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Two Interiors:
China and a Geophysical Analogy.

Hong Kong.
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Mr. R.H. Nolte,
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Dear Dick,

Last week I eavesdropped on a conference of social scientists who had gathered in Hong Kong to discuss economic, sociological and political problems of China and Southeast Asia. They represented most of the top experts in these three fields from throughout the world, and I was a privileged layman listening in. The meetings went on for six days and as I listened I became more and more struck with the similarities between this symposium and those geophysical symposia on the nature of the earth's interior with which I am more familiar.

In the first place the discussants were basically the same. For every speaker at this symposium I could think of a geophysicist who would have presented his material in a similar fashion. There was the extremely competent chairman, cool and collected, who was able to go straight to the root of a problem and give brilliantly concise and fair summaries - a true expert, respected by all. Then there was the man so assertively sure of himself when speaking, putting over his arguments so forcefully that even though you are convinced he must be wrong, it is still a delight to listen to him. I suppose most discussions inevitably turn up someone whose chief concern is to argue about definitions. This symposium was no exception. Then again there are those who become emotionally embroiled in the discussion and whose rationality completely disappears. This happened only rarely last week, notably in connection with politics - a subject renowned for its prickliness - but it has certainly happened in geophysical meetings also. The comparisons could go on indefinitely, but perhaps more striking than the similarity of the people, was the similarity of their problems.

Almost everyone enjoys a good detective story. Whose imagination has not been stirred by the exploits of a Sherlock Holmes, Poirot, Maigret or Mason? How intrigued we are as these intrepid men set about marshalling clues, placing them in logical order until finally their problem is solved. The detective-like nature of their work appeals to most geologists and geophysicists in their efforts to unravel the secrets of the earth's interior and its past history. For the geologist the clues lie entirely in the rocks that he can see; the geophysicist is more fortunate,

not only does he have these clues but he also has access to many more. He can measure the earth's gravity, its magnetism, its heat flow, and its radioactivity. He can study the nature of the earth's response to external stimuli such as earthquakes and atom bombs. Many is the time that I have sat in meetings and discussed how these facts best seem to fit together, and argued about the solution of the problem: what is the earth's interior really like, and what processes go on there? These processes are vitally important because they determine the formation of the continents on which we live and the origin of mountains and lowlands. They also have a more dramatic impact on many peoples lives because of the volcanoes and earthquakes which are surface manifestations of these processes. So far no-one has produced a picture of the earth's interior which fits all the facts. The jigsaw puzzle is far from being complete and geophysicists continue to scurry over the earth's surface collecting all possible clues.

At the symposium last week I discovered another group of detectives. They were at work piecing together clues, endeavouring to learn - not about conditions in the interior of the earth - but of conditions in the interior of China. The analogy developed in a fascinating way. The overall problem of the two groups is basically the same, namely to discover what is going on in a place where you cannot go to really find out for yourself. The processes going on inside China are also of vital and more immediate importance to us since economic and political eruptions inside China are likely to have repercussions throughout the world.

The geophysicist must take his measurements on the surface of the earth, so the social scientist must collect his facts outside China. The geophysicist measures many different manifestations of the earth's interior. The social scientist also has many different manifestations to measure. He can study the official reports and statistics from Peking. However these on their own can be quite misleading, and so other clues must be sought which will give some indication of the reliability of the official reports. The vast amount of evidence which is considered by these experts in assessing the political climate is quite staggering. A great deal can be read into the inclusion or omission of a paragraph from one edition of a book to another. The presence of a person's photograph, and its relative size when compared to that of someone else in the same publication, may have political undertones, and even the placing of a comma maybe significant. It was interesting to learn that precisely the same sort of studies are carried out by the Communist cadres in their efforts to find out what is going on at headquarters.

One rather dubious source of information is refugees' reports. Some delegates at the symposium rejected these as altogether unreliable, but nevertheless, like pieces of lava,

the refugees' statements are dissected and analysed for indications of conditions in the interior.

Another source of information is the occasional traveller who manages to spend a few weeks in China. His observations are of necessity too superficial to be of much value to the social scientist, but at least the latter are 'one up' on the geophysicist, for apart from H.G. Wells' fantasy, no one has yet journeyed to the centre of the earth. The Mohole will be the nearest approach to this sort of thing, but even here only the most superficial layers will be penetrated.

It is only when the social scientists study China's relations with the outside world that they have irrefutable facts at their disposal. No one questions that China now occupies Tibet, or that there have been border incidents with India, or that shells fall on Matsu and Quemoy. The economists know the type and amount of trade carried on between China and other countries, but the unfortunate sociologist has nothing so factual.

At the symposium last week the delegates tried to piece together the various clues and provide a picture of economic and social conditions in mainland China; when it was all over the most striking thing was the extent to which the group agreed about how little was really known about these conditions. I think perhaps their agreement at a symposium on this point was more marked than that of geophysicists arguing about the earth, although in private most geophysicists would probably also agree about how little is really known about conditions in the interior of the earth.

It was a jolt to realize that the experts did not know the population of China to anything better than plus or minus fifty million; nor did they know whether there was a labour shortage. They doubted that there had been a great leap forward in agriculture; no-one really knew whether communes were a success or not; and some even questioned their very existence, apart from a few show places. They certainly no longer believe any of the statistics put out by Peking and argued about the date that the figures ceased to be reliable - apparently nothing can be certain that has been reported since 1957. Sino-Soviet relations are another big enigma. Are the relations really strained, as much of the evidence suggests? or is this evidence deliberately manufactured to mislead the rest of the world? The experts admitted that they simply do not know.

Analogies between different branches of learning are only profitable when the lessons, experiences and ideas from one branch can be usefully applied in the other. The interior of the earth, and the interior of China are such different problems that it would be ludicrous to pursue the matter too far. But

one of the most useful tools of the geophysicist is the seismic method in which the response of the earth to an external stimulus is carefully measured and interpreted. In principle this approach would also seem to have application to some of the problems of studying China. In the latter case, the external stimuli could be a series of specific proposals, both economic and political, put to China by the outside world. Her response to these proposals, when analysed on a world wide basis, would be likely to yield a much clearer indication of political thought in China. Undoubtedly this sort of analysis is carried on by individual governments on matters which relate to their own countries' relations with China, but more international co-operation is needed (an International China Year?!).

Finally, for my geophysicist friends intent on studying the earth's interior, I can only point out that the social scientists are having a tougher time trying to gather facts about China. But one thing they are in agreement about is that China's policy is to expand - I hesitate to extend my analogy to suggest that maybe the expanding earth hypothesis should be given more consideration, but so many other things are analogous - so why not!

Sincerely,


C.H.G. Oldham.

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