The general rule that stab wounds of the abdomen should be explored needs revision in view of the fact that about half the victims have been found to have suffered no damage to viscera.[5-7] Even when exploration is carried out only in those patients with general or local evidence of serious damage a few bellies have been opened unnecessarily, as it turned out.[6 7] Coeliotomy is unnecessary when a radio-opaque liquid injected through a catheter fitting snugly into the wound does not enter the peritoneal cavity,[8 9] but the further refinement of peritoneal lavage[2] is of value if the liquid is contaminated by bile or intestinal content or if it comes out clear. If it is blood-stained, only exploration will show whether the blood has come from the abdominal wall or from inside it. To sum up, the surgeon who opens the belly to be on the safe side is less likely to make a serious mistake than the one who practises selective exploration, with whatever tests.

It seems likely that violent and malicious fashion has played a part in the recurrent increase in stabbing,[3 5] which has fortunately carried a mortality rate of no more than 10–15%. The heavy sentences that subdued razor slashing in Glasgow[5] and deliberate stabbing of the spinal cord in South Africa[10] might act as a deterrent again.

Senescence

Is there a single cause of ageing, or are there a number of independent ageing processes? The question, asked once more in the latest annual report of the Medical Research Council,[1] is important because it bears on prevention. If the causes of senescence are different in every person control seems unlikely—unless behind the multiplicity of changes there is a further overall process accessible to treatment.

One of the most interesting biological explanations of ageing is the evolutionary and selectionist theory formulated first by J. B. S. Haldane and developed by Sir Peter Medawar. It runs roughly as follows. Once the contribution of an individual to the pool of offspring ceases, so, indirect selection apart, does the power of evolution to select against adverse changes in the individual due to age alone. Indeed, a gene array producing high fertility and vigour in youth but cancer in middle age would be positively selected. In this view ageing is the random accumulation of failures which evolution has failed to suppress.

D. C. Wallace has recently developed this argument further by mathematical studies. The evolution of lifespan is by no means a straightforward business. It is hard to see, for instance, why small birds with a normal wild life of about nine months, a very high random mortality, and early loss of reproductive power should have potential lifespans of nearly 20 years, or why large fish, with 99% of their mortality concentrated in the first few days of life, should have potential lifespans greater still. The general plausibility of the Haldane–Medawar theory remains, however.

Wallace[2] draws from his equations the pessimistic conclusion that, since ageing is a random accumulation of delayed genetic effects, it is unlikely that anything can be done about it: there can be no unitary cause, though there may be consistencies as to which system fails first. This view may be correct, but it is by no means self-evident, particularly in view of the growing body of evidence locating senile deterioration in the store of information in the cell nucleus. In fact if, as Wallace himself agrees, we are dealing with a variety of harmful and accumulating mutations this is in itself an accessible unitary cause, and biochemical geneticists will not share his pessimism. If the stability of the gene can be improved then changes in the individual's genetic composition can be postponed. If this is correct the problem of slowing the process of ageing becomes analogous to that of conservative dentistry, with the conservation of genes substituted for that of teeth. Recent work on antioxidants, antiradiation drugs, lysosomal stability, and other related topics makes it clear that, while it might be difficult to deal with multiple late-acting genetic defects present from birth, loss of information through instability of D.N.A. might well be controllable. There are also rodent experiments which indicate that the "clock" of the lifespan can be considerably slowed by simple calorie restriction. All in all, pessimism over the controllability of ageing derived from mathematical considerations is unlikely to daunt gerontologists in search of a means of tampering with the rate of human decline.

[1] *Medical Research Council Annual Report*, 1967. H.M.S.O.
[2] Wallace, D. C., *J. chron. Dis.*, 1967, **20**, 475.

Vital Decision

Not all patients who die should be subjected to attempts at resuscitation. No doctor who himself has had to use modern techniques of resuscitation would suggest otherwise—nor would he be unaware of the distress caused to relatives and other patients in the ward by the failure of a lengthy attempt which should never have been made. Earlier this year we stated[1] that "the close of a long life or an incurable illness should be allowed to occur peacefully." This is in the best tradition of medicine.

To be successful resuscitative measures must be started within a minute or two of cardiac arrest. In hospital the first person on the scene is usually a nurse, who is trained to initiate cardiac massage while medical support is summoned. The doctors who arrive often will not have seen the patient before, and their time will be fully occupied in maintaining oxygenation and the circulation, taking an electrocardiogram, and setting up an infusion to combat the acidosis. This is not a time when anyone can consider the patient's history and diagnosis to decide whether or not resuscitation should be attempted.

So if patients with terminal irreversible disease are not to be resuscitated the individual doctor looking after them must decide this in advance. Nursing and medical staff who may be summoned in an emergency must be in no doubt as to the decision that has been made. The method used at Neasden Hospital (see p. 858) has been the subject of some hysterical and ill-informed comment in the last week. Those unfamiliar with the practical problems find it hard to appreciate that the decision to resuscitate or not must be made before the emergency occurs. Moreover, it must be made known to all concerned. Patients and their relatives need not be alarmed by the recent outcry. The decision is not a difficult one for doctors. Every patient, whatever his age or his disease, should be resuscitated unless the doctor looking after him has no doubt at all that he should be allowed to rest in peace.

[1] *Brit. med. J.*, 1967, **2**, 65.