homozygotes but protects against malaria those who inherit the sickle-cell variant of haemoglobin from only one parent. How common this phenomenon of heterozygous advantage may be remains anybody's guess.

Illustrations

Vivid illustrations of how the terms 'bad gene' and its opposite must be understood in only a relative sense are to be found in the current issue of *Nature Genetics* (**6**, 29; 1994), where a group from the Centre d'Etudes du Polymorphisme Humain (CEPH) in Paris describes the occurrence of known versions of the gene whose product is apolipoprotein E (called apoE), which has an important role in the regulation of blood cholesterol. There are three heritable versions of the protein, one of which is associated with ischaemic heart disease, and so is found to be less well represented among centenarians than among the general population. (The people with the 'bad' gene are supposed to have died from heart attacks, or alternatively from Alzheimer's disease, to which the same version of the apoE gene predisposes.) But another 'bad', or at least suspect, version of the same gene is found to be better represented among older than younger people, suggesting that it has a beneficial influence on longevity. The situation is further complicated by the known involvement of apoE in the maintenance of neurons. In other words, 'bad' and 'good' are strictly meaningless; their benefits may vary with the tissues in which they are active or with the stage of a person's development. What eugenicist would, in these circumstances, know which genes to get rid of?

It is a substantial slander of geneticists and their clinical associates that it should be so generally supposed that the subtleties of genetics and embryology are hidden from those parts of the research profession best placed to understand them. Indeed, the record of geneticists and embryologists in the past few years is thoroughly honourable. Who, after all, are those who have defined the questions on which morbid general interest centres if not geneticists and embryologists? That can be told from the recent report (see *Nature* **366**, 498; 1993) on genetic screening by the Nuffield Council for Bioethics, which differs from most documents of this kind in providing a careful review of the genetic services now offered premaritally and during pregnancy in Britain. Diffidence about the social consequences of screening, and the effect on individuals of gloomy diagnoses, have so far limited screening to a mere handful of genetic conditions.

None of that implies that there are no difficulties ahead, as even China will discover. As knowledge of the often complex behaviour of normal gene products accumulates, premarital and prenatal screening will be more widely used, while greater numbers of people will learn something of their genetic constitution, and in some cases will have to live with uncomfortable knowledge of their likely fate. The immediate problems for society are not the questions of designer offspring now making the headlines, but those of the uses made of genetic information about individuals by outsiders. □

Charitable publication?

The principle that researchers shoulder responsibility for publication is under attack in Britain.

THE British institution called the Charity Commission is not particularly distinguished by assertiveness. Although the commission's responsibility is to determine whether the objectives of organizations qualify them for tax-exemption, and then to supervise their conduct of their affairs, battles about issues such as Scientology drag on for years, for example. But, out of character, the Charity Commissioners have now intervened in a matter concerning the responsibility of charitable grant-making organization for the publication of research they sponsor — and not on the side of the angels.

The origin of the commission's intervention is, in itself, a sad and tragic tale. In 1990, *The Lancet* published the result of a study of the survival of cancer patients at the Bristol Cancer Help Centre, which had previously claimed success in prolonging the lives of seriously ill patients by supplementing conventional therapy with 'holistic' alternatives, including diet and talk. The study concluded that, contrary to what had been claimed, the survival of the Bristol patients was shorter than that of controls. It soon emerged that the study was statistically flawed, whereupon one of the principal investigators, Professor Tim McElwain, committed suicide. The study had been funded by two British charities, the Cancer Research Campaign and the Imperial Cancer Research Fund (ICRF), most of whose work is carried out in its own laboratories.

The commission describes, in a statement last week, its investigation of the circumstances in which the research grant was made, evidently under pressure from supporters of holistic therapy persuaded that two orthodox medical charities had conspired to do them down. Concluding that there was nothing wrong with the manner in which the grant was made, but evidently embarrassed that the published product was mistaken, the commission concludes that "no one adequately supervised the study" and, worse, that the trustees of charities have a duty to arrange for the "evaluation of the products of research they have funded before the results are published". The commission says it plans to draw up guidelines on the subject.

This is a wrong-headed response to an acknowledged calamity. First, if there is a duty of supervision of principal investigators, it lies with their employers and not with those who support their research. Second, even employers are not well-placed to supervise the intellectual content of what researchers in their employ are about. Indeed, Professor Nick Wright, director of clinical research at ICRF, was correct last week to warn of the commercial or political bias that might thereby colour published research. The Charity Commission would be well advised to change its tack. Otherwise, it will quickly turn all medical research charities into in-house organizations, which is not what Britain needs. □