Epistemic Logic and Questions

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There are many formal systems in the field of logic of questions. (See nice overviews in [2] and [3].) If we omit pragmatically oriented theories, then there are two known approaches working within erotetic inferential structures: Groenendijk-Stokhof's intensional approach [1] and the general theory of erotetic inferences proposed by Andrzej Wiśniewski [4]. Even if we can meet some other theories of questions based on epistemic logic, they usually do not incorporate inferences within the language extended by questions. Mostly, questions are translated as requests for a completion of knowledge.

We would like to present some basic ideas of a non-invasive extension of epistemic logic by questions. Questions play the role of lack of an agent's knowledge. Moreover, it enables to display a structure of an agent's ignorance and a change of common knowledge in a group. Simultaneously, inferences among interrogatives and declaratives are incorporated and we can express evocation of question from a set of declaratives or implicationlike relationship between questions.

References

[1] J. Groenendijk and M. Stokhof. Questions. In J. van Benthem and A. ter Meulen (eds), *Handbook of Logic and Language*. Elsevier/MIT, 1997, pp. 1055–1124.

[2] D. Harrah. The Logic of Questions. In D. Gabbay and F. Guenthner (eds), *Handbook of Philosophical Logic*, Kluwer, 2002, volume 8, pp. 1–60.

[3] A. Wiśniewski. *The Posing of Questions: Logical Foundations of Erotetic Inferences*. Kluwer, 1995.

[4] A. Wiśniewski. Questions and Inferences. *Logique & Analyse* 173–174–175, 2001, pp. 5–43.