Expert Systems in Law
- Inpacts on Legal Theory and Computer Law -

herausgegeben von

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A Dichotomic Database of Legal Topoi

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I. The database of legal topoi is meant to help in solving legal problems. The word "problem" is to be taken literally: that you fail to know the solution to a case - whereas an expert would know it - does not yet constitute a problem.[1] On the other hand, the fact that you are in a position to predict "what the courts will do" (Olives Wendell Holmes) in a certain case does not necessarily mean that the case in not highly problematic.

According to a view popular among scholars of "computers and law", the problem of a case results from the deformation of a legal prototype. (These terms, from cognitive psychology, are used by *McCarty*, whereas *Haft* differenciates between Normalfall und Problemfall. I once spoke of Idealtyp and Abweichung, following *Max Weber*. However, I would not think that these nuances are very important.) One reason for the popularity of this case-focused view is that computers in the near future will not be able to get a feeling for the subtleties of natural language, which would be necessary for interpreting statutes. However, in comparing cases the computer can be of help today.

A case is problematic if the deviation from the prototype is great enough to raise doubt: should one decide according to the terms of the prototype, or should one practically outrule these terms?

The question is how to determine whether a deviation is tolerable or not. I believe that there are several methods to evaluate deviations; here I would like to elaborate on a technique that I think many lawyers apply more or less subcon-

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[1] As a matter of fact, our topoibase was designed when we became aware of the insufficiencies of a legal expert system which for what it is doesn't work badly. MULE - Munich Legal Expert, briefly described in my article: Using an Expert System in Testing Legal Rules, in: Automated Analysis of Legal Texts, edited by A. A. Martino et al., Amsterdam 1986, p.703-710.

sciously. This technique is deeply rooted at least in the German legal tradition, and I think not only there: the Belgian legal philosopher *Chaim Perelman* has described the phenomenon, as well.[2] Anyhow, I do not know whether or not and to what extent you can find it in the Anglo-American legal system.

The first step in approaching the case would be to split the prototype into two components; often these components will be preformed by scholarly tradition. For instance, the German legislator has defined theft as Wegnahme einer fremden ... Sache, in der Absicht, sich dieselbe rechtswidrig anzueignen (removal of a foreign object with the intention of unlawful aquisiton). Legal scholars have split these terms as follows: Wegnahme = Bruch fremden und Begründung neuen Gewahrams (removal = breach of someone elses' custody and the founding of new custody). Gewahrsam = tatsächliche Herrschaftsmacht über eine Sache - die von einem Herrschaftswillen getragen ist (custody = actual possession of the object with the general will to possess it). Similarly, the intended aquisition is defined by Enteignung (expropriation) and Aneignung (appropriation) of the object. The object as such is split into the two components of Substanz and Wert (substance and value). Fremdheit is composed of the formal and the material (the legal and the economic) aspect of property. Last but not least, 'intention' is defined dualistically: by knowledge and desire, the intellectual and the 'voluntative' component.

Every competent lawyer has internalized dozens of such dualisms: ready to categorize the world according to them. For example: the act and its success, the intention and its declaration, the legal power and the legal right (*Hohfeld*). As a principle, they are variations of the fundamental philosophical dualisms of form and content, exterior and interior, object and subject, reality and value. *Perelmann* claims that all of them are paraphrases of the Platonic differentiation between Form and Matter. Indeed the resemblance is striking.

However, you need not turn to *Plato*: it is quite natural in the case of an argument that one party takes the objective, the

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[2] Juristische Logik als Argumentationslehre, Freiburg-München 1979, p. 178.

other the subjective stand "You shot my dachshund!" - "I'm so sorry, I thought it was a fox about to invade my henhouse." -- "My employee was not allowed to sign the contract with you!" - "Well, I had to rely on the letter of authorisation you gave to him."

The point of these dualisms is that the two aspects do not exclude, but compliment each other. The prototype has both aspects: normally, the thief will be interested in substance and value of the taken object. Sometimes however only one aspect holds: the thief (if any!) restitutes the object after having it devaluated: he gives back the savings book after plundering the bank account. Then we have a problem (this time not for the legal practice, but still for some scholars).

If the deviation goes so far as to cover both aspects, one can no longer seriously evaluate it according to the prototype. A theft where the delinquent is neither interested in the substance nor in its value is hardly imaginable.

The line of legal argumentation is now visible: in order to decide on a problematic case according to the prototype one has to point out that the remaining component is the essential one, whereas the missing one can be neglected. To take the opposite stand one has to demonstrate that it is the missing component that is dominating.

As we see, there are only two problematic arrangements. This can be used to construct a set of related cases to heuristic purposes in advance.[3] I mentioned above the problem of the restitution of a devalued substance (e.g. savings book, train ticket). Exchanging the components of the case we get the problem of restituting the value but not the substance: e.g. changing a hundred mark bill against the will of the owner. If you deny theft in this case, imagine the following one: A drug addict happens to notice a pack of prescribed pain relievers lying on a pharmacist's counter. Leaving an appropriate bill behind, he takes off with the drug.

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[3] For details, see *Philipps*, Kombinatorik strafrechtlicher Lehrmeinungen, in: A. Podlech (Ed.), Rechnen und Entscheiden-Mathematische Modelle juristischen Argumentierens, Berlin 1977, p. 221-254.

II. After having decided to stay in line with the prototype or to divert from it, it would only be natural to lay down as well, in which direction one has decided to divert or not to divert. I feel that up to now one has designed databases for decisions too much like databases for literature. A court decision on theft, however, is something very different from an article on the legal history of theft. It is always a decision pro and contra. A decision pro theft is at the same time a decision contra fraud, or contra robbery, or contra embezzlement, or contra the taking of a corpse (think of a mummy), or against a case of mere furtum usus, which as a rule is not punishable.

From the standpoint of computer science, the following is trivial, but nevertheless worth remembering from time to time: If I search my database for decisions on theft *and not* fraud, I will not get decisions pro theft and contra fraud, but those decisions that contain the word 'theft' and not the word 'fraud'. So I have to search for theft *and* fraud, but now I will receive all decisions where both the words 'theft' and 'fraud' are mentioned, among them many I will not need.

A retrieval system suitable for decisions can be easily obtained by splitting the column for solutions dichotomically in 'pro' and 'contra' or 'ascribed category' and 'denied category'. Now it is easy to find all decisions in which theft is marked off from fraud or, for that, from robbery. Contrary to the form of topoi dichotomisation we began with, the dichotomisation of solutions is not inclusive, but exclusive (pro/contra).

The essential question is whether it is possible to make this distinction easily, quickly, and with intersubjective evidence. This is the case especially as far as higher court instances are concerned. This follows from the mechanism of legal appealing. We have a lower court decision and an appeal against it. As a rule the higher court will confirm either the previous decision or the appeal. Since a court decision has to be enforcable, it should be possible to extract its gist with certainty and from the first pages of the document. By dichotomising the field 'solution', one only revokes an unnecessary abandonment of information.