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**From the Experiences of  
Women Mathematicians:  
A Feminist Epistemology  
for Mathematics**

A THESIS PRESENTED IN PARTIAL FULFILMENT OF THE  
REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY  
IN MATHEMATICS AND WOMEN'S STUDIES AT  
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# Abstract

In this thesis a feminist epistemology for mathematics is developed. The rhetorical space in which this can be achieved and questions about the gendered nature of mathematics, its practices and epistemology can be asked, is created by considering feminist epistemology, the gender, mathematics and education research literature, the feminist science debates, the philosophy and sociology of mathematics and the experiences of women mathematicians,

Eight women research mathematicians were interviewed about their experiences in mathematics communities, the knowing styles they used in their work and the legitimating practices of acknowledgement and validation prevalent in these communities.

This feminist epistemology for mathematics addresses the questions of who knows, how we know and what we know. It includes a commitment to the inclusion of women as knowers, the asking of questions arising from women's experiences and the exposure of the feminine in mathematics and mathematical practices. It depends on a transformation of the binaries which have informed the definition of the subject of knowledge, the epistemological values of mathematics and the knowing practices of mathematics. The traditional Cartesian subject of knowledge is replaced by a subject who acts within a community of knowers and who is both rational *and* emotional, subjective *and* objective and who uses reason *and* intuition. Defining knowing in mathematics includes accounts of the social *and* of the defining values and commitments of mathematics. Reflexive processes that account for intuition, creativity, incompleteness, and the social relations and processes in the mathematical community are included, as are the traditional mathematical values of logic, rigour, objectivity and abstraction. These traditional values are identified as having been defined within a social context. Mathematical objects are formed as part of a framework, a language, a conceptualisation of the abstractions made from the regularities of reality and which are in turn imposed upon that reality. They are formed out of the interaction of nature and culture and the changes each imposes upon the other. One is neither privileged over nor prior to the other.

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