ably owing to reinfection of persons with group A.[28] Likewise, serological evidence shows that young persons of group O are more often infected with adenoviruses type 3 and 7 than those of group A, but in older people the difference disappears.[30] Hence repeated exposure of a population obscures genetically determined variations in susceptibility. In studies of volunteers exposed to influenza virus a significantly higher percentage of persons with blood group O than those with blood group A became infected.[31]

Thus there is substantial evidence that susceptibility to infection is under genetic control and that this has many different aspects. They include destruction of invading organisms by leucocytes, acquired immune responses, and other constitutional factors, most of which are not yet analysed. This is relevant not only to resistance against infection but also the maintenance of genetic diversity in populations.

Mental Problems in Rheumatoid Arthritis

An important principle in medicine is to treat the sick person and not just his illness. This applies particularly to patients with chronic disability. Patients with severe rheumatoid arthritis are afflicted by a continuing disease process, which is often a worsening one. That there are important effects on the psyche is not surprising when it is considered that the disability is compounded by pain, stiffness, limitation of movement, anaemia, and generalized constitutional upset. Further problems arise as mobility decreases. There is loss of time from work, even loss of livelihood, inability to do housework, and increasing restriction of leisure activities. Personal relationships may become strained, adding to the already considerable domestic and social difficulties. In this situation patients with rheumatoid arthritis often show feelings of resentment and contained hostility.[1-3] However, these features are not peculiar to this type of disability and there are many patients with the disease who do not show these traits.

Psychogenic factors are also of importance in causing deterioration in patients who were previously coping well with their disability. An emotional upset can precipitate an exacerbation of the disease, whether it is due to the death or departure from home of a close relative, the infidelity of a spouse, or the waywardness of an adolescent child. Though the disease appears to worsen objectively in many cases, in others the deterioration is merely due to increased awareness of joint symptoms, with inhibitory effects on movement leading to increased muscle wasting and joint deformity. Occasionally the impression is gained of strong continuing psychological influences on the course of the disease. Some patients present with loss of movement which is not in keeping with the degree of disease activity present. Radiographs show considerable osteoporosis but few joint erosions. In contrast, others maintain good movement, appear to disregard their symptoms almost totally, and in this way abuse their joints so that gross destructive changes occur.

The importance of treating the individual as well as his arthritis becomes readily apparent in these circumstances. Admission to hospital offers the best opportunity for teaching the patient how to live with his disease. The institution of measures to reduce disease activity, to correct deformity, and to restore muscle function is in itself good psychotherapy, particularly if it is accompanied by an optimistic attitude on the part of the medical and nursing staff. Patients should be given a thorough explanation of the aims in view and how to maintain their improvement when they return home. Often there are psycho-social problems which need attention. Continuing anxiety and depression may impede progress. An interview by the medical social worker may disclose previously concealed domestic or vocational problems. The physician himself should consider it his responsibility to interview patients in whom deep-seated psychological problems are suspected. He might preface his questioning with the assurance that mental stresses or emotional problems can have physical consequences. Specifically designed questionaries are valuable to the doctor who is not trained in psychiatry. These ask a variety of questions referring to recognized symptoms of anxiety, depression, and character features such as aggression. The inventories devised by H. J. Eysenck[4] and G. A. Foulds[5] are suitable for the patient with rheumatoid arthritis provided that symptoms attributable to the disease process are not scored. Often the patient is induced to talk more freely about his problems when he appreciates the direction which the interview is taking and the helpful attitude of the interviewer.

Overt states of depression and tension can arise in patients with rheumatoid arthritis which require the assistance of the psychiatrist. In these patients the psychiatric condition requires urgent treatment, otherwise treatment of the arthritis will be unsuccessful. But even in less obvious cases the importance of psychological factors in influencing the course of rheumatoid arthritis needs to be appreciated. If they are ignored the patient may deteriorate rapidly on leaving the hospital environment.

Rectal Examination and the Heart

Part of the folklore of medicine is the belief that rectal examination is potentially dangerous in patients with myocardial infarction and should be postponed until the acute episode has passed. In practice this usually means that it is carried out only if there are definite indications.

D. L. Earnest and G. F. Fletcher[1] have now shown that this view cannot be supported by factual evidence, and indeed the advantages of rectal examination may outweigh any

[1] Mueller, A. D., and Lefkovits, A. M., *Journal of Clinical Psychology*, 1956, **12**, 143.
[2] Cormier, B. M., and Wittkower, E. D., *Canadian Medical Association Journal*, 1957, **77**, 533.
[3] Cobb, S., *Arthritis and Rheumatism*, 1959, **2**, 419.
[4] Eysenck, H. J., *The Maudsley Personality Inventory*, 1959. London, University of London Press.
[5] Foulds, G. A., *Personality and Personal Illness*, 1965. London, Tavistock Publications.

[1] Earnest, D. L., and Fletcher, G. F., *New England Journal of Medicine*, 1969, **281**, 238.
[2] Katz, D., and Selesnick, S., *Gastroenterology*, 1957, **33**, 650.
[3] Palmer, E. D., and Wirts, C. W., *Journal of the American Medical Association*, 1957, **164**, 2012.
[4] Fletcher, G. F., Earnest, D. L., Shuford, W. F., and Wenger, N. K., *Archives of Internal Medicine*, 1968, **122**, 483.
[5] Crittenden, P. J., and Ivy, A. C., *American Heart Journal*, 1933, **8**, 507.

theoretical hazard. After suitable explanation they performed a gentle rectal examination on 86 patients with myocardial infarction within 24 hours of admission to hospital and at the same time monitored the electrocardiogram (E.C.G.). Patients with shock or serious arrhythmias were excluded. No change was noted in heart rate or rhythm or in the E.C.G. complexes, and no patient developed angina. Indeed, the procedure was well tolerated, and when pain was present it was occasionally relieved. On the credit side were the finding of hard faeces in 38 patients, strongly positive occult blood tests in nine, and prostatic enlargement in twelve of the 56 men. As the authors point out, constipation or difficulty with micturition could lead to serious difficulties in such patients, while the finding of occult gastrointestinal bleeding will obviously affect decisions about the use of anticoagulants.

The safety of rectal examination in patients with ischaemic heart disease, provided it is carried out gently and unhurriedly, thus appears to be established. But caution is still needed if more detailed investigation of the gastrointestinal tract is to be undertaken, especially if this includes endoscopy. Occasional deaths from arrhythmia[2] or myocardial infarction[3] have followed oesophagoscopy or gastroscopy, and cardiac arrest occurred in three of some 1,800 patients undergoing sigmoidoscopy.[4] When the E.C.G. was monitored during sigmoidoscopy in 100 patients selected at random,[4] changes occurred in 17% of those considered to have normal hearts and in 40% of those with heart disease. Increases in heart rate, ectopic beats, and T-wave changes were most frequent, while cardiac slowing and abnormal ST segments were seen less commonly. Even healthy medical students are not immune, since 10% developed E.C.G. abnormalities while swallowing a nasogastric tube.[5]

Factors which may contribute to the production of E.C.G. changes include anxiety, catecholamine release, vagal stimulation, and the effect of posture. Some patients may unconsciously perform a Valsalva manœuvre, especially during examination of the rectum and colon. It might be of interest to know whether similar changes occur during radiological investigation of the gastrointestinal tract, in which the unfamiliarity of the procedure could be a potent source of anxiety.

Exploitation of Nurses

> "A good deal of the mischief arises from mistaken notions as to what the profession of nursing ought to be. Nurses are supposed to take it up in a missionary spirit, for the good of the community, without regard for their own comfort and health. Now, unfortunately, the more 'noble' a profession is considered, the greater is the tendency to neglect the material well-being of those concerned in it."[1]

This was written in 1894, but might well have been said at the recent meeting in Harrogate of the Royal College of Nursing, when the nurses' indignation over their economic position was widely and sympathetically reported in the press. As in any other occupation, money is not the whole cause of their discontent, but a fair comparison of their job with others will quickly show that their earnings are far too low. Nursing is mainly a woman's occupation, and as such they have been exploited for a century. Having always refused to take industrial action in support of their claims, nurses must rely on public opinion, which though sympathetic is not always well-informed.

The first-year student nurse receives £395 a year as a training allowance. This is not a student grant, since it is subject to deductions for superannuation and National Insurance. The Department of Education and Science does not recognize her student status and considers her an employee, as in fact she is. If "student" nurses worked only where a learning situation existed, and performed only those tasks which were necessary for acquiring professional knowledge, many hospitals would be unable to function. There is no class of employee in the country that works so hard by day or night in circumstances of such stress and responsibility for such a low reward.

If an 18-year-old were to enter a bank instead of a hospital (and hundreds of student nurses are educationally qualified to do so), she would be paid a starting salary of £500 for a five-day week and would be able to spend Christmas day at home and her nights in bed. If the student nurse were undergoing a rigorous and ill-paid apprenticeship to reach an adequately rewarded professional post on qualification, there might be some justification for her conditions. In fact, if she is appointed as a staff nurse in a hospital where board and residence are provided, she will receive in cash £6 14s. a week. If she pays for her own food she gets another £2, and if she is non-resident a further £3. Such a staff nurse, receiving £11 14s. a week, may be a married man with a family. It is difficult to cite a comparable situation, but most people will probably think of the dustmen, who consider that £20 a week should be the reward of work that entails handling dirty and perhaps infectious material.

At the other end of the scale for hospital staff is the chief nursing officer (a new post), who earns £2,180 to £2,950 per annum. This may sound a comfortable income, but it should be realized that this officer is in charge of the nursing services of a group of hospitals that may number 20 and contain 5,000 beds for all types of illness, with the appropriate theatre, outpatient, and casualty facilities. The budget of such a group may reach a million pounds, and the staff controlled number thousands. Surely nowhere except in the nursing service is anyone asked to undertake such responsibility for this salary.

The main reason why the Royal College of Nursing is so anxious to get this ceiling raised is that a large number of grades in bedside nursing, administration, and teaching have to be compressed beneath it. Sometimes differentials are so small that promotion means less money. Not only are hospital salaries affected, but those of nurses and midwives in the public health field have to be kept in the same range.

Finally the case should be considered of the nurse who has no desire to climb the career ladder above the point that takes her away from bedside nursing. A ward sister who has spent her professional life at this level cannot at the moment earn more than £1,315. Such an experienced sister is the key figure in maintaining high standards of care and surely deserves more inducement to remain in her post. Nurses have a weak voice in wage negotiations. They hope that public opinion will be on their side, and they have every right to expect that their medical colleagues, who know their work and the circumstances in which it is carried out, will help them achieve economic justice.

[1] Bulley, A., and Whitley, M., *Women's Work*, 1894, p. 28. London, Methuen.