Personal paper

Geriatric paediatrics

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Interest in the medicine of childhood is shifting from concern with mortality and short term morbidity to the long term effects of childhood ill health on the well being of adults. There is a clear need for very long term studies of the outcome in children exposed to deprivation and illness in early life.

It has always been known that the infant mortality rate is a good index of the well being of a population, as indeed straightforward biological considerations would imply; but only recently have hard data been available linking such rates to the health into old age of the survivors in a definable cohort. We now have the work of Barker and Osmond to remind us that, though it may be the fittest who survive disease in childhood, a proportion of the survivors are to some extent rendered unfit for the rest of their lives by having to surmount too testing a challenge at a vulnerable time in their development.¹ In some cases it can even be shown that this relationship applies to particular organ systems—for example, recurrent bronchitis in childhood predisposes to chronic bronchitis in middle age.²

We do now of course have the lowest mortality rates in childhood that have probably ever been attained in this country as a whole; but nevertheless major class differences persist within our population and our rates are not as low as those of better off or better organised ‘neighbours’.³ To take some obvious examples: nephritis and pyelonephritis acquired in childhood probably account for something like a half of all cases of renal failure requiring dialysis or transplants in adult life.^{4–7} The same can be said for chronic valvular heart disease in adults, which used to be the long term consequence of childhood rheumatic fever,⁸ while there is a probably justified suspicion that atherosclerosis and hypertension may be the late effects of processes beginning in early life.^{9–10} Yet what we know to be demonstrably so in some instances is more than matched by what we do not know but may suspect—such as Dr Murray’s suggestion (coming from no less an authority than the Dean of the Institute of

Psychiatry) that there may be a relationship between perinatal insult and schizophrenia.¹¹ Nor should we forget that our success in prolonging the lives of children suffering from what used to be fatal conditions like diabetes, leukaemia, and cystic fibrosis now presents physicians for adults with quite large numbers of patients whose adult existence will remain medically precarious until better ways are found of treating them. Thus we have the paradox that if we wish to minimise ill health in our increasing population of pensioners, we need to start at their conception, not catch up with their problems in middle age. Moreover, it needs to be pointed out that their pensions will be paid for by the work of the generation treading on their heels, and will depend therefore on *its* physical and psychological well being.

This, of course, is not necessarily an argument for increasing medical and nursing provision for our child population: economic and cultural factors are probably more important in determining their well being.¹¹ But nevertheless, without study of what it is that relates poverty and ignorance to physical and emotional illness, we shall not succeed in applying resources in a cost effective way, and only *medical* research will enable these relationships to be worked out in sufficient detail for preventive measures to be properly focused. Attributing ill health to inferior genes will only lead us into the morally suspect field of eugenics. Success is more likely to come from the discovery of what is the best environment for a particular genetic constitution—for example, a phenylalanine deficient diet for those with phenylketonuria. It is clear that there is great scope for a widening of the concept of preventative medicine in line with the recognition that the future of medical child care lies in the appointment of more, and better educated and organised, community paediatricians, using hospitals as community resources and concerned with the provision of the best possible environment for successful child rearing by the removal of what gets in its way,⁸ and by the identification of special needs.

The purpose of this paper is to put forward the arguments for establishing a Medical Research Council (MRC) unit concerned with very long term studies of the effects of genetic factors,¹² of childhood illness, and of deprivation on the well being of adults and their proper functioning—well defined by Freud as the ability to love and to work: that is, to hold down a job and a marriage. These are the essentials for an enjoyable and creative life, for successful reproduction, and for the maintenance of the nation as a territorial and cultural entity with its particular way of contributing to the well being of the human race as a whole.

If we admit to the need for such long term studies, including those involving planned intervention, it must be clear that they will never be seen through on the basis of short term grants and the relatively short term interests of particular workers or departments, but will need appropriate guaranteed resources and a continuity of effort and direction. We already have in the United Kingdom a particular expertise and experience in the mounting and analysis of such long term studies¹³—to cite the most obvious examples: those of Douglas,¹⁴ the two perinatal mortality surveys,¹⁵ and the definitive follow up into adult life of 100 epileptic children by Ounstead *et al.*¹⁶ Other examples are those of the MRC on the outcome of phenylketonuria¹⁷ and neonatal hypothyroidism,¹⁸ those in babies conceived by in vitro fertilisation, the Oxford Neonatal Epidemiology Unit, and Dr Jane Somerville's follow up studies on children operated on for congenital heart disease.¹⁹ It is a sad fact, however, that many of these enterprises are likely to fold up for lack of long term commitment before their potential has been fully realised,²⁰ and for the same reason, other desirable studies in parallel fields will never be started. What is more, many data 'banks' are never fully analysed and sometimes may not be adequate for answering the most obvious questions—for example, the first perinatal mortality survey did not record the birth status of the cohort of the babies identified and followed up, with the result that we do not have the answer to Dr Murray's question that could by now have been forthcoming.

The MRC has—in the opinion of some—to an extent neglected the brief that its title implies by concentrating on work that is at a given time fashionable, or attractive for its so called 'elegance', rather than on fulfilling its long term responsibility as a source of valid information on the causes and cure of diseases and their prevention in our population. Yet why else does it distribute its funds in the support of both 'projects' (short term) and 'units' (long term). Is there not a case for the establishment of a very long term unit whose direction would not

depend on one man or woman but could be renewed every decade or so in order to feed new ideas, impetus, and enthusiasm into work that could otherwise degenerate into what Bacon called the science of the ant: 'they only amass and store'. Such a unit would have to be staffed by dedicated, even obsessional, workers who were willing to wait for decades for their questions to be answered and to store up information as a future resource for their academic heirs. Fortunately, the advent of the computer has made such labour much less tedious and unmanageable than it used to be. Refrigeration allows for the long term storage of specimens whose future analysis (like the blood on the weapons of our stone age ancestors!) may provide information that those who collected them would not have foreseen as being relevant or obtainable.

What is envisaged is a unit with its own premises, staff, and facilities under the direction of an epidemiologist with the drive and imagination to collect national data in large cohorts of babies and children and adolescents. The help of genetic, obstetric, clinical biochemistry, and paediatric departments would be needed in order to follow the progress and determine the prognosis of the large variety of identifiable or definable disorders or illnesses that may turn out to have long term sequelae, and which could be used to test retrospective hypothesis or predictions based on theoretical considerations. Such a unit could for a start have referred to it by the MRC the follow up of all major screening and immunisation programmes. If the MRC cannot take a long view at a national level, who else can be expected to do so? If no one does, will we not be condemned in the future, if we survive as a culture and society, as having had no long term vision in a field that above all now requires it?

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