Summing up

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THE Symposium today has made it clear that acute mountain sickness is a complex and interesting medical condition which has received much close attention and deserves more. We have heard how rapidly this sickness can progress to life-threatening pulmonary or cerebral oedema. There is no doubt that acute mountain sickness in all grades of severity is becoming far more frequent than was once the case and the reason for this is the growing popularity of holidays in what were once remote mountainous areas. We have heard from Dr Dickinson just how popular has become the trekking holiday in the Himalayas and we have heard of the sound advice given in Kathmandu to the lowlanders arriving there, suddenly projected into the high-altitude environment and about to climb to great elevations. Surely, however, the tourist industry which advertises such trekking holidays in the newspapers in Britain has some responsibility to advise the would-be high-altitude trekker *before* he leaves this country of the risks involved and to give advice, perhaps in the form of a leaflet, on simple steps to avoid the severer forms of acute mountain sickness. This Easter I visited the summit of Mount Teide in the Canary Islands and the top of this 3650 m volcano, once remote and isolated, looked like a crowded beach on a bank holiday.

Acute mountain sickness is of importance to groups other than holiday-makers. At this moment the Science Research Council, through the Royal Observatory in Edinburgh, is commissioning a new infra-red telescope which has been built on the summit of the 4250 m volcano, Mauna Kea, on the island of Hawaii. Clearly a satisfactory Code of Practice will have to be drawn up for the staff who are to man this telescope so that they may avoid acute mountain sickness and especially its serious complications such as high altitude pulmonary oedema. I know that there are representatives connected with this high-altitude project here today and no doubt they will have been taking careful note of what has been said in many of the papers.

Of course, high altitude studies have considerable implications for medicine and pathology as a whole.

Thus the recent 'discovery' of the carotid bodies by pathologists, and an interest in the behaviour of chemoreceptor tissue in general in states of chronic hypoxia induced by heart and lung disease, are due largely to the impetus afforded by the realization less than a decade ago that the carotid bodies of high-altitude Indians are larger than those of coastal dwellers.

High-altitude studies have a significance that goes beyond medicine into the broader field of biology. Today, the Symposium has largely confined its attentions to the important problem of acute mountain sickness but this is only one aspect of the much wider problem of life at high altitude.

Not all men and animals in the high mountainous regions are of equal biological status. A walk through the streets of the Andean villages will bring one into contact with the naturally acclimatized Indians, the adapted rather than acclimatized indigenous high-altitude animals such as the llama, the lowlanders, some with acute mountain sickness, recently come up from the coast and attempting to acquire acclimatization, and sufferers from chronic mountain sickness who have lost acclimatization. Intriguing biological problems emerge all the time from these different groups. For example, is the Quechua of the Peruvian Andes the model of successful acclimatization whereas is the Sherpa of the Himalayas, having lived in his mountain home for so much longer, in part, at least, adapted like the indigenous mountain animals?

Well, this has proved to be a splendid occasion. We congratulate those who conceived the idea of the Birmingham Medical Research Expeditionary Society. What an excellent influence in the training of young doctors, to ask them to undertake original work of the high quality that we have seen here today, under difficult field conditions. I have to commend the young men who have presented the results of their studies here today on the very high standard of their presentations and on the clarity of their slides. Dr Ian Green, Dr Ron Fletcher and their team have given us a most lively and informative meeting. It has been a delightful day.