Editorial

The logic and philosophy of information corner: Presentation and call for papers

While the existence of a fundamental relationship between logic and information seems unquestionable, its precise nature has so far proved to be rather elusive and somewhat puzzling.

The received view on this issue is epitomized by the traditional tenet that logical inference is 'tautological' (literally, repetitive and trivially true), namely that a valid inference is one in which the information carried by the conclusion is (in a sense variously specified) contained in the information carried by the (conjunction of the) premises. At the mid of the 20th century, Bar-Hillel and Carnap's controversial theory of 'semantic information' provided what is, to date, the strongest theoretical justification for this tenet. However, as remarked by a number of authors who have made the history of logic, including Frege, Dummett and Hintikka, the received view clashes with the intuitive idea that deductive arguments are useful just because, by their means, we obtain information that we did not possess before. Moreover, it also clashes with two 20th-century milestones of the theory of computation: the undecidability of first-order logic and the NP-hardness of propositional logic. How can logic be informationally trivial and, yet, computationally hard? Can we obtain an informational characterization of logical consequence that is more in tune with our intuition and with the negative results on the computational complexity of logical reasoning?

Besides and beyond this well-known and puzzling difficulty—which has recently seen a revival of attention both for its philosophical and for its computational aspects—a deep interest in an informational view of logic has been pivotal in research on non-classical logics at least since Kripke and Urquhart provided informational semantics for intuitionistic logic (Kripke, 1965) and relevant logics (Urquhart, 1972). It has been pursued by authors such as Barwise and Perry, Ono and Komori, Girard, Van Benthem, Wansing and many others. Furthermore, the connection between logic and information has been the subject of extensive research in epistemic logics. From this point of view, logic allows for a clarification of the nature of different kinds of information and for deeper investigations into their formal properties.

Over the last few years, a fresh view of these fundamental issues has been put forward by the development of philosophy of information as a specific, interdisciplinary and fast-expanding area of research. This new subject is rapidly attracting a large community of researchers from a variety of disciplines and is leading to a growing number of conferences and workshops all over the world. However, there is still no dedicated venue that focuses explicitly and uniquely on its contributions to the field of logic and computation.

This corner welcomes research or survey papers on all aspects of the relation between logic and information, in broad areas such as:

- Informational characterizations of known or new logics
- Informational semantics
- Logics of information
- Philosophy of logical information
- Logico-mathematical approaches to problems in the philosophy of information

and in closely related areas, provided that they have a logico-mathematical or computational content.

Submissions may consist of single papers, or pairs or triples of complementary papers. We also welcome proposals for topics to be covered in the Corner. Submissions of papers should be accompanied by a brief statement explaining the relevance to the corner. Electronic submissions may be sent to dgm@unife.it or luciano.floridi@oii.ox.ac.uk, using 'JLC Corner' as the Subject line. Submissions should be copied to the JLC Editorial Office (Jane Spurr, jane@kcl.ac.uk).

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