

Some Aspects of Legal Decision Making in the Light of Cognitive Consistency Theories^{*}

Minna Gräns

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1 A Gap between Theory and Practice of Legal Decision Making

Theories of legal interpretation are based on the assumption that due to uncertainty of the content of valid norms, there are always at least two alternative interpretations between which a judge has to make a choice. It is also assumed that in order to overcome the uncertainty in decision making situations judges will choose the best of these alternatives by using methods and criterias, which meet the requirements of proper interpretation that follow from the duty to follow the valid law. In so doing, judges also meet the requirements of legal certainty. Theories of legal interpretation state, in a nutshell, that proper interpretation of the relevant legal norm/s consists of a use of certain, beforehand settled sources of law and methods of interpretation. If and when the interpretation has been carried out in a proper way, the decision should also meet the requirement of coherency, which means, *inter alia*, that the reasoning from which the decision follows, is free from logical contradictions, not only in the case itself but also in a larger context, that of the system of law. In addition, and especially when the balancing and weighing of various value arguments is at stake, it is important that the decision is substantially consistent with the underlying culture and shared values of the society, i.e. that the decision forms part of a coherent theory of a certain norms system or value system.¹

Recently prof. Mark Van Hoecke has contested the idea of courts always following schoolbook theories of legal interpretation in their decision making practice. After doing some comparative research between three different European legal orders he has found, what he calls "an astonishing gap between legal practice and legal doctrine on the one hand and legal theory and legal philosophy on the other".² What is this gap? Van Hoecke claims that in practice the reasoning of the courts does not follow the method of interpretation as described in the methodological literature. One of the biggest structural differences seems to be the direction of the inferences on which the decision is based. Theoretically, interpretation - including weighing and balancing of the value arguments, which are relevant for the final conclusion - is supposed to *preclude* the decision. This means that decision making is assumed to be *unidirectional*, from inferences to conclusions. According to Van Hoecke, however, the courts seem to begin the decision making by making a critical moral choice of the desired concrete outcome after which they only make use of various methods of interpretation in order to justify the previously chosen outcome.³ He writes: "What counts are the basic conceptions of equity and justice.... *Once this moral choice has been made, legal technique is used in such*

¹ Peczenik, Aleksander, *A Coherence Theory of Juristic Knowledge*, in Aarnio A., et al., *On Coherence Theory of Law*, Juristförlaget, Lund 1998, p. 9-15. Peczenik, Aleksander, *Vad är rätt*, Stockholm 1995 p. 571-585 (Peczenik 1995). Van Hoecke, Mark, *Law as Communication*, Oxford – Portland Oregon 2002, Hart Publishing, p. 118-119, 182-185 (Van Hoecke 2002).

² Van Hoecke, Mark, *Lawyers Legal Theory*, in Eng, Svein (Ed.), *Law and Practice*, ARSP-Beiheft 97 (Proceedings of the 21st IVR World Congress Lund 2003), p. 19-27. (According to the author, to be published probably during the year 2004, but while this still is uncertain, I will refer to this paper as: Van Hoecke 2003). Here p. 26.

³ Van Hoecke 2003, p. 22-23, 26.

way as to reach the desired result.”⁴ Van Hoecke describes this practical activity as ”pragmatic theory building” as distinct from the theory building of legal scholars.⁵

Recently, the Swedish scholar, prof. Håkan Andersson, has made similar observations regarding the norm applying praxis of the Supreme Court of Sweden. In an analysis of several precedents in tort cases since 1990, he observes that there is a tendency in the Supreme Court to reconstruct legal criteria by using similarity arguments in a way, which deviates from the traditional theoretical framework of how to interpret the rules of tort law.⁶ This, he says, is done in order to justify the legal right of plaintiffs for new kind of damages.⁷

The analyses of Van Hoecke and Andersson seem quite puzzling, at least from the point of view of the legal sciences, because they reveal that the assumptions of legal theory building seem to lack reality in some relevant way.

But discrepancies between theory and practice have not only been noticed by scholars. Even some legal practitioners in Sweden have argued for that legal reasoning in practice does not always correspond to the theories of legal reasoning and argumentation developed within the legal sciences. There seems to be an impression among the practitioners, that this might be, *inter alia*, due to a lack of knowledge in the legal sciences about how law is practised in reality and which circumstances have an impact on judges’ reasoning in various concrete decision- making situations.⁸

Observed inconsistencies between theories and the reality of legal decision making is a well known factor in the development of legal philosophy and theory. Discrepancies between how judges practice law in reality and how they are assumed to do it according to a theoretical explanation, even formed the core of the criticism of Ronald Dworkin against legal positivism. Dworkin succeeded in proving that legal positivism, as described by H.L.A. Hart, did not correspond to how law was practiced in reality, and therefore, he concluded, legal positivism could not be the right theory of what law and legal interpretation really is about. Instead, Dworkin constructed another theory, that of ”law as integrity”. However, even his theory has met criticism because of its unrealistic assumption of the possibility of one right answer combined with the very complex structure of the interpretation process, which only the fictitious judge Hercules can adhere to completely. Similar criticism can be directed towards various other coherency-based normative theories. Hence, it seems to me, that even the Scandinavian and the European continental theories of coherency have reached

⁴ Van Hoecke 2003, p. 22-23. Italics added.

⁵ Van Hoecke 2003, p. 21.

⁶ Andersson, Håkan, *Likhetsargumentation – analogi och metamorfos*, in Fogelklou, A. & Spaak, T. (Eds.), *Festskrift till Åke Frändberg*, Uppsala 2003, Iustus Förlag, p. 13-37 (Andersson).

⁷ Andersson, p. 37.

⁸ SvJT, 2002, *Den rättsvetenskapliga forskningens roll – anföranden vid ett rättsymposium den 22 och 23 november 2001 på Häringe Slott*, p. 217-343. See even Lambertz, Göran, *Andra tankar om civilrättsforskningens arbetsuppgifter*, SvJT 1992, p. 78-80. Edlund, Lars, *Civilrättsforskningens uppgifter – replik från en praktiker*, SvJT 1992, p. 418-420.

such a high level of sophistication and abstraction, that any judge, who would seriously consider testing her own judgments according to the standards of these theories would have hard time in keeping the caseload under the requirements of the timelimits of the Art. 6 of The European Convention of Human Rights. The high level of abstraction combined with the enormous complexity of the process seems to be the content of the criticism even of the anglo-american representants of the so called pragmatic theory of legal reasoning towards more normative theories of legal reasoning.⁹

Van Hoecke is worried about the creation and use of ad hoc theories by the practitioners. He is afraid that the result might be "a complete lack of a coherent legal theory, behind the facade of a patchwork of ad hoc theories".¹⁰ Thus, he seems to hold the view, that practitioners ought to stop ad hoc theory building and return to the schoolbook theories.

1.1 Right Theories, Wrongly Applied?

Legal sciences seek to have an impact on the practitioners working methods. Hence, scholars aim to produce well justified opinions on the best possible solutions to dubious legal questions, and they do so by using the same beforehand settled sources of law and methods of interpretation as they assume that judges do. But, the observed gaps give a reason to consider, whether legal research perhaps focuses too exhaustively on underlying principles, systematical consistency and rationality, general grounds of acceptability and binding force of the law - everything from normative point of view - thereby not noticing which other, specific and not necessarily pure legal circumstances might guide the reasoning in real decision making situations. Legal scholars regularly seem to assume, that there are no very relevant differences between interpretation as a part of legal decision making and the interpretation done by scholars.¹¹ But clearly there are, at least in some cases, as the examples of Van Hoecke and Andersson point out.

When discussing eventual reasons for the discrepancies between theories and reality, scholars might well be of the opinion, that eventual gaps between their theories and the practitioners reasoning could be avoided, if only practising lawyers more often would take their normative suggestions seriously. Legal scholars who hold this point of view, might therefore handle the question of a possible gap between theory and practice as a question of how to make the communication from scientists to practitioners more effective. In so doing they

⁹ Eskridge, William, N. & Frickey, Philip, P., *Statutory Interpretation as Practical Reasoning*, Stanford Law Review, 42, 1990, p. 321-384. Atiyah, Patrick, S., *Pragmatism and Theory in English Law*, London 1987. Grey, Thomas, C., *What Good is Legal Pragmatism?*, in Brint, Michael & Weaver, William (Eds.), *Pragmatism in Law and Society*, 1991. See also, e.g., Spaak, Torben, *Principled and Pragmatic Theories of Legal Reasoning*, in Fogelklou, A. & Spaak, T. (Eds.), *Festskrift till Åke Frändberg*, Uppsala 2003, p. 235-262 (Spaak), here p. 252-261, with references.

¹⁰ Van Hoecke 2003, p. 27.

¹¹ Aarnio, Aulis, *Reason and Authority. A Treatise of the Dynamic Paradigm of Legal Dogmatics*, Ashgate Publ. Ltd., England 1997, p. 49. Peczenik 1995, p. 312-316.

seem not to be as worried about how to make the communication from the practitioners to themselves more or at least as effective – supposedly because they think that practitioners do something wrong if and when their reasoning deviates from the theories.

Some scholars claim, that lack of knowledge of eventual "hidden" reasoning processes in form of ad hoc theories of courts is not a problem for legal sciences in that the courts have a legal duty to justify their decisions according to the theoretical requirements of proper interpretation. They explain that the reasoning process is divided into two different contexts, namely context of discovery and context of justification, of which only the latter is relevant for legal sciences. According to this view the reasoning heuristics of judges might be anything, the important and relevant thing still is how judges justify their decisions. Spaak has recently claimed, that the biggest difference between pragmatic and formal, or as he says, "principled" theories of interpretation is that the pragmatists do not make any distinction between these two contexts.¹² This, he claims, has resulted in an *unclarity in the pragmatic theories*, not in the principled theories. Spaak defends his opinion by claiming that the exhaustive relevancy of the context of justification is due to the principle of *universalizability, which is a precondition of predictability*.¹³

Predictability is of course the essence of legal certainty, and it seems that, if judges always did follow the schoolbook theories of proper interpretation and if this also could be seen in their decisions, in the context of justification, there would be no problems. The analyses of Van Hoecke and Andersson reveal however, that legal decisions are not always so: the cases were not predictable in the light of either the previously valid German or English contract law norms and principles, nor from the point of view of the existing theories of Swedish tort law. The practice of law is not always predictable, not even fairly predictable. Sometimes it is totally surprising, at least if you analyse the reasoning with the help of existing theories of legal interpretation!

When there is a discrepancy between theory and practice, then there are two possible ways to handle the discrepancy: either one has to reconstruct the theories, or make the claim that courts' decisions are wrong. When considering which way to go, theorists must not forget, that it is the courts only that have the *authority* to decide legal disputes, which by necessity includes interpretation of the relevant legal norms. Legal science may of course criticise various methods of interpretation used by the highest legal authorities, but it does not change the fact, that the authority resides with the court. And it seems to me that legal doctrine more often than not chooses to respect the authority and instead of criticising courts for having made faulty decisions, tries to get the new, even very unpredictable precedents to fit under various theoretical frames, perspectives or approaches. This means that they choose to adjust their theories, perhaps in order to be able to defend their approximate rightness, inspite of the fact, that they cannot predict legal decision making in hard cases. This is a kind of rationalizing process of non-predictable decisions, which, as I see it, at its best succeeds in catching some parts of the dynamics of the legal development done

¹² Spaak, p. 261.

¹³ Spaak, p. 247-252.

by the courts. This is so, because non-predictable decisions always include some new, previously not foreseen elements. This means, at the same time however, that the contexts of justification and the context of discovery cannot be separated. If the previous theory cannot predict or explain the reasoning in a new case so that the case is unpredictable, or not fairly predictable in the light of the theory, then something else than what is “legitimately” expected to belong to the context of justification, has been added. This something emanates from the context of discovery, and it is then used as a source for rational explanation as if it always had belonged to the expected context of justification. The intertwining of the two contexts is inevitable, in spite of the theoretical claim that only the context of justification is the object of the research. Therefore, I do not think that it is even possible to make a clear distinction between the context of discovery and the context of justification. Rather the distinction seems to be a “practical necessity” for scholars who do not have any other methods to analyse the reasoning in the courts.

2 Experimental Research of Human Decision Making and Reasoning Processes

According to cognitive sciences, decision making is a very complex cognitive activity, during which people do not always follow some beforehand fixed abstract theories. The increasing knowledge of decision making as a cognitive process has had a great influence in e.g. economical sciences, which produce theories of human behaviour and thinking in various economically relevant situations. I am convinced that it would be useful for legal scholars to study in more depth cognitive reasoning processes and, above all, the theories which predict these processes. If we knew more about the reasoning processes and the causal mechanisms behind them, analyses like those by Van Hoecke and Andersson, which reveal that theories of proper interpretation in the context of justification can not be used to predict court decisions in all cases, become highly relevant not only as a source of rethinking the theories but also of criticism towards various legal authorities.

It seems to me that the unavoidable conclusion from the discrepancy between theory and practice is: if not any of the existing theories cannot explain how courts reason, perhaps there are other theories which explain the adaption of reasoning techniques, which the analyses have revealed. In this article I will argue for that there are such non-legal theories, found in the cognitive sciences, which are useful when analysing legal decision making, and certainly when trying to understand and explain existing gaps between the normative theories of legal decision making and the reasoning processes in reality.

The impact of cognitive sciences in general, and cognitive psychology especially during the last five decades has enhanced the knowledge of the reasoning and decision making processes of human beings considerably. The research results have had a great impact not only on the development of computerized models of reasoning and information processing, but even for instance on the development of economical sciences. The knowledge of how

human beings make decisions and process information has also been used in the legal subdisciplin law and economy. Recently, pathbreaking interdisciplinary research of judicial reasoning in other contexts has been done for instance at the University of Southern California, Los Angeles (UCLA), which I will describe in more details later in this article.

Underlying the new developments are the theories of cognitive consistency which flourished between the 1940s and 1960s.¹⁴ The various theories of cognitive consistency in human information processing has in common the basic notion that human cognition is affected by mutual interaction among pieces of psychological knowledge. This interaction is animated by four principles of structural dynamics: 1) cognitive states¹⁵ are determined holistically rather than elementally, 2) the properties of the cognitive states are dynamic in such way, that certain constitutive elements generate forces that determine the configuration of the structure (some things go together, other things tend to disperse), 3) the dynamic process tends to create distinct structural properties, stable states, in which all parts of a unit have the same dynamic character (i.e., all are positive or all are negative), and entities with different dynamic character are segregated from each other¹⁶ and 4) dynamic changes that occur at the structural level involve changes, or reconstructions¹⁷ of the cognitive elements, which are determined by "the intrinsic nature of the whole".¹⁸

2.1 *Reconstruction of Cognitive Elements*

In this article I will focus on the dynamic changes, in other words, the reconstruction of the cognitive elements involved in the reasoning process. Naturally it is only possible to mention some of the relevant theories dealing with reconstruction process and techniques in this context.¹⁹ I will only mention some, which I think will give a pretty good picture of the development of the relevant research. In 1940, Asch stated that people strive to reach a consistent, unified view of their environment, and that they have a tendency to try to get rid of incompatible elements, if not by some means of objective examination, then

¹⁴ For an overview of these see e.g. Simon, Dan & Snow, Chadwick J. & Read, Stephen J., *The Redux of Cognitive Consistency Theories: Evidence Judgments by Constraint Satisfaction*, in *Journal of Personality and Social Psychology*, 2004, 86, p. 814–837, here p. 814-817.

¹⁵ The concept "cognitive states" is defined as "any knowledge, opinion or belief about the environment, about oneself or about one's behaviour". Festinger, p. 3 (see footnote 21).

¹⁶ Heider, F., *The Psychology of Interpersonal Relations*, New York, Wiley 1958.

¹⁷ Simon et.al. 2004, p. 815 with reference to Rosenberg, M. J. & Abelson, R.P., *An analysis of Cognitive Balancing*, in Rosenberg, M.J. & Hovland, C.I & McGuire, W.J. & Abelson, R.P. & Brehm, J.W. (Eds.), *Attitude Organization and Change: An Analysis of Consistency Among Attitude Components*, p. 112-163, New Haven, CT: Yale University Press 1960.

¹⁸ Wertheimer, M., *Gestalt Theory*, in Ellis W.D. (Ed.), *A Source Book of Gestalt Theory*, p. 1-11, New York: Humanities Press (Original work published 1924).

¹⁹ A more complete description of the development see Brownstein, Aaron L., *Biased Predecision Processing*, *Psychological Bulletin*, 2003, 129, p. 545-568, here, p. 545-558 (Brownstein).

by "distorting the state of affairs".²⁰ In 1957 the famous social psychologist Leon Festinger developed a theory of cognitive dissonance, which was to become a cornerstone of much of the research from then on.²¹ He defined two distinct situations; dissonance and conflict, and how cognitive elements may relate to each other under these situations. He explained this with the help of four different cognitive clusters emanating from two different choice alternatives A and B: the positive aspects of alternative A, the negative aspects of alternative A, the positive aspects of alternative B and the negative aspects of alternative B.²² He defined *conflict* as the feeling of being pushed in two opposite directions and explained that conflict exists before the choice is made because the positive aspects of A and the negative aspects of B push the decision maker toward choosing A, whereas the cognitive elements representing the positive aspects of B and those representing the negative aspects of A push her toward choosing B.²³ He then explained that "*two elements are in a dissonant relation if, considering these two alone, the obverse of one element would follow from the other. To state it more formally, x and y are dissonant if not-x follows from y*".²⁴ *Dissonance*, he said, is a cognitive state, which the person is feeling after she has made a choice, because one of the clusters is still dissonant with the choice. What happens, says Festinger, is that "the person now moves in one direction and attempts to reduce the cognitive dissonance".²⁵ The decision maker tries to restore the lacking consonance (consistency) by 1) eliminating some of the elements that are in dissonant (inconsistent) relations, 2) adding consonant ones, or 3) decreasing the importance of the dissonant elements.²⁶ These reasoning techniques have later been identified as forms of bolstering techniques, which belong under the wider concept of *biased predecision processing*. Biased predecision processing consists of cognitive processes by which decisionmakers restructure their mental representation of the decision environment in favor of one alternative before making their choice.²⁷

The problem with Festinger's dissonance theory is the assumption, that dissonance can only occur after a decision is made, not as a part of the decision making process. This assumption was contested on the basis of empirical research findings. In 1967, Gerard found that in the predecision phase decision makers used more time to looking at the alternative they eventually rejected than the alternative they finally chose. He explained this by suggesting that decisionmakers develop an "intitial inclination" toward the alternative that they favor, after which they give attention to the unwished alternative in order to

²⁰ Asch, S.E., *Studies in the Principles of Judgments and Attitudes: II. Determination of Judgments by Group and by Ego Standards*, *Journal of Social Psychology*, 1940, 12, p. 433-465, here p. 454.

²¹ Festinger, L., *A Theory of Cognitive Dissonance*, Stanford, CA: Stanford University Press 1957 (Festinger).

²² Festinger, p. 40.

²³ Festinger, p. 40.

²⁴ Festinger, p. 13. Emphasis in the original.

²⁵ Festinger, p. 41.

²⁶ Festinger, p. 42-47.

²⁷ Brownstein, p. 545-547.

make sure that it is the alternative they do not want to choose.²⁸ In the 1970s, Janis and Mann found that people tend to bolster the least objectionable alternative in a decision situation, in which there are two or more decision alternatives, all of which are combined with serious risks.²⁹ In this situation, people use various psychological bolstering tactics of defensive avoidance "that contribute to creating and maintaining the decision maker's image of a successful outcome with high gains and tolerable losses".³⁰ They explained, that bolstering the least objectionable alternative may occur even before the decision is made, and that it is done in order to increase the attractiveness of the chosen alternative or to decrease the attractiveness of the nonchosen alternatives. They identified six different bolstering tactics, 1) exaggerating favorable consequences of the chosen alternative, 2) minimizing unfavorable consequences of the chosen alternative, 3) denying aversive feeling caused by the choice 4) exaggerating the remoteness of the action commitment 5) minimizing social surveillance and 6) minimizing personal responsibility.³¹ Their own experiments were done on decision making in every day situations, but they could also find the tactics of defensive avoidance in the decision making practice of the military, law enforcement agencies, hospitals and schools.³²

The Swedish professor Henry Montgomery has since the beginning of 1980s developed a more general theory that explains how the techniques of bolstering are used in the process of decision making. His theory is also more sophisticated with respect to the timing of the different phases in the process. Montgomery has found empirical support for the fact that 1) a promising decision alternative emerges early in the decision making process, 2) it receives more attention and more positive evaluations than the other alternatives and 3) it is bolstered until it is chosen. Moreover, he has found that the chosen alternative's priority over the nonchosen alternative(s) become more dominant during the decision making process, because of the decision makers tendency to value the negative attributes of the chosen alternative less negatively and the nonchosen alternative's positive attributes less positively.³³ The theory describes the decision making process as a search for a dominance structure (SDS).³⁴ A dominance structure is the

²⁸ Gerard, H.B., *Choice difficulty, dissonance, and and the decision sequence*. Journal of Personality, 1967, 35, p. 91-108, here p. 104-105.

²⁹ Janis, I.L., & Mann, L., *Decision making: A psychological analysis of conflict, choice, and commitment*, New York: Free Press 1977, p. 82-85. (Janis & Mann) They started their work from the premises of Festingers theory, but they contested on empirical grounds his claim that dissonance only exists after a decision has been made. Janis & Mann, p. 83.

³⁰ Janis & Mann, p. 91.

³¹ Janis & Mann, p. 91-95

³² Janis & Mann, p. 107-133.

³³ Montgomery, H. & Svenson, O., *A think aloud study of dominance structuring in decision processes*, in R. Tietz (Ed.), *Aspiration Levels in Bargaining and Economic Decision Making*, p. 383-399, Berlin 1983, Springer-Verlag.

³⁴ Montgomery, H., *Decision rules and the search for a dominance structure: Towards a process model of decision making*, in P.C. Humphreys, O. Svenson & A. Vari (Eds.), *Analysing and Aiding Decision Processes*, Amsterdam: North-Holland and Budapest: Akademiai Kiado, 1983, p. 343-369. Montgomery, H., *From cognition to action: The search*

perception that one alternative dominates the others because it is superior to all other alternatives in at least one attribute and is not inferior to any other alternative or attribute.

According to Montgomery, decision making consists of four phases. In the first, pre-editing phase the relevant alternatives and attributes are identified and selected. In the second phase one of the alternatives – the most promising one – is chosen as a hypothesis about the choice to be made.³⁵ In the dominance-testing phase, a decision maker tests her hypothesis in order to make sure that it is superior to all other alternatives in at least one attribute and not inferior to any other alternative in any other attribute. If she finds that the most promising alternative meets the criteria of dominance she chooses it, but in cases in which the criteria falls short, she proceeds to the fourth, dominance-structuring phase.³⁶

In the fourth, dominance-structuring phase, the decision maker tries to achieve a dominance structure by bolstering the positive aspects of the promising alternative and the negative aspects of the other alternatives and deemphasizing the negative aspects of the promising alternative and the positive aspects of the other alternatives. She continues till she finds an alternative which hits the dominance criteria.³⁷

Another Swedish professor, Ola Svenson, has developed a more detailed theory of bolstering techniques, a theory of differentiation and consolidation (DiffCon) in decision making.³⁸ According to Svenson, SDS-theory is a part of his DiffCon-theory. He maintains, that decision makers spread their evaluations of alternatives apart before as well as after making a decision. Before a decision is made, people tend to differentiate a promising alternative until it is found sufficiently superior to other alternatives. After a decision is made, people continue to consolidate (by using differentiation techniques) the chosen alternative's advantages in comparison to the rejected alternatives.

for dominance in decision making, in H. Montgomery & O. Svenson (Eds.) *Process and structure in human decision making*, Chichester, England 1989: Wiley, p. 23-49 (Montgomery 1989). Montgomery, H. *The search for a dominance structure in decision making: Examining the evidence*, in G.A. Klein, J. Orasanu, R. Calderwood & C.E. Zsombok (Eds.), *Decision Making in Action: Models and Methods*, Norwood, NJ, 1993: Ablex, p. 182-187 (Montgomery 1993). Montgomery, H., *Towards a perspective theory of decision making and judgment*, *Acta Psychologica*, 1994, 87, p. 155-178. (Montgomery 1994). Montgomery, H. & Willen, H., *Decision making and action: The search for a good structure*, in P. Juslin & H. Montgomery (Eds.), *Judgment and Decision Making: Neo-Brunswikian and Process-tracing Approaches*, Mahwah, NJ, 1999: Erlbaum, p. 147-173.

³⁵ Montgomery 1989, p. 28.

³⁶ Montgomery 1989, p. 28. Montgomery 1994, p. 169.

³⁷ Montgomery 1994, p. 174.

³⁸ Svenson, O., *Differentiation and consolidation theory of human decision making: A frame of reference for the study of pre- and post-decision processes*, *Acta Psychologica*, 1992, 80, p. 143-168. (Svenson 1992). Svenson, O., *Decision making and the search for fundamental psychological regularities: What can be learned from a process perspective?*, *Organizational Behaviour and Human Decision Processes*, 1996, 65, p. 252-267. (Svenson 1996). Svenson, O., *Differentiation and consolidation theory: decision making processes before and after a choice*, in Juslin, P. & Montgomery, H. (Eds.), *Neo-Brunswikian and process-tracing approaches*, Mahwah, NJ 1999: Erlbaum, p. 175-197.

Differentiation may be structural or procedural. Structural differentiation may involve adjustments in the perceived importance of various attributes, and/or representations of facts or what is considered to be the problem. It may even involve introduction of totally new attributes or denial of previously relevant attributes. This structural differentiation assists the application of certain decision rules. Process differentiation involves adjustments of the decision rules. Consolidation is a postdecision state, in which same kind of differentiation processes can be used in order to prevent postdecisional regret or dissonance.³⁹

The Polish scientist Tyszka, who has taken notice of the SDS-theory of Montgomery, has completed several studies of the motivational mechanisms beyond decision making.⁴⁰ Thus, his research tries to answer the question why people bolster their decision alternatives, not only how this bolstering is done. Tyszka states that decision making is normally based on two motivational factors. On the one hand, decision makers want to have *good reasons* for their choices, and this desire for a well-justified choice creates a motivation to make a promising alternative appear distinct from the others by biased preprocessing techniques. On the other hand, says Tyszka, decision makers want to make *accurate* choices, where accuracy means choosing the alternative that they most prefer. This desire to make accurate choices leads decision makers to anticipate regretting an inaccurate choice, which could occur if biased processing leads them to misjudge their preferences. Then, to avoid regretting an inaccurate choice, decision makers may refrain from artificially bolstering one alternative or denigrating the others.⁴¹ Even Mills's choice certainty theory predicts that people tend to increase their certainty by selecting away the information from the decision environment that makes their choice more uncertain.⁴² Both these techniques are similar to the denying of previously relevant attributes, according to Svenson's DiffCon theory.

3 Reconstructions in Legal Reasoning

Different cognitive theories of choice and decision making have different approaches: some theories focus on the question of how reasoning and decision making is cognitively processed, and which kind of patterns of reasoning can be

³⁹ Svenson 1996, p. 255-259.

⁴⁰ Tyszka, T., *Variability of predecisional information seeking behaviour*, Polish Psychological Bulletin, 1985, 16, p. 275-282. Tyszka, T., *Information and evaluation processes in decision making: the role of familiarity*, in B. Brehmer, H. Jungerman, P. Lourens & G. Sevon (Eds.), *New directions in research on decision making*. North Holland, the Netherlands 1986: Elsevier Science, p. 151-161. Tyszka, T., *Two pairs of conflicting motives in decision making*, Organizational Behaviour and Human Decision Processes, 1998, 74, p. 189-211. (Tyszka 1998). Tyszka, T. & Wielochowski, M., *Must boxing verdicts be partial?*, Journal of Behavioral Decision Making, 1991, 4, p. 283-295.

⁴¹ Tyszka 1998, p. 190, 200-204.

⁴² Mills, J., *The effect of certainty on exposure to information prior to commitment*, Journal of Experimental Social Psychology 1965, 1, p. 348-355. Mills, J. & Jellison, J.M., *Avoidance of discrepant information prior to commitment*, Journal of Personality and Social Psychology, 1968, 8, p. 59-62.

predicted, some on to the conditions under which biased processing is most likely to occur, some on the question, why it may occur. According to Svenson the research has made it possible to explain which kind of deviations from theoretical expectations do occur in decision making and which kind of reasoning techniques are used by people during the decision making process.⁴³ Tyszka's theory of motivational factors explaining why people reason as they do, i.e., they want to have good reasons for their choices and they want their choices to be accurate, are certainly not surprising. At the same time it reminds us of the fact that "passion for reason" and "accuracy of the choices" are very ordinary desires in all human decision making, not only in legal contexts.

The theories of Janis & Mann, Montgomery and Svenson deal with the question of the ways in which biased predecision processing occurs. They reveal reasoning structures, which are similar to the findings of Van Hoecke and Andersson concerning legal decision making structures in ambiguous cases.

According to Van Hoecke, what happened in the cases he had analysed was, that the courts first had made a critical moral choice in order to avoid the negative consequences of another choice, namely the application of the valid and clear legal norms. After this they used methodological and normative tools to justify another outcome.⁴⁴

Van Hoecke's analysis involves two cases, one from Germany⁴⁵, and one from Great Britain.⁴⁶ The legal issue in both cases was whether there was a legal duty of a cohabitant, a wife, who stood as surety for a debtor who had taken a loan from a bank, to pay the loan when the debtor could not pay, but who argued that she was not aware of what she had signed, and/or that she was put under heavy pressure by her husband, so that the contract on the basis of which she stood as a surety was void.⁴⁷ In both legal systems there was a clear legal presumption, according to which the wife was presumed to know what she had signed. This presumption together with the rules of the binding force of contracts and private autonomy, seemed logically to lead to only one alternative; the contract she had signed was binding and she would have to pay. This interpretation was in the light of the relevant norms and methods of interpretation totally predictable. They were not hard cases at all! However, in both countries the judges considered this an unacceptable outcome.

The courts were faced with two alternatives, both combined with risk; either to follow the existing valid law, and accept the undesirable outcome, or to create a new rule, which would deviate from a previously clear one. Both courts chose to deviate from the previous clear rule. The German *Bundesverfassungsgerichtshof* accomplished "a completely different interpretation of the valid law, and stated, that the German legal principle of Privatautonomie entails a duty on the courts to check the content of the contract, when it lays an unusually heavy burden on one of the contracting parties, and when it is the result of structurally

⁴³ Svenson 1996, p. 253.

⁴⁴ Van Hoecke 2003, p. 21-22.

⁴⁵ BverfG 19 Oct. 1993, BverfGE (Entscheidungen des Bundesverfassungsgerichts) vol. 89, 1994, p. 214-236. Van Hoecke 2003, p. 22.

⁴⁶ Barclays Bank plc v. O'Brien, 4 All ER, 1993, p. 421j-422b. Van Hoecke 2003, p. 22.

⁴⁷ Van Hoecke 2003, p. 21.

unequal power positions".⁴⁸ The court thus changed the content of the relevant norm from the previously *formal Privatautonomie* to a *substantive Privatautonomie*.⁴⁹ Thereby they, of course, implicitly denied the validity of the pure formal concept only. In Great Britain the House of Lords used the concept of "undue influence" and the "doctrine of notice", and then presumed that in a relationship based on confidence, such as between wife and husband, there is a presumed undue influence. Due to this the burden of proof moved to the "stronger party", and the Bank was made liable on the basis of the *doctrine of notice*.⁵⁰ Instead of changing the law, they changed the facts, by creating a new presumption. At the same time they implicitly denied the validity of the previously valid norm.

The reasoning of the courts in both cases corresponds structurally with the cognitive theories, according to which the seed of the bolstering process is the undesired outcome of one of the decision alternatives, in these cases, that the surety person, the wife, has to pay the unpaid loan of the husband to the bank. Another alternative is chosen, because of the unacceptability of the outcome of eventual application of the valid decision rule. Thus *non -x justifies y*, as the dissonance theory predicts. The problem with the chosen alternative is naturally that it is not consistent with the relevant legal decision rule. Because the courts do not have legislative power, but are supposed to apply the valid, existing law, the courts face a situation, in which they have to construct a new rule. In so doing they know, that they even have to 1) somehow *anchor* the new rule in the already existing sources of law and 2) justify in a coherent way how the chosen alternative emanates from this source. The German *Bundes verfassungsgerichtshof* anchored its reasoning in the already existing concept of *Privatautonomie*, but at the same time it restructured its content from the previously purely formal content to a substantial one. After restructuring the content of the existing decision rule, the facts of the case could be subsumed under the concept in order to reach a seemingly totally consistent and coherent decision according to the valid law.

Even the *House of Lords* had difficulties with how to justify the desired outcome given the previous presumption, according to which the wife was presumed to know what she had signed. Given that there was no evidence what so ever of any "undue influence" on the wife when signing the contract, there was no possibility for the court to explain how the decision rule would emanate from the valid law. The court solved the problem by restructuring the factual premise: it created a presumption of undue influence in relationships based on confidence, such as between husband and wife, thereby enabling consistency and coherency between the available legal premises and the conclusion.

Svenson's DiffCon theory predicts that once people have chosen the promising alternative they prefer, they start to bolster this alternative, e.g. by restructuring either the decision rule or the factual arguments (or attributes, as Svenson calls them); if you cannot change the rule, you change the facts! The German court restructured the decision rule, the English House of Lords, the

⁴⁸ Van Hoecke 2003, p. 21-22.

⁴⁹ Van Hoecke, p. 22.

⁵⁰ Van Hoecke, p. 22.

facts. Once this had been done, the justification could be written as if no contradiction between valid law and the decision ever existed. According to cognitive theories, in this kind of situation, justifying is really about, what Svenson calls "[defending] the choice against potential threatening factors".⁵¹

Even Andersson's analysis of the structure of reasoning in Swedish tort cases of the last decade reveal striking similarities between the reasoning structure of the Supreme Court and the bolstering techniques according to Svenson's DiffCon theory. Andersson claims, *inter alia*, that in the case NJA 2000 s. 521 the court adjusted factual premises, by creating a new presumption in order to reach a conclusion according to which a certain kind of remedy (psychological chock) could be subsumed under a certain category of remedies, instead of discussing the more important question of necessary and sufficient legal criteria of indirect remedy (the decision rule).⁵² Andersson also claims, that in other cases, such as NJA 1992 s. 213 and NJA 2002 s. 94, the court changed the legal question of whether a party's interest "ought to be legally protected" to a question of whether there was an interest, which had been damaged, which, of course, is a distinct question of fact.⁵³ Thus, there is no theory of interpretation of tort law, according to which the mere fact that an interest is damaged as such would justify remedies. Instead, a rule, according to which the damaged interest ought to be legally protected is needed. Svenson's DiffCon theory predicts, that differentiation may involve reframing the actual problem, as is the case, if the court discusses questions of facts thereby escaping discussion about the relevant questions of law.

I think that already this short comparison between Van Hoescke's and Andersson's observations and Svenson's DiffCon theory supports the thesis that the methods of legal decision making in ambiguous cases may be explained by using theories of cognitive psychology. Even if it is, within the limits of this article, impossible to say anything more general, it seems that further research is highly motivated. Legal reasoning is perhaps structurally not so very special, at least not so distinct from other kinds of human reasoning as legal scholars many times might have assumed.

On the other hand, one has to remember that bolstering techniques are prone to cause logical defects in the reasoning. This means, that if we are able to find cognitive biases in legal decision making, we will probably become more critical towards courts than is the case, if we only try to rationalize the decisions by trying to force them inside existing theoretical constructions, with no basis in reality. Even recent interactive research of judicial reasoning, conducted by prof. Holyoak and Simon in California predicts that logical defects will occur, especially when using analogy as a reasoning technique. Another, perhaps even more interesting finding of theirs is that the reasoning structure is not always unidirectional.

4 Holyoak's and Simon's Research of Parallel Constraint Satisfaction in Judicial Reasoning

⁵¹ Svenson 1992, p. 151.

⁵² Andersson, p. 34.

⁵³ Andersson, p. 31-33.

Prof. Dan Simon at the Law School of UCLA has been inspired by above all prof. Holyoak's and Thagard's theory of *parallel constraint satisfaction* (PCS) mechanisms in human decision making process. Holyoak and Simon have conducted a serie of interesting interdisciplinary experimental studies with high relevance to the question of biased predecision processing in legal decision making.⁵⁴ The concrete question they were interested in was, whether judicial reasoning really is *unidirectional*, i.e. from premises to be accepted as given to inferred conclusions, as supposed e.g. in the legal sciences involving deductive and inductive reasoning, or whether judicial reasoning would show patterns of so called *bidirectional* reasoning. In bidirectional reasoning the distinction between premises and conclusions is blurred, while, at the same time, the decision maker seeks to maximize the internal consistency (i.e. coherency) of the decision. This alternative model of reasoning and decision making is called *parallel constraint satisfaction*. The model has its roots in consistency theories such as Festinger's, but it has been created parallel with the needs of designing computational models for reasoning.⁵⁵ These other models, which cannot be explored in more detail in this context are the model of analogical mapping⁵⁶, evaluation of competing explanations⁵⁷ and deliberative coherence.⁵⁸ Here, I shall explain the studies of Holyoak and Simon in more in detail, after which some conclusions follow.

Holyoak and Simon constructed a series of experimental studies, which all were based on complex but ambigious information *pro vel contra* two different interpretation alternatives in a legal dispute.⁵⁹ The dispute was as follows:⁶⁰

"The case centered on a lawsuit launched by Quest, a software company, against Jack Smith, an investor in the company. The undisputed facts of the case were that Quest's financial situation had deteriorated and its management was having difficulty in coping with the problems facing the company. Smith, a dissatisfied shareholder, posted a negative message about Quest's prospects on an electronic bulletin board directed at investors. Shortly thereafter, Quest's stock price plummeted and the company went bankrupt. It was later revealed that

⁵⁴ Holyoak, K.J. & Simon, D., *Bidirectional reasoning in decision making by constraint satisfaction*, Journal of Experimental Psychology: General 1999, 128, p. 3-31. (Holyoak & Simon). Simon, D, Lien, B.Q., Quang, A.L. & Holyoak, K.J., *The emergence of coherence over the course of decision making*, Journal of Experimental Psychology: Learning, Memory and Cognition 2001, 27, p. 1250-1260.

⁵⁵ Holyoak & Simon, p. 4.

⁵⁶ Holyoak, K.J., & Thagard, P., *Analogical mapping by constraint satisfaction*, Cognitive Science, 1989, 13, p. 295-355.

⁵⁷ Thagard, P., *Explanatory coherence*, Behavioral and Brain Sciences, 1989, 12, p. 435-467. Thagard, P., *Conceptual revolutions*, Princeton, NJ 1992: Princeton University Press.

⁵⁸ Thagard, P. & Millgram, E., *Inference to the best plan: A coherence theory of decision*, in Ram. A. & Leake, D.B. (Eds.), *Goal-Driven Learning*, Cambridge, MA 1995, MIT Press, p. 439-454.

⁵⁹ Here I will only describe two of the experiments.

⁶⁰ Holyoak & Simon, p. 5.

(unbeknownst to Smith) Quest had been secretly developing a new product that might have saved the company.

Each side made six arguments in favor of its position. The arguments formed opposing pairs, or points of dispute and they were parallel for each side to encourage participants to align and compare the conflicting arguments for each point of dispute, following the research results of Markman & Medin, according to which alignable arguments have greater impact on decisions than do arguments that are less comparable.⁶¹ They used three arguments involving matters of fact and three involving matters of law and social policy. Here the arguments are presented with label:⁶²

1. *Truth*: Quest argued that Smith's negative message was unfounded, whereas Smith claimed it was well-founded.
2. *Cause*: Quest asserted that the message caused the company's downfall, whereas Smith claimed that mismanagement was the cause.
3. *Motive*: Quest claimed that Smith's action was motivated by vindictiveness, whereas Smith claimed he only aimed to protect other innocent investors.
4. *Regulation*: Quest claimed that in posting his message, Smith had violated a company regulation requiring prior notification of management; Smith maintained that he had complied with the regulation.
5. *Speech*: Quest argued that it is in society's interest to regulate speech over the Internet, whereas Smith argued that society benefits from free speech over the Internet.
6. *Analogy*: Quest likened the Internet to a newspaper, which was subject to libel law, whereas Smith drew analogy to a telephone system, which is immune from libel law."

At first the participants (54 undergraduate students at the University of California, Los Angeles, UCLA) were introduced to all the arguments in another context and independently from each other. This was done to get information of the pretest ratings of the participants on an 11-point scale, ranging from -5 (strongly disagree) to 5 (strongly agree) with a rating of 0 indicating neutrality. Next they were divided into two groups, one with a 2-phase condition and the other with a 3-phase condition. The 2-phase group completed the pretest after which they read the factual summary and arguments for the Quest case. They were asked to reach a verdict and to provide a rating on a 5-point scale of their confidence in their verdict (that they had done their best). Afterwards they completed a posttest ratings of the arguments.⁶³

In distinction from the 2-phase group, the 3-phase group was told in the initial instructions that they should read the case, but wait for additional relevant information, which would be given in form of a written verdict in another similar case. They were therefore only asked to give their "preliminary leaning" for either Quest or Smith. Afterwards they were told that they would not get the

⁶¹ Holyoak & Simon, p. 5 with reference to Markman, A.B. & Medin, D.L., *Similarity and Alignment in Choice*, Organizational Behaviour and Human Decision Processes 1995, 63, p. 117-130.

⁶² Holyoak & Simon, p. 5-6. The participants did not get the arguments labelled.

⁶³ Holyoak & Simon, p. 5-6.

promised verdict after all, but should reach their own verdicts and evaluate their confidence on it.⁶⁴ They then also completed a posttest rating of the arguments.

The results showed that the verdicts of the participants were evenly divided for Quest and for Smith, but despite the apparent ambiguity of the arguments and the splitting of the verdicts, individual participants were generally very confident in their verdicts. According to Holyoak and Simon, the combination of ambiguity (evenly divided verdicts) and high individual confidence in a decision follows the models of constraint satisfaction in decision making, "according to which ambiguous situations are resolved by allowing *one coherent set of beliefs to become highly activated, inhibiting the rival set*".⁶⁵

The proof for this hypothesis were the findings in the experiment, according to which 1) the promising alternative emerged early in the deliberation, 2) the ratings of the arguments in the pretest did not generally correlate with the verdicts, but 3) there was a very significant and strong correlation with verdicts and posttest ratings.⁶⁶

The pretest ratings did not show any significant difference between the participants who reached a verdict for Quest or Smith, but the posttest ratings clearly did. What explains this? Holyoak and Simon found that there was a strong correlation in one point across all the phases and among all the participants; persons who in the pretest had agreed/not agreed with, what they call the "Speech question", which was stated in form of a proposition "As a matter of policy, communications over the Internet ought to be regulated by law".⁶⁷ On the other hand, and somewhat surprisingly, no correlation was found between the verdicts and another "Speech question," namely the proposition: "As a matter of policy, keeping the Internet open to the free exchange of viewpoints and information is a vital social need".⁶⁸

The fact that only one single criteria in an ambiguous case was shown to be correlative, seems to show that people use one dominant argument as a criteria, and let this criteria guide their reasoning. Such a criteria may be strong enough to cause bolstering of it to the cost of the other criterias. Further, the observation concerning the coherence shift is very striking. The results show that people may very well express a neutral attitude towards different arguments without a contextual framework. It is within a contextual framework that they will make differences between different evaluations. Once they have to express their attitude to these previously "neutral" arguments in a given context, their evaluations no more correspond with their initial neutrality, and, surprisingly, as Simon and Holyoak could find, after the contextual shifts of the neutral position, people consistently refrain from recalling that they initially actually had expressed a neutral attitude to the evaluative arguments at stake.⁶⁹

⁶⁴ Holyoak & Simon, p. 5.

⁶⁵ Holyoak & Simon, p. 6. Italics added.

⁶⁶ Holyoak & Simon, p. 6-9.

⁶⁷ Holyoak & Simon, p. 7.

⁶⁸ Holyoak & Simon, p. 7.

⁶⁹ Holyoak & Simon, p. 12, 23 with references to other similar findings.

4.1 *Manipulating Reasoning and Verdicts*

Holyoak and Simon constructed another experiment in order to test, *inter alia*, whether the verdicts in the Quest case could be manipulated by using information of the personal history and character of the defendant, Jack Smith. They created a Good Smith and a Bad Smith version of the story. According to the Good Smith version Smith had a history of honest concern with the operation of companies in which he invested, whereas in the Bad Smith version he had a history of "unscrupulous manipulation".⁷⁰ The intention was to manipulate the ratings and relevancy of the *Motive*-factor on the hypothesis that if it was effective, it would have an impact on participants' ratings of this factor and, moreover, on their verdict.⁷¹

According to the theory, this kind of manipulation would cause not only that the ratings of the *Motive*-factor would change, but it would also cause a coherent change of all the other assessments as well, i.e. a systematic change in the entire set of assessments related to the verdict.⁷² Clearly, if this kind of effect is true, the reasoning retains its coherence, but would be alogical, "yielding inferences that would be difficult to explain by means of any logical calculus" as Holyoak and Simon put it.⁷³ For example, even if it would be coherent in this single case to make inferences from the "Bad Smith" to the conclusion that the Internet resembles a newspaper more than it does a telephone system, it is obviously not logically compelling.⁷⁴

In addition to the alogical coherency, Holyoak and Simon wanted in their second experiment to test whether spreading coherence could bias inferences and decisions in another case, where some of the same arguments would be relevant, at the same time as the new case would have little overlap with the first case. The biasing effect could be due to analogical reasoning. The criteria on which the analogy is based in analogical reasoning depends on the variables in the source case/context. Holyoak and Simon tested whether the assessment of the Internet being interpreted as a newspaper resp. telephone system could serve as a source of an analogy, a bridge "that allows coherence to spread from the Quest case to the transfer case, thereby triggering additional inferences and decisions in the latter case that will tend to cohere with the person's final position in the Quest case".⁷⁵

The transfer case "*Tho Bonus Dispute at Infoscience*" involved a contract dispute between a company that runs a bulletin board on the Internet and its employees with regard to how high a bonus should be paid to the employees. The contract specified that the bonus should be related to two factors: the bonus paid at similar information service firms located in the vicinity and the extent to which the company's profits could be attributed to the employees' efforts. The

⁷⁰ Holyoak & Simon, p. 12.

⁷¹ Holyoak & Simon, p. 11-12.

⁷² Holyoak & Simon, p. 12.

⁷³ Holyoak & Simon, p. 12.

⁷⁴ Holyoak & Simon, p. 12.

⁷⁵ Holyoak & Simon, p. 12.

arguments by the two sides focused on these two points of dispute. The first factor, Analogy, concerned whether the most similar company to Infoscience was the local newspaper or the local telephone company. The legalistic definitions of newspaper and telephone system were identical to those used in the Quest case. Analogy thus shared as a shared point of dispute, a bridge, between the cases. The second point of dispute, labelled *Credit*, was specific to the Infoscience case.⁷⁶ This dispute was about the attribution of the company's profit in terms of whether it ought to be attributed to installation of a new computer system (the position of Infoscience) or to the efforts of the employees (the position of the employees).⁷⁷

The procedure of the second experiment was very similar to the previous. Participants (80 UCLA undergraduates) were divided into three different groups. Each of the first two groups made a pretest, read either the Good Smith or the Bad Smith version of the Quest case, reached a verdict and did the posttest, after which they did the same with the Infoscience case. A control group did only the Infoscience case.⁷⁸

The results showed in accordance to the expectation a correlation with the Bad resp. Good Smith version and the Motive-factor. But what was its influence on the remaining points of dispute to which it was not directly connected in the Quest -case? As the theory predicts, the results showed that the impact clearly extended to other points of dispute, although they had no direct link to this factor.⁷⁹ Without direct logical links available in order to reason from the character evidence to various points of the dispute, the only explanation is that the links were created by means of *cognitive coherence relations*.

Holyoak and Simon observed by using various analytical methods that even if there was a seed for the verdict in the reasoner's initial agreement/disagreement with the argument that the Internet should be regulated, the manipulation "Good Smith" enforced a firm decision in favor of him, with the effect that the reasoner accepted all the arguments in his favor, and at the same time strongly rejected all the arguments in favor of Quest.⁸⁰ They concluded that the reasoners enforced a "winner-take-all outcome"⁸¹ They also found that the simulation captured a basic coherence shift in which "the internal structure imposed by the case allows constraint satisfaction to change the reasoner's assessments from a weak, uncorrelated muddle...to a strong, internally coherent system...".⁸² Further, the manipulation caused a strong support for a verdict in either direction, either for the Good Smith or against the Bad Smith. Holyoak's and Simon's analysis of the results revealed that there are links between a desired verdict and the arguments with which it coheres. These links are bidirectional in the sense of being

⁷⁶ Holyoak & Simon, p. 12-13.

⁷⁷ Holyoak & Simon, p. 13.

⁷⁸ See Holyoak and Simon, p. 13 in more detail. It is worth mentioning that especially the Analogy argument was counterbalanced as to prevent any effect of possible general bias for or against corporations.

⁷⁹ Holyoak & Simon, p. 14.

⁸⁰ Holyoak & Simon, p. 19.

⁸¹ Holyoak & Simon, p. 19.

⁸² Holyoak & Simon, p. 19.

mutually supportive in reasoning process: the arguments for the verdict are supported because of the desired verdict and the verdict is supported because of the arguments.⁸³

A very interesting finding was that a transfer due to the analogy reasoning from Quest case to Infoscience case did occur.⁸⁴ We may use an individual who has agreed with the proposition that the Internet ought to be treated as a telephone system, and decided for Smith in the Quest case as an example: Holyoak and Simon explain the reasoning path of this individual as follows:⁸⁵ “In deciding the Infoscience case, the reasoner presumably attends directly only to the argument made in the Infoscience case itself, plus the relevant analogies from the Quest case... Because the reasoner has come to accept the telephone analogy in the course of deciding the Quest case, analogical transfer provides support for the telephone analogy in the Infoscience case, which in turn supports a verdict for Infoscience and... assignment of credit for profits to the new computers, rather than the efforts of the employees”. If the individual instead favored the Internet as being alike a newspaper, he/she was also likely to use the same analogy to decide how large a bonus the employees of Infoscience should receive (a bonus similar to the bonus received by employees of a newspaper). This was so even if the reasoner was initially (in the pretest) equally positive toward both the newspaper and the telephone analogies.⁸⁶

Holyoak and Simon concluded that decision makers do not commit themselves to their initial pretest evaluations, but a coherence shift occurs when the evaluations are presented in a concrete decision making situation. Before the contextual framework is presented, the assessments of the points or arguments are uncorrelated, both with each other, and with the verdict. After the presentation of the factual and legal context, the assessments of all the points and arguments shift “so as to cohere both with one another and with the verdict”.⁸⁷ After the decision has been made, individuals no more show a neutral position to the same arguments, but retain the evaluations produced by the emergence of a coherent position, which in turn is produced by the case. On the other hand the emergence of a coherent position guides the process of decision making and thus has a causal impact on the eventual verdict.⁸⁸ Furthermore, they could also conclude that broad and far-reaching coherence shifts could be experimentally manipulated. Manipulations of the character of the defendant did not only effect the assessments of the verdicts but also triggered shifts in assessments of points of dispute that were only indirectly linked to the character-factor.⁸⁹

⁸³ Holyoak & Simon call these links “synergistic feedback loops”. Holyoak and Simon, p. 12, 17, 23.

⁸⁴ Holyoak & Simon, p. 16-18.

⁸⁵ Holyoak & Simon, p. 19.

⁸⁶ Holyoak & Simon, p. 19, 22.

⁸⁷ Holyoak & Simon, p. 21.

⁸⁸ Holyoak & Simon, p. 21.

⁸⁹ Holyoak & Simon, p. 21.

5 Factors which Increase or Decrease Bolstering

The earlier in this article discussed cognitive consistency theories clearly predict, that people bolster their choices of different decision alternatives. But it is also clearly a fact, that people do not always bolster and that bolstering can be more or less intensive. The intensity of bolstering is affected by several factors. The most obvious factor, which increases the probability of bolstering is the obligation to make a decision.⁹⁰ But not all decision making situations cause bolstering effects. This is because not all decision making situations are similar with respect to the degree of difficulty involved.

Svenson has identified four different levels of decision making processes, only on two of which differentiation (bolstering) occurs. The levels are: 1) decision processes which include many quick and largely automatic and unconscious decisions (based on habitual experience), 2) decisions made with reference to one or a few attributes favoring the chosen alternative without conflicts between attributes (stereotypical and static choices), 3) decisions with goal conflicts; some attributes favor one alternative and other attributes another alternative and 4) decisions without any fixed set of alternatives or attributes favoring or disfavoring them.⁹¹ According to Svenson, differentiation occurs only on levels 3) and 4), even though the ground for the decision rules used on the two first level, originally might have been level 3) or 4) decisions. This is so, because it is usual that a new decision rule is created on the levels 3) or 4), after which it is considered a routinelike decision on levels 1) or 2).⁹²

In legal decision making most of the decisions belong to the level 2) group of stereotypical decisions with static choices. These are clear cases, where the decision is subsumed under a rather uncomplicated decision rule. The so called hard cases belong obviously to the level 3) or 4). Once a new decision rule in a hard case is created in form of precedent, this decision rule will be moved down to level 2). Most of the existing decision research in cognitive sciences treats problems at level 3), even if many of the decision making situations involve all four levels. Svenson's theory of differentiation and consolidation describes decision making on the level 3). Here, he says, thinking is alternative-focused in comparison to level 4), at which thinking is value-focused. It seems to me that decision making in courts even in hard cases is alternative-focused, mainly because of the two-party structure of the legal procedure. That decision making is alternative focused, does not exclude value based choices, but the limited amount of the alternatives does have an impact on the attributes and processes by use of which the choice is made.

Which other factors than the obligation to make a decision, increase or decrease bolstering? Some research findings give support to that biased predecision processing and bolstering of the assessments is to some extent affected by the duty to justify the decision or the choices involved.⁹³ Although

⁹⁰ Brownstein, p. 560.

⁹¹ Svensson 1992, p. 145-146. Svenson 1996, p. 254-255.

⁹² Svenson 1992, p. 146.

⁹³ Russo, J.E., Meloy, M. G. & Medvec, V.H., *Predecisional distortion of product information*, Journal of Marketing Research, 1998, 35, p. 438-452. Russo, J.E., Meloy, M.G. & Wilks,

these findings still are vague, they suggest that the duty to justify has a diminishing effect. Here we get still another good reason why courts ought to justify their decisions as much as possible; not only for the sake of the information of the main reasons behind the decision, but as much in order to prevent eventual biases in the reasoning. Still, one has to remember that the duty to justify is not the only causal factor, and above all that the duty to justify does not totally extinct the probability of biased processing.⁹⁴

Even consequences of the decision have a causal effect on bolstering. Some research findings show that the more unattractive the consequences the greater the causal effect and vice versa.⁹⁵ On the other hand, one has to be cautious in drawing a more general conclusion from this, because the findings are still based on limited empirical research.⁹⁶ Some other predicting factors are more firm, such as the less time the decision maker uses to make a decision the bigger the probability of bias.⁹⁷ Even the amount of information available seems to be causal: the less information, the more uncertainty and the greater the probability of bias.⁹⁸ These two factors are highly relevant in legal decision making today. Time and information factors often even go together in legal decision making: even if the court would like to get some more information in order to be able to make a more accurate decision, it is often very time and money consuming to try to get more information than already has been presented. Therefore, the courts often satisfy themselves with less information. In dispositive private law cases, the court regularly is obliged to decide the dispute on the basis of the information which the parties have presented without any real possibility to get more information. But one has to bear in mind that uncertainty of the information clearly increases the probability of biased reasoning in form of bolstering techniques, and therefore also the probability and amount of faulty decisions. After all, lower quality of decision making is the result of biased reasoning.

6 Conclusions

Even if one still has to be cautious in drawing general conclusions from the research findings and analyses presented above, empirical studies produced by cognitive psychology during the last few decades allow some conclusions regarding the patterns of reasoning which seem to be common among all human beings under certain decision environments. *First*: people try cognitively to find a promising alternative early in the reasoning process. *Second*: this choice of a promising alternative causes the reasoning, which follows. *Third*: people use predictable patterns of reasoning, which include so called biased reasoning in

T.J., *Predecisional distortion of information by auditors and salespersons*, Management Science, 2000, 46, p. 13-27.

⁹⁴ For review of the relevant research and conclusions, see Brownstein, p. 560.

⁹⁵ Svenson 1992, p. 159-160.

⁹⁶ Brownstein, p. 559-560.

⁹⁷ Brownstein, p. 559-560.

⁹⁸ Brownstein, p. 559-561.

form of different bolstering techniques, and *Fourth*: bolstering is done in order to favor a previously chosen promising alternative or in order to justify or defend a previously made choice.

Fifth: Even if unidirectional reasoning certainly still is the most common reasoning technique, there is another, bidirectional reasoning structure, which is as basic as the unidirectional one. Unidirectional and bidirectional reasoning have the very same aim, namely to enable coherency of the reasoning. According to parallel constraint satisfaction model, coherency is achieved by a bidirectional reasoning process, during which "elements that are positively related to one another tend to wax and wane together..."⁹⁹ *Sixth*: The reasoning process is very sensitive to manipulations. Thus, Holyoak's and Simon's findings clearly show, that "...it is possible to create dependencies among beliefs, attitudes, opinions, and decisions by introducing a set of links connecting individual variables to a common outcome. To the extent a particular outcome comes to be favored, synergistic feedback loops will tend to generate a coherent position across all the interconnected variables."¹⁰⁰

So what do we get out of all this? First there is the question of the usefulness of the cognitive theories when analysing legal decision making. What is its added value in our context? Legal scholars are used to, and have traditionally found grounds for their theories in philosophically, not empirically oriented sciences. At the same time, the goal of legal philosophy and legal theory has been to construct theories of the ontology, epistemology and methodology of law; theories by which they claim to be able to give a fair picture of legal decision making by judges and other legal authorities in the reality. On the other hand, all these theories are normative. It seems to me that the problem of the normative theories in many cases is that the normativity "creates expectations that something will happen; we expect that judges reason as they ought to, after which we use this expectation as a framing of our explanations of how the reasoning has been done in reality".¹⁰¹ This state of affairs creates a risk of dogmatism, i.e. that the legal sciences describe reality with the help of theories, which do not base on how things are in reality, but instead of how they have agreed on that the reality they describe ought to be. This is done in spite of the ever increasing evidence of that the theories (e.g. the context of justification) are not the whole story at all. The sin of dogmatism is, as well known, one of the greatest enemies of a successful development of all sciences.

Cognitive research has during the five last decades produced a number of theories, with the help of which it is possible to predict human reasoning and decision making. These theories do not take into account the needs of legal sciences to have a theory of "all things considered", but merely reveal some more or less embarrassing dysfunctions of the human reasoning in complex decision environments. Scientists have identified several predicting factors,

⁹⁹ Simon, D. & Snow, C.J. & Read, S.J., *The redux of cognitive consistency theories: Evidence judgments by constraint satisfaction*, Journal of Personality and Social Psychology 2004, 86, p. 814-837. Here p. 816, italics in the original.

¹⁰⁰ Holyoak & Simon, p. 23.

¹⁰¹ Klami, H. T. K., *Reflections on Natural Law*, in Fogelklou, A., & Spaak, T., Festschrift till Åke Frändberg, Uppsala 2003, p. 145-154, here p. 145.

which are at stake in our courtrooms, whether we like it or not. Hence, the research findings of cognitive psychology have shown us, that the justifications perhaps aren't the whole and, above all, the true story about legal decision making. Therefore, when reading legal decisions, and precedents, one ought to consider the possibility that the often very striking coherence of the justifications – in the context of justification - might be based on cognitive mechanisms which do not follow the theoretical assumptions of how to reach consistency and coherency in legal decisions. When this is the case, the decisions might not be totally rational and consequent, but rather rationalized and consequentialized, when at the same time, the real reasons stay beyond the reach of legal sciences. There is, on scientific grounds, a call for much more critical attitude towards legal reasoning and decision making, than we are used to. A more critical attitude might be even more important when trying to systematize law on the basis of, *inter alia*, legal praxis. By systematization without criticism one may perhaps end up with sedimenting reasons and reasoning processes, which do not hold logically, but are merely based on logical flaws caused by bolstering the decision alternatives in ambiguous cases.

On the other hand, scholars ought more to take into consideration the nature of the decision environments of the courts. Perhaps we ought to pay more attention to the fact that bolstering sometimes is the only practically possible option, because of the complexity of the issue or the uncertainty of the information, on which the decision has to be based. Especially because of the *non liquet* –rule. Maybe scientists do not take these factors seriously enough, because they do not face these kind of problems at their research desks.

My firm belief is that new findings, produced by cognitive psychology and interdisciplinary research in law and psychology open a door to a better and more reality based understanding of the reasoning and decision making mechanisms in the area of law. But let us still not forget that better understanding often leads to the acknowledgment of how much we still do not understand. The awareness of this makes me humble, but, on the other hand, humbleness, as Judge Jerome Frank has reminded us, really is the cornerstone of wisdom:

”To the extent that one goes to sleep in a dream of attainable perfection, he becomes the victim of uncertainties which he ignores and for which he therefore fails to allow. The courageous attitude of accepting uncertainties makes one's world picture more complex; life is disclosed as far more precarious and difficult to conciliate. But, just in proportion as we learn more about what was previously undetected, we reduce the dangers of being crushed by unobserved dangers. This is the paradox of wisdom: Insofar as we become mindful that life must be less perfect than we would like it to be, we approach nearer to perfection”.¹⁰²

¹⁰² Frank, Jerome, *Courts on Trial: Myth and Reality in American Justice*, 1949.