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Editorial

From the Venerable History of Logic to the Flourishing Future of *Logics*

Valentin Goranko

Department of Philosophy, Stockholm University, 10691 Stockholm, Sweden; valentin.goranko@philosophy.su.se

Reasoning is one of the most important and distinguished human activities. Logic is commonly described as the science studying the principles and laws governing correct and reliable reasoning. As an intellectual phenomenon, Logic is historically rooted in several civilizations, including ancient China, Greece, and India. As a scientific discipline, formal Logic originated in the seminal works of Aristotle, Chrysippus, and other philosophers from the ancient Greek Megarian and Stoic schools. For over two millennia, Logic was a purely philosophical and rather scholastic discipline—until the mid-19th century, when the groundbreaking works by Boole and De Morgan introduced mathematical methods in the study of Logic and thus laid the foundations of its modern period.

These works, followed by the seminal contributions of Peirce, Frege, Russell, Łukasiewicz, Gödel, Tarski, and many others, gradually transformed the study of Logic into a mathematical discipline, without diminishing its relevance to philosophy. The mathematical study and applications dominated the development of Logic until the mid-20th century, which witnessed the quick expansion of Logic way beyond its philosophical and mathematical scopes and applications, towards a wide range of natural, human, and social sciences. Logical methods also gradually became very popular and useful tools in computer science, artificial intelligence, linguistics, game theory, etc. That expansion also resulted in a proliferation of a rich variety of non-classical logical systems—rivalling, extending, restricting, or modifying in various ways classical logic. That variety includes modal, epistemic, doxastic, temporal, spatial, deontic, description, non-monotonic, and paraconsistent logics, as well as logics of processes and programs, logics of agency and multi-agent systems, etc. Thus, the solitary study of *Logic* over many centuries has gradually transformed in recent decades into a rapidly growing *multitude of logics,* studied, or at least applied, by thousands of scientists with diverse backgrounds and interests. Applying logically correct reasoning and using formal logical methods are of crucial importance in most spheres of the modern society. For instance, their impact in computer science and artificial intelligence is often compared with the impact of calculus on physics and other natural sciences since the 17th century.

The flourishing studies of logics in recent decades have prompted and justified the creation of new, specialized or common purpose, scientific journals in logic and related disciplines. The MDPI journal *Logics* [1] is the latest such new initiative, which I am happy to announce here. Together with the valuable support of the publisher and of our diverse and highly qualified Editorial Board, we aim to build MDPI *Logics* into a high-quality, reputable, widely recognized and valued journal, which will manifest both the diversity of logics and unity of Logic. This endeavor, of course, will not succeed without the strong support and quality contributions from the logic research community worldwide, to which this Editorial is addressed. I hereby wish to encourage and welcome submissions of your best research outputs to MDPI *Logics*!

Conflicts of Interest: The author declares no conflict of interest.

Reference

1.   Logics. Available online: https://www.mdpi.com/journal/logics (accessed on 7 April 2022).

Short Biography of Author

Valentin Goranko is a professor of logic at the Department of Philosophy at Stockholm University. He received a Ph.D. in mathematics from Sofia University, Bulgaria, in 1989 and has over 35 years of experience in university teaching and research at departments of mathematics, computer science, and philosophy in universities in Bulgaria, South Africa, Denmark, and Sweden. His research interests broadly span the theory and applications of logic to philosophy, computer science, artificial intelligence, game theory, and mathematics. He has more than 140 peer-reviewed research publications, as well as 3 authored or co-authored published books, *Logic and Discrete Mathematics*, *Logic as a Tool*, and *Temporal Logics in Computer Science*. Goranko has held several elected positions in the steering bodies of professional scientific organizations, including the president of the Scandinavian Logic Society since 2018 and president of the Association for Logic, Language and Information (FoLLI) during the period 2016–2020. Besides being the first Editor-in-Chief of MDPI *Logics*, he is also the Editor-in-Chief of the Springer LNCS/FoLLI book series, as well as a member of several other editorial boards.