jam factory knows more of its intake of apricots, of what processing is done and where the jam is sold than most hospitals know of the intake of patients, the work put into them and what happens to them after discharge.

In my own studies on prescribing (Wade, 1972) I am increasingly trying to find out whether ' the prescribing of drugs is congruous with need.' I believe the Department of Health and Social Security should devote considerable resources to the solution of this problem. It is not an easy problem. It will require new methods of research, it will probably require considerable help from local prescription pricing bureaux and it is, I think, an important field of research for all of us who work in departments of clinical pharmacology.

REFERENCE

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GENERAL DISCUSSION

Mr J. Robson

A variety of factors have been blamed for the present undesirable trends in psychotropic drug prescribing; the doctor, society, the patient and the drug industry. No doubt they all have their relative contributions to make, but head and shoulders above all others stands the pharmaceutical industry which has done so much to promote the ' pill neurosis ' which now besets medical care.

This, however, is not the view of Mr Teeling-Smith who would consider that it is society itself and not the pharmaceutical manufacturers which is at fault. A wealth of direct and indirect evidence would indicate that this view is sadly mistaken and the drug companies are anything but passive compliants to the demands of society. As Thoreau noted, " some circumstantial evidence is very strong, as when you find a trout in the milk."

A cursory glance through any medical journal or promotional material, will confirm that the industry is an active participant in exploiting the social and physical situation to the full, and the *raison d'etre* of such promotion, based as it is on the concept of ' prescribing volume ' and ' physician prescribing productivity', makes one wonder whether in fact we have not a trout but a shark in the milk.

The pharmaceutical industry is at present in an irresolvable predicament, faced as it is with the necessity to conform to the demands of the commercial market on the one hand, and the need to serve the best interests of the patient on the other. As with medicine before the advent of the National Health Service it tends inevitably to succumb to the former.

This is most apparent in promotional activity, geared as it is to selling the product rather than informing the doctor (at a cost of over £300 per year for every doctor in Britain). By far the most important criterion is estimated or observed prescribing volume, and drug firms categorise doctors primarily on the basis of judged overall prescribing productivity.

The more equivocal the indication for a product, the greater the expenditure on promoting it; e.g. promotional expenditure as percentage of sales cost—antacids 13·9, cough and cold preparations are from 12·9, anti-obesity preparations 11·1, hypnotics 10·2, cardiovascular preparations 4·3, and diabetic therapy 1·9.

Well over half of the psychotropic products now in use have been introduced since the student days of the majority of doctors and there is a crying need for hard, objective, scientific fact on the indications for and against prescription.

Commercial pressures

Market forces also operate in the field of pharmaceutical research, competitive pressures forcing investment to be made in those areas yielding the greatest gain in the shortest time. This is nowhere more obvious than in the innovation of psychotropic drugs, where ' molecular roulette ' and manipulation has become a lucrative end in itself. Even the industry recognises this, and a representative speaking at an international symposium on drug marketing, summed up the situation as follows. " The ripest plums have already been harvested. Major advances will be less frequent and competitive pressures will force companies to market more brands with only minor advantages."

' Librium,' ' Valium ' and now ' Nobrium '—the concept of ' planned obsolescence ' has not escaped the drug industry. In the last year alone nine new antidepressants have been added to the already overfull list of about 200 psychotropic products.

These dual trends of ' prescribing productivity ' and ' planned obsolescence ' have done much to promote our entry into what has been described as the Pharaoh era. Pharaoh in ordering the pyramids to be built, considered the death and suffering caused as part of the overall expense. We too have allowed ourselves to be lulled with such phrases as the ' social cost of progress,' into accepting the hazards of drug usage as somehow inevitable. These hazards include not only the gross morbidity from thalidomide, the mono amine oxidase inhibitors and overdosage, but also include the insidious decline into dependency and the as yet unknown effects of using drugs as a substitute for social change and the doctor-patient relationship.

Several contributors have proposed education as a possible solution to these problems and, as a medical student, I am only too aware of the present deficiencies of educational facilities. In the whole of a five-year course, many students can expect to receive as little as ten weeks pharmacological training in which time it is necessary to gain a working knowledge of some 3,000 products and a critical evaluation of the £23 million promotional machine with which they will later be confronted.

Any attempt to realign the balance in prescribing must entail a substantial rethinking of both undergraduate and postgraduate education. In itself however, this is insufficient, for one must recognise the limitations of an already grossly overloaded system of medical education and this brings us back to the other area offering perhaps the most important possibilities for solution—the pharmaceutical industry.

Nationalisation of the drug industry

In 1948, the problem of surviving in a competitive market, with all its attendant pitfalls, was resolved for the bulk of medical care when the NHS was formed, yet for the last 20 years the drug industry has occupied its controversial and anomalous position outside the NHS, as though it were not as much a part of health care as nursing or operating theatres, which no one would have dreamed of leaving in the private sector. A succession of official committees have investigated this curious phenomenon; The Public Accounts Committee, the Hincliffe Report, the Voluntary Prices Regulation Scheme, the Macgregor Committee, the Banks Committee, the Monopolies Commission and most important, the Sainsbury Report.

Sainsbury, in his detailed analysis of the drug industry came out against public control, but added the significant proviso . . .

" Finally, we would add that our conclusions that nationalisation of the industry is unnecessary . . . have been greatly influenced by our belief that the proposals we make in later chapters, if carried out with the willing co-operation of the firms in the industry will prevent in future any such abuses as have given rise to criticism in the past. In this belief we do not feel it desirable to consider any more drastic measures."

It is now five years since the Sainsbury Report, and most of the recommendations which it made have either failed or been ignored. Brand names which serve only to confuse, giving no information as to pharmacological effect or chemical grouping, continue to be used and Sainsbury's recommendation that the length of patent monopoly be reduced, has been turned on its head by the decision of the Banks Committee to extend it; the vital concept of comparative efficacy which offers the main hope for a scientific assessment of drug usage has been speedily sat upon. The recommendation that the promotional budget be cut down appears to have had little effect and more continues to be spent on advertising than on research.

The ' beliefs ' on which Sainsbury based his conclusions have proved to be inevitably misplaced, and will continue to be so long as the pharmaceutical industry remains tied to the ' market system.' One wonders whether it is not time that we once again considered more fundamental changes in the industry and the possibilities for bringing so important a part of medical care out of the private sector and within the framework of the NHS. This step is a necessary prerequisite for any serious attempt to realign current prescription trends and will allow the drug industry to become a willing ally in preventing rather than promoting these trends.

Mr G. Teeling-Smith

The problem with the brand names is that, with respect, the Sainsbury Committee failed to identify the difference between the active ingredient in the drug and its formulation. The brand name attaches to the specific formulation of the active ingredient. The generic name is simply the active ingredient. Clinical pharmacologists now accept that you have to identify different formulations using different names. I do not know whether the manufacturer's brand name is the ideal way of doing this, but at least the principle of identification of different brands is sensible.

The Sainsbury Committee was extremely relieved to send a very tricky problem to the Banks Committee, who have taken the view that because of the long delay between the original discovery of a new compound, and its final marketing that the patent life should be extended, in common with patents for all other innovations and in common with the practice of the whole of the European Community.

To try to solve these problems by bringing the pharmaceutical industry within the NHS is an over-simplification, because it is a highly international industry. We have just done a study looking at the source of innovations, and out of the 470 innovations we identified, 210 came from the USA alone, and only 50 came from Britain—so we are dependent on the innovations made in other countries. To say that we can bring these within our own NHS is simply not practical or feasible. One has to accept that having the industry outside the NHS is an inevitable feature of the present organisation of society.

Professor O. L. Wade

I would like to say something about brand names. What worries me is not whether people use a brand name or approved name, but that there are so many names. This is a great worry to my nursing staff, and a thing that I am sure is a factor in increasing errors in prescribing. Nor am I quite happy about the idea that by using a brand name we are certain to get a preparation with equivalent biological availability. What we really need is data about the biological availability of various preparations of the same drug and this is not yet available. Where it is available, it is not always the biggest firm, or the one you would expect, which has the best product. I think the answer may lie in future licensing arrangements, where firms would have to specify the biological availability of their product. Then all of us could, with complete confidence, prescribe under any proprietary name or approved name and know that we were getting what we wanted.

Dr H. N. Levitt

Twenty-three per cent of the whole drug industry is British owned. The rest is foreign. We discussed in the Sainsbury Committee, fully, and at length, the question of nationalisation of the British pharmaceutical industry. It is not possible, not for political reasons, but because of the financial implications involved in trying to buy and negotiate in the USA, in Switzerland, in Germany and so on.

Dr J. T. Hart

We should start talking about drugs and not about formulations, and with great respect to Mr Teeling-Smith, formulations may be important, but they are not more important than the actual ingredients, which are drugs. We have reached a point now where we have to guess at the similarities between drugs, and the genus of drugs to which they belong by the sound of the name. This is really all that is left of pharmacology for many of us after we have left medical school for about 15 years. We are groping about, hoping that the title of the brand name will give us a clue as to action and possible chemical relatives. They do not do this. We may reach a point where, if a drug has an easily remembered, cleverly chosen brand name, then we remember it, and prescribe it. This is a really terrifying situation, and I cannot accept that it could not be solved in a matter of months, nor that the rather trivial obstacles in its way are insuperable.

Mr G. Teeling-Smith

This is a subject for logical debate, and I could not agree with what has been said. But it is certainly not something that, at the moment, the medical profession want to do.

Professor A. Munro

Both Professor Wade and Professor Cochrane stressed the need for a more objective approach in the assessment of psychotropic drugs, and I could not agree more, but I think it is worth mentioning that psychiatry deals largely with the undefinable. If we learn to diagnose it objectively, and to treat it with some degree of reliability, then that condition no longer remains a psychiatric condition.

I picked up a mid-nineteenth century textbook recently, and it contained a beautiful description of a psychiatric illness, which was due to the ' stress of modern living '—and it described it in exactly the same terms as the anxiety state of nowadays. In fact the disease it was discussing was G.P.I We rarely see, nowadays, a case of cerebral syphilis causing psychiatric symptoms. This is a very good example of preventive psychiatry by drugs.

This sort of thing is happening also with other conditions. As a student, I was taught by the obstetricians, no less, that pre-eclamptic toxaemia might have a psychiatric component in it. I do not think they say that any more, but you will notice they are now treating it with diazepam and chlordiazepoxide, which is interesting. I see severe depressive illness moving in the same direction. As we learn to diagnose it more reliably and treat it more effectively, then it is going to be taken over by people in other specialties. Unfortunately, the by-product of this is the idea that the psychiatrist always deals with the undefinable which often resigns the psychiatrist to the vague and unscientific.

It is one of my jobs to drive home to undergraduates and to postgraduates that the scientific approach and the humane approach are perfectly compatible in our specialty, and one of the arts of psychiatry—indeed of medicine generally, is to find the judicious blend which suits each individual patient.

Briefly, I will touch on three very preliminary pieces of research, which have some connection with my department in Liverpool, and which may have some connection with this subject of the prescription of psychotropic drugs.

Firstly, we are carrying out two drug trials in our department at the moment. In one of them, my senior lecturer, Dr M. J. MacCulloch uses automated aptitude testing machines to test reactions, psychological factors and certain simple skills. By using this sort of apparatus he is able to show that a drug has some effect or no effect. The other research is a double-blind trial in which we intend to carry out biochemical studies of the particular tranquilliser that we are looking at. I would like to mention at this point the great reluctance of the drug companies in allowing us to do trials of this sort. Not because they do not want the trials carried out, but because they are not used to the idea of psychiatrists doing drug trials with any degree of scientific sophistication at all. They admit that drug trials which we quote are usually of no scientific validity whatsoever, and I would have to agree with them in this.

Seondly, Dr K. B. Thomas of Portsmouth has done a study in his own practice of patients who came to him with physical complaints for which he could find no underlying physical pathology nor formal psychiatric illness. In these cases Dr Thomas, the general practitioner, used himself as the treatment. He gave no drugs but gave reassurance, counselling and time. Then in two very carefully carried out short-term follow-ups he looked at the patients who did not come back, and found, contrary to the findings of Professor Shepherd, that the majority of these people did not feel that they needed to come back to the doctor. You could well say that Dr Thomas is the sort of doctor you only go to once. I would hazard a guess that this is not so; 90 per cent of these patients said ' I feel back to normal—I may have complaints, but I do not feel that I need to see a doctor.' Five per cent said, ' I still have something wrong but I do not think it is bad enough to see a doctor.' Only five per cent said, ' I should have come back but for some reason I have not.' He points out that the group of what he calls ' temporarily dependent ' patients could account for the disparity in the prevalence of psychiatric illness in the general population and in general practice.

Lastly, I would like to mention an interesting phenomenon that the people under Dr P. Ley in my department are looking at: that learning at one level of consciousness, or possibly at one state of emotion may be specific to that state and may not transfer. You give an undrugged rat a test to carry out and it learns it. Then you drug it, it may not then be able to carry it out. You could say that this was an effect of the drug—it has been doped. But we can show that if you give a rat a drug, teach it a test, and then let it get over the effects of the drug, it will not be able to carry out the test efficiently. Give it the drug again, and it carries out the test efficiently.

There is some evidence that this happens with humans too. To take a hypothetical example; let us say we have an anxious patient whom we calm and help with drugs to learn to cope with his anxiety provoking situation. However, this learning may only be restricted to the drug affected mental state; if you take him off his drugs he can no longer do what he had been doing fairly efficiently, i.e. cope with his anxiety whilst on drugs. This is one way of looking at a particular mechanism which may lead to drug dependence.

Professor J. D. E. Knox

I think I understand the hostility with which some of our hospital colleagues react to the idea of placebo prescribing because it has no place in their scheme. To apply their experience to primary medical care is inappropriate. The case for occasionally prescribing a placebo in general practice is fairly strong. Not to fob the patient off, but as a legitimate management to ensure that contact is maintained with the patient, e.g. ' Come and see me again when your tablets are finished,' nor to save the doctor's conscience, but to save the patient's face when a non-medical problem has been presented in a medical setting. Not to confirm to the patient her sick role, but to direct into a safer channel her desire to take medicine or sometimes to give unnecessary medicine to her children. To disregard placebo prescribing can only aggravate the situation which has led to this symposium.

As for psychotropic drugs, how far are we likely to obtain the goal of containing our patients' demands for happiness and our desire to help them to achieve this? The duty of the general practitioner is not to attempt to change society. Perhaps he may have a role, but it is not a single-handed role, it is part of a co-operative effort with others with a stake in this. We cannot diminish the capacity for suffering without at the same time diminishing the capacity for joy. They are the same capacity.

There is also another aspect, the foundation of the personality on the one hand and on the other, the national morale. The analogy of the house built upon rock and upon sand is a good one. These are frankly moral and religious matters and as such we as doctors may fight shy of them, but we ignore them at our peril.

Dr J. Fry

I think that in looking at these problems we ought to be humble enough to accept that we are providing continual care and accept that we should not be striving for a cure. One of the awakenings I had after being in practice for a number of years was suddenly to realise that I was not there to cure anything very much. I was there really to use myself and the facilities I had, to cure sometimes, to relieve often and to comfort always.

How do we use data in order to make ourselves better doctors and provide better care for the patient, because we ought, whatever we do, to put the patient first? We have to realise that we cannot stuff our own views down the throats of our colleagues. We have to try to influence them by using modern and good communication media. We also have the challenge of trying to influence our patients and the public to care for themselves. To influence general practitioners we need to present information in short reviews and there is a place for regular communications from the Department of Health. We also need the sort of studies that Dr Parish has carried out. The postgraduate centres as well as being educational ought to be operational research centres; they ought to be looking at what we are prescribing and what we are doing.

Dr J. Horder

What can we take away from this conference of importance to the education of general practitioners? The obvious lessons for training general practitioners might be more pharmacology, therapeutics and prescribing in vocational training courses. I think the conference has also pointed out that this has to be very carefully controlled and taken in its larger context; the increase in the general practitioner's skill in recognising a psychiatric case, and then going on to recognise what sort of psychiatric problem it is. Many people have pointed to the need to look in each case at the physical, psychological and social aspects, and to give the right importance to each. This is a terribly difficult task to be faced with every day. Yet I think this triple context is possibly the way in which one has to resolve this conflict.

To look specifically at psychotropic drugs in relation to the education of general practitioners, the conference seems to have pointed, either in the written papers or in the contributions, to the heavy responsibility placed upon the doctor. Therefore, we have to look at the threshold for his use, particularly his use to treat minor discomforts. We need to give him evidence of the value of these drugs. Although the conference seems to have been saying that some of these are valuable, we all seem to have doubts whether proper trials have been done. We need to teach him about drug interactions and side-effects, particularly with regard to repeat prescriptions and we need to enable him to assess advertising claims. Dr Parish also stresses the need to educate patients about their use of and their request for these drugs: the doctor must be taught the uses of health education inside his own practice.

Finally, relating to methods of teaching there are very strict limits to expertise in this field, therefore it is no good thinking that we are going to educate general prac-

titioners by telling them. They must face the questions and come to some sort of answers themselves. Some of them may have the ability to do so, but project teaching has got to lead them towards doing research in their own practices.

Dr L. Ratoff

Unless we can study the problems the doctor has in prescribing psychotropic drugs, unless we can understand something about what exactly goes on, and understand the pressures that are being brought on to him, we are not really going to alter this situation very much.

I know that the Medical Sociology Research Centre at Swansea has started a very detailed sociological survey of prescribing and they point out that prescribing is not only a clinical problem but that it has many sociological implications. These are areas in which sociologists could teach us, and I think it would be very revealing. Maybe the profession would be very threatened by this and yet I think we still should subject ourselves to this kind of examination.

One of our own group was involved in work on the repeat prescription situation and we came to quite a deep understanding of its transactional nature. I think there are times when we start a psychotropic drug for very good clinical reasons. We see a patient who is anxious or tense and who is undoubtedly helped by psychotropic drugs, but then in a small proportion of cases the transaction occurs which firmly establishes a repeat prescription situation. My personal impression is that the pharmacology of the drug ceases to be of any importance whatsoever, and if we had some method of substituting a placebo situation, I feel the transaction could be carried on with at least less anxiety for the doctor.

Finally, general practitioners have to face patients they cannot cure but can only comfort. One of the problems of hospital orientated medicine is that they have to cure—they have to treat, they cannot accept failure. This is one of the ways in which general practitioners and hospital doctors do not speak the same language.

Dr F. O. Wells

I come from Ipswich where we have a policy of no longer prescribing amphetamines because this matched a policy of looking carefully at drugs that are known to have a high abuse potential. We have also agreed not to prescribe 'Mandrax' because this comes under the same two criteria of having a high abuse potential, and no absolute indication for its use.

The mature adult stabilised on 200 mg of, say, pentobarbitone at night is not at risk. But the availability of a drug that is potentially lethal in overdosage, and of which there is evidence of adolescent misuse, has to be weighed against the desirability of changing the medication of this stable patient to a less dangerous drug.

There are patients with grief, pain and stress, who require hypnotics, but when the grief, pain and stress are gone, then so has the need for the drugs themselves, and we have indeed been guilty in the past of slovenly prescribing by making patients either genuinely or psychologically dependent on sleeping tablets, in spite of themselves.

Dr T. S. Eimerl

There is a need for all groups within the profession to communicate with the public as a whole. The Department recognises this and has a particular interest in the evolution of departments of clinical pharmacology. This is becoming fairly evident because if these centres begin to arise around the country, as they may well need to do, then these are probably the best ways of disseminating information and encouraging discussions that are necessary so that all the doctors concerned will become more aware of how to handle the problems that each meets every day.

The role the Department could play is in supporting appropriate research where there was a case for it, and it had the support of the profession. But, for the Department of Health and Social Security itself to go directly into particular areas of research would, perhaps, not be the best way of achieving the long-term results that we all seek.

Mr B. Inglis

As a layman I have been struck by the change of attitude of the people attending this conference, contrasted with attitudes prevailing ten years ago. It is difficult to express it succinctly, but it is perhaps best summed up in the phrase much beloved by some politicians; the members of this conference may not have got, or expected to get the right answers, but they have begun to ask the right questions.

To give just one example: ten years ago, I do not think that any doctor, addressing such a conference, would have referred to placebos except in their auxiliary role in controlled trials—and even that was imperfectly understood. To have admitted to using placebo-effects clinically, except in the loosest sense of the term, embracing bedside manner and reassurance, would have been tantamount to admitting to the use of unethical practices.

Now, even *The Lancet* (16 July, 1972) is prepared to concede placebo effect a clinical role. And this role, to judge by many of the contributions to this conference, is even more important to the doctor than to the patient. Controlled trials can only clearly show negative placebo effect (and very striking it can be). What they do not reveal, but what has been so clearly revealed by the widely differing views on the efficacy of particular types of psychotropic drug, is the part placebo effect plays in creating a rapport, as it were, between doctor, patient and drug. Faith healing, if you like—and none the worse for being so.

A PHYSICIAN'S VIEW

PROFESSOR P. C. ELMES

The increasing use of drugs for the management of functional disorders must be viewed with mixed feelings by a general physician. All drugs have therapeutic or useful effects which must be balanced against their adverse or toxic effects. The number and severity of adverse effects is considerably increased in patients who are taking more than one drug either for a single disease or for separate diseases. The problem is especially serious in the elderly and in those with impairment of cardiac, hepatic or renal function due to chronic disease.

The extent of these adverse effects in the community is not known but we are beginning to measure it in hospitals. The study carried out by Hurwitz and Wade (1966) in Belfast showed that there was an alarmingly high proportion of iatrogenic illness in hospital. Taking the general medical and surgical wards together about five per cent of admissions were due to the unwanted effect of drugs rather than the disease for which the drugs were prescribed. Furthermore in over ten per cent of cases the patient's stay in hospital was complicated by an adverse reaction caused by drugs administered in hospital. At that time American studies had already shown an even higher incidence of