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Editorial

Abstract

There are only two qualities in the world: efficiency and inefficiency — or so Shaw's literary hyperbole would have us believe. Perhaps romanticists still wistfully yearn for the days of the Artist-doctor, purveyor of the gifts and skills of healing, days when the theory of "God's will" could be invoked to explain away failures. Now we have the "change agents", the technologists, the computer men: protagonists of the efficiency creed. They herald the coming of automatic systems and computer control; the apotheosis of the Machine.

Most doctors welcome change that for them means less of the drudgery of medicine and for patients faster, earlier and more accurate diagnosis. All realize, perhaps, that automation and computerization can do these things. Their limited application so far (as compared to potential uses) has by and large confirmed this. What sort of information do we have, however, on the social and structural changes that widespread mechanisation will cause within the hospital service. Only a few, and on the whole inadequate, attempts to answer this question have been made in industry but they can maybe provide some clues to help avoid dangers and disadvantages.

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Many people in medicine have a working knowledge of computer science. These are mainly in research whilst others are concerned with the automation of medical techniques — autoanalysis, automatic E.C.G. reading, etc. The systems analysts, programmers and computer operators must inevitably come from industry. Firms are already paying very high salaries to ensure that they get enough computer staff, bearing in mind that the National Computer Centre expects 5000 computers to be in use in 1970, doubling to 10,000 in 1975. If enough computer people are to be attracted to medicine, they must be offered high salaries. Job interest is also important for it is shown

in industry that these specialists take advantage of the ease of mobility between different fields to widen their experience.

If industrial line-managers can roughly be compared with hospital administrators, as responsible for the day to day running of the hospital services, experience has shown that two situations may arise: the administrators may resist any change likely to endanger their work satisfaction or position, by making their experience and administrative knowledge redundant, or they may fail to exert proper control over the period of change. This last case would not be so great a danger if computer technologists were aware of the social turmoil that their innovations can bring within a structured system such as the hospital service.

Few in industry have shown such awareness.

Those who see only in terms of the efficient handling of information could not be expected to understand the doctor's reluctance to alter his complete work pattern of history-taking, writing-up of physical examination, laboratory test requests etc. Results of biochemical screening at Queen Elizabeth Hospital, Birmingham, that "in up to 8% of patients abnormal results for tests that would not usually have been requested led to different or additional diagnoses," may, for example, point to the end of selective testing. Changes necessary for electronic data processing will affect people's roles, satisfaction, and employment — consultants, housemen, nurses, clerical staff — in ways as yet unknown.

The case for a new type of medical scientist, the medical computer technologist, trained in both computer science and the special problems of medicine would seem to be strong. Who is to train them is less obvious. Let us hope, however, that the pitfall will be avoided, as it has not always been in the past, of attempting to train every medical student to be fully proficient in this relatively new science.