LEGAL RESEARCH AND GROWTH OF SCIENCE

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1. *Types of Legal Research*

Legal research is divided in several branches such as private law, public law, penal law, procedure, etc. Some points are, nevertheless, general, common to all branches. The central position in each branch is traditionally occupied by doctrinal study of law, sometimes called "legal dogmatics"; the standard German word for it is *Rechtsdogmatik*. Briefly speaking, doctrinal study of law consists in the interpretation and systematization of (valid) legal norms. In each branch, systematization and interpretation is, however, to some extent connected with some points belonging to other kinds of legal research such as, *inter alia,* legal sociology, legal economics, legal history, comparative law, jurisprudence, legal philosophy, and so on. LEGAL research is never "pure". It always comprises activities of many kinds. Moreover, these kinds are intertwined in such a manner that a legal scholar continually switches his point of view, for instance, goes from interpretation to systematization to historical, points to sociological data and back to interpretation.

2. *Scientific Legal Research In Spite Of Transformations in the Law?*

Several critics label the doctrinal study of law as valueless (Kirchmann), unscientific (Lundstedt, Petrazycki), metaphysical (Hägerström), and so on. In order to take a position with regard to such criticism, we must treat theories elaborated within doctrinal study of law in light of demands which philosophy of science places upon scientific theories.

In my opinion, the main reason for this criticism of doctrinal study of law is that it appears to be evaluative and thus arbitrary: deriving unjustified conclusions from its "data". My answer to this criticism consists of two steps. First of all, I admit that the doctrinal study of law

draws deductively unjustified conclusions; a systematization of these conclusions is provided by my theory of transformations in the law. Secondly, I point out that transformations of this kind appear in all science, not only in the doctrinal study of law. The differences between doctrinal study of law and ordinary science are much more subtle.

The theory of transformations in the law might be summarized as follows.

A transformation ("a jump") is performed if, and only if, the following conditions are fulfilled:

(1) p is brought forward as a reason for q; and
(2) p does not deductively entail q; and
(3) no addition of an analytic proposition can make the passage from p to q a deductive one.

Transformation *into the law* occurs when a conclusion concerning (valid) law is derived through a transformation from a set of premises none of which expresses or mentions (valid) law. The following material inference rule plays the central role for this transformation: If a number of social facts exists and if some evaluative and/or normative requirements are fulfilled, then the constitution ought to be observed from the legal point of view. Let us give some examples of the mentioned social facts: The normative system in question is, by and large, effective; it governs the work of the paramount force-exercising organization in a given territory; it comprises society as a whole; it claims the sole right to the physical exercise of force; it is frequently interpreted by professional lawyers, using a special method; it constitutes a "dynamical" hierarchy of norms in which the higher norm determines the proper way of creating lower norms. The conclusion "the constitution ought to be observed from the legal point of view" is, however, not a deductive consequence of the premise "there is a number of (the mentioned) social facts and non-legal values".

Another transformation, the transformation inside the law, must be added in order to assign legal validity to the lower sources of the law and in order to assign it to concrete legal decisions. I discuss only three types of this transformation. A source-transformation is necessary to pass to the lower sources of the law. A general-norm-transformation is necessary to pass from the sources of the law to non-written (valid) rules and principles. A decision-transformation is necessary to pass further to decisions in concrete cases. The solution of many cases does not follow deductively from the sources of the law, nor from non-written general rules and principles.

The necessity of these transformations does not, nevertheless, justify the conclusion about the non-scientific nature of the doctrinal study of law. All human knowledge and all justified evaluations are based on transformations. The following layers might be considered as examples. Sensations, for instance, seeing a field of colors and shapes; propositions about individual facts; general theories. We must thus again ask the question: What reasons are for the scientific nature of the doctrinal study of law and what reasons are against it?

3. *The Legal "Data"*

Roughly speaking, the basis of scientific theories consists in observational data. Is the doctrinal study of law based on data?

There are some similarities between scientific data and the sources of the law, constituting the basis of the doctrinal study of law. The following model of the system of the sources of the law must be repeated in this context. Statutes, and, in the Common Law orders precedents, *must* be used in the justification of judicial decisions. This is another way of saying that they are formally "binding". Some other sources, for instance, precedents in the Continental law (and in Sweden preparatory materials, too) are not formally binding, but they *should* still be used in the justification of judicial decisions. This justification is invariably weakened if they are disregarded. Still other sources, for instance text-books in law, foreign cases, etc. *might* be used in the justification of judicial decisions. This means that their use is neither prohibited nor damaging to the professional reputation of a person using them. The list of these sources is open; it is easier to say what sources might not be used in the justification of judicial decisions. There is a *prima facie* hierarchy of these sources, often assumed as a starting point of legal argumentation: "must-sources" go-before "should-sources", and these go-before "might-sources".

The doctrinal study of law uses, however, other premises for its reasoning, too, not only the sources of the law. Among these premises, mention must be made about various non-legal observational data and theories and, moreover, various evaluations. Whereas both observational data in science and the sources of the law in doctrinal study of law can be relatively clearly identified as such, it is not so clear which evaluations are to be taken into account, as premises of doctrinal study of law, and which not.

4. *Paradigms of Legal Research*

A *paradigm* is determined by an example of scientific research, a

Weltanschauung, some central theoretical theses not to be put in question, scientific strategies, views on the role of a scientist, accepted methods, problems, norms, research programs, etc. If a scientist cannot solve a puzzle within the paradigm, it does not falsify either the whole paradigm or theories essential to it but it "falsifies" his scientific skill. Only during a phase of scientific revolution, a new paradigm gains a victory over the old one. Paradigms are incommensurable. If two paradigms disagree, "each paradigm will be shown to satisfy more or less the criteria that it dictates for itself and to fall short of a few of those dictated by its opponent."

Incommensurable conceptions, each proclaiming its superiority to its competitors, are easy to detect in the doctrinal study of law. According to Aarnio, each "legal dogmatical paradigm" consists of the following four components: (1) A set of legal philosophical background assumptions and/or commitments, including the general assumption as regards the question what does constitute the object of legal research. (2) Assumptions as regards the question what does constitute the sources of the law. (3) A cluster of methodological rules and principles, *inter alia,* different kinds of inference rules answering the question how doctrinal study of law should proceed from the sources of the law to the final result of its research. (4) A set of values common to the scholars working within the paradigm.

Even if borderlines between "paradigms" of doctrinal study of law are not sharp, it is possible to invent two ideal types of it: the scientifically oriented study of law and, on the other hand, the rule-skeptical and socially oriented study of law.

5. *Doctrinal Study of Law and Induction*

There are many views about justification of theory by observation, *inter alia,* inductionism. According to this view, a theory is probably true if it constitutes an inductive generalization of observation. The pattern of induction can be expressed, as follows:

A stronger form –generalizing induction:

Premise: (1) All known objects, belonging to the class C, have the property P.

Conclusion (2) All objects (even unknown), belonging to the class C, have the property P.

A weaker form –reasoning *ex analogia:*

Premise: (1) All known objects, belonging to the class C, have the property P.

Conclusion (2A) The next object, belonging to the class C, has the property P.

To belong to the *class* C is the same thing as to have the corresponding *property* C. For instance, to belong to the class of dogs is the same thing as to have the property of "dogness". The pattern of induction can thus be expressed in the following way:

Premise: (1') $x_1, x_2, x_3 \ldots$ which are C are P

Conclusion: (2') $x_{n+1}, x_{n+2}, x_{n+3} \ldots$ which are C are P

In spite of the fact that juristic generalizations are not universal in the sense the laws of natural science are, the doctrinal study of law is full of examples of generalizing legal "data" (in a less extensive way) *via* reasoning whose established names are "reasoning *ex analogia*" and "legal induction". At the same time, the doctrinal study of law has been often criticized for being unable to derive correct inductive conclusions. Why? In my opinion, the main point must be what follows:

The "legal induction" can be expressed in the following manner:

Premise (1*) $x_1, x_2, x_3 \ldots$ which are C should (must, in the normative sense, ought to, in German *sollen*) be (treated in the way) P

Conclusion (2*) $x_{n+1}, x_{n+2}, x_{n+3} \ldots$ which are C should be (treated in the way) P

Prima facie, both the premise 1* and the conclusion 2* can be interpreted either as norms or as descriptive propositions stating that there is an established norm. Assume at first that they are interpreted in the second way. In this way, we obtain a quite ordinary induction in the law:

Premise (1^{*s}) An established norm says that $x_1, x_2, x_3 \ldots$ which are C should be (. . .) P

Conclusion (2*^{s}) An established norm says that $x_{n+1}, x_{n+2}, x_{n+3} \ldots$ which are C should be (. . .) P

This interpretation seems, however, to be strange. A jurist can draw the conclusion 2* even if he does not believe that there is *an already established norm* 2*. In other words, whereas the "normal" induction leads to cognitive theories or hypotheses, the legal induction, including the legal reasoning *ex analogia,* leads from a norm (very often from an established, legally valid norm) to the *creation of a new norm,* according to the following pattern:

Premise (1*^{s}) An established norm says that $x_1, x_2, x_3 \ldots$ wich are C should be (. . .) P

Conclusion (2*^{n}) $x_{n+1}, x_{n+2}, x_{n+3} \ldots$ which are C should be (. . .) P

The conclusion 2*^{n} expresses the newly created norm; formulated in the same words as conclusion 2*, it is more precise; I have just eliminated its interpretation as a descriptive proposition about an established norm.

This norm-creating "induction" in the law must, however, be *justified* in a quite different way than the ordinary induction. The premise l' of the ordinary induction says that, as regards $x_1, x_2, x_3 \ldots$, an empirical regularity, having the property C, is followed by another empirical regularity, having the property P. The conclusion 2' says then that this relation of two empirical regularities exists, too, as regards $x_{n+1}, x_{n+2}, x_{n+3} \ldots$ On the other hand, the premise I*^{s} of the norm-creating induction says that, as regards $x_1, x_2, x_3 \ldots$, an empirical regularity, having the property C, is followed by a normative qualification in view of an established norm ". . . should be P". And, what is more, the conclusion 2*^{n} *creates* a similar norm about $x_{n+1}, x_{n+2}, x_{n+3} \ldots$ Now, basing a guess about some empirical regularities on some other empirical regularities can be justified, if at all, by some metaphysical assumptions concerning uniformity of nature, etc. Creating a new norm *cannot* be justified in such a manner. Its justification is rather based on another norm, for instance, on the principle of formal *justice*, "like people should be treated alike". The norm-creating induction in the law is apparently similar to the ordinary induction but its purpose is different, to create norms, not cognitive theories, and thus its justification is different too.

6. *Doctrinal Study of Law and Falsificationism*

According to Popper, the proper method of scientific research consists of formulating bold hypotheses; one should try to falsify hypotheses; one accepts them as long as they are not falsified. Popper justifies this method by pointing out that it constitutes a special case of trial-and-error learning which is beneficial from the Darwinian (evolutionary) point of view. Does the doctrinal study of law consist of constructing and testing falsifiable hypotheses? In view of what has been said above, it is doubtful what such terms "falsification", "hypothesis", "error", etc., mean in the context of the doctrinal study of law. If evolutionary justification of the doctrinal study of law is possible, it cannot be done by a simple repetition of Popper's argument. Let us now add the following, more detailed points:

1. Popper has expressed the anti-inductionist idea that the actual degree of corroboration of a theory, for instance the actual number of observations agreeing with it, is no proper ground for prophecies about the chance of the theory to be corroborated by future observation as well. This idea seems to be easily transferrable to the doctrinal study of law. It happened many times that well-established quasi-inductive juristic theories were rejected in a quite unexpected manner.

2. Falsificationism is confronted with the Duhemian problem. Suppose that the theory T combined with the auxiliary hypothesis A imply e, but observation suggests non-e. What should one do? "(1) One may challenge the derivation by showing that e does not in fact follow from T.A. (ii) One may show that the observation which purports to show non-e is unreliable. (iii) One may reject A. (iv) One may reject T." In order to grasp the transferability of this problem to the doctrinal study of law, let us consider what follows: The doctrinal study of law very often expresses its result as a combination of a general norm-proposition and several exceptions from it. In a sense, the general norm-proposition corresponds to the theory T, whereas the exceptions correspond to the auxiliary hypotheses A. Assume now that there exists an established combination of a juristic general norm-proposition T with exceptions A. Assume, moreover, that there are some juristic "data", for instance some (new?) statutory rules, incompatible with T.A. If such a conflict does arise, a jurist can (1) challenge the incompatibility; or (2) reject the "data" (because they are "erroneous interpretations" of the statute); or (3) modify the exceptions A, for instance make them more extensive; or, finally, (4) reject the general norm-proposition T.

3. On the other hand, there is an important difference between

science interpreted according to Popper's methodology and the doctrinal study of law. To solve the Duhemian problem, Popper has formulated some methodological rules, for instance, the famous rule that *ad hoc* auxiliary hypotheses, introduced solely in order to save the theory, and not increasing its degree of falsifiability, are forbidden. It is doubtful whether Popper's methodological rules are applicable to the doctrinal study of law. Meta-norms of legal research, actually discussed as regards the study of law, seem to have very little to do with Popper's rules. In practice, moreover, jurists often try to "save" as much as possible of their "data" and theories, not to falsify the theories. They try, for instance, at any price to adjust "data" and theories to each other. Statutory interpretation is thus adapted not only to the natural reading of preparatory materials, precedents and other legal "data" but even to established theories, suggesting the "right" interpretation of all this "data" from the legal point of view. There is also an adaptation to the opposite direction. The mutual adaptation of all this is most important, no matter whether *ad hoc* or not. If some "data" or theories must be rejected, the jurists reject those whose abandoning changes the whole system of the doctrinal study of law to the least possible extent.

7. *Methodology of Reasearch Programs and Doctrinal Study of Law*

According to Lakatos, a research program (= a series of theories) has a hard core protected by auxiliary hypotheses; counter-examples ought to be directed against the auxiliary hypotheses, never against the hard core. Within the program, more and more complex theories are developed. The program is progressive, if the next theory has greater empirical content than its predecessors. The program is degenerating if it is not progressive.

Aart de Wild has elaborated an application of this methodology to the doctrinal study of law. A series of juristic theories is thus progressive if the next theory within this series explains and sets aside a greater number anomalies than its predecessors. "Anomaly" is in this context defined as a deontic incompatibility of norms. Consequently, a degenerating legal research program is no longer capable of presenting the (valid) law as consistent.

This theory is very interesting. The problem is, however, that the way of setting aside incompatibilities of norms, applied in the doctrinal study of law, is in a very strong sense evaluative. The jurists continually modify their established methodological rules in order to

choose not only an anomaly-removing solution but ever a just and morally right solution. Moreover, the very lack of precision of the juristic methodological rules enables the jurists to *always* in an evaluative way set aside incompatibilities of norms —simply by using their own evaluations developed *ad hoc*. No legal research program is progressive in a Lakatos sense of providing a hard core of assumptions and methodological rules *warranting* to set aside all incompatibilities entirely impossible.

8. *Sophistication of Theories and the Doctrinal Study of Law*

Sneed's methodology, adapted to natural science and grasping theories such as mathematical structures, includes, nevertheless, a point which has been applied to the doctrinal study of law. According to Sneed, a theory, T, is reduced to another, T', if T' is more sophisticated: what can be said in T can be said in T' but not *vice versa*. Aarnio has developed a similar point concerning legal research. (By the way, Aarnio's views in general are inspired by Wittgenstein and Kuhn, but the argument presented below is close to Sneed's way of thinking.) Aarnio has given the following example. The old theory of ownership, T, regarded ownership as a substance which at a certain moment can belong to one and only one person. The newer Scandinavian theory of ownership, T', says that to be an owner of a thing is the same as to be legally protected against certain other persons. There are many kinds of protection; it is thus possible to have the position of an owner in some respects but not in others. The transfer of ownership is thus not instantaneous but successive. At a given moment, one person, for instance the seller, can be the owner in one respect, whereas another person, for instance the buyer can be the owner in another respect. Aarnio has concluded that T' is more developed than T, because the conceptual equipment of T' makes it possible to achieve more detailed analysis of relevant problems than the corresponding equipment of T. In other words, a jurist was forced by the old theory, T, to press all the conceivable relations between a seller and a buyer into merely two classes: either the seller was an owner and the buyer not, or the buyer was an owner and the seller not. On the other hand, T' allows a jurist to speak about a third kind of a situation —in many versions— that is, the seller is an owner in some respects whereas the buyer is an owner in other respects.

T' is better than T from the cognitive point of view, since it makes it possible to achieve knowledge of situations which were conceptually inaccessible to T. Moreover, T' is better than T from a non-cognitive

point of view, as well, since it allows the law-giver and the decider to grasp and hence to regulate these situations, conceptually inaccessible to T. Briefly speaking, T' allows for a more detailed knowledge and a more detailed regulation than T. There is, however, a problem. It seems to be *an analytic truth* that more knowledge is cognitively better than less knowledge: the term "cognitively better" seems to mean something like "more knowledge". Consequently, if T' enables a legal researcher to achieve more knowledge, T' is, by definition, better than T. On the other hand, it is *not* an analytic truth, in any case not in any obvious sense, that more legal regulation is non-cognitively (legally, morally, and so on...) better than less regulation. Consequently, if T' enables a legal decider to achieve more regulation than T, it does *not* follow by definition that T' is better than T.

The conclusion is that a more sophisticated legal theory is cognitively better than a less sophisticated one, but it is unclear whether it is better from a non-cognitive point of view. Now, the question whether it is better *simpliciter* cannot be answered unless we know whether the "essential" purpose of theories in doctrinal study of law is merely cognitive or perhaps non-cognitive, too.

Another point worth consideration is what follows: Sneed has regarded theories as mathematical structures that can be applied to models (= to fragments of empirical reality); if the theory does not "pass" to a given model, it is not falsified, since one can look for another model. It is obvious that legal theories are not mathematical models in this exact sense. On the other hand, they can be seen as clusters of abstract and ambiguous propositions whose value depends on whether they can be interpreted precisely in a way covering a given fragment of reality. Consider, for instance, the above-mentioned old ownership theory, T, according to which a person can either be an owner or a non-owner, *tertium non datur*. One can say that this theory is applicable to one model, for instance to European societies of 19 century, but not to another one, for instance not to Sweden today. It means that in Europe of 19 century, the social situation, the statutes, the precedents, and so on, were such that it was uninteresting to think of different aspects of ownership as described by T', that is, as distributed among more than one person. In Sweden today, on the other hand, it is highly interesting, *inter alia*, because the society no longer is divided into owners "which can do everything with what they own" and non-owners "which can do nothing"; just the opposite, it is usual that many persons have important competence as regards the same thing, for instance, not only the owner of real estate but also the bank that had loaned him money for buying it,

the state, the municipality, and so on. In this situation, one can expect that a still more sophisticated theory of ownership, say, T' ', might occur in future, distinguishing still more aspects of ownership. It will be applicable to the society of tomorrow, whereas T' is applicable to the society of today and T was applicable to the society of yesterday.

9. *The Doctrinal Study of Law and the Regulative Idea of Truth*

Comparing the doctrinal study of law with models of science given by various methodologies, we see many similarities and some differences. The profound reason for the differences seems to be what follows. Although it is a controversial matter whether (and in what sense) scientific theories succeed in their pursuit of the truth, it is rather uncontroversial that they *aim* at formulating true propositions. The ordinary sense of "truth" has been expressed in the following manner: "To say that something is true is to say that there is a correspn-dence between it and a fact." It follows that science aims at formulating propositions which correspond to facts.

Only few legal scholars assume that the doctrinal study of law merely aims (and/or should aim) at telling the truth, in this sense, about the literal meaning of norms expressed in the sources of the law. Most specialists in law, independently of their paradigm, admit creative interpretation of sources. One must thus make a choice between the following competing views:

1. The doctrinal study of law starts from describing the sources of the law but it also makes the second step: recommends the judges and authorities how to make the optimal decision in various types of individual cases. The recommendation is based on an evaluation, and this is not a matter of truth.

2. The doctrinal study of law says the truth about the "real law" behind the sources of the law. This "real law" is discovered by means of evaluative, and not always linguistically most natural, interpretation of these sources. This "real law" contains the right answer to many (or all) legal questions, even if this answer is not implied by the ordinary reading of the sources of the law.

In the Nordic legal tradition, the first view is dominating. Moreover, it seems that the second view implies quite a complex and rather controversial ontology, according to which there are (there exist) some legal values, to be discovered *via* evaluative reasoning, and to be described in value-propositions. Finally, the second view obscures the important methodological difference between descrip-

tive (theoretical) and evaluative (practical) discourse: the methodological rules governing the second one are less precise than those governing the first one; consequently, the result of the second is less stable than the result of the first.