Symbolising experience and experiencing symbolisation

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r7Jhe aim oI~ymbolizafjon .. is to store a realized eApeIience in such a way that this can be prese;ved anq iIneed ~ communicated ~

In this quote from Barbara Dockar- Drysdale the topic of conversation is not mathematics. Rather she is talking about a process through which emotionally retarded children might be helped to organise their memories. This session was concerned with exploring the consequences of seeing syrnbolisation within mathematics in this way.

Dockar- Drysdale's work is directed towards heightening the awareness of her students in capturing their experience towards making sense of it. This seems to be to do with grouping aspects of experience in a way which enables the student to recollect and hold on to certain things. I have discussed this in relation to mathematics in Brown (1991). Categorising or what Gattegno calls *stres~7ng and ignoIing"* is an essential part of getting to know the world. Syrnbolising has a dual function of holding onto things and of sharing things. But it may be that I use society's mode of syrnbolisation in holding on to things in a personal way.

As a student of mathematics it seems my task is necessarily both personal and social. I can experience mathematical phenomena in a personal way. Mathematics, insofar as it is the 'science of magnitude and number and all their relations' (Chambers Dictionary) can be unshackled from social conventions. I can decide a bag is heavy or light or I can estimate how many strawberries I can eat, without needing kilograms or a counting system. However, it seems I cannot go very far into mathematics, especially if I wish to share my experience, without entering into culturally derived notations (see Brown, in press). Given that the whole of mathematics is a social construct how can we speak of 'personal' mathematical activity?

In watching an animated geometry film by Nicolet these issues can emerge in a powerful way. I can watch and experience such a film whatever my age. However, I can only account for this experience in words, which immediately reveal my cultural and educational background. I can experience but I cannot share without using words. Gattegno (1988) distinguishes between Geometry and Algebra. The former might be seen as following the drift of the film - getting a sense of how it moves, feeling how shapes transform, predicting how the film will proceed etc. Algebra on the other hand is about categorising the experience of the film in words. In Gattegno's sense school geometry is largely algebraic with the insistence on partitoning phenomena into labelled things.

However, my everyday use of words is part of the experience I bring to the film and so I find it hard to think of the film without imagining 'circles', 'straight lines', 'tangents', etc. Cultural norms of classifying represent themselves in the

language we use, and this cultural dimension of our personal experience cannot be disregarded. To paraphrase Marx, 'Man does not speak language but rather language speaks man'. The organisation of the world implicit in language reveals the society which produced the language. Language use by an individual declares an affinity to the society which engendered it.

In this way the experience of mathematics cannot be disentangled from the society which produced it. Any naturalness in mathematical engagement by a child disolves soon after leaving the womb, as this engagement becomes imbued with the linguistic framings the particular society favours. Lacan suggests the child moves towards having its world captured in language as it moves further away from identification with the mother. As the child increasingly speaks the language of the society he or she gets trapped within it (Brown, Hardy & Wilson, 1993). The personality of the child becomes immeshed in the sociality of the society. We submit to the authority of a society and all the initiations into ideologies that entails. In so doing we suppress the powers of the personal to engage geometrically.

Refel'et **Ices**

Brown, T (1991), 'Hermeneutics and mathematical activity', *Educational Studies in Mathematic!';* Kluwer, Dordrecht.

Brown, T (in press) 'Creating and knowing mathematics through language and experience', *Educational Studies in Mathematic!';* Kluwer, Dordrecht.

Brown, T, Hardy, T & Wilson, D (1993), 'Mathematics on Lacan's couch', *Forthe LeaJ71ing ofMathemati~* FLM, Montreal.

Dockar- Drysdale, B (1990), *the pnJwsion ofprima.T}/ experience,*
Free Association, London.

Gattegno, C (1971), *What* K'C' *OK'C' chi/dre~* Routledge.

Gattegno, C (1988), *the science of educatio~ Part* 24 Educational Solutions, New York.