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Foreword to the Special Issue

Logical form is one of the central topics in the contemporary debates on the nature of logic and this debate reflects quite well the overall state of the discipline. New logics are being continuously developed and the established ones are being meticulously studied as to their mathematical properties. This contrasts starkly with the unclarity pertaining to fundamental questions concerning the nature and purpose of logic.

The plurality of developed systems is in particular both a fruit of hard intellectual work of logicians, as it is a sign of the unclarity about the boundaries of logic. Although many scholars would without much hesitation classify themselves as logicians, the unclarity of the boundary between logic on the one hand and mathematics, general linguistics or philosophy on the other can lead one to doubt to what degree logic is a truly self-standing discipline.

It would help to specify the field which logic should study or the purpose it is to fulfill. Some general answers are at hand but they hardly get us much further. In order to find a firmer ground for these investigations, this puzzlement concerning logic has been rephrased in many ways. One very specific way of doing this is to formulate the so-called problem of logical constants and their demarcation.

During the history of logic, some concepts and corresponding kinds of linguistic expressions have clearly played an important role for logicians. One can think of ‘all’, ‘some’, ‘none’ and others already in Aristotle and of logical connectives such as conjunction or negation, quantifiers or modal operators nowadays. But which modal operators exactly? And what about the so-called generalized quantifiers? Many authors have discussed which expressions logic should be concerned with and the debate goes back at least to Tarski and we could even detect an interest in Bolzano’s writings.

But this debate is closely related to the more general issue and debate on logical form. The idea is that when we identify the logical vocabulary in a given sentence and replace the extra-logical expressions by variables of the corresponding order, we arrive at the logical form of the sentence. This old idea was memorably on show with Russell's analysis of definite descriptions. According to Russell, the logical form can radically differ from the superficial grammatical form.

But are logical forms real? And where, if anywhere, do they reside? In our thought, in our language or in a Platonic realm? Are they rather a subject matter or a tool of logical studies?

We believe that logical form is still a lively topic and that studying it can indeed teach us important lessons about what logic is in general. This issue therefore brings together contributions which are focused on logical form. Most of them were presented at the conference "What are Logical Forms (Good for)?" which took place in Prague in October 2022. The conference was supported by Czech Science Foundation (project no. 20-18675S) and the Institute of Philosophy of the Czech Academy of Sciences.

Some of the contributions to this special issue investigate the cogency and usefulness of the very concept of logical form, whereas others study quite specific applications of it. My own article attacks the very idea of logical form on the basis of Wittgenstein's critical pronouncements on it and the corresponding understanding of how language works. Of somewhat similar bent is the contribution by Vojtěch Kolman, who argues for a more dynamic understanding of logical form than the mainstream one. He bases his approach on Hegel.

The very point of looking for logical form is discussed in the paper by Jaroslav Peregrin and Vladimír Svoboda who present a pragmatist perspective which denies that logical form is a feature of a sentence as such, independently of our specific interest in it. They argue that ascribing a logical form to a sentence always depends on its place in a particular text and on the specific interest that motivates the particular analytic enterprise.

What we mean when we speak about the formality of logic and how this specific feature relates to the concept of substitution is discussed in the paper by Vít Punčochář. Georg Brun investigates what are or should be the criteria of an adequate formalization, i.e., of ascribing an adequate logical form to a specific sentence in a given context.

Giacomo Turbanti looks at the same issue from the perspective of the influential standpoint of logical expressivism, a theory that has become well known and influential thanks to Robert Brandom.

The problematic boundary between logic and mathematics is a topic for Graham Priest who investigates what it means for the notion of logical form if we consider logic as applied mathematics. The question of to what degree logic really is a part of mathematics or the other way round is looming large in the article by Sebastian Speitel, who focuses on the question of logical constants from the model-theoretical perspective, established by scholars such Alfred Tarski or Gila Sher. Zack Garrett, on the other hand, argues that the notion of a logical constant is vague and examines to what degree the sorites paradox can be applied to it.

Logical form should in principle be ascribable to every meaningful sentence. But some kinds of sentences pose specific challenges. Hans Rott examines the logical form of conditionals, while Daniel Molto offers an account of the logical form of polysemous copredicative sentences. His account is inspired by Donald Davidson and entails that disambiguation does not have to be the goal of logical analysis.

Logical form is likely to continue occupying scholars of various specializations and it was no by no means our ambition to bring conclusive answers to all the puzzles that this issue raises. Nevertheless, we hope that this special issues conveys a good idea of what logicians and logically-oriented philosophers and mathematicians have to say about it in the early twenties of our century.

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