Philosophy and Education of Mathematics and Computing

Guest Editor:

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Message from the Guest Editor

What is Mathematics? The question is as old as Philosophy itself. Despite thousands of years of discussion, we still do not know. Not that we have no idea, but we have many partial answers. Can we then stop asking the question? As long as we teach Mathematics, we cannot. What we think about a subject, admittedly or not, influences how we present it, how we teach it. For instance, latent Platonism led to a reader-unfriendly style of mathematical writing that removes any traces of failures or dead ends in the thinking process, only presenting the eternal truth. Therefore, adjusting our philosophical perspective may improve education.

What is computation? What do programmers really do? As if we had not enough trouble with the nature of Mathematics already, the rise of computers further complicated the picture. Computing devices appear to be mathematical engines at a low level, and they can look very different on higher levels. What is a computer then? Since we aim to teach programming to more and more people, the stakes are again high due to the educational considerations.

Mathematics and computing keep changing; therefore, it is worth revisiting the fundamental questions.

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Special Issue

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Message from the Editor-in-Chief

Philosophies searches for the syntheses of philosophical and scientific inquiries. It promotes philosophical work that is derived from the experience of diverse scientific disciplines and cultures. Multiple philosophies already exist — those of logic, information, computation, natural and artificial life, natural or artificial intelligence, complexity, technology, etc. Our mission is not to abandon philosophical roots and traditions of inquiry, but to promote the development of philosophical foundations and effective methodologies derived from diverse scientific explorations, and intended to enhance these explorations as to generate deeper and more holistic knowledge. Innovation may also be achieved through the cultural dimension. Other cultures can offer from their heritage a diversity of resources for exploration; these resources can also contribute to the emergent synthesis of philosophical inquiry.

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