially in the German tradition), the decision-making processes were imagined. The two basic components of this vision can be described as rationalism and voluntarism: it was thought that man was able to make a free and conscious decision in a purely rational manner. In other words, it was assumed that emotional factors do not in principle influence the decision-making processes. A completely different picture of those processes is drawn by contemporary psychology and neuroscience. It is believed today that the overwhelming majority of our daily decisions are unconscious and based on emotional mechanisms: through social training, supported by appropriate emotions, we learn fast, unconscious responses to typical situations. Of course, we also make conscious, reasoned decisions, but this happens relatively rarely, in unusual situations[37]. Therefore, it turns out that the traditional theory of will is inconsistent with what the modern science teaches about decision-making.

[36]Pyziak-Szafnicka, M. (2009), Kodeks cywilny. Część ogólna. Komentarz, Warszawa, p. 628.

[37]Cf. Brożek, B. RuleFollowing – From Imitation to the Normative Mind, chapter 2 and the literature quoted there.

The theory of will is, however, more instructive than suggested by the analysis of its original, historical form. The development of the twentieth-century doctrinal conceptions of the declaration of will went towards the objectification of will. For example, the proponents of the so called theory of declaration believed that the goal of the interpretation of the declaration of will was not to 'establish the actual will' but only what can be understood 'within the limits of its expression and on the basis of all the accompanying circumstances'[38]. In turn, the proponents of the full objectivisation of will argue that by interpreting the declaration of will one determines the meaning of the declaration, not the 'actual' will, where 'meaning' is defined from the perspective of a 'reasonable recipient' of the declaration; the actual intentions of the person making the declaration are not sought after[39].

In the last decades, in addition to the tendency for objectification, one can observe another trend in civil law concerning the theory of will. In areas such as consumer law, one not only dispenses with the view of a purely rational agent, but also with the idea of the objectivisation of the declaration of will. It is instead assumed that the addressees of the law (consumers) often act unreasonably, under the influence of emotional impulses, recklessly and immaturely[40]. Consequently, they are granted special protection (for example, a right to withdraw from the contract or an extended guarantee). We are dealing here with a methodologically obscure situation. First, in many textbooks, commentaries, and court rulings, the traditional model of the declaration of will, directly based on the nineteenth-century psychology, is explicitly used. Second, doctrinal views objectifying the declaration of will distance themselves from any assumption pertaining to the human decision-making processes, and focus on the understanding of a declaration of will by a 'reasonable recipient'. Third, at least in certain branches of law and in certain jurisdictions, it is assumed that man often makes decisions in an impulsive and unreasonable manner. This incoherence is inconvenient for civil law, but - more importantly - shows that lawmakers, judges and doctrinal scholars were forced to depart from the traditional model of the declaration of will, enriching it with *ad hoc* modifications such as the theory of declaration or the model of unreasonable consumer. Apparently the reality of legal practice has forced these modifications - the nineteenth-century vision of rationally and consciously acting agents has proved to be a failed extrapolation based on some rather atypical cases of decision-making. This shows that false assumptions pertaining to the ways in which the addressees of the law actually operate may lead to the failure of legal institutions and the need for their continuous modification. Perhaps - although I am not going here beyond a very vague and speculative statement - the construction of a theory of will based on a more correct (and consistent with the findings of contemporary behavioural sciences) model of decision-making could contribute to greater coherence of the civil law conceptions.

The above examples - especially the second one - show clearly that the distinction between

[38]Grzybowski, S. (1974), in: System prawa cywilnego. Część ogólna, ed. Czachórski, W., Wrocław, p. 530.

[39]Radwański, S. (1992), Wykładnia oświadczeń woli składanych indywidualnym adresatom, Warszawa, p. 20.

[40]Such a conception was typical of German law. Recently, under the jurisdiction of the Court of Justice of the European Union, there is a certain unification of consumer protection standards in the EU Member States, which in turn caused the departure of the 'stupid consumer' model.

quaestiones facti and q*uaestiones iuris* is an artificial one (although, it may be useful for many purposes, e.g. in the classroom). Legal institutions, such as declaration of will - although normative in essence - are based on descriptive assumptions, which are elaborated in doctrinal theories and court rulings. To understand what a declaration of will is, it is not enough to read with understanding Article 60 of the Civil Code; we will not apply this rule without the appropriate theoretical framework provided by the civil law doctrine in the form of the theory of will, the theory of declaration, or the conception of the objectification of will. The point is that these dogmatic theories are based on one or another descriptive view of the decision-making processes. If so, one can ask if these theories are coherent with scientific knowledge.

But what does it mean that two theories, such as the dogmatic-legal conception of will and psychological or neurobiological view of decision-making, are mutually coherent or incoherent? The extreme case of incoherence is, of course, contradiction. But one can also imagine two theories that are not mutually contradictory, yet they are coherent in a minimal degree. Coherence is best defined as follows: a set of sentences (for example the sum of two theories as in our analysis) is incoherent if it is contradictory; if it is (a) consistent, then the degree of its coherence increases with (b) the number of non-trivial inference relations within the set and (c) the degree of its unification. We say that there are non-trivial inferential relations between the sentences belonging to a given set if they can serve as premises in non-trivial deductive arguments; we also say that the set of sentences is more unified, when it cannot be divided into subsets without losing information[41]. To illustrate the workings of this definition, it is sufficient to note that a well-constructed axiomatic system (for example, of elementary arithmetic or geometry) is unified to a high degree since (a) it is consistent; (b) the axioms of such a system serve to derive new, non-trivial theorems; and (c) since the axioms are independent, it is not possible to divide such a system into subsets without losing information.

The presented definition of coherence (in the logical sense) allows one to formulate the following definition of the naturalisation of legal knowledge:

LK is naturalised to the extent that its descriptive assumptions (in particular the descriptive assumptions of legal provisions formulated in legal doctrine and court rulings) are coherent in the logical sense with **SK**.

Thus understood, naturalisation of law is different from both the radical and the moderate views of naturalisation. First of all, the relation between (corresponding fragments) of LK and SK is not material equivalence, supervenience, or any similar relation - naturalisation is linked to the level of coherence between LK and SK. Second, naturalisation is a matter-of-degree: legal knowledge may be more or less naturalised, depending on the extent to which it is coherent with scientific knowledge. A theory of will, which is based on the thesis that man always makes decisions in a conscious and rational way, is inconsistent with the findings of modern behavioural sciences, and hence non-naturalised. Theories that emphasise the full objectification of the declaration of will - distancing themselves from the assumptions pertaining to the human decision-making processes - are not inconsist-

[41]Cf. Bonjour, L. (1985). The Structure of Empirical Knowledge, Cambridge, Mass.

ent with scientific knowledge, but at the same time are unrelated to it; they are therefore minimally coherent with science, and thus naturalised in a minimal way. Finally, if one constructed a theory of the declaration of will based on the assumption that humans usually make decisions unconsciously, with the use emotional mechanisms, and only sometimes - under special circumstances - are capable of deciding in a purely rational way, such a theory would be coherent with SK to a high degree, and so the relevant fragment of LK would be strongly naturalised.

It seems that such an understanding of the naturalisation of law avoids the pitfalls of moderate naturalisation. On the latter view, the law by definition is a 'natural' being as it, like other cultural products, supervenes on the regularities in social behaviour and mental attitudes. To know that there are legal rules, is also to know that there exist relevant sociological and psychological facts. Such knowledge is not, however, relevant in any direct way for legal practice. Meanwhile, in the concept of naturalisation outlined in this essay, the question of the naturalisation of law is not a question of the way legal norms exist, but rather of the nature of the assumptions standing behind legal practice. This change in perspective is possible through the recognition that legal knowledge *sensu stricto* is not limited to the knowledge of legal provisions but includes dogmatic theories and court rulings which express, among other things, the descriptive assumptions of those provisions. This manoeuvre allows to define naturalisation using the logical concept of coherence, which in turn makes it a tool that can be useful in the process of creating, interpreting and evaluating legal institutions.

Of course, a completely different question is whether the law should be naturalised. On the one hand, it seems that if we want the law to be effective, we should base it on solid descriptive assumptions; on the other hand, history suggests that even counterfactual assumptions can form the foundations of effective legal institutions. It is not clear whether the law which is largely naturalised is in some sense better than the non-naturalised one. However, this is a problem that goes beyond the framework of this essay.

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