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## General Discussion

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## General discussion

D. P. MCKENZIE (*Department of Earth Sciences, University of Cambridge*). The only process we have been discussing which affects the large-scale evolution of sedimentary basins is the expulsion of water by the sediments as they compact. The quantities of water involved are so large that they affect the subsidence and thermal history of the basin. In this meeting we have heard a great deal about the processes that occur in the rocks of sedimentary basins, but very little about the water. Yet it is quite clear that the water is important. On average, each sediment layer will have a column of water about 300 m high passing through it during compaction. Diagenesis of sediments is one of the few places where it is possible to study both the matrix and the fluid when they are reacting with each other. Interaction between a solid and a fluid phase also occurs during igneous and metamorphic processes, but cannot be directly studied. Before I came to this meeting I expected that detailed analyses of the sort that have been presented for the rock would always be compared with analyses of the pore fluid. Yet, apart from those in Dr Elderfield's paper, no such analyses are presented. As a newcomer to the field I find this very surprising, because I had understood that large volumes of water were generally pumped out with oil. But perhaps there are sound technical reasons for this striking absence.

J. G. GLUYAS (*BP Geochemistry Branch, Sunbury-on-Thames*). Water analyses are at present rarely performed. There are of course problems with contamination, but we are now making determined efforts to increase the number of analyses. However, obtaining water analyses are of minor importance when compared with drilling and completing a well safely and economically.

G. EGLINTON (*Organic Geochemistry Unit, School of Chemistry, University of Bristol*). In the early days of organic geochemistry there was considerable interest in the composition of the formation waters and in compounds like the naphthenic acids which occur in them.

M. L. COLEMAN (*BP Research Centre, Sunbury-on-Thames*). The water that is in contact with the rock at present should be in equilibrium if it is stationary. Geologists are, however, more interested in the history of the rock which is recorded in the solid phases. But I agree that it is important to analyse the formation water also, to confirm that the history finishes at the present.