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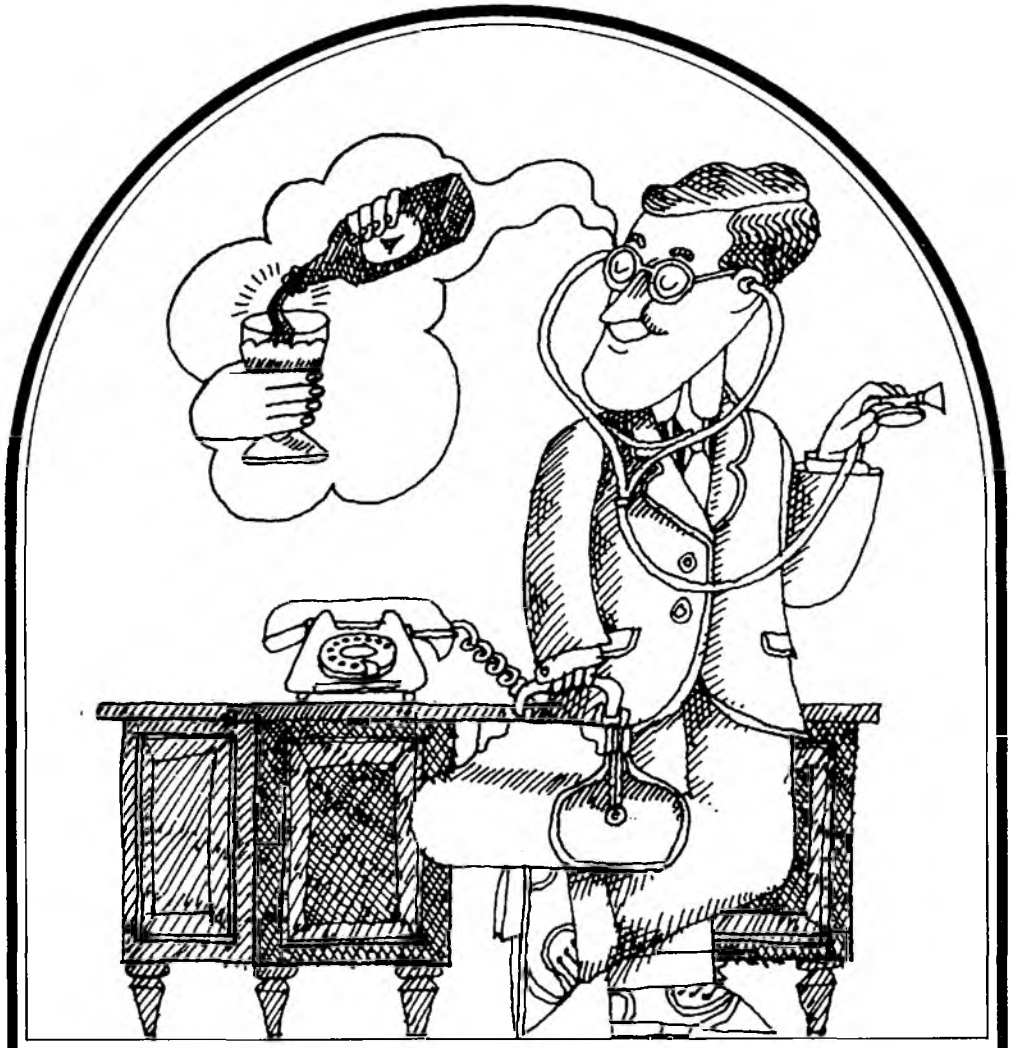

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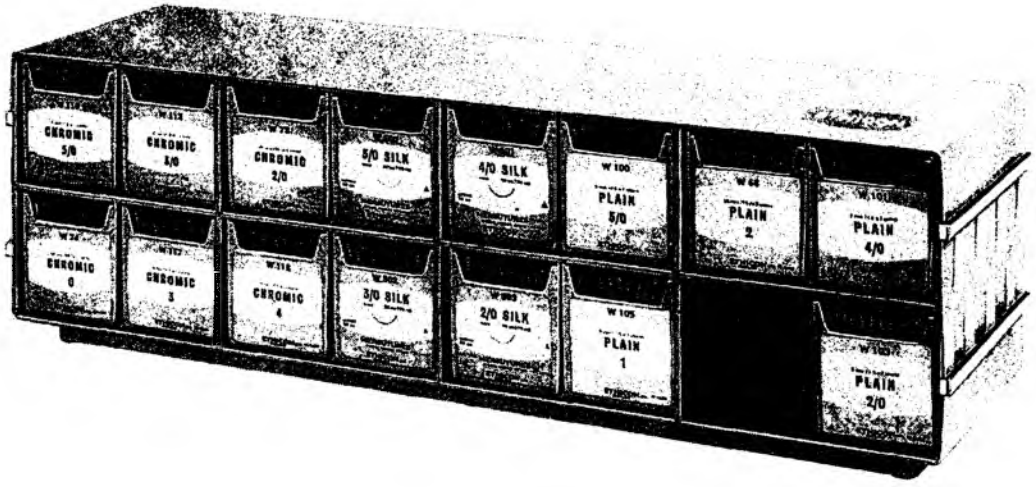

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EDITORIAL

In this country we are not mass producing our doctors quickly enough. There may be a surfeit of graduates in other faculties but not, we are told, in medicine. If the estimate from the recent Royal Commission on Medical Education is correct the number of doctors required in Britain within thirty years will be double the number needed today. In spite of this Britain lags behind Belgium, West Germany, Australia and the U.S.A. in her attempts to increase her output of medically trained men, and she also spends less on her health than most other Western countries.

But this editorial is not concerned with numbers. Instead it is concerned with the quality of medical education, in the belief that one doctor of high quality is the equal of two of lesser quality. Quality is not simply clinical acumen, but involves the application of skill in terms of the doctor's personality, his ability to communicate freely with both the patient and his contemporaries, and his capacity to organise auxiliary resources.

The Royal Commission stresses the need "to encourage a holistic attitude towards patients and avoid the increasing danger of considering them as cases rather than persons". But doctors still have much to learn in the art of communicating amicably and efficiently amongst themselves. The patient is certainly a person rather than a case; he is also the focus of attention from a number of different trained personnel, none of whom are superior, none of whom can afford to work in isolation.

That is where the value of a Society such as the Royal Medical lies. It is a value dependent not on tradition, not on laws, not on power structures, but on the vital provision of facilities for students from all the years to meet each other professionally and socially. It is a value that derives from open and intelligent communication between student and teacher, a value that is not diminished by differences of design and personality.

In the Society Notes of this issue space is given to a brief report on a questionnaire conducted recently in the Medical Faculty by the R.M.S. The questionnaire concerned itself with the value students attached to a society such as the R.M.S., and also asked where improvements in such an integrative society might be made. A fuller analysis of the results will have to await the completion of the study. Meanwhile a short comparison has been made between the medical training facilities available in Edinburgh and those in other countries, with respect to factors such as staff-student contact, practical experience and the encouragement of original research work.

In all aspects of medical education the R.M.S. should be able to play an important part, maintaining autonomy without losing co-operation with the University. With the sale of the library and the mobilisation of considerable funds it will become imperative for the Society to recognise its full value.

THE INVESTIGATION OF A PATIENT BELIEVED TO HAVE A BLOOD DISORDER

Professor RONALD H. GIRDWOOD,
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University Department of Therapeutics, Royal Infirmary of Edinburgh

(The second part of an article written specially for RES MEDICA.)

FURTHER INVESTIGATIONS

Much has been said in the first part of this article about the important points to note in taking the history, and various possible physical signs have been considered. In many instances, however, further investigations are necessary before a diagnosis can be made or confirmed. These cannot be considered in great detail in an article of this nature, since complete consideration would involve writing a full textbook of haematology, but some of the more important investigations can be outlined under three headings according to the degree of complexity or specialisation.

Simple Laboratory Investigations

Blood counts. The routine investigation of a patient with a suspected blood disorder includes estimation of the haemoglobin level and the white cell count, together with examination of a blood film. These can be done from finger prick blood. Many haematologists are unwilling to perform erythrocyte counts on the grounds that they are so inaccurate as to be positively misleading, but with modern electronic counters this is not the case.

If the patient is anaemic, it is desirable to know the mean corpuscular haemoglobin concentration (MCHC) and mean corpuscular volume (MCV), and although there are micro methods available, it is better to have a sample of venous blood for the haematocrit reading. The study of a stained blood film by an experienced observer is essential, and a differential white cell count and E.S.R. may be necessary. If there is any question of thrombocytopenia a platelet count will be required, but this can be preceded by inspecting a blood film stained with cresyl blue as this will show whether or not platelets are present. The more usual use of cresyl blue staining, frequently together with a Romanowsky stain such as that of Leishman, is to enable a reticulocyte count to be done, and this is of particular value in haemolytic anaemia, in continued bleeding, or in assessing response to therapy.

Other simple tests include:—

(a) The bleeding and coagulation times: the former is prolonged in thrombocytopenic purpura and the latter usually (but not always) in haemophilia and Christmas disease.

(b) Testing the urine for excess of urobilinogen with Ehrlich's aldehyde reagent: this is positive in haemolytic anaemia and in untreated pernicious anaemia, but, of course, there are numerous other causes for urobilinogenuria.

(c) An augmented histamine test of gastric acid secretion. This is an essential investigation in suspected pernicious anaemia,

but the administration of a large dose of histamine, even when covered by an antihistamine drug, may give troublesome side effects and the test should not be done in untreated severe anaemia. A new method involving the use of pentagastrin as a gastric acid secretory stimulant is being investigated.

(d) Bone marrow aspiration. This is probably done more often than is really required, but if a patient with a blood disorder is treated without marrow puncture being performed, and the first diagnosis is incorrect, this valuable method of investigation may have been eliminated by treatment. Sometimes there is considerable difficulty in obtaining marrow from the sternum, and a small trephine may have to be used to obtain a sample from the iliac crest.

Sometimes valuable information is obtained from the "buffy coat" of the peripheral blood.

(e) Tests for blood in the faeces. Repeated tests are an essential part of the investigation of iron deficiency anaemia where the cause of the condition is not clear. The relative values of the various methods need not be discussed here, but it should be noted that the name Ham's reagent is applied by different authorities to two different reagents used to test faeces for blood.

(f) Sigmoidoscopy. This may be an essential investigation in iron deficiency.

(g) Barium enema, meal and follow through. The cause of iron deficiency anaemia or of megaloblastic anaemia associated with malabsorption may not be clear until full barium studies have been done. In iron deficiency the disorders being sought include not only carcinoma, but also diaphragmatic hernia and oesophageal varices.

(h) Blood grouping.

More Complex Investigations

The student who does not know of any of these tests and wishes to do so should consult a suitable textbook. Those that are most commonly employed are as follows:—

1. In suspected or known megaloblastic anaemia.
   (a) Serum vitamin B_{12} and folate estimations.
   (b) The Schilling test or other test of the absorption of labelled cyanocobalamin.
   (c) Repetition of this test with the administration of intrinsic factor or after giving tetracycline to eliminate organisms in blind loops.
   (d) Jejunal biopsy.
   (e) FIGLU tests. These are of little value, except perhaps when there is malabsorption of folic acid.
   (f) Folic acid absorption tests.
2. In hypochromic anaemia.
   (a) Blood urea estimation (uraemia may be overlooked).
   (b) A search for chronic infection.
   (c) Gynaecological examination.
   (d) A search for malignancy, e.g. of the kidney.
   (e) A dietetic history.
   (f) Estimation of serum iron and iron binding capacity.
3. In bleeding disorders.
   (a) Platelet count.
   (b) Capillary resistance test.
4. In haemolytic anaemia.
   (a) Red cell survival studies, using ^{51}Chromium labelled red cells.
   (b) Coombs' test (direct and indirect antiglobulin reaction).
   (c) Tests for haptoglobins.
   (d) Osmotic fragility.
5. Miscellaneous.
   (a) Tests of thyroid function.
   (b) Estimations of red cell volume (e.g. by ^{51}Cr) or plasma volume (e.g. by ^{125}I labelled human serum albumin).
   (c) The Paul-Bunnell test is usually positive in infectious mononucleosis after the first week, but there have been reports of it being negative, especially in epidemics.

Specialised Tests

1. Red cell folate estimations — this probably gives a better indication of folate stores than does serum folate estimation.
2. ^{59}Fe clearance studies from plasma. This is related to marrow activity.
3. ^{59}Fe turnover studies. In normal subjects 70 to 80 per cent of the iron is incorporated into the red cells by 14 days.
4. Tests of splenic uptake of ^{51}Chromium labelled red cells, and comparison with counts over the heart and liver.

5. Use of ^{51}Cr labelled red cells to demonstrate gastro-intestinal bleeding.
6. Parietal cell antibodies.
7. Intrinsic factor assays.
8. Thromboplastin generation tests.
9. Measurement of Antihaemophilic factor level in blood.
10. Iron absorption tests using a whole body counter and ^{59}Fe.
11. Vitamin B_{12} absorption tests using cobalt-labelled vitamin B_{12} and a whole body counter.
12. Tests for haemoglobinopathies.
13. Marrow culture for tuberculosis.
14. Chromosome studies in suspected chronic myeloid leukaemia.
15. Further complex tests for immune antibodies.
16. Acidified serum test (Ham's) for paroxysmal nocturnal haemoglobinuria.
17. Brilliant cresyl blue decolourization or methaemoglobin-reduction tests for glucose-6-phosphate deficiency.

This list, which is incomplete, indicates the complexity of the investigations that may be required in the more obscure blood disorders and the way in which diagnosis may be far removed from simple history taking and clinical examination. Fortunately, such complex investigations are but rarely required but when they are, they have to be done in very specialised laboratories.

ERRORS OF DIAGNOSIS

It is sometimes of particular value to be reminded of possible errors of diagnosis and to learn of the mistakes of others. Curiosities, errors and tragedies that the writer has encountered include the following:—

Three sisters became anaemic. All had pernicious anaemia.

A patient with pernicious anaemia was put on a waiting list for admission to hospital, but died, untreated, before she was sent for. It should be remembered that although the condition is usually slow of onset, there may be sudden rapid deterioration.

The sister of a male patient with pernicious anaemia was admitted to a mental hospital and died. Nobody had thought of the possibility of the condition being familial or of the mental disturbance being due to vitamin B_{12} deficiency, but the cause of death was pernicious anaemia. (This was outwith the Edinburgh area).

A patient with anaemia, leucopenia, thrombocytopenia and purpura was thought to have aplastic anaemia because of these features and the fact that marrow was not obtained on sternal puncture. Fortunately, the serum vitamin B_{12} level was estimated and gave the correct diagnosis, viz. pernicious anaemia.

A female patient with menorrhagia had severe anaemia with a colour index of 0.4 and an MCHC of 22. She had pernicious anaemia and severe iron deficiency.

A female patient with bronchial asthma who had been under treatment for a very long time with prednisone, became weak, tired and apathetic. There was mild anaemia and a normoblastic marrow. She, too, had pernicious anaemia, but the marrow picture had been obscured by steroid therapy.

A patient with congenital haemolytic anaemia became very much more anaemic in pregnancy. She had developed megaloblastic anaemia from folic acid depletion.

A pregnant woman who developed severe megaloblastic anaemia was, in fact, not suffering from megaloblastic anaemia of pregnancy alone, but from gluten enteropathy with severe malabsorption of folic acid and vitamin B_{12}.

A patient who had served in the Army in India was admitted to hospital with anaemia, leucopenia, and a large spleen. He had kala azar.

A youth who had recently been in West Africa had mild anaemia and attacks of shivering and weeping, but no significant fever. He had cerebral malaria.

A patient had fever and thrombocytopenia. No cause could be found, but eventually the patient was found to have a malignant tumour of the thymus.

A patient had purpura and slight fever. The cause was chronic meningococcal septicaemia.

The parents of a child who recovered from leukaemia were anxious to have the occurrence officially accepted as a miracle. The blood film was one of glandular fever.

A patient who had been diagnosed as having leukaemia did not deteriorate as he and his family expected. The blood film showed myelocytes and the spleen was very large, but the diagnosis (incorrectly made outwith Scotland) was myelofibrosis.

The parents of a child were incorrectly told that he was suffering from leukaemia because the observer did not realise that there is sometimes a focus of lymphocytes in a normal marrow.

A patient with anaemia, leucopenia and

thrombocytopenia was found to have a hyperplastic marrow on sternal puncture. She died and it was found that almost all the marrow was aplastic, but the marrow puncture needle had not struck a representative area.

The Vice-President of a very major American corporation was admitted to hospital suffering from acute leukaemia and was about to be treated for this when the intern pointed out to the consultant that the patient might be having a leukaemoid reaction to tuberculosis, and suggested that the chest should be X-rayed. The intern's suggested diagnosis was the correct one!

A patient who had had a partial gastrectomy many years before was sent to an outpatient department because of paraesthesiae and peculiar impairment of sensation in the limbs. His doctor thought he might have subacute combined degeneration of the cord. The patient was asked whether he had ever taken thalidomide. At first he denied this, but finally admitted that it had been prescribed for his wife but he had taken it. When thalidomide was in use it caused impairment of sensation in the limbs in a number of patients. This drug is not now used, but in considering a possible iatrogenic disease it is important to remember that a patient may be taking medicines prescribed for a relative.

A patient who had been under treatment in hospital for two days for rheumatic fever was recognised by a physiotherapist as a haemophiliac who was known to her. Neither the patient nor his doctor had mentioned that he had haemophilia, and the joint swellings due to bleeding were thought to be due to acute rheumatism.

A patient who was under observation for idiopathic thrombocytopenic purpura developed extensor plantar responses, and a splenectomy was done immediately as this was thought to be because of an upper motor neurone lesion due to haemorrhage. In fact, she had developed disseminated sclerosis in addition to her thrombocytopenic purpura.

These examples are given as they may be of interest and because it is hoped that they may lead to avoidance of similar mistakes in the future. The student should not, however, be too depressed about the possibility of making a correct diagnosis in a patient with a blood disorder. In the great majority of instances the patient is a female suffering from iron deficiency anaemia, and the reason is that the loss exceeds the intake.

CRUELTY TO CHILDREN AND ITS COMPLICATIONS

FRANCES MARY MARR

A dissertation read before the Society on Friday, 24th February, 1967.

The concept of what constitutes cruelty to children is best described in the Children and Young Persons Act as "Assault, ill-treatment, neglect, abandonment or exposure such as will cause unnecessary suffering or injury to health, including any mental derangement."

Incidence of Cruelty to Children in this Country

Cruelty towards children may be

1. physical
2. mental
3. cruelty by neglect

The total and relative incidences of such cruelty as calculated from the records of the Societies for the Prevention of Cruelty to Children are only rough indications as to the size of the problem. Probably each type of cruelty is under-reported for different reasons: (a) neighbours may take weeks to report that the child next door is being physically ill-treated because they "don't want to get mixed-up with the police" (b) parents may leave young children alone in the house which may only be discovered if someone calls, or an accident occurs during the parents' absence.

The problems of neglectful parents are probably more common than realised, because they are dealt with by so many different social agencies, apart from the Royal Society for the Prevention of Cruelty to Children in Scotland, and the National Society for the Prevention of Cruelty to Children in England and Wales. Therefore it is likely that the total incidence of all kinds of ill-treatment is higher than the following figures might lead one to suppose.

6 out of every 100 children in England and Wales are so maltreated or neglected at some time in their childhood that they come into the care of the N.S.P.C.C. Over the last five years the N.S.P.C.C. has dealt with an average of 84,000 children a year, and the R.S.P.C.C. with 24,000 each year.

R.S.P.C.C. ANNUAL NUMBER OF CASES		approx. %
neglect	5,958	84
physical cruelty	289	4
abandonment	93	1
immoral surroundings	61	1
other wrongs	801	10
	7,202	
number of children	= 23,975	
	= 2% of the child population	

Above are shown the averages of the figures of cases, in the last five years, of the Scottish Society, the R.S.P.C.C. The figures in the right-hand column refer to the number of family cases involved, not the number of children.

The largest group is that of the neglect cases. Under the heading "other wrongs" are included the foul crimes of "begging, singing and selling" usually perpetrated in rural districts.

In the equivalent figures for England and Wales, physical cruelty accounted for 12% of cases annually, but this is apparently a difference of classification, rather than evidence of sadism as a characteristic of the Sassenach!

Physical Cruelty

Physical cruelty — the beaten-up, bruised child who looks like part of an Oxfam poster — is comparatively rare (about 1 child in a thousand annually). However, as the most sensational form of cruelty, it is the most publicised. The facts, for once, correspond closely to the melodramatic tales of the popular press.

The remarkable aspect of many of these cases is that often neighbours have been aware of the situation, but have not reported it to anyone. It is surely preferable to have a complaint proved to be unfounded, than to maintain a reputation for minding one's own business, when a child's health and future mental state may be at risk.

There are some cases which are dropped on investigation, after an explanation to all concerned. For example, one inspector called to see two small children, having been told by a neighbour that they were being badly beaten by their step-mother. He found that the boys had bruises and scars on their trunks, limbs and heads. Their father explained that the family doctor had told him that these marks were caused by a "blood condition", but that he was beginning to wonder if the neighbour's accusation was valid. The children were admitted to hospital where it was decided that they suffered from epidermolysis bullosa. This is an unusual skin disease, often congenital, presenting with large haemorrhagic blisters which appear spontaneously. These heal, leaving pigmented scarred areas — the scars which had led to the creation of the myth of the wicked step-mother.

In recent years, a great deal of publicity has been given to the Battered Baby syndrome. First recognised for what they were by an American paediatrician, Silverman, these battered babies are not "straightforward" cases of injury resulting from known wilful violence. They may or may not have apparent external injuries. They develop unaccountable illnesses involving impaired consciousness, and on hospital investigation and radiological examination are found to have sustained skull fractures with subdural haemorrhages, rib fractures, limb fractures, ruptured livers and spleens, and so on. Caffey, an American radiologist, had studied a series of similar cases in 1944 and had thought that he was dealing with pathological fractures. It has since been shown that the radiological manifestations of trauma in these cases are specific, the metaphysial lesions in particular being evidence of severe trauma to healthy bone. Parents sometimes have been asked for their story three or four times before "He knocked his head on the side of the cot" becomes "I lost my temper with him for crying and so I hit him with the heel of my shoe."

Mental Cruelty

Mental cruelty is not often evident to outsiders, and even when it is suspected, it may be very difficult to prove. Most frequently, mental cruelty is the selfish thoughtlessness of parents who leave their children alone in the house at night while they go out. Childhood fears, darkness and the loss of the parents would probably be the commonest. For instance, terror can build up in a small child if he is woken up by a noise outside and finds no mother in the house to comfort him. Add to this all the dangers of accidents in the home, which occur all too often even when adults are present, and it becomes justifiable to call this cruelty. Unfortunately, this habit is widespread and is frequently found in otherwise sensible parents.

Constantly expressed hostility, especially towards unwanted children, is an insidious form of cruelty which, while having an extremely harmful effect on the child, may not be apparent to anyone outside the family. Other manifestations of mental cruelty occur usually where the parent is seriously psychiatrically abnormal.

The incidence of proven mental cruelty seems very low. Considering the number of divorces granted on the grounds of mental cruelty, there must be a vast amount of unrevealed childhood unhappiness, and it is surely naive to believe that adults are mentally cruel to their spouses only.

Cruelty by Neglect

This is the main problem. Under this heading come the children who are not fed or clothed adequately, who sleep on bedding still damp and soiled from the night before (or the week before), and those who are not taken to receive medical treatment when it is required. The latter may be slum children with

untreated head-lice or the well cared for children of Christian Scientists with their genuine, though sometimes fatal, disavowal of conventional medicine.

Neglect is a self-perpetuating problem for the children grow up to reproduce similar family units. It is a problem which goes hand in hand with poverty and low intelligence, these factors apparently making its solution seem impossible. It is with this "impossibility" that each R.S.P.C.C. inspector does constant battle.

Some of the difficulties of these families are the direct consequences of their own limitations, but some are not. Bad landlords, unemployment, and illness affect them more than most. Most of the younger children have phases of enuresis and encopresis. Little wonder that mothers give up the struggle of looking after their families and homes with pride and care.

Who Are the Cruel Parents?

The only study of this subject was made by Gibbens and Walker of the Institute for the Study and Treatment of Delinquency. For one year they analysed the cases of 39 prisoners (32 men and 7 women), these being all the offenders in England and Wales convicted for violence towards children in that period.

In most cases, the offences occurred when the children had annoyed their parents by some behaviour which was found intolerable, such as incessant crying, wetting or soiling, or defiant disobedience. All parents have to suffer such irritations at some time, but very few react as violently as the offenders in question. The explanation of their instability and lack of self-control must be sought in their histories, medical, social and psychiatric.

Their childhood backgrounds were discovered to be even more disturbed than that of the "average" prisoner. The majority had had little experience of normal patterns of parental behaviour as the result of being illegitimate or a member of an over-large family or suffering maternal and/or paternal desertion. Only one prisoner, however, had parents who had been prosecuted for his ill-treatment, prosecution being the only reliable indication of ill-treatment in such a retrospective study. Thus it is not necessarily cruelty which breeds cruelty but an atmosphere of parental rejection, indifference and emotional hostility.

In adult life, the stigmata of inadequate and aggressive personalities were present to varying extents. One third could be classed as psychiatrically abnormal and most had a low-average I.Q. of 70-90. All were in socio-economic classes IV and V, about half living in conditions of extreme poverty. Marital disharmony, physical ill-health and unemployment constituted inescapably vicious circles in many cases. Three quarters of the group had previous convictions, many of them for aggressive offences. 19 families had been previously known to the N.S.P.C.C., either the parents having asked for advice or help, or complaints of ill-treatment having been made.

Behaviour Disturbances in Ill-Treated Children

Gibbens and Walker also studied the children involved and found that the obvious behaviour disturbances which were the immediate consequence of parental violence passed off quickly in two or three months. Nightmares were the most common evidence of disturbance, but insomnia, enuresis and encopresis, temper tantrums, bullying of other children and continuous demands for love and attention were frequently reported. In several instances, it is interesting to note that the most disturbed child in the family was not the one who had been cruelly treated.

Prevention is as Difficult as Cure

At present the R.S.P.C.C. and N.S.P.C.C. deal with the majority of cases of cruelty and neglect, although the Children's Departments of the Local Authorities play an increasingly important role in the management of the latter. It is strange that considerable dependence still exists on these charity-supported organisations for such essential social work.

The problem of ill-treatment of children may be tackled at three levels:

1. basic prophylactic measures
2. supervision of "at risk" families
3. management of cases of serious cruelty and neglect.

At each level increased effort and interest on the part of doctors and social workers is necessary to improve the existing situation.

1. The incidence of cruelty to children can only be reduced by an increase in the quality of parents and a decrease in the quantity of cruel parents.

The general measures which affect the quality of parents are in the hands of the government. Economic growth should lead to increased employment and a higher standard of living, which in turn lead to better housing, health and education. Unhappily economic growth appears only to be achieved by a phase of increased unemployment and a lower standard of living, both of which take the most serious toll of those who can least afford it, materially, physically and mentally.

A decrease in the quantity of parents may only be achieved legally by reducing the birth rate. The concept of contraception, sterilisation and abortion for social rather than medical reasons is necessarily becoming more widely accepted. It is particularly important that doctors concerned in these matters are fully informed of the social background of patients when considering their management, whether it be contraception, the ligation of tubes or a termination of pregnancy.

2. The long term supervision of families "at risk" is the field in which the Inspectors and Women Visitors of the R.S.P.C.C. and N.S.P.C.C. do their most valuable work. A greater degree of co-ordination and exchange of information between different social agencies, although difficult practically, could do much to improve the situation. The G.P. may help here by his awareness of the social facilities available.

Gibbens suggested that continued concentrated social work should be directed towards violent parents as much as to neglectful ones. Such prolonged supervision where the children are not neglected is not easy for the Societies who have insufficient authority for dealing with unco-operative parents.

3. More extensive social and psychiatric investigations should be carried out before serious cases of cruelty and neglect are brought to court. At the moment insufficient distinction is made between different cases. The management of the mentally defective, obsessionally clean and conscientious mother who injures her child when chastising him for incontinence must obviously differ from that of the aggressive psychopath who persistently maltreats his children for no adequate reason, the likelihood of the family being restored to normal function as a unit being much more remote in the second instance. Imprisonment of the erring parent and removal of the children to a Local Authority Home may give society the feeling that justice has been done while doing the child more harm than good by depriving him of parental contact. An inefficient parent is apparently better than none.

Where years of mismanagement has caused behaviour disturbance in the child even before a violent offence has been committed, child guidance may be necessary even when the parents' behaviour has improved.

Cruelty to children may seem a hopelessly difficult problem with little in the way of practicable solutions. Nevertheless it is imperative that the little which can be done is done, to bring us nearer to the ideal situation in which every child has the benefit of growing up in a happy stable environment.

Dead Bodies

"In a country where liberty disposes the people to licentiousness and outrage, and where Anatomists are not legally supplied with dead bodies, particular care should be taken, to avoid giving offence to the populace, or to the prejudices of our neighbours. Therefore it is to be hoped, that you will be upon your guard; and, out of doors, speak with caution of what may be passing here, especially with respect to dead bodies."

— *from Dr. William Hunter's "Introductory Lectures" (1784).*

MEDICAL PUDDER

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Ivor Brown first used the term pudder to describe writing which has a tendency to say what has to be said in as complicated a way as possible. Here is a well known piece of medical pudder:

> "Experiments are described which demonstrate that in normal individuals the lowest concentration in which sucrose can be detected by means of gustation differs from the lowest concentration in which sucrose (in the amount employed) has to be ingested in order to produce a demonstrable decrease in olfactory acuity and a noteworthy conversion of sensations interpreted as a desire for food into sensations interpreted as satiety associated with ingestion of food."

Pudder is an acquired and an infectious disease. Children do not suffer from it. Below is an extract, quoted by Gowers, from an essay written by a ten year old child:

> "The cow is a mammal. It has six sides, right, left, an upper and a below. At the back it has a tail on which hangs a brush. With this it sends the flies away so that they do not fall into the milk. The head is for the purpose of growing horns and so that the mouth can be somewhere. The horns are to butt with and the mouth is to moo with. Under the cow hangs the milk. It is arranged for milking. The cow has a fine sense of smell; one can smell it far away. This is the reason for the fresh air in the country. The cow does not eat much but what it eats, it eats twice so that it gets enough. When it is hungry it moos and when it says nothing it is because its inside is all full up with grass."

This description is not only simple but it is stylish, Matthew Arnold says that the secret of style "is to have something to say and to say it as clearly as you can." This is achieved by the child's essay, but not by the earlier passage from the medical journal.

The reasons which convert people from plain English in childhood to the pudder of published work are worth analysing, and I would like to discuss some of them.

JARGON

The word jargon is sometimes used, as a synonym for pudder, to deride poor style. When its meaning is that of a technical language peculiar to a particular job, jargon need not be a term of abuse. Bob Hope uses it in this sense when he says that "virus" is medical jargon for "I don't know". Medical jargon is useful when it serves as a convenient shorthand for ideas which otherwise would need long-winded descriptions. Often, however, words of jargon are used to confuse, rather than help, understanding. Sir George Pickering quoted this sentence from a paper: "Chlorothiazide induced natriuresis, kaluresis, chloruresis and bicarbonate excretion". He suggested it might be better to say, "Chlorothiazide increased the excretion of sodium, potassium, chloride and bicarbonate". This is as accurate, and certainly it is clearer to the reader who is not an expert on renal function.

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1 J.Amer.med.Ass., 1967, 202, 8
2 Lancet, 1967, *ii*, 681.

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jargon terms. He estimates that three new words are added to our medical vocabulary each day and questions the need for such examples as ephebiatrics, ataralgesia, pulhestibs and hyposthenuria. Without a deep knowledge of all the specialised branches of medicine we cannot know how many of these new constructions are worthwhile. We can only hope that natural selection will cause the unnecessary ones to be discarded before we are compelled to learn them. If possible, new diseases should be described in familiar terms, as happened when the burning feet syndrome was recognized and named. The disorder to which this phrase is applied might easily have been given some invented label like phlogeropodia. Writer's cramp aptly depicts a common disability which, recently, has been called mogigraphia. This new jargon is mysterious and hence frightening to patients and has nothing to recommend it. Attempts to replace the clear and commonplace knee jerk by a patellar reflex, should be resisted.

When words of medical jargon are used as a form of shorthand they must be clearly defined or jargon becomes gibberish. Kahn talks of psychopaths and says he means:

> "Those discordant personalities which, on the causal side are characterised by quantitative peculiarities in the impulse, temperament and character strata and in their unified goal-striving activity are impaired by quantitative deviations and foreign variations."

Most of us would agree with Macdonald Critchley when he suggests that this definition borders on the meaningless. This type of garbled explanation tends to bring the whole concept into disrepute, and leads to the flippant alternative definition of a psychopath as any person whom a psychiatrist dislikes. This at least is brief and is easily remembered even though it may be inaccurate.

Jargon expressions sometimes acquire such authority that they become more important than the processes they describe. An able candidate at a recent examination was involved in a discussion about optic atrophy. The examiner would not accept the candidate's use of the terms consecutive and secondary optic atrophy, and insisted on his own usage. Both men were talking about an optic disc which looked abnormally pale. When a pale disc has sharply defined edges most people say that this is primary optic atrophy. Secondary optic atrophy usually refers to a pale disc with blurred margins. Some people, however, subdivide this second group into secondary and consecutive optic atrophy; but the picture is confused since equally eminent authorities use these two terms differently. One man's 'consecutive' is another's 'secondary'. Some use all three of these labels; others manage with two. The appearances to which these terms are applied, arise from one pathological process; optic nerve fibres have been lost and have been replaced by glial tissue. A meaningful discussion could be held about the possible causes of this change in a particular patient. To quarrel about ill-defined jargon is profitless and is more appropriate to legal argument than medical science. Râle is another widely used term whose meaning varies from place to place. Effort is often wasted in debates about jargon and thought thus deflected away from the reality which the jargon imperfectly describes.

Badly defined or unnecessary jargon is one cause of pudder.

PRESTIGE

Pudder is often produced by attempts to gain prestige. The tendency to dress up ideas in long rumbling words of high prestige value is illustrated by this quotation from an American journal:

> "The pragmatic verity of the physiological concept of disease is established by its usefulness: with functional integrity our goal the no-thoroughfare of unattainable structural integrity leaves us no longer at a therapeutic non-plus."

This is nonsense, disguised by words like pragmatic, verity and integrity which produce a glow of approval when spoken or written. The passage illustrates the ability of words to arouse emotion as well as to express facts. What Thouless calls the emotional tone of words is exemplified in the statements: "I am firm". "You are stubborn". "He is pig headed". All three sentences say that the subject is not easily influenced; but they arouse widely different emotions. Emotionally loaded words are essential to poetry and to advertising but do not help clear thinking in medicine. Thus, when a psychotherapist recently referred to the treatment of depression by drugs he said that this was "putting the patient into a chemical straitjacket". This is a condemnation based on the overtones of disapproval attached to his "straitjacket" meta-

phor. It says nothing rational about the use of drugs.

Trobriand islanders used to believe that words were more potent than the things they symbolized; words had magical powers. Even in civilized societies similar beliefs are sometimes manifest. In 1937 a New York Senator voted against a Bill which sought to prevent the spread of syphilis by publicising its effects. He did so because he believed that seeing and hearing the word syphilis would corrupt children. Less extreme but similar attitudes influence medical writing. Fowler's principles are generally accepted. It is better, he says, to use the familiar rather than the unfamiliar; to use the short word rather than the long and to use the Saxon, rather than the Latin or Greek, word. We accept these principles but regularly use such words as defaecate, micturate and copulate in our writings. These words are longer and flabbier than their four-letter Saxon equivalents. The longer words have a higher prestige value, but more importantly, the short ones are tainted. In 1958 Eric Partridge in his book "Origins" disguises the two most familiar four-letter words with asterisks and says that, "outside medical and other learned papers they cannot be printed in full". They are now often printed in full but not, then or now, in medical papers. The stigma of filth is attached to words in an irrational and capricious way. People who shrink from the vulgar will happily use 'poppycock' as a form of respectable, gentle swearing. But poppycock derives from the Danish 'pappekak' which means soft dung. It is said that terse Saxon expressions are no longer used in learned writings because they sound ugly; yet 'folk' and 'luck', similar in sound to one "obscene" word, are not usually thought to be ugly. It is an emotional revulsion which bans the use of 'dirty' words and this is eventually passed on to the various euphemisms which are used as substitutes. Euphemisms are suppressing more and more blunt, clear and vigorous words. In America even arm-pit is now considered distasteful and 'under-arm' is being used instead. It is too late to restore many pithy Anglo-Saxon terms to respectability but there seems no reason why words like eructate and expectorate should forever supplant belch and spit in medical writing.

Closely related to euphemism is euphuism, an artificially elegant style of writing, which is another agent in the search for prestige and in the production of pudder. Here is an American physician displaying his bejewelled and Byzantine prose:

> "The neurologist with all of his knowledge of minutest anatomy was for years, 'like the man who stood on the bridge at midnight', not dreaming the dreams of a Longfellow but soliloquizing after the manner of the cynic on the vanity of all earthly things when the voice of the syphilographer first cried out from the darkness 'Fear not for I am always with you'."

This passage has been heaped together from a collection of clichés. It is a poor attempt to enliven descriptive writing by using the "purple patch" technique of imaginative literature. Hybrid writing like this is usually ugly. T. H. Huxley condemns it. He says that the only beauties that the scientific writer has any right to create are those of orderly composition and verbal clarity.

Somerset Maugham in his writing aimed at lucidity, simplicity and euphony, in that order of importance. He said that men of science often wrote obscurely because they had never taken the trouble to write clearly. The clarity of medical writing is also clouded by a preoccupation with prestige. In a recent paper the author wants to tell us that his patient was fed, but what he says is, 'alimentation was maintained'. This is not simple, not lucid and certainly is not euphonious. Long words are not necessarily confusing. They are sometimes essential to convey precise meanings and occasionally help to achieve euphony. But 'alimentation was maintained' exemplifies an inept and unnecessary use of long words and betrays both a lack of thought and a desire for prestige.

The preference for the rotund rather than the plain leads to a wrong use of words as in: "It is anticipated that further application of this method will yield much more useful information". Anticipate here is used not in the correct sense of forestalling an event but as an imposing substitute for expect. A. P. Herbert says that "John and Jane anticipated marriage" is not likely to be interpreted as, "John and Jane expect to be married".

The prestige and polish of polysyllables have been added to our titles. Children's doctors are paediatricians, skin doctors are dermatologists and mad-doctors are psychiatrists (the hyphen prevents ambiguity).

Bertrand Russell says that he is free to use

plain English because everyone knows that he can express himself in language which only becomes intelligible after years of study. He suggests that each of us should write one work in terms which can be understood only by the erudite few. Here is an attempt at such an exercise:

> His face was bacciform, sulcate, and scrobiculate. Concolorous, it was luteous, even porraceous. He was theroid and olid, leptochrous and phthiriastic. One deduced that his life had been apolaustic. His attitude was both ataraxic and nescient. He verbigerated. Of esculents he knew little and of pomology less. Holathurian and piddock was his diet and his drink was sorbet.

This description was strung together from a dictionary of difficult words. It can be roughly translated as a description of a deeply jaundiced, demented man suffering from malnutrition. It is a caricature of pudder.

EPONYMS

Eponyms often provide variations on the theme of prestige. The more names attached to a syndrome, the more important it becomes. Conditions are thought to present conceptual difficulties because their names are difficult to pronounce. Creutzfeld-Jakob disease, for instance, seems to acquire an intellectual gloss from its exotic label. Eponymous titles, however, usually refer to mere lists of signs and symptoms which are easy to understand.

Many of us find familiar eponyms useful, if only as an aid to memory. Most people would agree that the text book which tells us to drop "Argyll Robertson pupil" and substitute "reflex rigidity of the pupil" is being pedantic. Eponyms sometimes run wild and become absurd as in, "the Finsterer-Lake-Lahey modification of the Miculicz-Kronlein-Hofmeister-Reichal-Polya improvement of the Billroth II gastrectomy".

As an off-shoot, eponyms can be used as gambits in the game of one-upmanship. All of us have suffered from the medical lifeman who assumes that you too know all about the Rawicz-Landauer syndrome. He pins the implied compliment on you like a medal. Later you find the pin sticking out between your shoulder blades as he goes on subtly to demonstrate your ignorance.

PADDING

This is the tendency of words to multiply to fill the space available in the journals. In one sense all pudder is padding, but I am using it here to describe words which are unnecessary because they contribute nothing to meaning.

In a recent letter from a surgeon the last sentence read, "The diagnosis is probably peptic ulcer but neoplasm is a not unlikely possibility". There is no fine distinction between a possibility and a not unlikely possibility. The "not-un" syndrome is caricatured by Orwell in "a not unblack dog chased a not unsmall rabbit across a not ungreen field".

There is a similar waste of a word in "the ankle jerks were completely absent". The word 'completely' does not drive the jerks further away. What is the purpose of 'definitely' in "This drug has definitely deleterious effects"? These effects are not worse than deleterious and are probably no worse than harmful. A. P. Herbert says he is waiting for the first verdict of "Definitely guilty, to be definitely hanged until he is very definitely dead".

Expressions like "in point of fact", "all things considered", "actually", and "of course", are usually padding. "Of course", is forgivable since it is usually used for the sake of politeness and implies that "I do not think you are such a fool as not to know this". The other expressions are acceptable when spoken but have no place in medical writing since they merely fill up space.

AMBIGUITY

Carelessness is the usual cause of ambiguity which then contributes to pudder. In the sentence "His disease can only be alleviated by an operation", the meaning is ambiguous. It may mean that the only useful treatment for this particular disease is an operation. Equally well, however, it could mean that the disease is incurable but the patient might be helped by an operation. A sentence in a neurological journal which reads, "motor and sensory nerve fibres are affected equally in arms and legs", may mean that the two types of fibres are equally affected, or that the affection of fibres in the arms is similar to that of fibres in the legs, or that both of these interpretations are true. The auxillary verb "may" is a frequent source of ambiguity in

medical papers since sometimes it expresses merely possibility, sometimes it implies near-certainty, and sometimes it suggests a likelihood. On occasion an ambiguous construction is deliberately used as in, "Thank you for sending me your book. I shall lose no time in reading it". More often, ambiguity results from lack of criticism.

CONCLUSION

This review of pudder is incomplete and biased. We have not discussed syntax, idiom, grammar nor punctuation. Of these, syntax, the orderly arrangement of words, is probably the most important though Dr. Johnson thought it insignificant. English is the most flexible of languages and has avoided refined and rigid rules. Grammatical tenets give way if they conflict with common usage. Ungrammatical and badly constructed sentences can convey clear meanings though they may also cause irritation. The story is told of the almost illiterate carrier who had to draw up a detailed bill for a haulage job before he could be paid. After much labour he presented this, "Three comes and three goes at a pound a went is six pounds". This is crude, but his message is clear and unambiguous. Poor syntax, split infinitives, wrongful choice of prepositions and other grammatical errors are but minor causes of pudder. This is not to suggest that such details be ignored.

Pudder is discourteous because it compels the reader to struggle for understanding. It reduces the speed and efficiency of the reading mechanism. When we read, our eyes scan merely the outlines of print. They move along a line in a series of rapid jerks with four or five brief pauses for a closer look at some words. From this sketchy survey a literate adult is able to infer the meaning. When the words which are read are unfamiliar the pauses become longer and the eyes sometimes move backwards to retrace ground already covered; they are said to regress. The number of regressions increases as the meaning becomes more obscure.

Finally, we can illustrate some aspects of word usage by paraphrasing an old joke. Let us describe a bow legged man. In pudder we could say, "the patient has a marked varus deformity of the lower extremities of rachitic aetiology". Plain speaking, plus a little rhythm and rhyme might render this as, "over the hill and down the road, comes a man whose legs are bowed". Add drama and we have,

"Oh what manner of man is this
With testes in parenthesis?"

STEREOGNOSIS

JOHN B. IRVING, B.Sc.

A dissertation read before the Royal Medical Society
on Friday, February 2nd, 1968.

Stereognosis may be defined as the ability to recognise objects using only tactile (somatic) sensation. The ability is best developed in blind people and depends on memory and on an intact somatic sensory system.

Loss of this ability, astereognosis, is usually considered as a defect in somatic sensation. A native of New Guinea, although he might be unable to recognise the objects commonly used to test for stereognosis, would not deserve to be given the diagnosis of a cortical lesion. His failure is a failure of learning. Patients suffering from dementia may show astereognosis as a consequence of a general deterioration in mental function. Learning and memory therefore play an important part in stereognosis, but in clinical practice and in physiology, more interest is taken in the function of the somatic sensory system.

Functional Anatomy

Classically, astereognosis is associated with lesions of the parietal lobe. This area is not a functional entity, being merely that part of the cerebral cortex beneath the parietal bones. A degree of functional localisation has been introduced by experiments in neuroanatomy and neurophysiology. Anteriorly, the post central gyrus is distinct on the evidence from studies of evoked potentials in animals, from stimulation experiments in conscious patients at operation and from degeneration studies in neuroanatomy. It has specific connections with the ventro-basal complex of the thalamus, the termination of the ascending somatic sensory tracts.

Posteriorly and inferiorly the lobe merges with the occipital and temporal lobes and the areas concerned primarily with visual and auditory stimuli respectively.

Between the primary sensory areas, there are the so-called "association" areas, of which the posterior parietal lobe is a part. It is often stated that this area is the centre for integration of visual and somatic sensations and for discriminative functions such as stereognosis. There is indeed evidence that somatic and visual stimuli may evoke electrical activity there. This activity however is non-specific, being of long latency and slow adaptation and similar results would be obtained by recording in any part of the cortex. Such a concept (i.e. separation of primary from discriminative or integrated sensation) cannot be tested from clinical studies since the pathological processes involved are not sufficiently precise.

The delineation of these areas in the cortex has been a consequence of the lack of accuracy in the techniques used. With the introduction of single neurone recording, it becomes necessary to look at the cortex, not as groups of independent neurones in boxes but as gradients of activity. Maximum somatic sensory sensation is found in the post central gyrus.

Having noted the anatomical bed in which

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stereognosis works, the clinical aspects will be examined.

Clinical

Astereognosis is one of the agnosias, by definition a failure of recognition. Clinical examination, using such common objects as keys, coins, pen tops, is not designed to differentiate the types of agnosia. A convenient classification is into receptive (input) and executive (output). An example will show the difference.

Sperry *et al* (1962) studied patients who had undergone section of the corpus callosum for intractable seizures. In right-handed people postoperatively, astereognosis of the left hand was marked, if the responses were given verbally. However, correct answers were given when the patient selected the object from a list presented to the left eye. In other words, one side of the brain did not know what the other was doing. The agnosia was therefore due to a defect in the executive or output mechanism by virtue of the loss of connections between the somatic sensory area and the speech centre.

Geschwind (1962), in reviewing several patients with proven vascular lesions of the corpus callosum, described similar results. He went further to suggest that lesions of the posterior parietal region were equivalent to section of the corpus callosum since the only connections between the parietal lobes of each hemisphere arise in that area. Astereognosis, thought to be due to the disruption of the centre for stereognosis in the posterior parietal lobe of the non-dominant hemisphere, is more likely to be due to interruption of the connections to the speech area.

Clearly clinical tests should take account of these findings.

For example, Semmes *et al* (1959) studied a group of war veterans suffering from penetrating brain injuries of the parietal lobe. The patients, divided into groups according to the locus of the injury, as determined by X-ray, were given various tests of somatic sensory function. Results suggested that there were different patterns of localisation of function in each hemisphere. No attention was paid however to non-verbal testing so that the different patterns could be a consequence of an executive agnosia, due to separation of the somatic sensory area from the speech area in the contralateral hemisphere.

Smaller lesions, again war injuries, were described by Russell in 1945. The patients studied suffered superficial skull wounds involving only small areas of the cortex. The effects were usually transient. Several cases, in which lesions of the post central gyrus were demonstrated, showed a localised loss of stereognosis and two point discrimination in the contralateral upper limb. Tactile sense, light touch pinprick, was intact though somewhat changed in character, being difficult to localise. While this improved, astereognosis was nearly always permanent.

Stereognosis is clearly dependent on an intact post central gyrus.

In clinical practice, astereognosis is only important as part of the parietal lobe syndrome, which may be illustrated by a description of two cases with lesions of the right (non-dominant) hemisphere. Denny Brown *et al* (1952) reported in detail the case of a woman of fifty-two with a vascular lesion of the right parietal lobe. The most characteristic feature was complete neglect of the left side, especially when stimulated simultaneously on the right. The left arm was not recognised as part of her body, motor coordination was defective as shown by her dressing apraxia. Astereognosis and loss of two point discrimination was marked on the left, as also was poor localisation of site of tactile stimulation.

The second case, a patient of Dr. Jellinek, Northern General Hospital, is a fifty-six-year-old lorry driver. He was admitted to hospital following two accidents within one month, both involving cars parked on the left side of the road. Investigations showed that he had a large bronchial carcinoma with a single metastasis in the right parietal region. On clinical examination, he showed neglect of the left side. Astereognosis, loss of two point discrimination and poor localisation were noted. There was mild slurring of speech, marked motor incoordination as shown by his inability to walk and dressing apraxia. In hospital his condition deteriorated and he was discharged to terminal care. When re-admitted two months later, his condition was improved, clinical signs were much less marked and investigation with radioactive scanning showed that the parietal lesion had been reduced in size.

What conclusions can be drawn from these cases? Astereognosis is only important in clinical work as part of the parietal lobe syndrome. Present evidence does not allow

accurate localisation although the post central gyrus must be intact.

The second conclusion is that stereognosis and two point discrimination seem to be linked. Denny Brown, noting this, suggested that the function of the parietal lobe somatic sensory areas is to integrate spatial information — a process he called 'morphosynthesis'. It is not surprising that the two functions are linked since stereognosis is only a quantitative extension of two point discrimination plus information from joint receptors. The additional essential feature of morphosynthesis is coordination of movement. This is recognised from personal experience — one normally identifies objects by rolling them in the hand, and from experience of hemiplegic patients who show astereognosis on the affected side.

Neurophysiology

The concept of morphosynthesis is attractive when considered in relation to neurophysiological findings, on which further study of the processes of integration must depend.

Mountcastle *et al* (1957, 1959, 1960), using microelectrodes, studied single neurones in the somatic sensory areas of the cortex in cats and monkeys. Two distinct populations of cells were found. Group 1 were more numerous. The characteristic property was the response, of short latency and rapid adaptation, to a stimulus in a specific small receptive field. The stimulus was either hair bending, light touch or gentle joint rotation and the response could be inhibited by stimulating areas round about the receptive field. Cells in the ventrobasal complex and in the gracile and cuneate nuclei of the dorsal columns of the spinal cord had similar properties, suggesting that information is transmitted in independent channels to the cortex. Integration relies on surrounding inhibition to make the stimulus discrete. Secondly, movement is important because of the property of rapid adaptation. In other words, when the object remains in one part of the hand, the initial activity, signalling that the object is present, would rapidly fade and no recognition would be possible. Movement reinforces the neuronal activity.

The presence of an object appears to be appreciated in the form of neuronal activity in anatomically fixed parts of the somatosensory cortex. The evidence for this fixed pattern is that:— there is an accurate point-to-point representation of the body surface in the post central gyrus; all cells recorded in one vertical tract of the microelectrode have receptive fields in one area of the body, the size of the field depending on the concentration of receptors in that part of the body; neuroanatomical studies show that the cortex is organised in a vertical direction; and studies in monkeys showed that no learning nor behavioural changes were detected after multiple sectioning of the somatic sensory cortex in small vertical planes, i.e. intercortical connections were not important, at least in tactile conditioned behaviour. Microelectrode studies in the visual cortex have shown a similar pattern of organisation.

The second group of cells tended to be recorded from random depths in the cortex, in contrast to Group 1 which tended to be found most often in the IVth layer. The responses to stimulation were characteristically sensitive to depth of anaesthesia, slowly adapting and of long latency. The receptive fields were large, at times ipsilateral and labile. Such properties are characteristic of a multisynaptic pathway.

Neurophysiological-Clinical Correlations

Clearly this activity would be too imprecise for the type of sensation required for stereognosis. The two groups of cells appear to be mutually antagonistic since activity in Group I inhibits that in Group II. This may be important clinically since the two systems resemble the characteristics of the two types of sensation proposed by Head and Holmes (1927) i.e., epicritic (Group I) and protopathic (Group II). Following cortical lesions, the character of tactile sensation appears to become more protopathic. Is it possible that cortical lesions selectively destroy Group I cells? This might be true for ischaemic lesions which result in pronounced necrosis of the IVth layer of cells, but it would be difficult to explain the gunshot injuries on the same basis. Such a hypothesis would be worthy of investigation, considering the nature of the residual sensation i.e., poor localisation and defective stereognosis.

Group I cells seem well designed to carry out the process of morphosynthesis, the initial step in stereognosis, taking place in the post central gyrus. The cells respond to light touch, hair bending and joint rotation, partic-

ularly if the stimulus moves so that no one group of cells are active for a long period. Joint sensation seems to be particularly important for posture, for knowing where the body is in space and for recognition of three dimensional objects. This could be demonstrated in the experiments of Provins in which he injected local anaesthetic into the joint capsules of the interphalangeal joints (1958).

Conclusion

In summary, therefore, the physiological processes underlying stereognosis have been examined, with particular reference to clinical observations of patients with parietal lobe lesions. Little attention has been paid to the psychological aspects of such lesions, to the influence of learning and to the extent of adaptation to a disability.

The evidence suggests that stereognosis requires an intact post central gyrus in much the same way as peripheral sensation requires intact spinal nerves. The rôle of the posterior parietal region is less well defined. In clinical practice however, astereognosis is only important as part of the parietal lobe syndrome.

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THE RECTAL EXAMINATION

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INTRODUCTION

A quotation attributed to one of England's leading rectal surgeons, fondly known as the "Rear Admiral", states: "If you do not put your finger in, you will put your foot in it"; implying that a routine "physical" is not complete without a competent rectal examination, and failure to acknowledge this fact may lead you and your patient into serious trouble.

Words such as distasteful, repugnant, inaesthetic, are often chosen to describe the "rectal". Such adjectives in this context stem from a false modesty and the complicated rituals of excretion which afflict a modern urban civilization. The result is that many people consider a per rectum (P.R.) examination to be an affront to the person or at least "not quite nice". Negative attitudes of this kind cannot be tolerated within the profession who must accept a P.R. as the routine final act of the complete physical examination.

Nevertheless, because of such sensitivities within the public at large, due respect must be shown both in method and approach. In communities where cancer prevention by early detection is fully developed, the digital rectal examination forms part of an accepted annual program, which suggests that the climate of acceptance is a matter of education.

Whatever the reaction, the perpetration of a callous, rough, and thereby painful "rectal" upon the captive patient, as so eloquently portrayed by O'Grady (O'Grady, 1963), is a disgrace to our profession. To prevent this occurrence I believe it is essential that a doctor should submit himself to a digital P.R. at an early stage in his career. One distinguished colleague feels so strongly on this point that he not only expects his students to examine each other by digital examination, but requires them to undergo subsequent sigmoidoscopy. Only after such an experience can you confidently give instructions to your patient with a convincing explanation of what he can expect during your own "routine procedure".

Some-such explanation is vital for the success of your examination because manoeuvres, which are novel to a patient, and during which he cannot view the field of operation, are the ones that cause the greatest apprehension. Failure to realize this association will encourage the development of a degree of patient perianal spasm which will reduce by half the internal area accessible to your exploring finger, and his worry unconsciously conveyed to you will cause you to use undue haste and will prevent you from thinking constructively while engaged in the actual investigation. The injunction both for you and the patient is *TO RELAX*.

THE EXAMINATION

Rectal examination is a composite term and, if there be suspicious symptoms or signs, will include more than a mere digital diagnostic

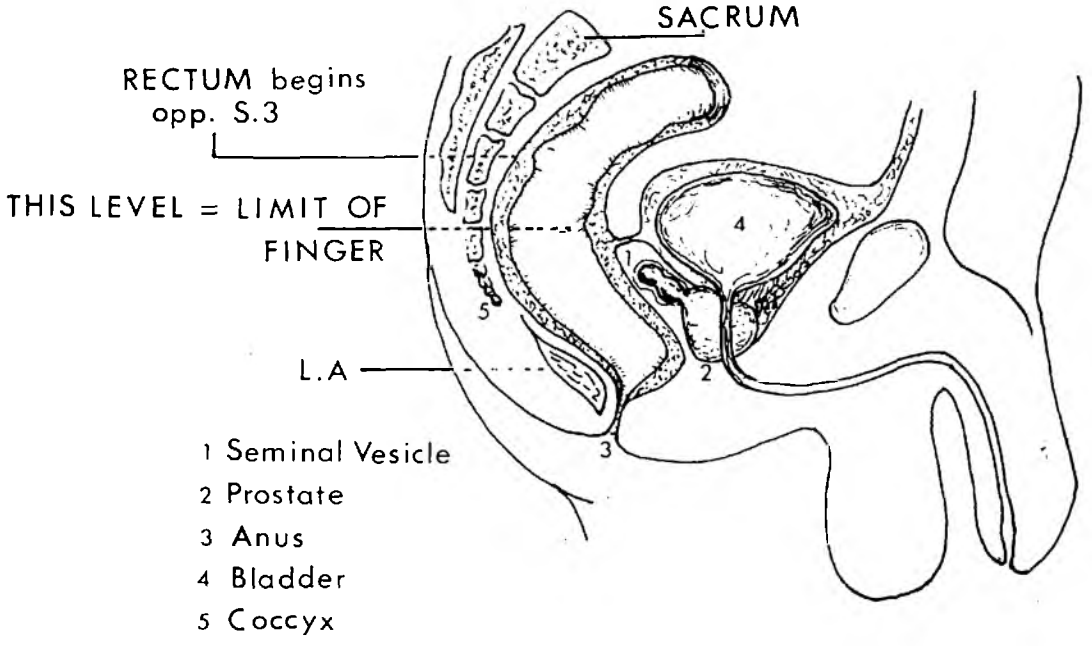
Scopy — Skopein — Gk. — To examine.
Procto — Proktos — Gk. — Anus — (combination form to include rectum and anal area).
Recto — Rectum — L. — Straight:— (extends from 3rd sacral vertebra to the anal canal).
Sigmo — Sigmoides — L. — "S" shaped.
Colon — Kolon — Gk. — Extends from caecum to rectum.

exploration with the forefinger. Symptoms and signs of change in bowel habit, persistent diarrhoea, pain in the abdomen, back or anal region, unexplained anaemia, the passage of blood, mucous or pus P.R., the protrusion of rectal mucosa, symptoms of prostatic hypertrophy and abnormal vaginal discharge are a few of the criteria which make a P.R. and a subsequent sigmoidoscopy mandatory and a radiological investigation of the terminal colon highly likely. This approach applies to infants and small children every bit as much as to adults, the only differences being that the little finger is used for the P.R., as for the neonatal check for imperforate anus, while a smaller sigmoidoscope is chosen for the follow-up.

established cancer of the cervix, the second commonest cancer in women, will be easily palpable through the anterior rectal wall.

Another of the many reasons for insisting upon the digital P.R. as part of a doctor's physical examination routine is the report that some 75% of large bowel tumours occur in the rectum and sigmoid colon and 50% of those that are cancerous will be within range of your probing forefinger. Some idea of the problem at large was presented by the American Cancer Society.

> "In 1961, there were 70,000 cases of cancer of the colon and rectum in the U.S.A., two-thirds of whom under present conditions *die*."



A planned internal digital exploration of the area with the addition of bimanual palpation, to be discussed later, will always detect the sacro-tuberous ligaments, usually sense the sacrospinous ligaments, and will define the normal or abnormal condition of the anus and levator ani, the bladder, the prostate and seminal vesicles, the coccyx, the uterus (where relevant) and the lower rectum.

The full extent of the recto-uterine pouch, with its tendency to collect pus as a pelvic abscess, or metastatic carcinomata, is readily accessible to your exploring finger, while an

Such figures provide a strong foundation for those who argue in favour of an annual rectal examination as part of a program for the early detection of cancer.

The incidence of cancer of the rectum in a general practice is likely to be in single figures during the principal's lifespan. Nonetheless, no practitioner would ever forgive himself if he avoidably missed an operable growth, and by doing so sentenced his patient to a most unpleasant mode of death (Birnbaum 1964).

Assuming there are definite symptoms and signs present which make a "rectal" essential,

a planned preparation of the patient to assist towards an optimal result is worthwhile. If the patient can wait 24 hours before attending at your "office" or is a hospital in-patient, a few simple preparatory measures merit consideration and include:—

1) The provision of a light diet — low in bulk — with an emphasis on plenty of fluids for some 24 hours before your examination is due.
2) The administration of a mild dose of laxative such as a tumblerful of "Senokot" laced warm milk on the previous evening.
3) The rectal implantation of one or two mild suppositories of the Dulcolax-Senokot type or the giving of a small volume saline enema some 4 hours before time zero.

Inability to carry out these simple preparatory procedures does not forecast the failure of your rectal examination, but such preparations do contribute to success in the first instance and repeated rectal manipulation does not make for good doctor-patient relationship!

Consider, before you begin your examination, whether any other consultants are likely to be called in at a later stage, and if possible arrange for them all to be present at the one examination. If this cannot be, it is kind to limit further rectal investigation to the operating theatre with the patient under an anaesthetic.

Plan your examination. Always arrive at the time you stated to the patient so that he is spared the added worry of apprehensive waiting and choose the afternoons, when the motions tend to be firmer (less fluid). A well-driven sigmoidoscope should easily bypass faecal lumps, but should they cause trouble they can easily be removed when not too soft. As a rule preparation of the rectum and colon immediately prior to the P.R. is not advisable. A soft soap enema will not only irritate the mucosa and thereby change its characteristic appearance, but will remove important tell-tale traces of pus, mucous or blood. Similarly excessive warming of the sigmoidoscope may considerably alter the appearance of the rectal lining and thereby obscure or change a vital diagnostic sign.

When you have accepted the P.R. as part of your routine "physical" check, the best

Fig. I

Fig. II

approach to the patient is to spring the idea upon him quite impersonally and after all else is completed. Explain that you feel it is a necessary conclusive act and proceed to instruct him in what you want him to do and what he is likely to feel in terms of:—

"To round off this examination, Mr. Davis, I now wish to examine your back passage with a gloved finger to make sure all is correct. You will find the procedure only mildly uncomfortable and will experience a sensation as though you were passing a motion; you are not to worry about this, it is only the effect of my examining finger moving in your anal canal, and you will feel no pain." Go on to explain that he is not to worry about an examination that he cannot view because you will comment as you go; that it will be a great help to you if he will breathe quietly and deeply and to relax himself as much as possible. Should he feel pain he is to let you know — for diagnostic and humane reasons — but the whole procedure being strange to him is bound to be a little uncomfortable.

It is worth remembering that a rectal digital approach is a very good substitute for a "vaginal" examination in the virgin and premarital woman, and can be relied upon for pelvic investigation of a non-obstetrical nature.

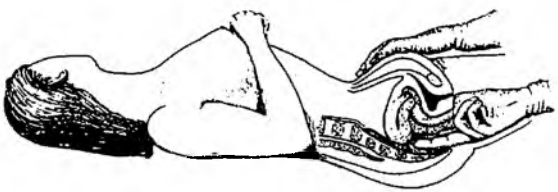
To ensure success in terms of information to be gained and in the maintenance of a good doctor-patient relationship, obtain a degree of modest privacy or a satisfactory chaperone and ask the patient to climb upon a suitable couch. A suitable couch in terms of adult examination, contrasted with the general hospital bed, implies a solid construction with dimensions of 6′ x 3′ and which is covered to a depth of at least 2″ by a material such as foam rubber padding. One unsatisfactory couch and one designed by the author, constructed locally with an imported overburden, can be seen in figures I and II respectively.

Once the patient is settled, remove the obstructing clothes, but keep the "bare bottom" covered until you are ready. Then, place the subject in one of the three commonly used positions:

1) The "left lateral" position — with the upper legs well-flexed at the hips and the lower leg flexed to 90 degrees at the knees, the upper right leg at both points being slightly more flexed than the lower left, while the long axis of the body lies almost across the couch. This is perhaps the most satisfactory position for the frail, the elderly, or at the beginning of your practice in these areas, because by gently parting the buttocks you can satisfactorily expose the area of operation, you need not look the patient in the eye, and it is, on the whole, a gentler affair.

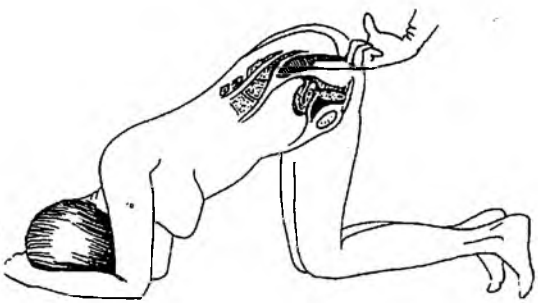
However, you cannot achieve as much as with:—

2) The "dorsal" position, in which the patient lies supine with knees and hips flexed and slightly parted. With your finger in the rectum watch the patient's face to see that you are not being too rough while you use the other hand to suprapubically palpate the anterior abdominal wall. By this action of bi-manual palpation and with good patient relaxation you can discover almost all of the abnormalities lurking in the lower pelvis. This is a particularly useful approach when you wish to assess the size and condition of the bladder-prostate-seminal vesicles, uterus, tubes or ovaries and their pathological variants.



3) The *third* position — excellent for the operator, but tiring and unconventional for the patient if a flat surface is used, as opposed to a stepped and tilted surface, is referred to as the "knee-elbow", a name which is self-explanatory.

The advantage of this position is that it offers a magnificent view of the superficial anal area and the action of gravity will cause the "guts" to fall away from you when you come to follow your digital examination with sigmoidoscopy, thus making the introduction of this lengthy instrument (25 cm.) more simple and less traumatic.



For practical purposes I would suggest a progression of method. Begin with the patient in the lateral position, then with your examining finger still in situ, rotate the patient into the supine position, and then if relations are still satisfactory proceed with sigmoidoscopy in the knee-elbow position. If the patient seems distressed, it may be politic to revert once more to the lateral position for the sigmoidoscopy.

There are few acceptable exceptions to a routine rectal. An emotional child of impressionable age whose full cooperation is vital to therapy and in which no alimentary trouble is suspected is one in whom the examination can be delayed or perhaps abandoned. Similarly a young woman in menstruation presents an emotionally charged situation which may be inaesthetic to both operator and patient alike and it may be preferable to postpone examination until the flow has ceased. The very ill are another group in which a rectal can be postponed; but postponement, not abandonment, is the program. Patients, especially the elderly, can, and do, have multiple 'pathology".

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The next issue of RES MEDICA will contain the second half of this article.

THE MOST IMPORTANT NUT

J. A. W. WILDSMITH

A dissertation read before the Society on Friday, 10th November, 1967.

INTRODUCTION

A motorist once asked a motor mechanic what he thought was the most important nut on a motor vehicle and though there is no direct answer to such a question the one given by the mechanic not only put the driver in his place but also summed up the whole problem of Road Accident Prevention.

COST

Every twelve months, on the roads of Great Britain alone, nearly 8,000 people are killed and 350,000 injured, 90,000 of them seriously so*. This in itself is bad enough, but analysis of these figures by age and sex (Figure 1) makes the picture even worse. It can be seen that the greatest proportion of deaths and injuries are to young males between the ages of sixteen and thirty: the people that the country can least afford to lose whether human or economic factors are considered.

The exact financial cost of road accidents is difficult to assess, but the Road Research Laboratory has recently published figures for 1963 which are probably as accurate as they can be. Taking into account the loss of output, the damage to vehicles and property, the cost of medical treatment and the administrative costs of the police and insurance companies the Laboratory reached a total of £196,000,000. The report also gives the average cost of various types of accident; that of a fatality occurring in a rural area, for example, is over £4,000.

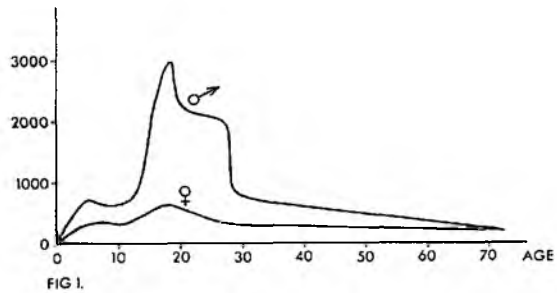

FIG 1.

Fatal and Serious Casualties per year by Age and Sex.

* A death is recorded when a person dies within thirty days of a road accident. A serious injury is one for which a person is detained in hospital as an in-patient, or any of the following: fractures, concussion, internal injuries, crushings, severe cuts and lacerations and severe general shock. A slight injury is one of minor character, such as a bruise or sprain.

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CAUSES

The cost of road accidents is high therefore in both economic and human terms and must be reduced, but to do this some idea must be gained of their causes. They are not as simple as it might sometimes seem. No one factor, be it alcohol, speed or anything else, alone leads to road accidents. Each type of accident has a different cause and in the majority of cases there are probably several "causes" involved. Indeed it is probably better to think in terms of "*a factor which when it occurs in conjunction with others may lead to an accident*".

The consideration of almost any accident will show that it was caused by a number of factors, each of which can be placed in one of three categories. The factors are associated with one of the following:—

(a) the roads
(b) the vehicles
(c) the road users

Every accident is caused by the combination of various deficient aspects of each of these groups and in any attempt to reduce road accidents means must be introduced to improve the standards of each group.

So far attention has only been directed towards the causes of accidents so that methods may be found for preventing casualties by preventing accidents — the concept of Primary Safety. Unfortunately it will be many years, if ever, before accidents cease altogether and therefore something further must be done to prevent, or at least to decrease the severity of the injuries that still do occur — the concept of Secondary Safety. Thus increasing the standards of the three groups must be considered against the background of these concepts. Obviously nothing can be done to the human body to reduce injuries to it, but many alterations in road and vehicle design could help.

ROADS

It is well known that Motorways are much safer than the trunk roads that they are replacing (the fatality rate per million vehicle miles of the M1 is only a third of that of the stretch of the A1 that it replaced) and one of the greatest steps towards safer roads will be the completion of the motorway network. This is because the design of motorways incorporates many of the basic safety factors that all roads must have if they are to become safer. They have a good smooth, relatively anti-skid surface, have well marked lanes and are free from solid roadside objects such as lamp-posts and less solid ones such as pedestrians. They also provide a method of changing from one road to another with the least possible exposure to accidents. Their one major deficiency is in the separation of vehicles travelling in opposite directions. All road designs seeking to prevent head-on collisions must have a barrier between carriageways which should also serve to stop dazzle at night.

Since fifty per cent of all road casualties are pedestrians and most of these accidents occur in towns the finding of a solution for urban areas is more difficult. The only way to curb the British pedestrians' death-wish is to separate them completely from vehicles. To prevent accidents the towns of the future should have pedestrian-only shopping and business centres served by underground or monorail systems connected to multi-storey car parks and long distance transport stations at the fringes. Residential areas will be entered by urban motorways with service roads to houses having barriers between footpath and road to prevent pedestrians crossing in places other than those where they are specifically allowed to.

A final factor in road design is the provision of lighting at night. A good lighting system of any kind may reduce accidents by up to thirty per cent no matter where the road is. In towns the saving made by decreasing accidents is always greater than the cost of providing and illuminating the lamps. In the country it would be ideal but at present it is uneconomic except perhaps at major junctions. An important secondary safety feature is that the lamp-posts should be collapsible, as many injuries are due to the vehicle involved coming into contact with an unyielding post. Many years ago the Road Research Laboratory showed that the thin sheet-steel type was by far the best with regard to energy absorption, yet local authorities still continue to use others, particularly pre-stressed concrete.

VEHICLES

Analysis of the accident rates (measured in terms of vehicles involved per million miles travelled — Figure 2) of the various types of

vehicle found on the roads of this country shows that motor-cycles are far more dangerous than any other type of vehicle. The only way to stop this is to ban them. Pedal cycles also come high on the list but are not sufficiently high to justify removing them from the roads. All riders however should have passed some test such as the National Cycling Proficiency Test. Buses also seem to be dangerous, but this is probably because large numbers of minor injuries occur to passengers who move around on the vehicle, or get on or off, whilst it is in motion. Motor cars and commercial vehicles appear relatively safe but much can be done both in terms of primary and secondary safety to improve this.

Figure 2
VEHICLE ACCIDENT RATES

Motor Cycles (+ Scooters)	19.5
Buses	9.6
Pedal Cycles	8.4
Motor Cars	3.8
Commercial Vehicles	3.6

Primary Safety

To design a vehicle which is less likely to have accidents two main principles must be followed: firstly, the performance of the vehicle must be of a very high standard and secondly, the driving position must allow the driver full control over this performance. In this context performance is considered in the widest sense of the word as including such factors as acceleration, top speed, road holding, controllability and braking power and efficiency. Of all the types of vehicle design that are to be found on the roads of this country only one combines all the above to a sufficiently high degree. This is the one which comprises the Ferguson Formula four-wheel-drive transmission used in conjunction with the Dunlop "Maxaret" braking system. These items are used in the Jensen FF but they add £1,300 to the cost of the car before tax so the unit is too costly, but it is to be hoped that with development the price will come down and allow more general use. Until such time more traditional systems must be employed and the most important contribution towards primary safety is that all vehicles be maintained in the state that the manufacturers intended. To allow the driver full control the driving position must be comfortable, so that he is able to reach all the controls. An uncomfortable position leads to fatigue which leads to accidents and therefore both seat and steering column must be fully adjustable to suit all possible drivers.

Secondary Safety

All injuries to vehicle occupants are due either to the occupant moving relative to the vehicle and striking some solid structure or to the reverse happening. The wearing of safety belts will prevent the occupants moving and research has shown that in accidents where safety belts have been used the injuries are fifty per cent less both in numbers and severity than in comparable accidents where safety belts were not worn. Many of the remaining fifty per cent can be prevented by designing vehicles in which the cab position is rigid and the boot and engine compartments will collapse in a linear fashion to absorb the impact energy. The steering column must of course be collapsible. Apart from the removal of obviously dangerous projections little can be done to prevent injury to those outside the vehicle such as pedestrians and cyclists.

ROAD USERS

There are three main road-user mediated factors that lead to accidents. They are mental attitudes, driving technique and alcohol.

Mental Attitudes

The part that these play in accidents is difficult to assess but some evidence may be gained from Figure 1. Women usually are far safer than men because they are by their nature more placid and have less need to be assertive on the roads. However, in the premenstrual part of the cycle, when it is recognised that they are more unstable, women are between five and seven times more likely to have an accident than at any other time.

Further evidence comes from an admittedly small scale survey of unconscious attitudes towards motoring as exhibited under hypnosis. Three quotes will illustrate the point. A final year medical student when asked to describe how he felt about driving on the open road said:—

". . . and that wonderful feeling of power: it's the feeling of power, I suppose . . ."
and another male subject when asked the same said:—

"It's the power, a sense of superiority, a feeling of being master of it all; it's a bit like sex really . . . You see you have to be gentle too — and careful!"

A third questioned after having tried a car fitted with the Dunlop "Maxaret" braking system said:—

"I'd show them — you could get away with murder in that car."

These are not good attitudes to carry into the driving seat even subconsciously.

Driving Technique

People today are not taught how to drive; they are taught how to pass a test at speeds which never exceed 30 m.p.h. The technique that should be taught is that of defensive driving, that is anticipating possible accidents in the most innocent looking of situations. Ideally a test would consist of papers on mechanical and driving theory as well as a practical part. In Russia, prospective drivers have to pass such papers even before they are allowed on the road.

Alcohol

Drinking and driving are two of the most important social functions in this age and to try and separate them overnight would have been impossible. A start has been made though with the introduction of the new laws and automatic conviction on the finding of a blood level of over 80 mg.%. This level must be dropped even lower soon. A committee set up by the British Medical Association to investigate the relationship between drinking and driving came to the conclusion that a level of 50 mg.% was the highest compatible with the safety of others.

SUMMARY

The accident rate of this country must be reduced. This can be done by three methods: by improving the design of roads and vehicles and by increasing the standards of all road-users. In the ultimate analysis though it is the road-users who must take the whole blame, for by using their influence to improve roads, particularly via the motoring organisations, and by consideration of safety features when buying vehicles they can do much. Finally, everybody must always be on their guard against accidents whether on foot or in the driving seat. As the mechanic said, "The most important nut" really is "The One behind the Wheel".

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Man and Motor Cars — S. Black — Secker and Warburg, 1966.

A Remedial Matter

" In my opinion the skill of healing seems to be of greater antiquity than the study of philosophy, because when men first began both the study of physic and philosophy, every one being determined to them either on account of his body, or his mind, the reasons for philosophy were only casual and accidental, but those for physic were perpetual. For the elder race of mankind maintained life in a poor condition, exposed in the open fields to the injuries of the weather, their first sustenance being the products and fruits of the earth, their next advancement to its creatures the cattel (sic): they first felt the inconveniencies of heat and cold, that is, they grew sick, before they thought of providing clothes and houses for themselves. These then were the first diseases, those the first remedies ".

—from "The Works of Archibald Pitcairn", this quotation coming from an oration where the author waxes warm in proving "The Profession of Physic free from the Tyranny of any sect of Philosophers" (1713).

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DIAGNOSTIC PROBLEM

Set by J. J. C. Cormack, M.B., Ch.B., D. Obst., R.C.O.G.

Subject :

A.F., widowed, female, aged 67.

Complaint :

Blackouts, dizziness, anorexia.

History :

This patient had a four year history of extensive investigation and treatment for essential hypertension. She was noted on both in- and out-patient interviews to be a very nervous and anxious woman, and her blood-pressure was extremely labile. There was no doubt that the diagnosis of idiopathic hypertension was established, but treatment was unrewarding as the patient lived alone and was never able to fully understand her quite complicated drug regimes. She had been a widow for 30 years and had only one child — a married daughter, with whom she came to live because of her increasing lack of confidence on her own and the failure of therapy to control her symptoms. The "blackouts" were infrequent, but frightening, in that they involved transient partial loss of consciousness, often in crowded places. The dizziness consisted of an unspecific feeling of faintness (not vertigo). The persistent anorexia was the symptom which most troubled the patient and her relatives.

Examination :

A thin, anxious-looking woman. There was no detectable abnormality in the respiratory, central nervous, alimentary or genito-urinary systems. In her cardiovascular system her pulse was regular, 90/min., good peripheral pulses, no cardiomegaly, no murmurs, no evidence of failure. BP fluctuated between 210/150 and 150/100. She had grade I retinopathy.

Therapy :

Her current therapy was Bethanidine 35mg/day and Diazepoxide 15mg/day.

Apart from her hypertension, what diagnosis would account for her symptoms, what pointer might there be to this diagnosis from the history and what therapeutic trial might help in elucidating the clinical picture?

(answer on page 45)

RESEARCH TOPIC

DISTRIBUTION OF SEXUALLY TRANSMITTED DISEASES IN THE CITY OF EDINBURGH

INTRODUCTION

The main aim of this research study was seen as a prototype to test the feasability of a possible large scale project whose results could be used as a planning tool for provision of future facilities for the treatment and care of patients with sexually transmitted diseases. If fully developed, regular, possibly monthly figures might be produced which would aid the correlation of venereal disease incidence with that of other diseases and environmental factors, although ideas on these lines are at present essentially tentative.

The study was undertaken, covering a three-month period using coded data to preserve the anonymity of the individual. This is important when dealing with venereal disease as the legal implications of a statistical survey such as this must be taken into consideration in elucidating the factors concerned in the control of the disease. The material used consisted of all female referrals to the Venereal Disease Department in the Edinburgh Royal Infirmary and the type of study performed has to our knowledge not been done before, Edinburgh lending itself readily due to its small population (500,000 approximately) and well defined social structure, and to the fact that the R.I.E. Department is the only important treatment centre for females, maternity cases making up only a small percentage of the total.

METHODS

The groups studied were topographically based on electoral wards and all those referred, whether subsequently diagnosed as positive or negative, were calculated per 100,000 population in each ward.

Subsequent breakdown using a punched card system was performed, using Gonorrhoea and Trichomoniasis as representative as these were the major part, separately or together, of the positive findings and a previous 1/10 survey by age and sex was available for correlating results.

FINDINGS

The limitations of this preliminary survey must be appreciated and the results at this stage are something of the nature of an interim report, which may embody purely statistical inaccuracies due to the small sample.

The "at risk" population was shown to be in the 15-30 age group and there is an indication that this population is not directly related to the age and ward distribution of the female population of Edinburgh.

A pattern appears of highest incidence around the central area of the town, plus a northwards extension, one outlying ward also being included in this high incidence group.

To explain this distribution, common factors can be sought and we suggest our own conclusions and impressions. High density and poor quality housing appears to be an important factor in all the high incidence wards. Ease of transport to the Royal Infirmary must also be taken into account and differing social conditions from area to area may play their part. This is exemplified in the results obtained from one ward, an area of very low standard local authority housing in which the rate of referrals was relatively higher than the positive diagnoses, especially in the 15-19 age group, reflecting an expectation of infection or high "worry rate", but also possibly indicating a lack of adverse social pressures on the part of the community.

Data concerning marital status and occupation is available but as yet unprocessed, preliminary impressions being that a high proportion of infected women were divorced or single and more significant, were unemployed.

FURTHER AIMS

The main object of this study was to determine the possibility of significant conclusions being made regarding distribution of venereal diseases in the city, and we feel that this has been achieved by the limited results obtained so far. However, a more detailed study is both

possible and desirable, covering a longer period, and would take the form of pinpointing the "heavy" wards, i.e. those wards contributing a significantly higher case load than the expected rate for the city. Subsequently, analysis could be carried out on the distribution within these wards, hence relating the sources of infection to social factors which seem to be the most important. For this, a parallel investigation of housing conditions, employment and social class structure, along with a study of the psychological make-up of the referred cases would be required. All these aspects must be considered before any headway can be made in the control of venereal diseases.

K. J. GILL and J. D. M. GOULD

ACKNOWLEDGEMENTS

Dr. S. A. Sclaroff, Department of Social Medicine, for 1/10 survey.

Dr. D. H. H. Robertson for access to records and for providing the incentive for this study.

The authors were in receipt of a Gunning Medical Vacation Bursary.

THE CONTRIBUTORS

PROFESSOR RONALD GIRDWOOD *is head of the University Department of Therapeutics at the Royal Infirmary, Edinburgh. He is an authority on haematological and malabsorptive conditions and his article on the investigation of blood disorders, of which the second part appears in this issue of RES MEDICA, is expertly rendered.*

DR. CLIFFORD MAWDSLEY *is a neurologist of great acumen with consultant responsibility at both the Royal Infirmary and the Northern General Hospital. His article is light hearted in vein but makes quite clear that the writing is on the wall for the Pudderites amongst us.*

DR. JOHN DAWSON *is an ex-president of the Oxford University Medical Society and gained his early clinical training at St. Bartholomew's Hospital, London. He also worked under Sir Stanley Davidson and is a member of the R.C.P.E. He is conversant with medicine in Australia and the U.S.A., and we welcome his contribution to the Journal.*

FRANCES MARR *is a final year student at the University. For two sessions she has been a junior president of the Society, the first lady ever to hold such a post. During her final phase she was chosen for the Middlesex Hospital Exchange.*

JOHN IRVING *is an honours graduate in physiology. He has taken a keen interest in the affairs of the Society and has been elected first junior president for next session. His article represents a field of special interest to him.*

JOHN WILDSMITH *has begun final phase and his dissertation stems from his interest in motoring and accident prevention. He is vice-president of the Motoring Club and plans to spend his elective period in Birmingham Accident Hospital.*

Placebology

"Medicines seem to me to be so far of service as they excite the powers of nature when languid to their usual exertions, or if they entirely fail as they supply the want of the accustomed action."

—from the dissertation presented to the Society in 1784 by R. C. Michele.

● As a result of a recent debate in the Society, during which many of the Royal Medical's most hallowed offices and operations came under criticism, a small committee was set up to examine the Society's role and procedure, and in particular to determine which traditions of the Society are detrimental to its smooth-running and optimum membership.

The committee formulated a questionnaire and circulated it to a third of the medical students in the Faculty, with a view to finding out:

(a) how many students attend meetings and lectures outside the formal medical curriculum,

(b) what medical students know about the R.M.S. and what their attitude to the Society is,

(c) which features of the Society militate against their joining.

A preliminary examination of the replies received shows that present members are dissatisfied with the Society as it stands at present, while non-members either know very little about the Society or have strong feelings against it; few students appear to be aware of the many facilities available for them in Hill Square. Disgruntlement seems to be chiefly centred on the formality of proceedings, poor publicity, the narrow scope of subject matter and the fact that meetings are held on Friday evenings.

A full account of the results will be produced in due course, and will be presented to the Society along with suggestions for changes where thought appropriate, though constantly bearing in mind the long-established dignity of the Society and its essential traditions of student dissertation and debate. We hope thus to introduce new life into our ancient Society at this time of radical and historical change in its accommodation, library policy and financial position.

● The following paragraphs present personal impressions of medical education systems in different countries. Contributed by Edinburgh students whose studies and curiosity have taken them to cities as far removed as Toronto, Paris, Moscow and Zagreb, they illustrate differing solutions to the same problem — production of doctors.

Wayfarers in similar terrain may match these accounts with similar or conflicting remembrances but only the most insular can ignore them at a time when our own system is poised for change.

✉ Paris dominates French medicine in terms of prestige, opportunity and academic standing, holding its position despite moves towards decentralization which are slowly dispersing its power to Lyons, Strasbourg and other provincials.

The necessity for private financial support during the six year course and for high performance in the baccalauréat breeds a medical profession both socially and academically pre-eminent. Typical of higher education throughout France, the problem of obtaining the best students is resolved by high intake in combination with high failure rate and stringent selection throughout. Examinations can be taken in advance of the timetable, thereby shortening the course, but penalties for poor performance are harsh. To reach consultant position one must never fail and must be promoted at appropriate times after qualification in order to remain in hospital practice. The higher echelons of medical service are barred to those whose performance lies between outright failure and pass. They may continue the course but rise no higher than general practitioner.

Practical work is offered wide scope and at intervals quasi-original projects are undertaken for exam theses. Generally, French students are fortunate in that staff are willing to give the utmost help but cannot be envied for living perpetually with heads above the chopping-block of aloof and distant professors.

✉ Canada is a land of opportunity for medical education. Based on the philosophy that students possess initiative, the curriculum is in essence academically oriented but allows sub-

stantial outlet for practical work and the pursuit of topics having special interest for the individual.

A five year course of two preclinical and three clinical years is pursued in competitive spirit and the present trend is towards continuous monitoring of the undergraduates progress by means of frequent multiple-choice papers. The current exam schedule bears many resemblances to our own. A fairly rigid timetable is set and no leeway is given to those wishing to take an examination sooner or later than the stipulated time. A scientific bias is evident and the acquisition of knowledge is encouraged by staff-student relationships. Anyone who has experienced it can only be impressed by the willingness to help shown by eminent members of the academic staff and the friendly manner in which help is given.

Five years of study is a heavy financial burden on the student and his family and the economic aspect results in a predominance of the higher social classes in medicine. Of the facilities available not all are utilized to their full extent, perhaps a reflection of the Canadian doctor shortage which favours both student and doctor and which may lessen the impetus.

✉ American addiction to informal seminars and a habit of early rising which approaches a fetish can produce diagnostic meetings over the breakfast table, but on the whole many similarities to Canadian medicine are apparent. Financing one's education may prove to be an acute problem and one solution sometimes found is to marry a working wife. Many take advantage of the freedom given to change university between preclinical and clinical studies and, as in Canada, interesting research work may offer itself to the student who displays ability and enthusiasm for a particular subject.

Most students who have worked in America are probably envious of the high wage before qualification and it is often more profitable for a British student to take a Clerkship there than here. Some universities are introducing continuous assessment, but state authorized examinations are still the *sine qua non*.

✉ In Yugoslavia a six year course emphasises a traditional lecture system of the sort fast disappearing from Western schools. Practical work receives less attention in preclinical years, compared with Britain. An incentive scheme based on performance is one of the more interesting differences, by which grants are awarded on results. Students are given a sum of money for the period between examinations. If they fail an exam their grant is stopped; if they do badly but pass it is decreased and if they do well it is increased.

The Yugoslavian student probably obtains a greater awareness of the place of medicine in the community than does his Western counterpart. This is more an East-West difference than a national characteristic and stems from the poly-clinic system common to many East European countries. Russian influence is perhaps important although, in general, Russian medicine is more advanced at all levels and is in many ways a product of political circumstance.

✉ In Russia, a competitive examination following ten years in secondary school selects entrants to the five year course, which culminates in a standard state examination followed by a one year Internship. Undergraduates are required, after third, fourth and fifth years respectively, to work as a nurse, to help in general practice and to work in an Out Patient Clinic for eight weeks. Refresher courses are compulsory for everyone who qualifies and two to three months in every five or six years are spent in this way.

No problems arise as to the choice of textbooks, one or two being recommended per subject with standard editions available from libraries on free yearly loan. Students are financed by scholarships, awarded on performance, each of which is worth 30-90 roubles (14-43 pounds) per month and 70-75% of students receive these.

The organisation of medical work differs substantially from that of Britain and accents both community integration and economy of trained personnel. As in Yugoslavia, polyclinics are favoured with high proportions of female doctors employed within the specialities encompassed by these units. Women monopolize the Feldscher grade of medical worker for which we have no direct equivalent in the West. Comprising 95% women, Feldschers qualify after two and a half years study of general subjects, general medicine and clinical medicine and find employment in emergency units, preventive and technical medicine. Perhaps the university trained nurses now beginning to emerge in this country are in some ways comparable.

✂ The Government initiated 'Bestallungsordung' determines the pattern of the five and a half year course in West Germany. A 'D.P.' must be obtained for the prescribed lectures and practical classes and individual universities run voluntary lectures in addition. Much is left to the student to choose a suitable course from those offered, lectures tending to the esoteric, and basic knowledge coming from textbooks at the students own initiative.

A Medical Faculty comprises some twenty departments, each with its Director or 'Ordinarius' who has both teaching and hospital responsibilities. Elected for a lifetime, he may become a pedant impossible to dislodge. The ease of interchange between faculties provides a means of change for dissatisfied students, or more importantly, a means for widening experience and most people change two or three times during their course. A great deal of latitude is allowed for choosing exam times and in the main these are oral and in groups of four students.

An important part of the course is the thesis if one wishes to be called Doctor, although one may practice without. This takes six months and although it may provide the opportunity for original research it is often merely an academic exercise. The theoretical approach is emphasised throughout the course and little time exists for ward work. Staff contact tends to be limited and problems must be solved without recourse to advice from a Director of Studies or similar figure.

Comparison shows the British system to be more inflexible both in the timetable of study and examinations and in lack of inter-university mobility but informality, contact with patients and spreading of the exam load are to its advantage.

✂ Res Medica would especially like to thank Renate Seidemann, John Grindle and Mike Taylor who were amongst the contributors to this section.

● The library is still in the throes of an impending sale. It is hoped however that future members will have access to a selected number of the volumes with especial relevance to the Society's history, and of course the dissertations are being carefully preserved owing to their unique value. The University library in George Square has kindly assumed the responsibility of housing the books for the present but that should not prevent any member having a browse through them if so inclined.

● In the days before women, or so the story might go, all the Adams of Melbourne Place gathered together around the primeval glow of a solitary coal fire in order to air their discontent that Eve was so long in the making. But create her they eventually did, amidst the green and gold hangings and crumbling calf bindings of their lesser Eden.

Roger Smith, in his valedictory address last term, retells the story: "During the triennial revision of the Laws in February, 1964, with Mr. Ewart in the Chair, Mr. Heading proposed and Mr. Bradley seconded the Motion — "That chapter 2, paragraph 1 should be altered from 'any Gentleman' to 'any person'." After discussion the Chair ruled that a motion presented by Mr. Hawley should be voted upon — "That women should be admitted to Public Business". After a ballot there were 20 ayes and 4 noes. Mr. Heading's Motion was defeated, ayes 15 and noes 11. Ladies were admitted to Public Business that same Friday (21st February) when Sir Dugald Baird addressed the Society.

At the first meeting of the 228th Session, with Mr. Howard in the Chair, Dr. John Bradley proposed and Mr. Heading seconded the same Motion that had been defeated the previous session. Extensive debate followed. Dr. Low was present and spoke of the implications of a Society which might be said to discriminate against women while attempting to gain a highly desirable site for new premises on the University Island Site. Dr. Low said that he could not predict the changes this departure from tradition would produce — they could be radical or go virtually unnoticed. After further debate the House divided with the result — ayes 17, noes 3.

The following week the Motion was passed 17 to 2, and there were ladies present at the Second Private Business that evening. Anna Howe was the first lady member to sign the Obligation, Frances Marr was the second. Miss Marr is now about to graduate, having proved a most successful first lady president in the Society. Miss Janice Duncan succeeds her in office. To both ladies we would wish good luck.

● Our thanks are due to the honorary editorial board, and to Miss Harkins and Mrs. Thompson. Their ready advice and aid is a great boon in times of stress.

OFFICE-BEARERS FOR THE 232nd SESSION

Senior President	R. D. HUNTER, B.Sc.(Hons)
1st Junior President	J. B. IRVING, B.Sc.(Hons)
2nd Junior President	Miss J. M. DUNCAN
3rd Junior President	W. L. CAULFIELD
Senior Secretary	A. J. K. CONN
Convenor of Business Committee	R. H. SMITH, B.Sc.(Hons)
" " Publicity	D. McLEOD, B.Sc.(Hons)
" " House	Miss M. F. OSBORN
" " Library	A. D. DAVIES
" " Museum	J. B. LEITCH
" " Dinner Committee	C. J. EASTMOND

DIAGNOSTIC PROBLEM

(from page 39)

DIAGNOSIS

This woman was suffering from a depressive illness of long standing. It took some time to establish any rapport with this patient, and she was reluctant to talk about her past history, but when pressed on the subject of her widowhood of 30 years duration, it transpired that her husband was an alcoholic who committed suicide. She had feelings of guilt about this and was a lonely soul who admitted to feeling low in spirits with some diurnal variation of mood and sleep disturbance. Her presenting symptoms fitted the diagnostic complex and a therapeutic trial of imipramine produced a dramatic improvement. Depression is an illness which presents in many guises and its recognition is not infrequently masked by the finding (as in this case) of some coincident organic disease. If a careful history elicits clear pointers to this condition, a therapeutic trial of tricyclic antidepressants is often of value, particularly in elderly patients.

BOOK REVIEWS

A Practical Guide To The Care of the Injured by P. S. London. E. & S. Livingstone. £7 10/-.

Mr. London, with the aid of seven able contributors, has recorded in this book the experiences of a lifetime's work in traumatology. He has himself written a very large part of this book which encompasses a wide range of subjects relating to the injured patient and his specialized treatment.

The book is excellently illustrated and each of its ten chapters provides a lucid and up to date exposition of its subject followed by a valuable line of references. Primarily of interest to the accident surgeon or experts in other fields who deal with the injured, its price and technical detail exclude it from the students library.

J.D.C.

Treatment of Common Acute Poisonings. Henry Matthew and A. A. H. Lawson. E. & S. Livingstone Ltd. 1967. 16/-.

A startling graph at the beginning of this book indicates the enormous rise in poisoning cases since the war. A brief chapter on the statistics of the situation amply confirms the need for such a specialised unit as the Poisoning Treatment Centre, R.I.E., where the authors work. With this introduction the book then covers the identification of poisons, the basic principles of their treatment and finally a series of chapters dealing with specialised and specific methods of treatment for different substances.

The layout is clear and well headed, with neat illustrations, graphs and tables where needed. There is an adequate index at the back and cross references are included for convenience. The statistics alone will convince you that this is an important book to read.

T.K.B.

Basic Anatomy (2nd. Edition) by G. A. G. Mitchell and E. L. Patterson. E. & S. Livingstone. £5 5/-.

A book of 550 pages, which includes information on medical history, evolution, anthropology, embryology, histology, radiology, applied and systematic anatomy and even some forensic aspects of anatomy, clearly cannot hope to cover any of these in any depth. With, however, some 400 plates and diagrams, the authors provide a very well illustrated basic coverage of the subject for students beginning their anatomical excursion and an interesting adjunct to sustain them when despairing of regional anatomy, providing a sound framework upon which detailed concepts may be built.

Not really for the student whose sole aspiration in this field of study is to pass the professional examination.

D.McL.

Introduction To Medical Laboratory Technology (4th Edition) by F. J. Baker, R. E. Silverton and E. D. Luckcock. Butterworth & Co. 62/6.

Unless the medical student undertakes extracurricular laboratory work for financial or educational reasons, the only association that he has with laboratory technicians is fleeting contact with them in practical classes or with the end product of their work.

It is both unnecessary and indeed meddlesome for the student or doctor to involve himself in the routine techniques of laboratory investigation, the training for which being the responsibility of the Institute of Medical Laboratory Technology for whose Intermediate Examination this volume was compiled.

Not a book for the medical student but an essential text for those anticipating a career in medical laboratory work.

P.D.B.

Exercises In Neurological Diagnosis by J. H. Tyrer and J. M. Sutherland. E. & S. Livingstone Ltd. 42/-.

This compact volume is written by two Australian physicians who have set out to defend Trousseau's philosophy that "there are no diseases, only sick people". This they do by presenting a series of case histories, all interesting and some illustrated, of patients whom they have seen in their neurological clinics. The cases are in random order, and at the end of each group of cases or "clinic", the authors give an analysis of each of the clinical problems and discuss the differential diagnosis.

The preface to the book provides some helpful reminders of the principles of neurological diagnosis and the cases discussed cover a wide range of pathologies. The book is well within the range of the senior clinical student, and provides a refreshing method of revision. There is a good index and the cross-references are accurate. It is unfortunate that the price of this book will probably ensure that it is only used as a book of reference by the undergraduate.

C.M.R.

Nervous Inhibition. Ed. E. Florey. Pergamon Press. £5.

Comparative, general and neurophysiologists, psychologists and biochemists interested in the chemical transmission of nerve impulses will find this a most stimulating publication. The thirty-one papers collected in this volume were presented at the 1960 International Symposium on Nervous Inhibition.

Recognition has been given to the fact that states of inhibition or of temporary inexcitability produced by nerve cells are as important for the co-ordinated and co-ordinating function of the nervous system as are the excitatory states of central or peripheral neurons and of effector cells.

General topics covered include the historical development of theories of inhibition, inhibition in the mammalian spinal cord, inhibition of receptor nerve cells and the nervous inhibition of the endocrine systems, but perhaps the most important new concept was that of presynaptic inhibition.

I have no doubt that this book will prove invaluable to those undertaking the honours course in Physiology.

C.F.J.G.

Outline Of Fractures (8th Edition) by J. Crawford Adams. E. & S. Livingstone. 32/6.

The latest edition of Outline of Fractures is a useful and compact book which devotes considerable print to the general principles of the subject, together with sections dealing with the individual skeletal regions and the specific injuries thereof. At the end of each section the author considerately provides a summary of the fracture managements described therein, a convenient feature for those of us too lazy or too pressed for time to fully read the text.

The book is very well illustrated with innumerable radiographic plates and with many simple and illuminating diagrams. However, although the average medical student does not have a reputation for high degrees of intellectual curiosity, he might find this book rather less than stimulating. This is an unfortunate but inevitable concomitant of excellent simplicity and lack of extraneous detail.

A good book for those interested only in the broadest outline of the topic, and without any desire to explore its profounder aspects.

M.F.O.

Principles Of Gynaecology (3rd. Edition) by T. N. A. Jeffcoate. Butterworth & Co. £6 10/-.

This large book of 970 pages contains an attractive layout of material which is easy to read, with many plates, illustrations and comments.

Originally intended for undergraduates it now encompasses the realms of postgraduate work. However, I found it rewarding to read, discovering that it contains chapters on many fields that have been attracting attention recently such as Genetics, Biochemistry, Chemotherapy, Sex, Family Planning and Birth Control.

It is written in a personal way including, for example, details of illustrative cases from the author's experience which exemplify difficulties, diagnostic and prognostic, of carcinoma of the cervix. In his discussion on causation of abnormal uterine action in dysmenorrhoea, he gives the several views which have been put forward and draws his own conclusions from them.

The author does not give references, hoping to create a desire for the reader to study the journals. An expensive book at £6 10/- but well worth reading or using for reference.

A.D.D.

Introduction To Gastrointestina lPhysiology by George B. Jerzy Glass. Prentice-Hall, Inc. 74/6.

George Jerzy Glass, Professor of Medicine at New York Medical College, in just short of 200 pages, takes us through every part of the G.I. tract, stopping at accessory organs to discuss them in physiological terms.

Written in a style which integrates abundant illustrations with a text that classifies the information but at the same time justifies it experimentally, structure and function become one and the reader gains the impression of a single organ processing food rather than the misconception of an apparently unrelated series of organs so often conveyed by physiology text-books.

This is the only book that I have seen which adequately bridges that gap between general physiology texts and the specialist tome that so often daunts those attempting to extract relevant data from an ocean of fact.

Special points to recommend are the comprehensive references after each chapter and the catalogue of liver functions which appears as an addendum. Expensive at 74/- but an excellent grounding for those not specializing in this field.

P.D.B.

Techniques In Blood Grouping. Vols. I and II, by I. Dunsford and C. C. Bowley. (2nd. Edition). Oliver & Boyd Ltd. £5 5/-.

The second edition of this erudite manual of blood grouping techniques measures up to the international reputation of its predecessor, which has become a classic in the subject. It is based upon the experience of the authors in the Sheffield Regional Centre where the vast scale of operations means that many extremely rare Rhesus types are encountered.

For general reading students will find the first volume of the book to be an excellent account of the fundamental principles of blood grouping and tissue compatability. The second volume describes one hundred and twenty-eight practical procedures, the rationale behind each technique being included in the text to facilitate the exact interpretation of the results.

A useful book for the student to consult and an essential in the laboratory of any blood grouping centre.

C.F.J.G.

Research In Burns. Ed. A. B. Wallace and A. W. Wilkinson. E. & S. Livingstone. 90/-.

This weighty text-book is a report on the proceedings of the second International Congress on Research in Burns, which was held in Edinburgh in September, 1965, under the chairmanship of Mr. A. B. Wallace.

The papers presented and the symposia held cover all aspects of the topic most comprehensively. This congress was held, however, two and a half years ago, and one feels that some of the material in it may have been superseded by more recent work.

I feel that this report, fascinating reading that it makes for those with enough time to devote themselves to it, will be of most value to the postgraduate researching into the topic or to those in whose hands the treatment of burns patients is.

To the undergraduate seeking to have the maximum of teaching dogma presented to him in the concisest and simplest form, this book is of little value. Unless, of course, he has a burning enthusiasm for the subject.

M.F.O.

Symptoms And Signs In Clinical Medicine (8th. Edition) by E. Noble Chamberlain and Colin Ogilvie. John Wright & Sons Ltd. 55/-.

This is a book which every medical student should consult at some time during his clinical training, for it outlines in great detail the important symptoms and signs met with in practice. All too often one finds that both the undergraduate and the graduate wish to embark on a series of special investigations in order to reach a diagnosis, when careful history taking and examination of the patient will either provide them with the diagnosis or at least take them a long way towards one.

A great asset of this book is the clear and concise way in which the authors have presented their material, making the text easy and enjoyable to read. The large and comprehensive index is also a very welcome feature.

The authors have quite rightly given a short account of the history of medicine with especial reference to the ways in which careful observation of the patient has furthered our understanding of the diseases which afflict man. I trust that this will be a feature of all future editions of their book.

C.J.E.

Principles of Head and Neck Surgery by H. Robert Freund. Butterworth & Co. £6 5/-.

Those who specialize in surgery of this region and who undertake the arduous task of the oral surgeon will find this text invaluable. It strives to give both undergraduate and postgraduate a knowledge of fundamental principles and operative technique, and also some understanding of the various problems encountered in head and neck surgery.

The text is extremely readable and has the clarity we have come to expect of American medical books. The illustrations, however, are no more than sketches made during operations and the reader will wish to use one of the many excellent anatomical atlases devoted to this region in conjunction with the text.

The book will be of great interest to those students who spend their elective period in this surgical speciality and is to be especially recommended to those taking their fellowship examinations.

C.F.J.G.

Exercise in Neurological Diagnosis. John H. Tyrer and John M. Sutherland. E. & S. Livingstone Ltd. 1967. 42/-.

This monograph by two Australian neurologists makes good reading. The subject has been covered by presenting a series of cases, with clinical presentation and discussion, and on reading through them there is a gradual and reasonably painless gathering of knowledge. This process is aided by some large and helpful photographs and by clear annotations.

The discussions that attend each section, or "clinic", are written in an easy and informal style, but nevertheless explore the relevant data with enough thoroughness to satisfy even the most rigorous examiner. The authors confess to having been much influenced by Lord Brain's teachings, and if that is not recommendation enough, then a brief glance through the book's pages will be sufficient to entice the student to buy. A contents page covering diseases mentioned might, however, be a help.

H.P.S.

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