

développement d'une recherche fondamentale sur l'enseignement des mathématiques et cherchait à y contribuer activement de diverses manières. *For the Learning of Mathematics* est l'un des instruments qu'il avait créés au service de la recherche et qui continue de remplir son rôle de façon unique, suivant en cela l'esprit qu'il y avait insufflé originellement. David Wheeler avait en effet une vue large de la recherche sur l'enseignement des mathématiques et aimait à publier des articles allant jusqu'aux confins d'interrogations épistémologiques, linguistiques ou sociologiques. Il avait compris que la recherche vit de problèmes et que s'il est facile dans un domaine comme celui de l'enseignement mathématique d'exprimer des idées (tout un chacun a ses idées sur l'enseignement), il est difficile de formuler les vrais problèmes. Son appel à dresser une liste de ce que seraient les grands problèmes de recherche en éducation mathématique à la manière de Hilbert témoigne de la conception exigeante de la recherche qu'il défendait.

Travaillant, il y a déjà bientôt vingt ans, sur les problèmes de langage dans l'enseignement des mathématiques, j'avais suivi avec attention ses travaux avec Lesley Lee sur le passage de l'arithmétique à l'algèbre (Lee and Wheeler, 1989). Il se trouvait que nous avions expérimenté de façon indépendante des problèmes communs, d'apparence arithmétique mais qui se résolvaient de façon efficace par l'algèbre. La similitude des observations que L. Lee et lui-même avaient pu faire auprès d'élèves canadiens et des miennes auprès d'élèves français était frappante (Laborde, 1990). Les formulations des élèves dans les deux pays faisaient appel au temps et à l'action faite par eux-mêmes (je multiplie, je divise, ...) Le point de vue algébrique élimine ses aspects et du coup la signification que les élèves attachent aux opérations effectuées. J'avais constaté avec surprise mais aussi non sans satisfaction, qu'allant au-delà des différences de curriculum, et de culture, la difficulté conceptuelle émergeait de façon quasi identique dans les deux pays. Identifier des régularités n'est pas sans créer de sentiment de plaisir intellectuel.

C'est en 1984 au congrès ICME à Adelaïde que je rencontrais pour la première fois David Wheeler alors qu'il était organisateur en chef du groupe de travail sur la recherche sur l'apprentissage et l'enseignement des mathématiques. Ce fut aussi le point de départ de contacts et d'échanges que nous avons entretenus pendant la dizaine d'années qui ont suivi, le plus souvent de façon épistolaire. Nous avons ainsi échangé plusieurs messages sur le titre de la conférence plénière qu'il m'avait invitée à tenir au congrès ICME à Québec en 1992. Il était le président du comité scientifique du congrès. Après que nous avons discuté et commenté les différentes possibilités dans plusieurs courriers, il avait accepté une dernière proposition de ma part, en ajoutant, sur le ton de la plaisanterie que c'était la dernière fois que ma raison l'emporterait sur la sienne!

Lors d'un séjour de six mois que j'effectuais à Montréal à l'université Concordia, j'ai pu habiter son appartement non loin de l'université, puisqu'il avait émigré vers des lieux moins froids l'hiver, et avait déménagé à Vancouver. Il m'envoyait alors des descriptions de son nouvel appartement inondé de soleil grâce à une immense baie vitrée et de la douceur climatique de Vancouver qu'il semblait apprécier

en comparaison aux rudes hivers montréalais.

Dans tous ses contacts, même institutionnels, David Wheeler savait s'engager sur le plan personnel avec simplicité, gentillesse et humour et c'est l'image que je garderai de lui.

## Références

- Laborde, C. (1990) 'Language and mathematics', in Nesher, P. and Kilpatrick, J. (eds), *Cognition and Mathematics*, Cambridge, Cambridge University Press, pp. 53-69.
- Lee, L. and Wheeler, D. (1989) 'The arithmetic connection', *Educational Studies in Mathematics* 20(1), 41-54

## A Piece for David Wheeler

ERIC LOVE

I want to remember the influence of David on a young teacher starting out in the 1960s. My earliest encounter with him was at my first Association of Teachers of Mathematics (A.T.M.) conference in 1966 at York. I already knew the name and some writings: he was on the list of authors of the first of the seminal A.T.M. jointly written books, *Some Lessons in Mathematics*, and I had read several of his pieces in the A.T.M. journal *Mathematics Teaching*. At the conference, he made contributions in several of the sessions I attended, and I was struck by his sharpness, which coupled with his size, seemed almost threatening. On the last morning, he gave a demonstration lesson.

The lesson was with 9-10-year-old children. As a teacher in a secondary grammar school, I was not much concerned with - or interested in - children of that age. But the lesson was a revelation to me. The details are hazy now - the context was geometry. I think David asked the children to draw a cube, but I may be confusing this with an article he wrote for a later A.T.M. book, *Mathematical Reflections*. He then got the children to talk about what they had drawn, often encouraging them to come to the front and demonstrate at the blackboard.

There were two aspects of his way of working that were startling. Firstly, that he simply used the children's responses to elicit the ideas and gave no direct instruction at all. The richness of the ideas he revealed in the children's responses I found astounding. The second, equally new to me, was his way of stopping and working directly with individuals, rather than addressing the whole group, and expecting the rest to listen. It had never crossed my mind that these might be possible ways of working on mathematics in the classroom. It was even more surprising to me as his whole approach was so gentle, quite different from the acerbity I thought I had detected earlier. I went back to my classes after the Easter break inspired to attempt working in different ways.

I became eager to read what David wrote - it was often in short pieces: I recall some in the early issues of an occasional publication, the *A.T.M. Supplement* which he edited, and several in the pamphlets which A.T.M. produced at that time. It is hard now to think of how the world of

mathematics teaching was in the mid-1960s. 'Mathematics education' was not a phrase much used, and the world that David presented was a very practical one of assisting teachers. He reviewed apparatus, he was involved in TV programmes, he had pieces on ideas for lessons.

His writing was more thoughtful than most and usually shed new light. The first issue that I received of *Mathematics Teaching* (number 17) has a long piece by David on Dienes' arithmetic and algebra materials, the next an article on elementary geometrical constructions. In these early articles, although he gives fair and sympathetic descriptions, his iron comes through. Sentences that resonated were:

In short, I hope for much more criticism, discrimination and evaluation from all concerned

To fail to do this is to fail in the seriousness I am demanding

After coming to know him personally, I can also imagine the way he would have laughed at the apparent self-importance of these words – but he would still have meant them.

I found his enthusiasms infectious: his promptings lead me to read Gombrich's *Art and Illusion* and, rather more dauntingly and much less thoroughly, Merleau-Ponty's *Phenomenology of Perception* (but the ways of thinking

about the world in that book connected with David's writings and fed into my work as a teacher). Quotations from these books appeared in the *A.T.M. Supplement*. Such extracts, used as end-of-article fillers, which also became a feature of *FLM*, was evidence of his wide reading, but also for me a stimulating incentive to encounter new ideas

At subsequent A.T.M. conferences, I also discovered a more relaxed side to David: I remember him spending time on a near-impossible op-art jigsaw, and a couple of years later playing his flute in a basement room at St Luke's College. His reading also included detective novels and contemporary fiction – it was through him I came to read Margaret Atwood's *Surfacing* some time in the 1970s

I saw less of David in the following years when he moved to North America. His involvement there with Caleb Gattegno helped me in getting to grips that thinker, and led me to seminars Gattegno gave in London and Bristol. David's influence remained over the years – he organised a joint presentation at ICME IV on mathematizing with contributions by Marion Walter, John Trivett and me. There were regular promptings to write for *FLM* resulting in, alas, several never-completed articles. It is an un-wished-for irony that I am finally producing a piece for *FLM* – one that never could have been written when David was alive.