girls who finish a medical secretary's course find their way into hospital. Perhaps a better career structure in general practice and a clearer image of the importance and satisfaction of the job will attract more into that branch of the service.

The continuing education of the established medical secretary also requires planning. At local level the establishment of branches of the Association of Medical Secretaries can act as a stimulus. Their educational programmes will go far to meet the need, if only to bring the secretaries together as a group. Again, co-operation with local colleges is necessary to establish evening courses, day-release lectures or planned courses extending over longer periods.

Much remains to be learned about this rapidly emerging new profession—it is hoped that this paper will act as a spur to others to research into its needs and how they can be met.

Summary

The background to the medical secretary is discussed. The results of a questionnaire sent to medical secretaries in general practice in North-east Scotland are described. Hopes for the future are expressed.

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PERSONAL POINTS OF VIEW

A good diagnosis

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THE ADVENT OF THE COMPUTER into medicine has resulted in a growing number of people re-examining the nature of medicine, and the nature of the terms used by its practitioners, especially the term diagnosis. Until the word diagnosis is defined one cannot examine logically the paths used to reach it, and this is an area where the computer might help us. Unfortunately diagnosis is a word used rather differently in the context of different clinical situations. A dictionary definition (Chambers) is "the identification of a disease by its symptoms; a formal determining description". Clearly we mean by diagnosis the identification of a disease and, as Scadding points out, the first of our difficulties has now been identified, that of defining a disease. A second difficulty lies in labelling the disease so defined.

The concept of health varies with culture and time, and so *pari passu* does the concept of disease. Even in a defined setting there may be no universality of opinion as to whether a disease is present.

Scadding's formal definition of 'disease' runs: "A disease is the sum of the abnormal phenomena displayed by a group of living organisms in association with a specified common characteristic, or set of characteristics by which they differ from the norm of their species in such a way as to place them at a biological disadvantage". Particularly in the absence of signs

and where symptoms are either minimal, or only a slight exaggeration of normal sentiments, difficulties can still arise. Is a bereaved person sad or is he ill, that is abnormally depressed? What level of blood pressure constitutes hypertension?

There is a feeling that a diagnosis is not absolutely respectable for a minor condition, particularly if there is no risk to life and morbidity is minimal, even where there is agreement that disease exists. The nomenclature of disease is a taxonomist's nightmare as entirely different types of fundamental criteria are used in defining different diseases.

That both the definition and the naming of diseases were inconsistent procedures was apparent before the first unreliable thermionic valve computer was made. In 1943 Cohen suggested that diseases should be re-labelled in such a way that the anatomical site of the lesion, the functional disturbances and structural changes occurring, and the causes of these disturbances and changes are indicated by the label. In short he suggested that the label of a disease should contain its defining characteristics. Such a system would require constant up-dating and is a counsel of perfection. He also gives an accurate dynamic and practical definition "All diagnoses are provisional formulae designed for action". This is perhaps even more applicable now when many more effective actions are available than it was 26 years ago.

Crombie (1963) accepts this and shows that too rigid an interpretation of the term diagnosis is inappropriate in most medical settings.

There are no new diseases, only new names. If we exclude microbiological mutants, and new human genes or gene patterns, this must be true. As scientific knowledge increases, however, broad groups of illness can often be refined into more precise compartments and new names proliferate. Initially, all diseases were labelled in a clinico-descriptive manner and the vast majority of illness is so still. These diseases may be minor and with a multifactorial aetology such as the common cold, or major and have an as yet undiscovered aetiology like multiple sclerosis. With the growth of morbid anatomy, microbiology, biochemistry and now molecular biology, it has become possible to be more specific in labelling some diseases, for instance, acute tonsillitis due to streptococcus pyogenes, neonatal jaundice due to rhesus iso-immunization, Down's syndrome due to translocation of chromosomes. Thus in a number of diseases the label makes "a statement about aetiology, about a microscopic or macroscopic anatomical abnormality, about a disorder of function, about a specific deficiency, or about a biochemical or chromosomal abnormality" (Scadding). It would be rash to think that in any diagnosis an ultimate perfection of knowledge lies.

The search for the ultimate either for its own sake, or as a by-product of academic curiosity is an important but minor part of medicine. The basic clinical situation is when an individual patient seeks advice and held from an individual doctor. A patient comes to be cured, if possible, not to have his disease or diseases identified and labelled. Card (1969) defines the objective of medicine as making the greatest improvement possible in the state of health of a given patient, adding that to this state of health must be attached a 'worth' or 'utility'.

The primary objective of medicine is not to make a 'diagnosis'. A divergence occurs when the diagnosis of most value to the patient has been made, i.e., a label allowing the most effective therapy possible and the most practical prognosis to be given, and yet the physician remains unsatisfied that the diagnosis is of the greatest possible accuracy, and continues his search. This used to be called over-diagnosis, or from the patient's point of view a bad diagnosis. Diagnoses are not only good or bad. They may be provisional, presumptive, primary, modified, secondary, current, firm or final. The increasing use of adjectival diagnoses might be further evidence of confusion about disease definition and labelling where too rigid an interpretation of the word diagnosis is in vogue.

Dudley (1968) illustrates how imprecise a good diagnosis may be when a surgeon is faced with an acute abdomen. The choice lies in labelling the abdomen 'to be opened' or 'not to be opened' and an important factor in the diagnosis is the risk in not opening even if the pathology is likely to be 'non-surgical' as in mesenteric adenitis mimicking acute appendicitis. When academic accuracy is not possible, the diagnosis most favourable to the patient should be made.

General practice is an area where chasing the chimera of an 'absolute' diagnosis carries unusual penalties. Not only are the chasers' time and energy wasted, but there is a real risk that inappropriate action is taken on the patient's behalf in the mistaken belief that no diagnosis has been reached. A sequence such as no consolidation, no lobar pneumonia, no antibiotic,

prolonged serious incapacity contrasts with another sequence—febrile respiratory tract infections, antibiotics, quick recovery from minor illness. There are a multitude of analogous situations. One error of omission, not acknowledging a diagnosis has been made, leads to another error of omission, failure to exhibit antibiotics, and the whole can be laid at the door of a misapprehension as to what the diagnosis is. The effects are to diminish the quality of patient care, especially in the restrictive use of drugs where too often the wonderful products of the pharmaceutical industry remain impotent on the pharmacy shelves. In pursueing the chimera we may lose sight of our prime duty, which is not to an academic ideal but to the patient. A high, but not obsessive order of accuracy is required. Where a diagnosis has neither therapeutic nor prognostic use, it may be better considered a non-diagnosis.

The dangers to the hospital doctor are similar, if less apparent. Research, teaching, and an individual patient's interests seldom completely accord and it is tacitly agreed that there will be some compromise. Moreover in such a relatively small number of highly-selected patients the pursuit of the 'absolute diagnosis' is quantitatively less of an absurdity, although too obsessive a pursuit aggravates the likelihood of unnecessary or dangerous investigations. Failure to make a 'diagnosis' quickly also results in proliferation of inter-departmental referrals and no clear cut therapy is instituted. Patient management suffers and patient morbidity is increased.

Nor is the search for perfection of labelling always of value in medical research. Some of today's research is concerned with identifying uncommon departures from the expected pattern, as may occur in adverse drug reactions or ecological factors in disease aetiology, and depends on the statistical analysis of returns of reported morbidity. The quality of such work depends on the quality of the reporting and the shibboleth of accurate diagnosis is bandied about. The World Health Organization and Royal College of General Practitioners have both published classifications of disease which make it easier to compare like with like and either of which provide a standard numerical representation of disease. No diagnosis can be considered in isolation from time, and a time factor must be built in to a recording system to allow for revision of the labelling. This factor will be different for different diseases, multiple sclerosis would require a time factor of a different order from that of pharyngitis. Having done this, discussion of the academic accuracy of the diagnosis is largely irrelevant, as the accuracy required is never absolute.

If it is accepted that diagnosis can never mean the certain identification of a disease defined and labelled with complete accuracy, but is rather an assessment of a holistic nature of adequate accuracy, then the treatment inferred from the diagnosis must also have a built-in degree of empiricism over and above any qualifications relating to specific drugs or surgical procedures. A well-advised therapy will effect a better than natural improvement in a patient's state, at a risk which will be smaller than that of doing nothing. If the expected morbidity is minimal and mortality unheard of, possible drug therapy would only include the safest of placebos and surgery would be entirely contra-indicated. As one progresses from such a happy position both risks and dangers become less easy to evaluate. What are the mathematical odds of a *Streptococcus pyogenes* infection giving rise to rheumatic carditis and what are the risks in instituting specific therapy in the form of penicillin? In a given patient how accurately can one assess the morbidity or risk of mortality, and how much morbidity justifies treatment carrying a risk of 1 in 1,000 mortality? Impossible sums at present, but they are the basis of therapeutics. Can we say that the best diagnosis is the one that puts the patient in the position of the least possible risk?

While diagnosis is the identification of a disease, no disease has precision or is a specific entity. Such defining characteristics as a disease may have are not timeless, but are being constantly eroded by new knowledge. As with the definition, so with the label or labels attached to diseases. They also change continuously. Any label, even the naming of a symptom, constitutes a *bona fide* diagnosis in so far as it identifies and labels a disease. However, the best label will come from amongst those currently in use and it will convey the concept of a patient suffering from a disease category which has been as accurately delineated as circumstances and reason allow in that particular patient, and which should prove of most use in the management of that particular patient.

Card suggests the possibility with computers of by-passing diagnosis entirely in patient management, and moving directly from symptoms, signs and results of investigations to treat-

ment, without a formal intervening statement or label. Labelling his disease cluster would make discussion easier and most patients would be happier to know what ailed them even if they only had SIZ436. At present we still attach the label of an accurately (but not, I hope, obsessively) defined disease to the ill patient, and thus make a good diagnosis.

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A pharyngeal aspirator

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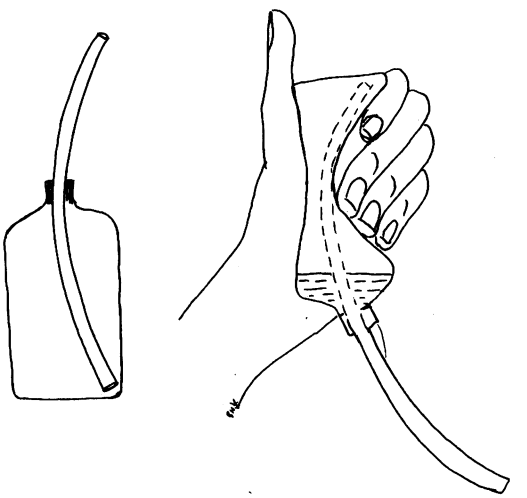
ANY GENERAL PRACTITIONER may be called upon to deal with an unconscious patient and on these uncommon occasions, perhaps at the roadside or in a farm paddock, a suction apparatus might be necessary. A simple, cheap, and portable sucker is here described, which can be operated with one hand, and is independent of electricity, water supply, or car intake manifold. Anaesthetists and obstetricians might find it useful as an emergency alternative to wall suction.

It is made of a plastic squeeze bottle sold in hardware shops as a garden spray, holding about 9 fl oz (270 ml) and eight inches (20.32 cm) of plastic tubing. It gives 8–24 mm Hg suction and sits comfortably in the hand.



The tubing passes through a rubber cork or airtight collar made by winding around the tubing enough cellulose tape to fit neatly into the neck of the bottle. The inner tip extends nearly to the base of the bottle.

In use, the unit is turned upside down and squeezed, driving air out, and the nozzle is placed at the suction site. On release the tube acts as a sucker, any fluid spilling over into the bottle. On squeezing again, only air is driven out, and suction can be continued, with repeated cycles of squeezing and releasing, until the bottle is full of aspirate, taking about seven seconds. It may then be emptied by turning upright and squeezing. The cost of the spray is 22 cents (11p) and the tubing 3 cents (1½p).

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