

## **Call for Papers**

### **Special Issue of *Studia Logica* on Truth Values**

Guest editors: Yaroslav Shramko and Heinrich Wansing

The notion of a truth value is among the most important notions of modern symbolic logic and analytic philosophy. It has been explicitly introduced by Gottlob Frege who considered exactly two classical truth values – the True (das Wahre) and the False (das Falsche), which played in his theory the role of references (Bedeutungen) for sentences. In this connection Frege characterized logic as the discipline that should investigate the "most general laws of being true". Another prominent supporter of this view was Jan Lukasiewicz, who explicitly defined logic as the science of truth values.

In modern logic there is an influential tradition of representing logical calculi as systems of truth values (valuational systems). One can mention in this respect Lukasiewicz, Alfred Tarski, and other representatives of the "Polish School". There are several possible ways to generalize the notion of a classical valutional system introduced by Frege. In the literature one can find, for instance, conceptions of constructive versus non-constructive truth and falsity. Moreover, the information human and artificial agents are confronted with is often incomplete and sometimes inconsistent, suggesting that statements may also be evaluated as neither true nor false or both true and false. Thus one arrives at the idea of many-valued logics, partial logics, paraconsistent logics, etc. which are heavily oriented towards possible applications in epistemology, AI and computational linguistics.

Truth and falsity may receive other philosophically relevant qualifications: necessary truth, possible falsity, truth henceforth, commonly known truth, truth by default etc. Classical and non-classical truth values may be combined to obtain new, structured truth values. The idea of generalized, possibly structured truth values suggests ordering relations on these values. The values may be compared with respect to their degree of constructiveness, necessity, amount of information they give, etc. As a result, one obtains lattice structures of generalized truth values (more specifically – structures known as bilattices, trilattices and, more generally, multilattices). Natural algebraic operations on these lattices correspond to logical operations, and the ordering relations give rise to entailment relations.

The purpose of this special issue of *Studia Logica* is to concentrate on various interrelated aspects of truth-values: philosophical, logical and algebraic among them. We invite papers which

- philosophically elucidate and theoretically explicate the notion of a truth value;
- elaborate general formal tools for a uniform treatment of various logical, mathematical and philosophical aspects of truth values and valuational systems within a joint theoretical framework;
- interpret various logical calculi as valuational systems, develop general methods of formalizing (in axiomatic, sequent, tableau etc. style) logical theories on the basis of a given system of truth values and examine their syntactic and semantic properties;
- investigate topical problems of many-valued logics, such as Suszko's Thesis, truth value gaps, logical and semantic paradoxes etc.;
- consider possible applications of generalized truth values and generalized truth value functions in various areas of philosophical and mathematical interest.

There will be a workshop devoted to the same topic. Selected papers from this workshop will be considered for inclusion in the special issue.

### **Submission of Papers**

Submitted papers should not exceed 20 pages (including bibliography), and should be formatted according to the *Studia Logica* LaTeX style (see Information for Authors). Only electronic submissions will be accepted. The authors should send an email with subject "Studia Logica Submission" to the guest editors (Yaroslav Shramko, [yshramko@ukrpost.ua](mailto:yshramko@ukrpost.ua) and Heinrich Wansing, [Heinrich.Wansing@tu-dresden.de](mailto:Heinrich.Wansing@tu-dresden.de)), with the file of the paper as an attachment ("tex" and "pdf" files), and the following information in the body of the email in plain text: paper title, author names, surface mail, email address and phone number of the contact author and a short abstract.

### **Deadline for submission of manuscripts: October 31st, 2008.**

All papers will be refereed according to the standards of the journal. The refereeing process is expected to be finished by the early spring of 2009 and the issue published summer/autumn 2009.