Formal Representation of Legal Cognition

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Applied symbolic logic attempts to develop rationally what works in practice and can provide the necessary universality on the one hand for the theory of legal reasoning and on the other for understanding the structure of distributed legal information systems now to be found in hypermedia and cyberspace. This turns out to be a very interesting example of the application of the Curry-Howard isomorphism between intuitionistic logic and computational type theory[2]. Geometric logic in category theory is essentially concerned with links between objects and is therefore particularly appropriate for modelling relationships both in legal reasoning and for legal information systems[1].

[1] M.A.Heather & B.N.Rossiter, Content Self-awareness in Distributed Multimedia Publishing: the Need for a Unifying Theory, in: Third International Workshop on Principles of Document Processing (PODP'96), ed. Nicholas, C, & Wood, D, *Lecture Notes in Computer Science* **1293** Springer-Verlag 35pp (1997).

[2] Ryan, Mark, & Sadler, Martin., Valuation Systems and Consequence Relations, in: Abramsky, S, Gabbay, Dov M, & Maibaum, T S E, (edd), Handbook of Logic and Computer Science, **I** Background: Mathematical Structures, Clarendon Press, Oxford pp.2-78 (1992).

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