

or fellowships for travel or advanced studies on the basis of a more specialized-sounding programme. Knowledge is a continuum, and as with geological time, the man-made divisions are arbitrary, justifiable only to a limited extent on grounds of convenience.

In my opinion, one of the advantages in the "unit" system in the New Zealand degree structure is that it maintains continuity within the major fields. It is still true to say that our geology graduate, at least at the bachelor level, and probably even at the master's level, is a geologist, and not yet a petrographer or a palaeontologist.

#### POPULAR EDUCATION IN GEOLOGY

Finally, what about the geological education of the masses, the general public, the complete layman? Apart from a small number of enlightened amateurs with a genuine understanding of the philosophy and objectives of the science and with some conception of the magnitude of geological time and the tempo of geological processes, I would say that the general public is enormously ignorant of geological matters. Of all the main sciences geology seems to be the least understood by the layman. Ideas of contrasting spans of time of large order and the ability to think in terms of different large orders of time are both quite foreign to most people.

What are the reasons for this? The basic ideas of the science are not particularly difficult to comprehend. Historically, the religious prejudices of fundamentalists undoubtedly delayed the introduction of geology into the school curricula, as well as biology, but this is no longer a serious obstacle in New Zealand. Public ignorance and indifference exists rather because geology has not been successfully presented to the public as a dynamic science. Many people certainly think of it still as having to do only with cold inert minerals and stones, long-dead fossils, and useful only because in some vaguely conceived way it seems to help in finding deposits of valuable substances like oil and gold. Too little has been made of palaeogeography as a means of catching the lay imagination, demonstrating the real objectives of the science, and showing its truly dynamic character.

Does this public ignorance and indifference matter? It tends to make the activities of geologists appear mysterious and therefore subject to suspicion and misunderstanding, which can be embarrassing in the field. The Minister of Science has already stated during this Congress that the lack of public appreciation of their work is a major source of dissatisfaction among scientists in New Zealand. We can hardly expect the public, uninformed or misinformed about the objects of geology, to go on supporting through taxation the annual bill for research and teaching in geology, which must amount to six figures in New Zealand.

The geological community in New Zealand could do more, individually, to make better known the objects of geological research. What is needed is not propaganda, or arguments in defence or justification of the science, but better ways of showing what it is really trying to do, and how it goes about its business. This is not easy, partly because most of the audience usually have either no idea at all to begin with, or else they have faulty ideas, and partly because it is so easy to lose their interest through leaving them behind in an excess of enthusiasm for one's own subject or in trying to communicate too many ideas at one time.