This book is Volume 15 in Kluwer’s Mathematics Education Library series (Managing Editor: Alan Bishop). As with many of the other books in the series, it makes a substantial contribution to the field of mathematics education. But unlike many of the books in the series, it challenges many of the dominant theoretical and epistemological positions within the field and, as such, represents an even greater contribution.

Skovsmose is well known for his work in critical education and this book represents a coherent representation of the depth and breadth of his contribution to the field. He brings forward many complex constructs from critical theory and the sociology of education and applies them effectively to mathematics education. The underlying focus of his work is to challenge the dominance of traditional school mathematics with a more egalitarian mathematics: critical mathematics. Systematically and very thoroughly, he introduces constructs relevant to his position, explaining them and their value to mathematics education. He then applies them to critical mathematics projects he has undertaken so that the reader can see the construct-in-action and its worth.

The text begins with an overview of critical theory and democracy. These two chapters present a cogent summary of what are very complex theories. Skovsmose has represented critical theory in a very succinct and relatively accessible form. The complexity of the theory makes it difficult to simplify without doing it an injustice, but Skovsmose has achieved this with great success. The first chapter is an excellent read for those who are not familiar with critical theory. The socially reproductive and transformative power of schooling is foundational to the assumptions behind critical theory and to Skovsmose’s position. Mathematics plays a key role in social and cultural reproduction, but Skovsmose seeks to develop a new mathematics which not only challenges the place of traditional school mathematics but to empower students to become more
critical of mathematics, schooling, and society. Just as literacy can “be seen as part of a critique of ideology … it can become a means of pinpointing inequality and suppression and therefore a tool for identifying the critical features of society” (p. 25). Skovsmose proposes his construct of mathemacy for a critical mathematics which challenges the status quo. He ponders whether mathemacy could be “involved in actively naming and transforming those ideological and social conditions that undermine the possibility for forms of community and public life organised around the imperatives of a radical democracy” (p. 27).

In the second chapter, Skovsmose challenges the notion that schools are democratic but sees them rather as agents for social and cultural reproduction. If they are to be truly democratic, then they need to alter so that they “counterbalance some of the reproductive forces” (p. 30). Mathematics is a key player in the process of social and cultural reproduction through its role as a critical filter into higher education and vocational life; so it becomes essential for a mathematics to be developed which seeks to redress the inequality of student opportunity. This theme becomes the driving force of the book—a mathematics that challenges the status quo.

The remainder of the book seeks to bring forth a means by which mathematics can be central to democratic principles rather than a tool for legitimating the status quo. He achieves this argument through three key ideas: the formatting power of mathematics; reflective knowing; and intentionality. As he proposes each of these constructs, he systematically expounds the virtues, values, and limitations of each. He then applies these constructs to a number of projects he has undertaken (Golfparken & constructions; Family support in a micro-society; Our community; and Energy). Each project was school-based and actively involved students and teachers in reconceptualising mathematics. In part, as he recognises in the closing chapters of the book, the projects were made possible by the context in Denmark where critical education is an integral part of schooling. The contextualising of mathematics is regarded as critical for the students to come to see the relevance of their work.

In formulating his notion of the formatting power of mathematics, Skovsmose suggests that formal mathematics provides a lens through which much of the world becomes mathematised and normalised. “Not only do we ‘see’ according to mathematics, we also ‘do’ according to mathematics” (p. 55). In effect, the mathematising of events and phenomenon becomes the hidden curriculum of mathematics.

His construct of reflective knowing extends beyond the simplistic versions commonly held by some educators. Extending on Habermas’s (1971) three forms of knowing (technical, practical, and emancipatory), Skovsmose proposes three forms of knowledge. The first of these is technological, which refers to the “explicit and verbalised knowledge … [and] a variety of competencies to perform different acts” (p. 99). The second, mathematical knowledge, is related to technological knowledge but distinguishable from it: Mathematical knowledge

1 "Golfparken" is Danish for golf park and refers to a school-based project undertaken within the Critical Mathematics Education Project.