ABSTRACT: Constructivism has become a major focus of recent pedagogical reform in mathematics education. However, epistemological reform that is based on the constructivist referent of *learning as conceptual change* has a very limited viability in traditional mathematics classrooms because of its cultural insensitivity. By contrast, the social epistemology of *critical constructivism* addresses the socio-cultural contexts of knowledge construction and serves as a powerful referent for cultural reform. From this perspective, the social reality of traditional mathematics classrooms is governed by powerful cultural myths that restrain the discursive practices of teachers and students. The power of the repressive myths of *cold reason* and *hard control* is evident in the ways in which they act in concert to create a highly coherent and seemingly natural social reality. Epistemological reform of traditional mathematics classroom learning environments is, therefore, synonymous with cultural reconstruction. Critical constructivism, which has a central concern with discourse ethics and the moral agency of the teacher, draws on the social philosophy of Jurgen Habermas and argues for an alternative culture of *communicative action* to be established in mathematics classrooms. Teachers are expected to work collaboratively as agents of cultural change in forums beyond their classrooms.

Religions, philosophies, arts, the social forms of primitive and historic man, prime discoveries in science and technology, the very dreams that blister sleep, boil up from the basic, magic ring of myth.

(Joseph Campbell, *The Hero With a Thousand Faces*, 1968, p. 8.)

1. INTRODUCTION

My chief purpose in writing this paper is to draw the attention of reform-minded mathematics educators, particularly those who have an interest in constructivist reform, to the need to take account of the powerfully restraining influence of the cultural milieux within which classroom teaching occurs. However, my view of culture eschews the disempowering perception, common amongst many educators, of a straightjacket fashioned by irresistible societal forces (often referred to as *the system*). Rather, I prefer the empowering perspective of the cultural anthropologist Clifford Geertz (adapted for gender-inclusivity) who advocates a potentially transformative view of one’s own culture:
The concept of culture I espouse ... is essentially a semiotic one ... Believing ... that [we are] animal[s] suspended in webs of significance [we ourselves have] spun, I take culture to be those webs. (Geertz, 1973: p. 5.)

Transforming our culture, then, is a matter of reconstructing socially co-determined webs of significance, an activity that patently requires us to engage in negotiation rather than trying to go it alone. But what is to be the focus of our negotiations? The research that I draw upon in this paper suggests that, in the traditional mathematics classroom, the social construction of officially-sanctioned meaningfulness (or webs of significance) is framed by powerful culturally-determined networks of beliefs and values, or cultural myths, that serve to reproduce a unitary and unproblematic social reality:

Cultural myths offer a set of ideal images, definitions, and justifications that are taken as measures for thought, affect, and practice. These images instantiate the characteristics of modern myth: value-laden, it is masked by a naturalized appearance that seems complete and speaks for itself. (Britzman, 1991: p. 6)

The study of myth has a long history in sociology. In the nineteenth century, Emile Durkheim, one of the founders of modern sociology, argued that the social cohesiveness of cultural groups results from more than the sum total of individual self-interest (i.e., an individualistic ethos). Rather, solidarity in society depends on a conscience collective, comprising common beliefs and social and moral consensus (i.e., a social ethos), which moulds and constrains individuals (Gardner, 1987). Although the inherent diversity and fragmentation of late-twentieth century Western industrial society emphasises a strong individualistic ethos, sociologists and social historians argue that a collective conscience continues to be reproduced and that this is achieved in large part by means of the propagation of cultural myths (Barthes, 1985; Campbell, 1968; Levi-Strauss, 1966; Samuel and Thompson, 1990). In the form of narrative accounts (or stories), myths serve to create and maintain a cohesive social reality by legitimating certain ways of knowing, valuing, feeling and acting which, consequently, are experienced as making good sense within a social setting (Malinowski, 1944).

We are immersed in cultural myths in our everyday lives. They summon us from the media, billboards, and supermarket shelves, during our interactions with family, friends and colleagues, and in contemplative meanderings in the (environmentally significant) countryside. Some cultural myths promote social cohesion by instilling feelings of loyalty, patriotism and national pride. Such are the myths associated with war heroes, martyrdom, and nationhood. Some cultural myths serve relatively benign social cohesive purposes. In Western countries the myths of Santa Claus and the