

article (29 September, p 751)—never “give a moment’s thought to its precise definition” are perhaps wiser than they know. Disease is one of those words best not defined. The same is true of health. What could be more fatuous than the famous definition of health made years ago by the World Health Organisation: “Health is a state of complete physical, mental, and social wellbeing, and not merely the absence of disease and infirmity”?

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SIR,—Like Dr S Renfrew (20 October, p 1000), I think the word disease is one to avoid when possible. There is no such entity as a disease. The word disease is an abstract noun. In the medical context, we are really speaking of people who are diseased. A medical diagnosis is in fact incomplete unless it includes a description of both the figure to which our attention is drawn (the pattern of signs and symptoms, possibly embellished with aetiological assumptions) and of the background or context in which the figure is set (the person who has the disease). In psychiatry the figure is often the person himself (or his personality) and the background is his social context (the family or small group of which he is part). Professor Gerald Caplin has long taught the importance in psychiatry of the “environmental diagnosis.”

Of course, it is true that in practice we can often get by without making the environmental or background diagnosis explicit, but it is necessarily the case that what we call disease results from the interaction between figure and ground: there can be no disease without a person to manifest it. Discussion of the meaning of the reified concept of “a disease” is likely to be futile unless its abstract nature is recognised.

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SIR,—It is interesting to examine the basic concepts of medicine from a philosophical point of view. I fear, however, that the recent paper by Dr E J M Campbell and others (29 September, p 757) may have blurred some issues by unnecessarily complicating the definition of the term disease.

The distinction between a nominalist and essentialist approach to concepts is not necessary or relevant to the problem facing medical science. Some people may think of disease as something which can be caught, as a fisherman catches fish, because some illnesses are caused by infectious organisms, which do have an existence quite independent of their victims. On consideration, however, it is clear that diseases are phenomena that happen to living creatures. Any disease is a set of abnormalities. That is to say it is a set of properties of an individual. To try to distinguish between the existence of an individual and the existence of its properties, abnormal or otherwise, is unnecessarily complicated. It is the problem of the existence of functions or predicates and can be left to the philosophers.

The example of confusion in defining chronic respiratory disease demonstrates the need for agreement on the use of the term disease. The problem is not what is the nature of the concept disease but what sort of

abnormalities make up a disease. In terms of Campbell and others’ definition, what abnormal phenomena and common characteristics make up a disease? It is to this problem that we should turn our attention.

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On-demand analgesia equipment

SIR,—The recent letter by Mr Tom Lind and others (1 September, p 548) concerning the Cardiff Palliator we feel needs some further explanation.

Firstly, the Cardiff Palliator was designed in collaboration with the anaesthetics and medical physics department at the Welsh National School of Medicine and fully meets the safety regulations for medical equipment.

Secondly, with regard to thumbwheel switches, (a) the switch is in a relatively central and well-protected position of the front panel; (b) the setting of the thumbwheel switches is clearly displayed on a digital display immediately above the switch panel, and any change in switch setting when the machine is not infusing drug is immediately shown on the digital display; (c) any change in setting of thumbwheel switches when the machine is infusing drug has no effect on the size of increment given on that occasion; (d) the group of thumbwheel switches at the rear of the machine has been given a secure cover to guard against possible inadvertent setting.

Thirdly, the maximum total dose of drug the patient may receive is limited by the amount placed in the syringe. This is infallible.

Finally, we think that point three in the letter is fair comment. However, it would be fair to point out that this is the first commercially available machine of its type and must necessarily reveal ways in which the design could be improved. To this end provision has been made by providing electronic outputs at the rear of the machine for additional data collection, analysis, and display. I think additionally it would be worth mentioning that this is the only commercially available system purpose designed to be used with any analgesic regimen, in contrast to the Janssen machine, which will take fentanyl only.

Pye Dynamics, in conjunction with the Welsh National School of Medicine, is continually looking at ways of improving the Cardiff Palliator and the next generation could incorporate modifications, such as those mentioned, which can be discovered only by users in the market place.

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Hodgkin’s disease and occupational exposure to chemicals

SIR,—We note with interest the finding of Drs H Olsson and L Brandt (8 September, p 580) of a large proportion (19%) of men with Hodgkin’s disease who had been in employments exposed to chemicals. This has prompted us to examine the recorded occupations of cases in the North-western Regional Cancer Registry.

In the period 1962–1976 inclusive there were reported 558 cases of Hodgkin’s disease in males aged 16 and over resident in the south-east Lancashire and north-east Cheshire

conurbation (corresponding roughly to the present county of Greater Manchester). We have compared their occupations with those of 290 men with chronic leukaemia and 33,097 men with other neoplasms reported for the period 1972–5. Among the cases of Hodgkin’s disease, 21 (3.8%) were in occupational categories liable to chemical exposure, compared with 6.6% of the cases of chronic leukaemia and 3.9% of the group with other neoplasms. Moreover, the proportion employed in the chemically exposed occupations in the working male population of Lancashire,² an area that included a large part of the conurbation, was 8.6%. As in the Swedish findings, we have a bimodal age distribution, but we do not find any suggestion of a more marked association with occupation in those aged over 30.

Thus our data fail to confirm the Swedish report of a marked excess of occupational exposure to chemicals among men with Hodgkin’s disease. We hope that other population-based cancer registries will examine their data and report their findings.

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¹ Office of Population Censuses and Surveys, *Classification of Occupations 1970*. London, HMSO, 1971.

² Office of Population Censuses and Surveys, *Census 1971: Economic Activity, Lancashire*. London, HMSO, 1972.

ABC of blood pressure measurements

SIR,—The excellent article by Dr Eoin T O’Brien and Professor Kevin O’Malley contains one minor but important error (6 October, p 851).

Blockage of the air filter makes it hard to blow up the sphygmomanometer but it does not result in difficulty in controlling the rate of fall of the mercury. The latter is due to stickiness of the control valve. Most control valves are designed so that they cannot be dismantled and cleaned—if they could the top would always be falling on the floor during the performance of the measurement. Consequently the only cure for this disease is to throw away the control valve and buy a new one. Since they cost only about £1 this is unlikely to cause a financial crisis even in such over-RAWPed hospitals as Guy’s.

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SIR,—It is unfortunate that Dr Eoin O’Brien and Professor Kevin O’Malley in their article (20 October, p 982) on the technique of indirect blood pressure measurement should perpetuate the rheological absurdity of accepting the disappearance of sounds as the level of diastolic pressure.

The audible events occurring during the release of extramural compressions of the brachial artery are simple to explain on Reynoldian flow theory of critical velocity and the theoretical and logical reasons for the muffled end-point are overwhelming.

As long as the extramural pressure imparted by the cuff is above systolic pressure, the artery remains closed and no sound will be heard. At a pressure just below systolic there will be a jet of blood at systolic zenith creating the first