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The past and the future of research on children's mathematical development

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Peter Bryant est un psychologue développementaliste, actuellement professeur honoraire au département d'Éducation de l'Université d'Oxford. Son intérêt pour le raisonnement et l'apprentissage des mathématiques a commencé dès son séjour à l'Université de Genève où il a travaillé avec Jean Piaget. Il a obtenu ensuite un poste de professeur à l'Université d'Oxford où ses recherches portent plus particulièrement sur les inférences et, notamment, les inférences transitives chez les enfants. Il est membre de la *Royal Society of London*. Il a été le cofondateur de la revue *British Journal of Developmental Psychology* et éditeur de *Cognitive Development*.

Résumé de la conférence

The theme of my talk will be that in the 70s and 80s many developmental psychologists overreacted to critical research on Piaget's ideas about children's mathematical development, and prematurely abandoned these ideas altogether. The result has been a concentration, in a lot of research, on children's knowledge of the number system and on their learning of arithmetical procedures, at the expense of research on their conceptual understanding of quantitative relations. I will argue that this has been a wrong turn, since a great deal of evidence shows the importance of logical reasoning in mathematical development. I will also argue that research on reasoning about quantitative relations is as relevant to individual differences among children and adults as to development during childhood. I will illustrate this point with work on children's and adult's understanding, and misunderstandings, of probability.