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Church's Thesis after 70 Years

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REVIEW

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Early on, a certain consensus established itself regarding the Church–Turing Thesis (CT), according to which every effectively computable function is Turing-computable (partial recursive). Nonetheless, a range of views regarding its status has developed over the intervening decades, and this anthology provides a timely survey. It consists of twenty-two articles by twenty-five different authors. The articles range in length from six to fifty-three pages and concern issues in the philosophy of mind, philosophy of mathematics, history of mathematical logic, theory of computation, or theory of programming languages. Only three of the papers—those by Blass and Gurevich, Odifreddi, and Sieg—have appeared previously.

The quality of the articles published here is very uneven. Five out of twenty-two—Bridges, Fitz, Horsten, McCarty, and Turner, to name names—are excellent in our opinion and even well written. Most of the others have something of interest. But a few range over very familiar territory without offering any clear point of view. Some—even one of our favorites—are patently the result of appending this or that regarding CT to a rehearsal of previously published ideas—however interesting—so as justify inclusion in this anthology. There are occasional problems with English. Oddly, the articles appear in lexicographic order using (first) author's last name with the result that the volume is devoid of internal organization. A two-paragraph preface helps not at all in this regard, and there is a name, but no topic, index.

We shall say at least a few words regarding each article and, along the way, group them thematically indicating dependencies. (Our classification is admittedly somewhat arbitrary due to the fact that several