

Editorial

THE TRAINING OF RESEARCH WORKERS IN LEPROSY

As a sub-title we might well have "Reflections of a leprologist on the discussions during a Round Table on 'The Training of Research Workers in the Medical Sciences' held at Geneva on 10 and 11 September, 1970, under the auspices of the Council of International Organizations of Medical Sciences".

A panel of distinguished speakers opened the topic, and participants from many countries, as well as representatives of many of the member-organizations of the Council, contributed to the discussions. Although specific subjects and specific medical problems were not considered, the relevance to leprosy of much of the debate was apparent. In point of fact, leprosy illustrates supremely well the need to prosecute research concurrently on many fronts, in the laboratory and in the field, and to apply new knowledge to old and intractable problems. The medical, social, and economic problems presented by leprosy bring into sharp focus the widely-felt concern to make medical research relevant to the vast populations of the Third World. The biomedical research worker of the future may well be a hyphenated hybrid, a doctor-sociologist or a geneticist-epidemiologist: all must have some concern with the social and community implications of research.

Although the main drawback to effective control of leprosy is the yawning gap, the unconscionably long time-lag, between new knowledge and its application, there is no gainsaying the need to discover more about *Mycobacterium leprae* and the fascinating range of tissue response it evokes. In other words, more research is needed. And more research means, in practical terms, more good work by more good people. Full-time research scientists must be attracted to leprosy in greater numbers, and the most likely means of achieving this goal is by the obvious and infectious enthusiasm of those already on the job. Once they have been

attracted, what should happen to them then? How should they be prepared for their life-work? Some speakers at the Round Table drew up such a formidable programme of training in the basic sciences (with special importance attached to mathematics, biochemistry and biophysics) followed by wide experience in experimental techniques and in computerization, that by the time he arrived at the end of this protracted preparation the doctor-cum-would-be-research worker might well be too old and too highly trained to realize his creative potential to the full.

The individualistic approach typical of much clinical investigation in the past depended largely on first-class and well-equipped clinicians who combined in themselves several diverse attributes—a knowledge of medicine and of the scientific method, appreciation of the ethical aspects of research, etc. Flexibility and variability are surely necessary today. Undue rigidity may exclude the unconventional and unpatterned.

A large proportion of published work in leprosy comes, however, not from the full-time laboratory-confined research worker, but from busy practitioners who take the trouble to observe, record, evaluate and write. They pursue their research interests as an integral and necessary part of their service activities. In their immediate post-graduate years, they had no opportunity (or perhaps inclination) for a prolonged period of preparation. Perhaps they little imagined that they would one day feel impelled to ask questions and try to find the answers. Despite the sophistication of much research in leprosy today, and notwithstanding the continuing need to scrutinize every new advance in investigative technology for its possible application to leprosy, there is still a place—and perhaps a growing place—for those whose main interests lie in the wards, the operating theatre, or the rural clinic, rather than in the esoteric atmosphere of the laboratory and animal house.

Perhaps the time is ripe to try to rehabilitate clinical and epidemiological research in leprosy. After all, since “the proper study of mankind is man”, the best-laid schemes of mice may not be entirely applicable to the human being. It is just conceivable that a sick bacillus that would despair and die in a hostile rodent micro-environment might regain its pristine powers of multiplication within the congenial confines of a human reticulo-endothelial cell. And no known animal can yet replace man in the wide range of response to leprosy infection. This is not to decry animal experimentation, which has recently been so obviously productive of results, but rather to emphasize the complementary necessity for accurate observation of the person exposed to or suffering from leprosy. Serious clinically-orientated research, in contradistinction to purely laboratory investigations, needs to be reinstated in academic prestige.

One of the functions of this *Review*—and not the least important—is to encourage workers in all branches of leprosy to ask questions. Usually the answers are already available somewhere; hence the imperious necessity for keeping up to date and knowing where to consult the findings of co-workers. Sometimes the questions have not been asked, or have been only partially or imprecisely answered. As we proceed towards the frontiers of knowledge, the actual delimitations may be vague and ill-defined. If the right questions are now posed in the right way, valuable new knowledge and new insight may be forthcoming.

It is here that we recognize the wisdom of Bacon's well-known saying, “reading maketh a full man, conference a ready man, and writing an exact man”. As he submits himself to the inexorable and inescapable discipline of the printed word, the part-time research worker in leprosy finds his acuteness of observation sharpened and his powers of expression increased.

Since ideas for profitable research, “hunches”,

and the like do not automatically continue to emerge as we become older, medical men and women coming with fresh and open minds to leprosy may well find themselves posing unanswered and perhaps unasked questions that may eventually prove of real significance. In such matters as cultivation of *Myc. leprae* in artificial media, healthy carriers, transmission, inoculation lesions, susceptibility to infection, and a host of other problems, new light may conceivably come from relatively simple investigations, with results that will be dazzlingly obvious in retrospect.

Last, but by no means least, are the psychological and moral qualities of the research worker. Motivation is important, but these go deeper than motivation. In leprosy, the strong social or humanitarian urge has always been predominant, and is still of overriding importance, not only in those faced daily with the grim spectre of human suffering but also in many who pursue their investigations in distant laboratory or research centres. Doctors are still called upon to care for patients rather than to treat diseases. And doctors, rather than research bio-scientists, must take the responsibility for clinical research. The combination of personal integrity and scientific competence is still needed. The research worker of today and tomorrow cannot help concerning himself with the flagrant disparities in the kinds of health care available in the affluent societies and in the developing countries where leprosy is most prevalent. Nor can he remain unmoved at the senseless squandering of irreplaceable natural resources in a context of undernutrition and preventable disease. He is responsible for the results of his successes.

The individual patient suffering from a slightly contagious mycobacterial infection, and from all the personal, social and economic accompaniments of that infection, is the object, the subject and the eventual beneficiary of leprosy research. May we have more of it.