A Model of Legal Information Retrieval as Part of the Decision Process

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1. INTRODUCTION

The purpose of presenting this model of the legal decision process is twofold: Firstly, it is an attempt of relating the different elements of a legal decision in a coherent and systematic manner. Secondly, it is an attempt of constructing a frame for discussing legal information systems as part of the decision process.

It is generally accepted that legal research is just part of the legal decision process. A legal information system must therefore by perceived as part of a more comprehensive decision process. In discussing the possibilities of new technology for improving that process, the use of computerized legal research has been given considerable attention. Improvement of an information retrieval system has, however, only value to the extent that the decision process as a whole is improved.

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* The model presented in this article has emerged through the work at the Norwegian Research Center for Computers and Law, and the projects carried out as part of the research program in legal informatics, NORIS. I am indebted to many of my colleagues for suggestions and comments. – A number of earlier versions of the model has been developed, e.g. Bing/Harvold 1973: 2-10, Bing 1974: 100-102, and Bing 1975. This article is mainly a somewhat elaborated version of the first chapter in a book on legal information systems to be published by Trygve Harvold and myself, summing up some results of the NORIS program. The book will be entitled Legal Decisions and Information Systems, Oslo University Press.
This has been stressed by Slayton (1974: 21), who has suggested « that electronic legal retrieval systems designed to assist in, or substitute for, a key part of the legal thought process has been developed with little understanding of what the process is, and what the consequences of changing it will be ». Without taking a stand on the justification of Slayton's criticism, I agree that he outlines the only adequate perspective for describing legal information retrieval

In this article, I will therefore take as my subject the legal decision process. This will be outlined, and the aspects which have relevance to legal information systems will be discussed in some more detail.

Before moving to the subject proper, I would like to stress the inherent limitations in the description presented in this article. There is, of course, a rather strong reservation in the term « model ». It is not an attempt to describe the psychological process in a lawyer's mind, but rather to distinguish between the different elements of the decision process as they may be sorted out after a decision is made. Actually, the term « justification model » may be more accurate, as the description will be more akin to an autopsy of a decision already made than the recording of this decision in the making.

The elements of the model will in real life often be difficult to catch, they may be intuitive leaps of the mind – and it may seem somewhat artificial to have them laid out in a model. Also, the model grossly understates the interaction between the different elements as the problem is solved in the mind of the lawyer. In spite of these awkward points, the model will from representational reasons be presented as a sequential process with one beginning and one end, though interactive stages will be indicated.

Another major limitation is my own lack of knowledge in comparative law. This model is formulated on the basis of Norwegian law. The legal decision process is, I think, to a high degree independent of the substantive law basic to the decision. But certainly there is a very strong interdependence between the substantive law and the meta-norms governing the decision process. Therefore lawyers with their background in other legal systems than the Norwegian, may find some of my remarks puzzling.

2. From problem to facts

A legal problem is something which emerges out of the interaction between humans, it is part of the society and exists by itself alone before it is brought to the attention of a lawyer. We are here, of course, only

1. For a comment on Slayton's view, see the remarks of Mackaay and Rubin, with Slayton's response to these in « Jurimetrics Journal » 1974.
concerned with legal problems which are solved by a legal decision process. In respect to our model, we will call the person (or persons) experiencing the problem a «client», while we will call the person solving the problem a «layer».

According to this view, the lawyer is not himself part of the problem, but rather some sort of spectator giving advice to his client. This is typical, but does not always hold true. For instance a legal researcher may himself search out the problems which are the raw material for his studies, or he may be the person experiencing the problems, combining the roles of client and lawyer.

The most common example of a legal problem solver is the judge. The judge may be regarded as the lawyer of our model. His client will then be neither of the two contesting parties before the court, but rather the case which these parties jointly represent. Though a common example, the judge is today hardly the typical lawyer. In respect to this article, the lawyer may be typically pictured as a civil servant.

The problem, as experienced by the client, is not primarily classified as «legal» or otherwise. The first step of the lawyer is to determine whether the problem – as presented to him through his client – is legal or partially legal. This is not as trivial as it may sound. If a client complains about health, housing, his family and his economy, it is not evident that the best solution is an invalidity pension, housing grants, and a divorce. The legal problems may be part of a more complex problem situation – or, indeed, symptoms of other problems. The client might be better aided by medical care, reschooling and contact with a social adviser than by extensive legal assistance.

As a lawyer, one is nevertheless restricted to extract the legal problems out of the totality. This presupposes that the lawyer can identify a legal problem. This will in most cases be second nature to a lawyer. He is an expert with background knowledge of the legal system – and is consequently able to grasp the legal problems that are part of the totality. As a characteristic, one may say that a legal problem is a problem to whose solution legal argumentation may contribute. This is a pragmatic characteristic, but it will suffice for our purpose.

Looking a bit closer at the nature of a «legal problem», one may specify three typical examples:

1) There exist valid norms prescribing that a certain type of problems may be solved by legal reasoning. Typical examples are decisions made by the public

2. For the purpose of this discussion, we use the term «lawyer» denoting all persons working with legal problems, regardless of his formal education or degree, cfr. Stadler 1973: 75, Luhmann 1966: 10. For the sake of simplicity, we also restrict our description of «problems in reality» and the lawyer to the typical client-lawyer relation.
administration – statutes governing these activities will imply that decisions are results of legal decision processes.
2) The problem is a dispute which may be brought to court. The possibility of a trial will throw a shadow across the problem and make a legal decision the normal solution even when settling out of court.
3) The parties (or the environment) accept that a legal decision process is a valid way of settling the problem. This acceptance will depend on several factors, for instance the social prestige of the lawyer or lawyers in general, or the effectiveness of a legal decision process (which is a rather effective way of arriving at a solution).

When the lawyer has settled which are the legal issues of the problem of his client, he sets out to describe the facts of the case. Having no direct knowledge of the case, he has to rely on evidence – primarily discussions with his client, but also with other persons concerned with the problem, examination of documents etc.

Some facts will be evident (like the identity of his client). But here exist a few meta-norms prescribing how the lawyer is to arrive at the probable facts of the case. These meta-norms are most evident in a courtroom, where there may be a considerable body of law of evidence to take into account. In the Norwegian legal system this body of law is rather modest, and does only rarely come into play. But in Anglo-American legal systems they have a more prominent role.

The law of evidence should not, however, distract us from observing that the lawyer mainly bases his assessment of the evidence on general human knowledge. When in doubt, he will choose the set of facts which, as he sees it, most probable is true.

But also normative attitudes of a different order may be introduced at this stage – for instance meta-norms of client loyalty. The lawyer may feel inclined to accept the version of the fact presented by his client even though another version may appear more likely to be true. Also, client loyalty may influence the lawyer’s assessment of what is probable. – The sort of influence exemplified by client loyalty, may also be viewed as a feedback loop from later stages of the decision process, indicating the dynamic aspect of the process which our model does not wholly justify.

In most legal systems there exist meta-norms which introduce special qualifications regarding the probability. A set of facts is not regarded as proven unless it is qualified as more probable than any other sets of

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3. The term «meta-norm» is for the purpose of this article used on all norms governing a legal decision process. This in contrast to norms of substantive law which prescribe the possible solutions to the initial problems. Meta-norms will consequently define or determine the outline of the legal decision process. I am aware of the fact that meta-norms themselves may be of different categories, but feel that this terminology will suffice for the purpose of this article.
facts. These meta-norms govern the burden of proof, and they are of course relative to the legal system. But a general example is the prosecutor’s burden of proof in a criminal case – you are «innocent until proven guilty».

This group of meta-norms is, however, not too well defined. It is for instance proposed in Norwegian legal theory that norms governing the burden of proof may be generated by the special facts of the case itself, for instance built on an assessment of the consequences of alternative decisions. Once again we see that this set of meta-norms may be influenced by feed-back from later stages in the decision process.

Through the meta-norms governing the burden of proof, the lawyer arrives at a set of facts which are proven. These may differ from the probable facts of the case to the extent that qualified probability is necessary for a certain fact to be proven.

The case – as described by the proven facts – is the starting point of the lawyer when looking for relevant norms. (To us it is important to stress that our model takes the facts of the case, rather than the legal norms, as the point of departure – cfr. Kilian 1974: 42). He has used his legal background knowledge in order to extract the proven facts from the totality of the problem. Also he may already have used feedback information from later elements in our model of the decision process. But generally speaking we may say that up to this point, substantive law has not entered into the process.

In order to arrive at a decision, the lawyer of course has to select the relevant norms out of the legal system. The retrieval process is part of – but not identical to – this selection.

By our definition, a legal source is a text, a statement or an opinion, the content of which the lawyer must, ought to or may take into account when arguing the existence of a specific legal norm. (Cfr. Eckhoff 1971: 20-21). A group of legal sources originating from the same «source», is termed a type of legal sources.

Only arguments which derive from legal sources may be used when reasoning the existence of a specific legal norm. Consequently the qualification of a statement as a legal source becomes a matter of some importance. This qualification is based on legal meta-norms relative to the legal system. These meta-norms are rarely of an explicit nature. Nevertheless, they are not, at least in relation to the Norwegian legal system, controversial. Disagreement on a legal point rarely centers on whether the statement basic to the argument is a legal source or not. In Norwegian legal

4. An opinion voiced for instance by the local chamber of commerce on the sales practises within a certain trade.
theory there have been, however, a few instances where the status of certain types of legal sources has been discussed – cfr. for instance Fleischer 1965: 152 on the status of decisions by first instance courts and Augdahl 1961: 105-110 on the status of travaux préparatoires.

Through the meta-norms a volume of statements is defined. This volume represents the total number of legal sources of a legal system. The lawyer looking for norms relevant to his case, must direct his attention towards these.

Usually the lawyer does not have access to the total volume of legal sources. He turns his attention to the part of the total volume which is available to him.

The availability is determined by practical factors, and one may distinguish between two main groups: physical and psychological factors.

The physical factors are trivial, but of great consequence. It may be illustrated by the part which a simple thing like distance plays in determining the use of legal sources. Evidently a lawyer will be more inclined to use legal sources available at his own desk than the sources available at a library some distance away from his office. In principle he may order a volume of case reports which may contain relevant sources – but this requires a certain extra activity on the part of the lawyer: writing an order slip, mailing it, waiting till the book arrives etc. User research in Norwegian public administration has proven that even legal sources available rather close to the office of the lawyer (for instance a precedents file on the next floor) are not used owing to the effort involved. Cfr. Føyen/Harboe/Lie 1973: 92 and Bing/Harvold 1973: 276.

Another example is the research by Eckhoff (1971: 74) into the use of travaux préparatoires when arguing for a certain interpretation of the statute by the courts. In the decisions by courts situated outside Oslo hardly any travaux préparatoires were cited contrary to the decisions by courts situated in Oslo. Eckhoff hints at the better libraries in Oslo as an explanation – i.e. the better availability of the type travaux préparatoires in Oslo.

An example of a physical availability factor of another kind is given by Føyen/Harboe/Lie 1973: 49. A publication of case reports, administrative decisions etc. pertaining to Norwegian tax law has an important place in the total information system within this sector. At a certain office, money for binding the separate issues into volumes had not been granted for some time. These issues were kept on the shelf tied together with string. A lawyer had to untie the string and shuffle through the stack in order to find the issue of interest. The extra effort involved was sufficient cause for not consulting the issues.

As an example of psychological availability factors, we may mention case reports printed in Gothic types – something which disagree with most
modern lawyers. Another example may be the language of the legal source, a problem most strongly present in countries with two radically different official languages. At least in two of these countries – Belgium and Canada – the computerized legal information systems have been designed to reduce the user effort created by this availability factor, cfr. the descriptions of CREDOC and DATUM by for instance Houtart 1973 and 1972, and by Mackaay 1971.

The retrieval system – in a broad sense, indicating the total means a lawyer has of retrieving possible relevant documents from a collection of legal sources – may be viewed as an availability factor in its own right. We prefer to discuss it out of that context. The retrieval is directed towards the accessible collection of legal sources – a base primarily defined by other factors of availability than the retrieval system. But there is a close relationship between retrieval system and availability factors. A better retrieval system will make it possible to search a collection of sources in less time. The time gained may be used in an effort to conquer other availability factors which ultimately may result in a bigger accessible base – from the user's point of view.

An improvement in the information system will also make the sources included in the improved system more easily available than others. The improvement will therefore typically cause a relative shift in the availability, for instance when the original text of the sources may be accessed through a terminal oriented system. The documents included in the data base will be available at the touch of a button, while documents still confined to books, files and other manual systems will have to be looked up in the conventional manner. The effects which this may have on the legal decision process, will be indicated below at section 4.

Availability factors define an accessible collection of legal sources with respect to the user. This collection will rarely be uniquely confined to for instance the content of the library of the user. The user may always expand the collection into new libraries or document files. But the expansion to new collections outside the user's « home collection » will entail a cost measured in time, money or otherwise, i.e. the effort necessary to conquer the availability factors. This « cost » will in practise draw a line for what sources the lawyer can afford to look into. In determining what he can « afford », the lawyer will, however, take into account several pragmatic factors, as for instance the importance of the problem he is confronted with. A common reason for increased effort is the existence of an influential or a wealthy client. (Cfr. Operation Computex 1972: 7-8).

In a computer-based retrieval system, the obvious availability factor is the form of the legal source. Only machine-readable texts may be made part of the search file and available through the system. Consequently,
the accessible collection of legal sources will — in respect of a certain computer-based system — be well defined.

Also, as mentioned above, the difference in availability between sources included in the system and sources not included, becomes greater in respect to computerized systems. The fuzzy definition of the accessible collection of legal sources in a manual system corresponds to a gradual increase in user effort necessary to overcome availability factors when expanding the search.

Coverage is defined as the ratio between the accessible volume and the total volume of sources which may be relevant to the lawyer (Bing/ Harvold 1974: 103). What may be relevant to the user, is in principle defined by the legal meta-norms. As these norms rarely are explicit, it is difficult to determine the volume of possible relevant sources. Even in relation to a certain legal area (criminal law, tax law i.e.), this will be difficult. But if coverage is related to a certain type of legal sources, for instance decisions of the Supreme Court, it will be possible to quantify the total. When also the accessible collection of sources is well defined — as in a computer-based system — an estimate of coverage in this limited sense may be given.

The definition of coverage given above may appear diverging from the one usually given, cfr. for instance McCarn/Stein 1967: 111, who define coverage as «the extent to which the system includes a data base required by the user». In this case, the definition of the total volume of sources is referred to the purely subjective requirements of the user. In respect to a legal information system, I propose that the total volume is determined by legal meta-norms, which may be vague, but which are defined apart from the user. The difference really is a matter of diverging definitions of «relevant» sources — while McCarn/Stein base their definition on subjective relevance, my definition is based on content relevance, reflecting the presupposition that subjective relevance has a reduced importance in decision processes as strongly regulated by meta-norms as the legal decision process. This opens the possibility, in my view, to give rather more objective estimates of coverage in legal decision systems than in many other decision systems, due to the existence and importance of legal meta-norms.

The importance of the accessible collection of sources in any legal information system, can hardly be overstated, cfr. Tapper 1973: 78-80. It represents an upper limit of the quality of the service which this information system can offer to the user — for the simple reason that a source not being part of the collection cannot be found, regardless of how closely you look. In a conventional system coverage is important — in a computer-based system it becomes essential. In a conventional system — as discussed earlier — the accessible collection is not well defined, and deficiencies in coverage may be more or less hidden to the user. A computer-based system declares exactly what its accessible collection of
sources is — and consequently coverage deficiencies become more apparent. User research has also illustrated the importance placed on coverage by the user confronting a computer-based system, cfr. Brukerforsøk 1975: 6-7.

3. The retrieval process

At this point, the lawyer has described his case through a set of proven facts. His problem is to find the legal sources from which he may arrive at the legal norms relevant to his case. He has to go through a retrieval process. The sources he may retrieve are contained in the collection of accessible legal sources, which are more or less explicitly defined by the availability factors. To facilitate his retrieval, he may employ a retrieval system — which may be a computer-based system, but may also be a conventional system of indexes, reference works etc.

A legal norm may be pictured as composed of two distinct segments: One segment defines the conditions for its use, the other segment describes the consequences of its use. This picture is clearly — and this point ought to be stressed — much too simple for a discussion of the nature of legal norms. It is, however, sufficient for our needs at the moment, as it demonstrates an important feature of norms: The conditions for its use correspond with the facts of possible cases. Whether a legal norm is brought into play or not is determined by the conditional segment of the norm, which qualifies a certain constellation of facts as a valid activation of the norm.

The legal sources contain the norms, and do consequently also contain the facts that activate the norms. The treatment of facts in the sources represents the bridge between the case at hand and the accessible collection of sources.

In order to retrieve possible relevant sources, the lawyer must formulate a query. This query must be based on the proven facts of the case — as this is the only part of the legal problem which the lawyer in principle knows at this stage of the decision process.

This query, which is a representation of the proven facts of the case, is matched with the accessible collection of legal sources. Where the facts mentioned in a source match the fact specified in the query, the source may be considered retrieved.

This matching process is often rather intuitive on the part of the lawyer; his memory presents to him effortlessly the possible relevant statutes or precedents. But usually a search is necessary. This may take the form of browsing through textbooks on the subject etc. — and in this case the query may remain vague and inexplicit, more or less as a question in
the lawyer's mind. But more often the lawyer employs some sort of retrieval system which demands of him a more explicit formulation of his question. He may have to choose index terms at the back of a textbook, choose a systematic number to get access to a classified compilation of case law or look up the commentary on a section of a statute. In all these examples the lawyer must formulate an explicit query which adequately represents his question within the limits of the retrieval system.

I stress this point just to point out that all retrieval systems imply the formulation of a query, regardless of whether the systems are computer-based or manual. The accessible collection of legal sources is - as discussed earlier - of a syntactic nature. The questions in the lawyer's mind are of a semantic nature. In order to employ a retrieval system, a bridge has to be built from the semantic to the syntactic level. The query - which is a representation of the question in the terms allowed by the retrieval system - represents this bridge.

In a computer-based system the query does play an essential part. Such systems usually open more possibilities in formulating queries than conventional manual systems, and retrieval strategies - how to formulate adequate queries - become correspondingly more important, reflecting the possibilities of choice.

We do not, however, find any differences in principle between the use of a computer-based retrieval system and a conventional library system (i.e. an index). Both presuppose that questions are transformed into queries - the flexibility of the query language will vary from one system to another, but this will only account for a difference in degrees. The principal difference is between systems where a syntactic query formulation is necessary and systems which do not demand this of the user. Regrettably few systems of the latter category exist - apart from user browsing more or less at random in a collection of sources (in a library or on a computer display). This is of course due to the difficulties of a principal nature in bridging a gap between the mind and a set of documents by anything else than a query formulated in a language (natural or artificial). In our view the critical comments of Slayton (1974: 22) on the differences between retrieval in a "normal library situation" and retrieval with the aid of a computer-based system are based on the misconception that the "normal library situation" includes retrieval systems that permit what Slayton calls "random conceptual searching".

As an illustration of the restrictions imposed on the user in formulating his query by a conventional retrieval system, we may take the precedents files in public administration. User research has shown that a number of these files are organized by the sections of the statutes. The user cannot in this case use the proven facts of the case at hand when formulating his query - he must formulate the query as a section of a statute. If he is mistaken in his choice of sections, he will not be able to find
an identical case included in the precedents file. (Cfr. Bing 1974: 114 with further references).

In the discussion above, an index is conceived as a help for retrieving the original documents. This will typically be the case when using an index in the back of a volume of case reports. But to a certain extent, the index itself is a document surrogate, the indexing terms for instance composing an abstract of the case. In a number of computer-based systems; only document surrogates are included – the user has to look up the full text manually to find abstracts of interest. In this situation a number of new problems related to legal information systems and the decision process will arise. Firstly, the abstract will of course impose certain limitations on the performance of the retrieval system in terms of efficiency in the same way as a conventional index. Secondly, the danger of the document surrogate replacing the document will be present, a danger accentuated by the dramatic better availability of the surrogate which is part of the retrieval system compared to the full text which is not. This may be counteracted by making a supplementary system for improving the availability of the full text, cfr. the solution in the American RIRA system, where the full text is available in microform and the microform access number is included in the computerized abstract, cfr. Cohen/Utrectz 1968: 5. Ciampi 1974: 722 discusses several of these aspects in respect to the Italgitude system, which provides an excellent example.

Matching the query with the accessible collection of legal sources, the lawyer makes a preliminary selection of legal sources. Once more we stress that the result is a set of sources – typically a set of written documents – not a set of legal norms. But by interpreting these sources, the lawyer may construct the legal norms (which are of a semantic nature). This interpretation may only be a trivial process like reading through the text. But in our terminology any understanding of a legal source (through reading or listening), presupposes an interpretation. (A «decoding» in the psychological sense, cfr. Rommetveit 1972: 45, 71-89). A closer characterization of «interpretation» will be made below.

During the retrieval process, the lawyer makes a preliminary interpretation of the legal sources in respect of the facts. Taking the description of facts found in the sources the lawyer compares them to the proven facts of his case. Where a correspondence is believed to be found, the legal source in question is put aside as relevant.

This examination of the legal sources will take place regardless of the information system employed by the lawyer. In an interactive, computer-based system, this phase will correspond to the browsing on a display. The text of the retrieved sources may be displayed, and the lawyer may rapidly browse through them in search of possible relevant documents. Special features of the system – for instance highlighting or KWIC-formats – facilitate this browsing. In this phase, the computer functions as a «reading glass».
will be more or less helpless when confronted with such a system. An information system designed to give legal information to non-lawyers must be constructed along other principles, including for instance a sub-system capable of problem-analysis, a process which in our model is pictured as manual. Cfr. McCoy/Chatterton 1968, Seipel 1975: 268-269, Bing/Harvold 1973: 11-15.

One may note that this analysis of query construction points to one of the major problems in computer-based text retrieval as experienced by the user – the problem of specificity. When constructing the query, the lawyer uses the proven facts of the case. But in the legal sources, the facts may be represented by words different from the words one would be inclined to select when describing the facts of the case. If the case concerns a cow, a legal source of a general nature (for instance a statute), most probably will not use the word «cow», but rather a more general term like «domestic animal». In a legal source of casuistic nature (for instance case law), the fact may be represented by the word «cow», but equally well by terms denoting other domestic animals, like «horse» or «ox». This illustrates that not only background knowledge of the possible relevant legal norms is of importance, but also of the legal language.

Subsumption. In Norwegian law, the term «subsumption» is often used to describe the classification of a certain set of facts by a certain section of the penal code. In our terminology, subsumption corresponds to a certain state of the decision model: the state where the lawyer has selected the relevant legal sources and interpreted these with regard to the legally relevant facts. This terminology is not completely identical to that traditionally given – something which mainly derives from our strict distinction between legal sources (a section of the penal code) and a legal norm (the legal norm based on the understanding of that section in its full context).

We have now described the retrieval process – including query construction, the utilization of feedback information etc. When our lawyer is through with this process, he is left on the brink of the «real» decision – which is mostly a mental process. In this mental process he processes the information of the facts and of the norms, arriving at a decision. We will describe the rest of this process, and since our aim will be only to outline the process of which the retrieval process is part, we will not go into every detail.

4. INTERPRETATION AND HARMONIZATION

During the retrieval process, the lawyer interprets his legal sources with respect to the facts of his case. This «partial interpretation» may be viewed as a partial development of the legal norms latent in the retriev-
ed sources. The task of the lawyer is now to develop these further into fully interpreted legal norms relevant to his case.

The interpretation is governed by meta-norms. The lawyer is taught as part of his education, what sort of argumentation is considered valid when interpreting legal sources. Some of these meta-norms may have found an explicit formulation – for instance the maxim of ratio deci-
dendi in relation to case law – but most remain rather implicit.

We will not try here to describe these meta-norms, but shall give an example of two different methods used by the lawyer when interpreting a single word (or expression) occurring in a formulation of a legal norm, for instance in the text of a statute.

A standard formulation of a legal norm is the formula « If A, then B » – A giving the conditions of the legal norm being relevant, B describing the consequences of the norm being relevant. Let us take an imaginary example of copyright law, where a norm prescribes that « If book, then B ».

« Book » is a word with a core of well-defined content, but with vague limits. It may – at least in Norwegian – refer to rather different objects. An ordinarily bound novel is, of course a « book ». So is a paperbound edition or a tome in a series. But where should one draw the line between « magazine » and « book », between « a collection of loose leaves » and « book » etc.?

The problems of interpretation raised by words like « book » may be traced back to the nature of language itself. Our language does not typically use words as well-defined semantic elements, but rather as nodes in a semantic-associative network. The interpretation of the word is influenced by the total context as well as the background knowledge of the interpreter. A well known example illustrating this aspect of words, is the different meaning one will tend to read into the word « man » when combined with another word (cfr. Rommetveit 1972: 64):

— « man » and « animal »
— « man » and « woman »
— « man » and « boy »
— « man » and « son »

The lawyer will, in interpreting this word, mainly follow the meta-norms for interpretation of language generally accepted also outside the legal profession.

This method may be contrasted with a formulation of a legal norm containing a word like « culpable », sampled from an imaginary statute on torts: « If culpable, then B ». The word « culpable » represents a node in the semantic-associative network of the lawyer, and it is possible
to interpret this word following more or less the same meta-norms as described above. But this would be incorrect according to the legal meta-norms governing the interpretation. To a lawyer, the word « culpable » (at least in the Norwegian legal system) is a reference to a set of legal norms qualifying certain acts as culpable. These norms are of a fragmentary nature, and may for instance be pieced together from a great number of different cases.

This is evidently something else than following the meta-norms determining the interpretation of a word like « book », as the interpretation is not determined by common use of the word, but by legal norms based on the interpretation of legal sources apart from the one containing the original formulation of the norm. The norm cannot be interpreted by itself, but only as part of a legal system.

These two examples are of some relevance also in respect of legal information systems. When retrieving a legal source containing a formulation of a norm, the words in this formulation do not by themselves tell the user whether they are to be interpreted according to common use of the word, or whether they are just departure points for further forays into the twin worlds of legal sources and legal norms. Even trained lawyers may discover this only after working with the problem for some time. And to a layman, the distinction would be problematic indeed.

Actually the interpretation process may itself contain problems justifying information retrieval. The query is then constructed with the problematic words, and sources clarifying the interpretation of these words are retrieved. – In our model this aspect is understated as secondary to (or part of) the process where queries are constructed on the basis of the proven facts of the case at hand. A distinction in principle between the two causes of igniting a retrieval process is hardly possible. We are satisfied to keep our simple model, but would like to point out that the interpretation process itself may be expected to be the driving force behind the iterative process of information retrieval in many instances.

The discussion of interpretation above is, of course, insufficient. As for the interpretation of words as part of a communication, see Rommetveit 1972: 71-89, who describes the semantic-associative network. The example of the word « culpable » igniting a process involving a further set of legal norms, is in itself just one example of what has been described as the « fragmentary structure of legal norms ». In this structure, the type called « guiding norms » (as opposed to « rules ») has an important place – cfr. Sundby 1974: 190-306. For the purpose of this article, however, a discussion of the nature of the norms themselves may be left out. The example does only illustrate the normative aspect of interpretation in a legal decision process, which easily may cause the lawyer to arrive at a content of a word distinctly different from the content the same word has in common use.

274
Through the interpretation, arguments are selected from the legal sources in order to arrive at the legal norms relevant to the case. During this process, the lawyer may discover that two legal sources may contain arguments for diverging legal norms. There are, for instance, two cases which seem to disagree on the interpretation of a statute. In this instance the legal sources (the statute combined with one of the two cases) may serve as basis for two diverging norms. In such an instance, harmonization of the legal sources is necessary.

Another situation may also demand harmonization of a different order. The lawyer has terminated his interpretation, and discovers that two of the relevant norms which he has arrived at, are in conflict. In this case, harmonization of the legal norms are necessary.

It is possible – and probably appropriate in many cases – to distinguish between these two types of harmonization. But for the purpose of this article it is not essential. My point is that as part of the interpretation, or following the interpretation, it becomes necessary to harmonize the legal norms. Without harmonization, the norms relevant to the case at hand are conflicting (or at least diverging), consequently the lawyer will have difficulties in arriving at a decision.

A curious example may be found in the rather complex Norwegian legislation governing the sales of alcoholic beverages. The sections 14 and 21 of the Norwegian «Spirits Acts» (5.4.1927) state that alcoholic beverages are not to be sold to persons below the age of 18. An older statute, however, of 31 May 1900 No. 5 states in its section 23 than an exception may be made when the beverage is served as refreshment with a meal or during travelling. Two conflicting legal norms may be derived from these two sections. – The conflict is resolved by using the principle «lex posterior derogat priori», the norm derived from the most recent of the statutes is given priority (cfr. letter from the Ministry of Justice, 26.7.1974, ref. 1925/74 F TS/AV).

There exist meta-norms governing this sort of harmonization. Some of them are commonly known as maxims, as for instance the «lex posterior»-principle exemplified above, and the other classical principles of «lex superior» and «lex specialis». But even these are rather vague, and the meta-norms governing harmonization are as a whole not very well analyzed – at least not in Norwegian theory (cfr. Aarbakke 1966: 506).

Most of the harmonization norms are founded in a ranking of types of legal sources. A legal norm derived from a source of higher rank is given priority in case of conflict. Such a ranking of types of legal sources will usually place the Constitution on top, move through statutes given by the parliament down to case law and regulatory law. The details of the ranking will certainly be relative to the legal system, and even with respect to one legal system, the ranking may be relative to different user groups.
We have several times used the expression «conflict of norms» without
describing or defining this expression. What really is a conflict of norms,
depends to a great extent on the nature of norms. For the purpose of this
article it is sufficient to use the expression «conflict of norms» as a character-
istic; a discussion may be found in Eckhoff 1971: 270-305 and Sundby 1974:
278-281.

When harmonizing the interpretation of legal sources and diverging legal
norms, the relative priority of the different types of legal sources is
essential. Actually this relative priority is a controversial matter – at
least in the Norwegian legal system. The relative priority of for instance
decisions by a first instance court is a disputed matter.

It is important to stress that the matter of determining relative priorities
of the types of legal sources has two aspects.

Firstly there is the normative aspect: What sort of priority should a type
of legal sources have according to the meta-norms of a certain legal
system? This question is complex, as a single type of legal sources may
have different priority relative to user group or the overall decision
situation. «Administrative opinions» do, for instance, certainly have dif-
ferent priority with respect to lawyers within the administration com-
pared to the priority given by a court. As these meta-norms are rather
complex, and also to some degree neglected in the literature, they remain
vague and controversial.

Secondly there is the empirical aspect: What relative priority do lawyers
(or different user groups) give a type of legal sources? This may in
practice be discovered through empirical research, for instance a ques-
tionnaire. This has been done in Western Germany – where a table of
17 possible «information sources» were presented to a number of
lawyers 6. The «information sources» were given priorities between 0
and 5, 5 being the highest score. Actually legal journals («Fachzeitschrif-
ten») scored highest (4.12), followed by «commentaries to statutes»
(«Kommentare» – 4.26), and updating of compilations of statutes («Er-
gänzungslieferungen zu Gesetzbuchungen» – 4.25). Great differences
between user groups were revealed – monographs were given rank
number 4 by professors (after legal journals and text books), while
lawyers in the tax administration etc. gave this rank number 15.

This survey is described by Jungiohnan/Seidel/Sörgel/Uhlig 1974, and a sum-
mary is given by Uhlig 1975: 343-344.

6. «Information Sources» – «Informationsquellen» – do not correspond to «type
of legal sources», but rather to «publication». The lack of distinction between
«legal sources» and «publications containing one or more legal sources» does, in
my opinion, to some degree reduce the general usefulness of the survey.
Clearly there is an interdependence between the normative and the empirical aspect. Firstly, the fact that a type of legal sources is given high priority by the meta-norms will certainly make lawyers inclined to attach great importance to this type in practice. But the vagueness and complexity of these meta-norms may also make them sensitive to feedback -- the fact that a lawyer finds a type of legal source useful, will mould the meta-norms. The interdependence can only be seen when changes occur -- and they are most likely to occur in the empirical aspect. For instance where a new case reporter makes a type of legal sources more easily available than before. This type will become more useful, and this higher degree of usefulness may cause an upgrading of the relative priority given to this source by the meta-norms.

Our own research has given us reason to believe that the information systems available (in a broad sense, comprising all publications, routines etc.) are important in determining the practical value of a type of legal source. The German survey is in fact an indication of this, being organized by publications rather than types of legal sources.

A better information system will probably cause the types of legal sources benefiting from this improvement to become more useful. They will be cited more frequently by the lawyer -- and we suspect that the meta-norms of the legal system will change, upgrading the relative priority of these types. Computer based retrieval systems will represent a drastic improvement with respect to the legal sources included in the data base. Consequently this may influence the legal meta-norms themselves governing the harmonization of the interpretation of legal sources and diverging legal norms. The possibility of impacts on the legal systems of this kind should be considered when assessing the desirability of computer based retrieval systems.

We have now discussed some aspects of the process of interpreting legal sources, the harmonization of these sources as part of the interpretation and the harmonization of possible divergencies in the norms arrived at through the interpretation. The aspects we have discussed, are mainly aspects of interest in relation to legal informatics. But even with this limitation, we think the outline of the process has emerged.

The process leaves the lawyer with a set of legal norms which are not in any way in conflict with each other. These legal norms are relevant to the case at hand -- and we might think that a simple combination of the norms with the facts of the case would provide the lawyer with his decision. This would also be an adequate way of picturing it with respect to simple decisions.

However, we think this description may be too simple. The final legal norms are defined by the sources found relevant, interpreted and harmonized according to legal meta-norms. As we have stressed a number
of times, these meta-norms are vague. Also, the legal norms themselves may be vague – norms allowing « discretion » may often give room for different solutions (even when the lawyer is through with his interpretation and harmonization). We find it generally accepted that the result may not be well-defined, but may rather be represented as a normative interval – or, as Stone (1968: 192 and 320) puts it: There still exists discretion within « the leeways left by ' the guides of law ' ».

Some main causes for the existence of such a « leeway » may be listed: 1) Reasonable disagreement on what sources are to be qualified as legal sources. 2) Reasonable disagreement on the interpretation of legal sources, causing reasonable disagreement on which norms are relevant. 3) Reasonable disagreement on the priority of diverging norms. – Instances of such « reasonable disagreement » may explain why two or more reputable lawyers may arrive at different decisions even though agreeing on the proven facts of the case.

5. The result

The lawyer, confronted with a normative interval, cannot arrive at a decision without selecting one of the alternative norms in the interval left by the « guides of law ». This selection is, of course, not a random process. It is also governed by norms and meta-norms, but of an extra-legal character. An important aspect of the legal decision process is, in my opinion, that it integrates the use of extra-legal norms. This aspect is usually trivial, but in controversial questions, where little support can be found in traditional legal sources and, consequently, the normative interval is so broad that it includes distinct alternatives, this aspect may attract the attention of the public.

It falls outside the scope of my article to examine this selective process in any sort of detail. I will just sketch a few methods by which the lawyer may select his norms.

1) As part of the extra-legal norms there may be meta-norms of a nature closely related to those governing the harmonization process. Such norms may enable the lawyer to give one of the alternative norms priority over the others, and this norm is the one selected. An example of such an extra-legal meta-norm would probably be « client loyalty » – the lawyer selects the norm most favourable to his client. Another example may be the known political intention behind a certain statute, following this the lawyer would give priority to the alternative most correspondent with the intention.

An alternative to the description above would be the suggestion that this part of a legal decision may not be normative: the solution is found by looking at the consequences of the different possible alternatives. In stead of picturing client loyalty as a meta-norm, we would say that the lawyer at this
stage looked into the consequences of different alternatives and selected that which best suited his client. Which description is the better, will probably depend on a number of factors – they do of course not exclude each other.

2) As part of the extra-legal norms, there may exist norms of a nature closely related to the legal norms, i.e. norms with a segment stating the conditions for its use, and another segment stating the consequences of its use. The conditions are specified, as in the case of legal norms, as a set of facts. The lawyer consults the facts of his case to see if any of these extra-legal norms are relevant. This may cause him to select additional facts not pointed out as relevant by any of the legal norms. Using such extra-legal norms, the lawyer will be able to constrict his normative interval – maybe to such a degree that only one alternative is left, which consequently is selected.

The extra-legal norms employed by a lawyer in this manner, may be of a political, moral or ethical character. It ought, however, to be stressed that the lawyer is not free to choose whatever prejudice or ideology he personally believes in. There are legal meta-norms governing what sort of extra-legal norms the lawyer is allowed to take into consideration, even when he is selecting just one alternative within the normative interval (diverging opinion, Kilian 1974: 228).

The use of extra-legal norms as part of a legal decision process is of interest in respect of information systems. The lawyer finds his legal norms through an interpretation of legal sources, and often employs a retrieval system in order to find these sources. What about the extra-legal norms, are they found in a similar way, based on a set of extra-legal sources? I let these questions remain posed, but not answered, partly because of my conviction that the extra-legal norms are not arrived at through a process governed by meta-norms similar to the legal decision process, but are more intuitive and also more subjective.

The lawyer has now arrived at the relevant norms, which, combined with the facts of the case at hand, give the result.

The model has not allowed for the effects of the result playing any part in the reasoning of the lawyer up to this point (excluding the indirect way in which this may have determined for instance the burden of proof etc.). The effect of the result – or the reasonableness of the decision – is, however, a legal source in its own right. In our model, this legal source is represented as a feed-back loop. The lawyer evaluates the result according to his extra-legal value norms. His evaluation is then taken into consideration as a legal source, and as such will to some degree determine the normative interval. This feed-back may cause a revision of the normative interval and a corresponding revision of the result. An iterative process is initiated, which only comes to a stop when the feedback cannot further influence the normative interval.
It may be noted that the «evaluation of the result» is a legal source of a qualitatively different nature than the other legal sources. I have several times stressed that the majority of the other legal sources is of a syntactic nature. The «evaluation of the result» is of a semantic nature, being the evaluation in the mind of the lawyer. It has however one aspect in common with the other legal sources: its influence on the normative interval.

Another typical aspect of the «evaluation of the result» may also be noted – which represents a typical, though not principal, difference in regard to the other sources: The evaluation can only be carried out in respect of a given case with a given result. It does not exist apart from the case, but is created by the case itself. Consequently it cannot be «retrieved» from any data base established prior to the case.

The feedback loop represented by the «evaluation of the result» is of great interest, also with respect to legal informatics. It is one of the major illustrations of the iterative nature of the legal decision process – an iterative nature which most automated decision processes have not been able to represent or have just ignored.

It may be appropriate once more to stress that our model is just a model of the stages in a legal decision process, describing the relation between these stages – but not the psychological process itself. Certainly a lawyer will have selected his result at a far earlier stage of the process than represented in our model. He will select what Soelberg (1967: 23 and 26) has named a «choice candidate», and in practice the lawyer's activities may be wholly concerned with justifying that his choice candidate may be arrived at without violating the meta-norms governing the legal decision process. Cfr. also Eckhoff 1971: 29, who discusses what comes first in the mind of a judge: the result or the reasoning justifying the result.

The legal decision process is a formal process, it is governed by meta-norms to a greater extent than decision processes within other areas. The meta-norms prescribe how a lawyer is allowed to argue for a certain result. These meta-norms are admittedly vague and leave room for disagreement even between lawyers, but they are nevertheless binding. If a lawyer violates these meta-norms – or rather, if such a violation is found to have taken place – his decision may be declared void. The meta-norms mostly demand that a case be decided on what has happened, and according to legal norms that were in existence at that time. It is a «retrospective process», where the lawyer most of the time concentrates on a situation from the past.

The «evaluation of the result» is an escape from this retrospective perspective. Legal meta-norms allow the lawyer at this stage of the process to look at the present and even into the future, asking, «What will be the effect of my decision?»
Actually this represents a safety valve in the legal decision process. Through the «evaluation of the effect», the lawyer may make his decision more oriented towards its consequences.

An illustration of this was noticed in one of our surveys of the Social Security Administration (Bing/Harvold 1973: 228). The Social Security Administration is mostly staffed with civil servants without formal legal education. They have more often been trained in medical or social environments, and are used to think in terms of the health and welfare of their clients. A medical decision, for instance, is typically oriented towards its consequences: if the patient gets better, the ordained cure was «correct» – even when selected by intuition alone and in disagreement with the opinion of an authority. Not so in a legal decision, even if the decision makes the client happy, the decision is invalid if in conflict with a statute.

The bridge between the «medical» and the «legal» decision models is the «evaluation of the effects». We found that this legal source was given higher priority within the Social Security Administration relative to arguments deriving from sources like regulatory law. When upgrading the priority of the «evaluation of the effect», the gap between «medical» and «legal» reasoning was reduced.

This observation may have some relevance to legal informatics. A better legal information system may – as we have mentioned earlier – result in a displacement of the established relative priorities of legal sources. If a better legal retrieval system was established within the Social Security Administration, this might result in the upgrading of conventional types of legal sources, like administrative decisions. It would correspond to a reduced priority for the type «evaluation of the result». As this type at present seems to serve as sort of bridge between two dissimilar decision processes, i.e. the «medical» and the «legal», the reduced priority might break the bridge. The possible consequences of launching a better legal information system, and through this creating a dynamic situation with the implications sketched above, should not be underestimated.

6. Concluding Remarks: A Note on System Performance

A computerized retrieval system is designed to facilitate the traditional legal research, to make this research more efficient. But opinions may diverge in respect to what «more efficient» should imply. In concluding this article, the two main themes of system performance will be outlined.

1) The time aspect. The simplest interpretation would be «efficient» in the sense that the user is able to do the same amount of research in less
time. The justification of introducing a computer-based system is then founded in the time savings: The time saved is balanced against the cost of the system.

It will be obvious from the model of the legal decision process presented above that the retrieval sub-process is just a part of the total process. Whether this sub-process is time-consuming, depends upon several pragmatic factors: the nature of the problem, the lawyer’s place in the decision system, organizational questions, work load etc. Also, one should stress the importance of the availability factors, which represent resistance in the information system to legal research. Whether the lawyer is motivated to overcome this resistance is also dependent upon pragmatic factors (for instance the nature of the problem or the importance of the client). Overcoming availability factors costs user effort, typically measured in time.

On this background it is hardly surprising that empirical studies show that the time spent on legal research is just a fraction of the total working hours of the lawyer. A Canadian study of the practising lawyer indicates that he on an average spends 21 per cent of his time on legal research. Legal research is split in two categories — «Finding law» amounts to 32 per cent of time spent on legal research, while «analysis to determine relevance» amounts to 68 per cent. (Cfr. Operation Compulaw 1972: 65). The justification of such a division may be questioned — the model of the legal decision process as described above, indicates that interpretation of retrieved legal sources is an integrated part of the retrieval process, and one of the main causes of the iterative nature of that process. Experience from a Norwegian user experiment indicates that when the user accesses legal sources at a terminal, a great fraction of the terminal session is spent studying the retrieved texts on the display (Brukerforsøk 1975: 13-14).

The Canadian survey revealed great difference between users — even within the category «practising lawyers» — in time spent on legal research. While 14 per cent of the lawyers spent 15 per cent or less of their time on research, 14 per cent spent more than 50 per cent of their time on such work! This illustrates the importance of the pragmatic factors in the legal decision process — and an even greater spread may be expected in surveys including other user categories. This may be illustrated by the German survey (Jügjohann/Seidel/Sörgel/Uhlig 1974: 44) where lack of time (»Zeitmangel«) is pointed out as the most important single factor causing an unsatisfactory result of the legal research by several user categories (for instance professors and students). The variation among user categories makes it difficult to formulate any general statements on the possibility of saving time by introducing better retrieval systems — such statements must be relative to the users’ situation. But there is reason to believe that only few instances may be found where the introduction of a computer-based retrieval system can be wholly justified by saved time alone.

282
The German survey cited above, does also point in another direction which should not be ignored: lack of time as an availability factor. When a lawyer is pressed for time – as he typically is within public administration – his lack of time becomes one of the pragmatic factors limiting his legal research, cfr. Jungjohann/Seidel/Sörgel/Uhlig 1974: 44, 49. In order to change this situation, it is necessary to change some of the pragmatic factors. One solution would be to ease the workload through more lawyers – another would be to change the information system. The effects of this would be difficult to see of a survey concentrating on the time aspect – and as modified information systems would change the work situation of the lawyer, the conditions of the empirical survey would no longer hold true.

On this background the reasoning in the Canadian survey (Operation Computation 1972: 26) seems precarious – taking average percentage of time spent on legal research today measured in minutes as the maximum time possible to save through a better information system (18 minutes per day). As stated above, a better information system would represent a change in the availability factors, and the consequences of this change may be difficult to measure in time saved.

2) The quality aspect. The discussion above indicates that there are limited possibilities for justifying computerized legal retrieval systems by arguing that the user will be able to do the same amount of research in less time. The flaw in this argument is inherent in the phrase «same amount of research». The introduction of a better retrieval system will in itself imply a change in the «amount of research carried out». This is a qualitative change – and this change may itself be the justification of introducing the new information system.

If we go back to the model presented above, one will remember that it was maintained that there exist meta-norms determining whether the retrieval carried out by the lawyer was satisfactory. Lack of time is one availability factor reducing the possibilities of the lawyer to extensive research. Another such factor is the lack of adequate retrieval systems, making the retrieval process relatively time-consuming.

In special decision systems the pragmatic factors tend to make it a practical impossibility for the lawyers to conduct what would be a «satisfactory research» according to the legal meta-norms. Especially within public administration critics have pointed to situations where they find satisfactory research a practical impossibility. This argument has actually been formulated into a slogan: the legal information crisis – which is the title of the famous analysis presented by Simitis in 1970 (Informationskrise des Rechts). He argues that modern society has caused a legal information exploitation. Legal norms are used as a tool for social reform and political control, causing a flood of statutes, regulatory law etc. (Normenflut). At the same time, the complex modern society makes
conflicts more frequent – which in its turn has lead to an increasing number of agencies for solving conflicts (administrative courts, revision boards etc.), causing a flood of legal decisions and precedents (Entscheidungsflut).

This legal information crisis undermines the rule of law in the traditional sense. Simitis argues that the rule of law only may be strengthened by extensive use of computer-based systems. And this also is the main justification given for the massive effort by the German Ministry of Justice in creating the national legal information system (JURIS, Germany), cfr. the foreword of the Minister of Justice, Gerhard Jahn, to the initial report of 1972 (JURIS 1972: 3-4) where he cites Simitis (cfr. also Fabry 1973: 299-300). A similar argument may be found in the Australian report made by the Committee on Computerization of Legal Data 1974: 10-12.

This improvement of the legal decisions is usually stressed as a justification for introducing computerized legal information systems. The Canadian report discusses this aspect, and concludes that the practising lawyer does not have a great need for this sort of improvement, *Operation Compxelex* 1972: 24-25.

The Canadian report fails, however, to take into consideration that an improved legal information system represents a basic change, which hardly will make a simple extrapolation of today's situation valid. Consequently the statement that a better retrieval system will represent improvement «for some 20%... of a typical lawyer's clients» is precarious. It seems for instance to be a safe bet that lawyers - when they are in a position to choose - select cases involving little legal research, at least if clients have small resources. This tendency seems to hold true in respect to social security cases in Norway. An improved information system may consequently change the composition of the lawyers' clientele.

As illustrated by the German example, the «information crisis» may be most closely associated with public administration. The research carried out in Norway have also strengthened this impression, the justification of a computerized system will most solidly be founded on the possibility of improving the decisions, cfr. for instance *Brukerforsøk* 1975: 17-18.

The discussion of the user experiment in the Norwegian Social Security Court may serve as an illustration. In the court, there were two typical attitudes towards the court's decision-making: one was oriented towards efficiency (in a narrow sense), one towards the role of the court in the administrative system. The first attitude stresses the time factor, and motivates a search for tools to increase the turnout of the court (simple procedure, more lawyers etc.). This group was at first attracted to the computerized retrieval system, as one hoped this might reduce the time used on each case. It turned out, however, that the new retrieval system did not save time. While the lawyers by the traditional system were restricted to sample a few precedents from the manual file, they were now able at the terminal to browse through a great
number of precedents. Consequently their research habits started to change, their interest became directed towards the legal background of the case at hand. If they had restricted themselves to the same sort of research as earlier conducted by the manual indexing system, time might have been saved. But the type of computerized system available (the IBM-system STAIRS with a document collection in original text) encouraged a different retrieval strategy and a different type of research. But as this disappointed the efficiency-oriented users, it appealed to the users concerned about the legal and organizational role of the court: they argued that better decisions would in time lead to a general quality change all through the administration. Also the possibility of greater consistency would strengthen the predictability of the decisions of the court, and in time reduce the number of decisions appealed to the court. Cfr. Brukerforsøk 1975: 11-16.

In this article, I have discussed a few topics relevant to the understanding of legal information systems. Legal research comprises problems which are important to lawyers and may best be understood from a lawyer’s point of view. This holds true for both the question of how to design a high performance retrieval system, and the question of whether the introduction of a computerized system may be justified in time saved or improved decision quality.

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