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PITFALLS IN MEDICINE *

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William Croone, who was educated at Emmanuel College, Cambridge, graduated in 1650 and was created a doctor of medicine by Royal Mandate in 1663. He then held the post of Professor of Rhetoric at Gresham College and was Secretary and an original Fellow of the Royal Society, which held its meetings in his apartments. Later he was elected a Fellow of our College and in due course a Censor. He lived in stirring times; politically, the country was troubled and in mortal danger of social upheaval, but the world of intellect was blossoming, no more so than in the scientific field. He was a gifted lecturer, but his critical mind, ever searching for truth, led to his forsaking rhetoric for the revelations of anatomical study, to which he was appointed lecturer at Surgeons Hall in 1670. He died of the fever in 1684 and lies buried in the vault of his parents-in-law in Poultry. Here the inscription makes reference to his sorrowful widow. She recovered from her grief to marry a baronet, but, still mindful of her first husband's wishes, she made provision for his plan for the endowment of the annual lecture which bears his name.

Vanity, which is the most enduring and widespread of human passions, fortifies the mental censor to suppress the memory of our mistakes, thereby leading to a smugness of outlook which is unendearing. It is only by keeping a record of them that they are not lost. We can learn also from the mistakes of others; these are less difficult to recall.

I shall deal in these lectures with diagnostic mistakes recorded over the last 25 years. Having no wish to deprive others of the credit for producing illustrative examples, and being impelled by a strong instinct of self-preservation, I shall not indicate the authorship of the mistakes recounted, but will confine myself to their description, their origin, and their avoidability.

In tracing the causes of failure in our work it soon becomes apparent that the fault lies more with the physician or surgeon than with the patient or the obscurity of his disease. In my first lecture I shall try to analyse the pitfalls awaiting the physician who has only himself to thank if he be trapped therein. My second will illustrate the hazards to success which are presented by certain pathological states.

Visual Appraisalment

The visual recognition of disease which is responsible for the majority of snap diagnoses is losing ground as

attention becomes more and more directed to the minutiae of the ancillary sciences. This is a pity, for the wood is often missed for the trees. Thus a misdirected spate of investigations might well be spared by an intelligent appreciation of the facies of locomotor ataxia as a pointer to the source of pains, or unhurried observation of the body may reveal fasciculation as a sinister sign among symptoms which appear trivial.

It is a poor physician who cannot at a glance detect, or at least suspect, advanced cirrhosis of the liver, mitral stenosis, or emphysema, and who will not recognize hysteria from the smile of Christian resignation in a welter of agonizing symptoms; or the psychoneurotic whose ring finger is bare and whose throat is encircled by a black velvet band.

A diagnostic signal may best be observed at the moment of a patient's entry into the consulting-room. The outstanding example is thyrotoxicosis, when the tell-tale stare soon disappears under the soothing influence of the physician. The diagnosis was thus suggested in the case of a woman whose sole complaint was excessive salivation of six months' duration. Apart from the facies and moderate tachycardia there were no other clinical signs of disease. A small retrosternal goitre was removed and this unusual symptom vanished.

Another example of the value of the thyroid facial signal is provided by a man of 56 years of age whose presenting symptom was heaviness and weakness of the legs over the previous nine months. The isthmus of the thyroid was barely palpable; the heart rate was 74. The absence of tachycardia had led to the suggestion that thyroid disease could be dismissed, and he was in fact labelled as a psychoneurotic on the fallacious assumption that improvement on phenobarbitone justified such a diagnosis. In fact, his basal metabolic rate was +65%.

It has now been claimed that inspection has reached the limit of its usefulness and that all that can be observed has been in fact described. Yet how recent it is that the significance has been appreciated of koilonychia and, for that matter, of squatting. The danger of overlooking essentials is always with us. Let me illustrate by three examples. A middle-aged man was admitted to hospital in congestive heart failure. Initial improvement was halted by the development of persistent vomiting. Digitalis was blamed and withdrawn, but emesis persisted and the man died. An inguinal hernia, noted on admission and then forgotten, had become strangulated by virtue of the posture in bed and the congestion associated with heart failure.

*The first of two Croonian Lectures delivered at the Royal College of Physicians of London on May 1 and 3, 1956.

A young woman was admitted on account of haematemesis and the amount of blood lost reported as having been about two pints (1.14 litres). The diagnosis on admission was gastric ulcer. Her excessive degree of drowsiness, lack of restlessness, and forceful cardiac impulse rang no warning bell in the minds of those who first saw her. A physician with a sense of smell and mental acuity undimmed by tobacco recognized uraemia as the causative disease.

My third example illustrates the danger of incomplete viewing of the body merely because the diagnosis appears to be firmly established. A middle-aged woman who had seen several practitioners and a consultant for anaemia had been treated for seven years as a case of pernicious anaemia. The somewhat unusual fluctuations of the disease in spite of liver treatment were attributed to faulty extracts. It appeared that intractable ulcers on the legs had not been observed by those she consulted, and she had come to regard them as part and parcel of her general ill-health. When they became extremely painful she sought further advice, which promptly led to the diagnosis of acholuric jaundice. Failure to expose fully the body of the patient is a relic of Victorian prudishness.

I have stressed the value of visual appraisal of abnormalities, but there is a reverse side to be considered. Two pitfalls come to mind which have caught the unwary; they are the lack of plumpness and yellowness in the aged with pernicious anaemia, and the rarer absence of abnormal pigmentation in Addison's disease. The former often presents as a case of cryptic fever; the latter as gastro-intestinal disease by virtue of vomiting and diarrhoea. The absence of abdominal pain and tenderness is a warning signal both of this disease and of uraemia.

That efficiency demands that the diagnostician should be possessed of the senses unimpaired would seem to be a self-evident proposition. So indeed it is if we consider the case of the general physician, but increasing specialization has made him a rarity. For the more specialized physician, some bodily infirmities may determine his sectional interest, in which he can excel. Most of us can recall instances of severe deafness which, though barring the doctor from detailed study of the diseases of the heart and lungs, may coexist with great achievement in other branches of medicine. Disabilities acquired later in life are more apt to lead to diagnostic errors than those which are already present at the beginning of the career. I well remember a consultation which threatened to become heated on the question of whether there was or was not an aortic systolic thrill. To one it was obvious, to the other it did not exist. The puzzling difference of opinion was not explained until six months later, when the negatory physician was found to have cervical tabes.

Percussion ; Auscultation ; Palpation

Percussion is rapidly becoming a lost art; in fact, one must admit that even in its heyday it often provided an impressive though unreliable accompaniment to the overall appreciation of probabilities already clear to the acumen of the physician. The widespread use of x-ray films is responsible for its perfunctory performance, and it cannot be denied that, especially in the realm of cardiology, this form of examination has often proved inaccurate. On the other hand, percussion will reveal clearly the presence of pulmonary disease where x-rays fail or only hint at the true state of affairs. Early pulmonary collapse, lobar pneu-

monia, and small pleural effusions provide a more reliable percussive response than do the more complex, expensive, and disturbing examinations by Roentgen rays.

A yet stronger claim can be made with justice for auscultation. It still holds its own in examination of the heart, but there is a dangerous tendency to place little faith in it when it comes to diseases of the lungs. This swing away from older methods was started by the realization that, especially in tuberculosis, the x-ray appearances gave far more information than could be gained by clinical examination. On the other hand, lobar and bronchopneumonia, bronchiectasis, and bronchitis are recognizable with certainty by the traditional methods of examination, whereas the x-ray picture may reveal remarkably little. It is strange to note the readiness with which some announce a diagnosis of bronchopneumonia on the strength of x-ray films in the face of apyrexia and signs consistent with severe bronchitis only.

Even the simple procedure of palpation, so far as the thorax is concerned, seems to be treated with contempt. Candidates for higher qualifications probably do not know that their failure is rarely due to their lack of knowledge of the complexities of disease but more often to inability to elicit straightforward physical signs.

For how many centuries have we failed to palpate the carotid artery in search of a cause of focal cerebral disturbance? How many such simple manœuvres still elude us?

Radiology

Radiology, which has taught us much and which has corrected many false beliefs, is nevertheless a dangerous master. There are few branches of medicine in which it has not added appreciably to our knowledge of pathological processes and our powers of diagnosis.

The commonest radiological pitfall is provoked by the radiologist's report. This to the majority of doctors and all laymen is infallible. It is noteworthy that the more skilled the radiologist the more cautious he is in stating his conclusions. He will report on what he sees, but he will state that his findings are so-and-so, and suggestive of this or that but nothing more. In the other and more heavily loaded scale are those who have embraced the specialty without adequate grounding in medicine and surgery. It is from these that we receive lengthy documents detailing normal and allegedly abnormal appearances, diagnoses sometimes correct and often utterly wrong, and, worst of all, advice as to treatment. There are still many practitioners who were brought up in the days when x-ray films were used but rarely except for surgery, and have had no experience in their interpretation. They are necessarily dependent on the report, but their number is steadily diminishing. To counteract this, however, a deplorable form of officialdom has arisen since the inception of the National Health Service, for this seems to put every possible obstacle in the path of the practitioner to seeing the films of his patient taken at a hospital. Harassed, overworked, and discouraged, it is not surprising that he gives up the unequal struggle.

Even highly skilled radiologists share with physicians and surgeons a liability to make mistakes. They are often unaware of the limitations of their craft. For instance, visible peristalsis, a succussion splash, and copious vomiting led, in an instance which I witnessed, to the not improbable diagnosis of obstruction due to chronic duodenal ulceration. A highly skilled radiologist reported that there was no obstruction because the emptying rate was normal. He claimed that there was no ulcer, although in fact, owing to its backward direction, the duodenal cap could barely be seen. Three months later the emaciated patient was induced with difficulty, because of the report, to have his much-needed operation. Extreme duodenal stenosis and an extensive ulcer were revealed.

It is not perhaps as widely known as it should be that in such cases a barium meal encourages the stomach to exhibit powerful peristalsis, so that it ejects the meal at normal speed, especially in the first hour of observation,

even though there may be quite well-marked stenosis. On the other hand, a fractional gruel test-meal, which approaches much more closely to the normal stomach content, will nearly always confirm the clinical appraisal of the symptoms and signs I have mentioned.

Although increasing alertness has led to the discovery of hiatus hernia in ever-increasing numbers, a new hazard has arisen in that it is often found that a sliding hernia through the diaphragm is confused with the normal ampulla of the oesophagus. The actual x-ray appearances are remarkably similar, and in some perfectly normal people the dilatation of the lower end of the oesophagus is well marked. A single picture, therefore, may be most misleading, and there are many who are not aware of this point of differential diagnosis. In fact, the ampulla fills up in full inspiration, and will therefore have disappeared in x-ray pictures in other phases of respiration.

Dysphagia, that most ominous of symptoms, should alert both physician and radiologist to the most intensive search for an organic cause. In hundreds of hospitals the so-called "barium swallow" observed in the erect patient is regarded as a satisfactory examination, and so the early growth is missed. The mucosal pattern should be viewed in the recumbent patient with the same care as that of the stomach, and a solid opaque bolus should replace emulsion if this has revealed no abnormality. It is only with such care that we can hope to detect disease early enough to give the surgeon the opportunity to cure.

There is an area of radiological romance which is bounded above by the pylorus and below by the ileocaecal valve. This stretch of gut, as yet inaccessible to even the most determined endoscopist, provides material for the doubtful claims of duodenitis, jejunitis, and ileitis. Once these labels have been accepted by doctor and patient the incentive to search for a rational explanation of symptoms wanes and leads to treatment for a condition which seldom exists. Not many years ago gastritis was confidently diagnosed on radiological observation of the mucosal pattern, but it was fortunately put into right perspective by the advent of the gastroscopist and mucosal biopsy. In short, it takes many years for us to find the limits of normal in respect of any new mode of assessment, be it radiological or biochemical.

Specialization without extensive knowledge of general medical and surgical diagnosis endangers efficiency, and no more so than in radiology. The leaders of this specialty, already men of wide culture, are crying out for recruits with higher medical and surgical qualifications. This should be encouraged with all the influence we can command to ensure financial support. Only thus will the country be provided with physicians or surgeons who have specialized in radiology to replace the many who as yet see through a glass darkly.

Biochemistry

The enormous increase in our knowledge of biochemistry is, alas, providing pitfalls in the diagnostic path. Few practitioners can be expected to grasp the significance of all the reports they receive. It behoves the less experienced pathologist to avoid the flattering invitation to make a diagnosis, or even to suggest treatment, on the strength of blood analyses of patients whom he may not even have seen. I have seen three such reports bearing a confident diagnosis of pancreatitis because of high serum amylase figures. In each case the cause of the abnormality was morphine addiction, with consequent spasm of the sphincter of Oddi. This as yet little-known effect has led to fruitless laparotomy followed by further morphine administration; pethidine may also act in this way.

Anamnesis

The more experienced physicians devote a greater time to the taking of history than to physical examination. Failure to do so leads to more mistakes than any other error of approach. But even this must be guided by experience, which alone allows us to sift the relevant from the irrelevant. That process cannot be taught but must

be achieved afresh by each succeeding generation. Above all, the *initial* symptoms of disease are so important. They may be transitory and thus omitted from the account, especially if there be a sense of hurry at the consultation. For that reason, the study of symptomatology is often best carried out in the peaceful atmosphere of the consulting-room rather than in an out-patient department, where the silent pressure of an overfilled appointment list exerts a sense of urgency which is incompatible with clear thought. Pyrexia of unknown origin which has at times brought humiliation to most of us exemplifies the value of the premonitory symptom.

For instance, a man of 40 had been admitted to hospital on two occasions on account of pyrexia lasting for a week at intervals of three months. Reading through the notes, it appeared that his only symptom had been a feeling of feverishness and slight nausea. Physical examination had been unhelpful. A polymorphonuclear leucocytosis was, however, observed. Spontaneous recovery led to his discharge on two occasions. The third attack, six months later, drew to him a physician who took a history in which he covered hour by hour the development of each bout. He elicited that in fact on each occasion the bowels had been copiously evacuated on the first day. Arguing that there must be an inflammatory lesion and this presumably within the abdomen, and that in all probability it involved the large gut, he diagnosed the most common lesion in an uncommon position—namely, an inflamed retrocaecal appendix. And so it proved to be; in fact, an abscess here, giving rise to no tenderness or guarding, was evacuated and cure followed. Like Columbus's egg, it is all so simple, but it is the ability to recognize the signposts which places some men in the upper ranks of diagnosticians.

Others with more knowledge of diseases may for ever flounder in the morass of differential diagnosis. To consider at length the diagnostic possibilities of a case is academically interesting but laudable only if at the end the physician commits himself to a firm opinion. Intellectual dishonesty is easily acquired. It is so facile to say later, "I did mention that as one of the possibilities." This is, after all, no help to a general practitioner and receives no credit from the patient. Furthermore, the physician is establishing a precedent for himself, and he may go through life as a differential diagnostician, albeit with an exiguous practice.

One of the great advantages of being on the staff of a teaching hospital is that the consultant is constantly liable to be subjected to criticism by his colleagues, his registrars, house officers, and students. We have not allowed, as yet, the development of the teutonic professorial infallibility supported by sycophantic juniors whose only hope of preferment lies in bowing to the pontifical utterances of the great chief. We should not allow ourselves to pass from one bed to the next without pronouncing a diagnosis, or saying quite frankly that we do not know. If we prove to be wrong we must learn to eat our words and try again, but the words must be recorded by the ward clerk so that there shall be no escape. In this way we learn. "Experience," wrote Oscar Wilde, "is the name everyone gives to his mistakes."

A useful exercise in the wards is to take the students step by step through the history of a patient and limit the initial examination to inspection. It is remarkable how often the correct diagnosis can be reached. Such training helps to emphasize the relative importance of the clinical approach to the innumerable special investigations which are used so prodigally at this time.

The difficulties which beset the general practitioner are in many respects different from those which await the consultant. In the case of the former there is lack of time, the wider field of knowledge to be embraced, and a year-long familiarity with the patient. There are but few occasions on which a general practitioner can devote twenty minutes or more to history-taking, yet most mistakes in diagnosis are due to inadequate anamnesis. In the last few years this obstacle has been increased to an alarming

extent by the paramedical duties inflicted on him by the Health Service. To the consultant this difficulty does not exist in private practice. The general practitioner, has, furthermore, to exercise reasonable knowledge and skill in medicine, surgery, and obstetrics. In thus doing, his overall efficiency is greater than that of the consultant or specialist. It is to be hoped that Her Majesty's judges will not fail to make this clear to juries in the litigation which threatens to deter our young men from acceptance of responsibility.

Familiarity with a patient, especially if she be of neurotic temperament, tends to lower one's guard. Even a hypochondriac may develop a carcinoma of the stomach, and indeed the fable of crying "Wolf" too often might have been written for our benefit.

Difficult Relatives

Consultants have less excuse for making mistakes, yet we all make them, and it behoves us to find out why. In our case it is not perhaps so much a matter of scamping the taking of a history as failing to attach importance where it is due. We are often hampered by the presence of relatives, and indeed that worst pest of all, the uxorious husband. He is the most difficult of relatives to expel to the waiting-room, yet his answers to every question addressed to his wife, even on the most intimate matters, are often useless apart, of course, from the light they shed on the domestic background. It comes as a surprise to many a young consultant to find that patients of good upbringing, and allegedly excellent educational training, can be as muddled in their thinking and in their answers as the most exasperating out-patient from the lowest social stratum.

We have also to cope with that strange state of mind which deliberately withholds symptoms for fear of learning the truth. Others, we must remember, genuinely fail to understand questions which to us appear to be clear enough. A very human reaction is to truncate the history-taking in despair and to proceed to examination. Unfortunately so many diseases present no physical sign in their early stages that the diagnosis may well escape us through impatience. I have already said that a scamped history is the commonest cause of failure. One of the most important influences leading to this pitfall is fatigue. In the intensely interesting and full life we lead, fatigue is apt to pass unnoticed, yet it insidiously undermines our efficiency. We tend to think, as spoke Bismarck, "I have no time to be tired." But if we find that our quota of mistakes is expanding, or if we hear ourselves issuing platitudes on a ward round, that is an indication for rest which can only be disregarded at peril to our patients and to our reputation.

Although it is clear that with increasing experience a consultant is likely to gain more from a history than he did in his formative years, yet he runs a risk of a certain rigidity of his mental associations. Think of the centuries during which countless doctors had studied case histories before a flash of insight exposed the hazards of German measles to the unborn child and the, in retrospect, so obvious mechanical cause of sciatica. There is no reason to suppose that we are not still shutting our eyes to the obvious in many of our present-day problems. Just as thirty years ago the advance of medicine was arrested by the theory of focal sepsis, so to-day the search for truth may be imperilled by the parrot-cries of "adaptation reactions" and "collagen diseases." It is so easy to slip into unhelpful pseudodiagnoses such as "cerebral catastrophe" or "acute abdomen," or the latest futility, "cardiac episode."

Mistakes of the Experienced

Paradoxical though it may be, experience may at times hamper a physician in coming to a correct conclusion. He is tripped up, as it were, by the vast impedimenta of his knowledge, whereas his junior may see the goal clearly. Bias, produced by specialized knowledge, may play havoc with a physician's reputation. It disturbs at once the ability to assess the relative importance of all the features of the

diagnostic problem, which is the hall-mark of the sound clinician. Many recent examples of this have been seen since the importance of a lesion of an intervertebral disk has been revealed. The pathology and symptomatology of this new conception impressed those who studied it most, and for this very reason threw them off their balance. It has been said that any man may make a mistake once, but only a fool makes the same mistake twice. I doubt if this is true, for often the making of the same mistake is an indication of a logical train of thought diverted from the path of truth by the attachment of undue importance to perhaps one symptom.

For instance, malignant metastases of the spine were wrongly attributed to prolapse of an intervertebral disk on the strength of sudden onset of pain, normal x-ray appearances, and no obvious primary growth. But the interrogation had not gone far enough. Carcinoma of the uterus and of the prostate would, in many instances, have been revealed if a biased approach had not diverted attention from the pelvis.

There are vagues of bias in which large sections of the medical world lose their balanced judgment and go chasing after false diagnostic gods. Thus we have seen peaks of diagnosis of focal sepsis, intestinal intoxication, disk protrusion, and polyarteritis nodosa, to quote but a few of the fashions of the last thirty years. In some instances the rise in diagnostic incidence has been justified by a true increase in the disease or a sudden understanding of its nature, but even then there is always an over-swing of its application due to prejudice and mental laziness.

A Constant Danger

There is, however, one constant danger which besets us, and that is to attribute to the mind diseases of the body; in short, to label as neurotic a patient with organic disease. On analysis, I suppose it is evidence of conceit; a feeling that if no cause of symptoms has been found then the physician cannot have missed anything and thus the patient's symptoms are imaginary. The trouble is that they often are so, but the gravest mistakes are being made by all of us no matter how experienced we may be. There are but few patients whose history may not reveal unreasonable obsessions, phobias, and anxieties in the course of their life which in the last resort cannot be called in to explain apparently otherwise inexplicable symptoms. Perhaps we are all potential neurotics.

A woman whose outrageous behaviour and revolting gluttony had led to years of domestic unhappiness eventually consented to in-patient treatment for her obesity. A stream of complaints that she was starved, failing in strength, and suffering from headache was unimpressive when it was found that she was bribing menials to smuggle food into her locker. Six months after discharge, as uncooperative, she died of an expanding Rathke pouch cyst.

A middle-aged man developed depression and backache after his son committed suicide. The backache was constant. No investigation was spared to find its cause, but all to no avail. Three months later he developed jaundice from the spread of a carcinoma of the body of the pancreas to its head.

The tragedy is that carcinoma stands very high in the list of mistakes of this sort. Some of them are no doubt unavoidable; others might be averted by constant preoccupation with the fact that one may be wrong. Metastases in the spine, though giving rise to excruciating pain aggravated by all movements of the trunk, by sneezing, or by coughing, may yet for many weeks produce no abnormality in the x-ray picture. The reason is clear in that the deposits may occupy the cancellous centre of the vertebrae, causing pain by expansion, and it is only later that the cortex undergoes erosion. To give an illustration, of which I see many examples: A man of 60 years of age was subjected to prostatectomy. Sections of the prostate showed benign enlargement. Six months later he was seized by intense pain in the upper lumbar region. After

being treated as a case of acute lumbago for three weeks, he was finally x-rayed and a normal spinal picture obtained. In increasing agony he turned to a medical manipulator, whose onslaught caused such horrible pain that the man thought he must die. In the next week he saw a physician who, appreciating the nature of the pain and the fallibility of prostatic microscopy, passed his finger into the rectum and found that the prostatic bed was stony hard. Fresh x-ray films now revealed extensive metastases in the spine and there was elevation of the serum acid phosphatase. Six years have since passed, and the patient is in good fettle, thanks to stilboestrol, the outcome of the genius of a Fellow of this College.

This case illustrates to perfection the dangers of relying on two of the most exact ancillary sciences in the face of symptoms pointing to the truth, but only for those who have ears to hear.

In May, 1954, a woman aged 75 developed pain in her left thigh and lumbar region. In June the spine was x-rayed and showed widespread osteoporosis, with no evidence of the malignant deposits which had been suspected. The blood count, erythrocyte sedimentation rate, and serum calcium at that time were normal. With rest and treatment for senile osteoporosis, the pain subsided and she again became mobile but never completely lost the backache. Early in October of 1955 the pain became more intense and was felt in both buttocks. A month previously an x-ray film again showed osteoporosis but also partial collapse of the fifth lumbar vertebra. The pain being intense, yet another x-ray film was taken, and this showed the same diffuse osteoporosis, but now there was extensive collapse of the fifth lumbar vertebra, much of which had in fact disappeared. She was strikingly anaemic, with a leucocyte count of 15,000, and the sedimentation rate by the Westergren method was 106 mm. at one hour. From that time the course of events was steady emaciation, pain which could be controlled only by large doses of suitable drugs, and death in December of 1955.

The remarkable feature of this case was that for over a year, although the woman must have had a carcinoma involving the spine, there was no unequivocal radiological evidence of it, yet there was temporary and appreciable improvement simply as the result of treatment for osteoporosis. This is the longest period I have heard of in which malignant disease has been masked in x-ray films of the spine, but six to nine months is by no means unknown, a point which should be more widely appreciated, as lack of knowledge of it has led to a large number of mistakes in diagnosis.

We may ask ourselves how far does our duty compel us to carry out special examination of patients in our care.

To the symptomless patient asking for a routine overhaul, do we do our duty by confining this to a thorough clinical examination, or should he be subjected to extensive x-ray search, blood examinations, and so forth which are popular in the U.S.A. and certain Continental countries? A dogmatic answer to this question would be unwise; such factors as age, occupation, and environment might well call for more extensive search. On the other hand, we can all recall the valetudinarian whose yearly dossier of investigations is proudly presented, and who is eventually found to be suffering from advanced carcinoma undetected at his routine overhaul only a few months previously. Yet apparently trivial symptoms such as unwonted lassitude must put us on our guard. I have notes, for instance, of five patients in whom this was the only symptom and in whom lymphatic leukaemia was discovered by blood examination and was revealed in no other way.

Iatrogenic Diseases

The therapeutic nihilism which characterized the turn of the century has given place to exuberant enthusiasm which, though laudable, in the main has brought a trail of iatrogenic diseases with it. The disastrous results which may arise from the use of various medical and surgical pro-

cedures, though by no means unknown to our forefathers, have gathered momentum with the appearance of chemotherapy, antibiotics, and active principles of the endocrine glands. Even the hitherto harmless oxygen has by improved efficiency of administration caused that most terrible of therapeutic diseases, retrolental fibroplasia. Generations of bacteria with ever-increasing resistance to our drugs are threatening to overwhelm the human race, which at the moment is only one step ahead in ingenuity to thwart the infinite adaptability of the microbial kingdom.

There is yet another danger, and that is to be taken in by a sudden inspiration, that flash of insight which sweeps away our difficulties and resolves our problems.

Those with mercurial minds are most likely to be granted such revelations, often in the still hours of the night. In that way are born such fancies as the psychogenic origin of ulcerative colitis, stress reactions as the cause of rheumatism, or degeneration of Auerbach's plexus as the prime factor in cardiospasm. The critical faculty wobbles, discordant facts are suppressed, and practitioners of ancillary sciences are hypnotized into finding supporting evidence, while medical literature is pressed into the service of an ill-conceived child born of ambition and unreason.

Further risks of failure are encouraged by coming to conclusions based on insufficient number of cases. I need hardly remind you of the claims for complete safety of various drugs which have ultimately proved to be dangerous to the few. Amidopyrine, pethidine, chloramphenicol, come to mind as examples of the risk of forming conclusions on a few hundred cases.

The explanation of symptoms may in fact suffer the same way. The best example of that is perhaps proctalgia fugax. When I first described this in 1928, I referred to the remarkable symptom of intense pain felt as it were in the rectum, its liability to come on in the early hours of sleep, its proneness to be provoked by extreme fatigue, sexual excess, sitting on hard seats, and constipation. Although I had listened to these symptoms from many patients at that time I had had the opportunity of obtaining information from only one in respect of investigation at the time of the attack. Examining the rectum in a bout, it was noted that it was contracted and the sphincter taut. I wrongly attributed the condition to rectal spasm. Since that time the literature on this peculiar and widespread malady has confirmed the precipitating factors, and it is generally agreed that the application of intense heat to the sacrum, or pressure upwards on the perineum, and the injection of air or warm water into the rectum will cut short an attack. But it is still widely held that it is due to spasm of some part of the lower bowel; this I believe to be untrue. Among the numerous examples which I have since collected, I have ten doctors who have examined at my request the rectum during a seizure, and not one has borne out the findings in my original report that there was any trace of unusual resistance on the part of the sphincter or any sign of contraction of the walls of the rectum. They all agreed, however, that on one or other side of the rectum a firm band was felt apparently lying outside the wall, which was tender, and heavy pressure here would often relieve the pain. The statement that the pain must be of alimentary origin because it disappears if the patient takes anything to eat or drink is, I know, incorrect. I have notes of several who have been seized with the pain during a meal, and who have been hard put to it to maintain their composure and their table conversation in the face of this deep-seated agony. It is to be remembered also that the substances which will relax spasm of unstriated muscle, notably the nitrites, have no effect on it. The evidence then suggests that it is produced by cramp of a portion of skeletal muscle, possibly a part of the levator ani, more likely the coccygeus.

It may seem strange to present as a hazard the discovery of some abnormality in the course of a search for diagnosis. The risk I am referring to lies in assuming that a structural departure from the normal is necessarily the cause of the illness being investigated. In this respect, I

think the surgeons are the greatest sinners. Most of us can recall instances of the removal of septic tonsils for rheumatoid arthritis with no benefit, or again the excision of a kinked and possibly infected appendix for symptoms which proved later to be due to duodenal ulceration.

Of recent years, I have noted two false linkages surprisingly frequently. In the one the finding of a true but mild hydronephrosis on the right side has led to the entirely unnecessary loss of the kidney in a psychoneurotic. The other is the exploration of the abdomen for pancreatic adenoma on the strength of low blood-sugar levels—for example, 50 to 60 mg. per 100 ml.—after an initial high peak in the glucose tolerance curve. These patients do not give the typical history of hypoglycaemia. They are often flabby, tired female psychoneurotics, rejoicing in the claim that their endocrine system is at fault and that they suffer from low blood pressure.

Their lassitude, low blood pressure, low blood sugar, and lag curve were in fact all due to too little food, no exercise, and barbiturate addiction. We are as a profession not nearly sufficiently alive to the mental and physical changes which are produced by the constant taking of therapeutic doses of barbiturate, an addiction which is doing far more harm to the efficiency of the upper social classes than are the more dramatic and better-known forms of addiction.

When we think of the multitude of impediments to our smooth passage along the road to diagnosis it may make us wonder at times that we are so often right. The patient's mental ability, his level of intelligence, his attitude towards his symptoms, his fear of disease, his inability to express himself clearly, the different meanings which people apply to the same word, the jumble of symptoms mixed up with irrelevancies, all produce a mountainous hazard to success. This is increased yet further by the vagaries of disease, often shown in most misleading guises, seldom reproducing itself faithfully in one patient after another, and liable to throw out symptoms and signs like sports in evolution. For instance, attacks of gall-bladder colic which are felt entirely in the left hypochondrium are rare, but when they occur they give rise to the greatest difficulty in diagnosis. I have met this condition twice only, the first in a young married woman of some 30 years of age who had had two children, and who had five attacks of acute abdominal pain, felt entirely on the left side and lasting for several hours. I witnessed the fifth attack and found that, although the pain was still in this position, tenderness was striking in the usual position of the gall-bladder. The usual investigations led to the discovery of gall-stones, and the removal of the gall-bladder terminated the attacks.

The second instance was in a woman of some 40 years of age whose pain was a little lower. It spread from the left hypochondrium towards the anterior superior spine. These bouts over many years had been attributed to colon spasm. Removal of her gall-bladder, full of stones, resulted in recovery.

What the mechanism is which gives rise to this anomaly has never, so far as I know, been discovered.

The layman has difficulty in understanding that the specialist or consultant can make a mistake; in fact, he goes further, and is only too apt to attack him and his general practitioner in the courts of law, not because he is necessarily aggressive but because he is ignorant in that he will compare the machine which can be taken to pieces with the infinite and variable complexity of the human body. However, we should not allow the criticism of fools to disturb us, provided that we preserve intact our mental discipline and self-respect. Mistakes are inherent in the pursuit of a progressive science, and not to admit them spells death to any hope of advancement in learning.

To be ruthlessly critical of one's own theories is one of the most difficult tasks we have to accomplish; for, as Bacon remarked, "A mixture of a lie doth ever add pleasure." In some walks of life, especially in politics, this does not matter, but in medicine it will not do.

[The second lecture will appear in our next issue]

DIAGNOSIS AND TREATMENT OF SARCROIDOSIS

BY

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It is difficult to dogmatize on the management of sarcoidosis, a disease whose cause is undetermined, whose clinical manifestations are protean, whose natural history is unpredictable, and whose specific therapy is unknown. The diagnosis rests on a combination of clinical, radiological, and histological features, which together provide the maximum information at present available.

This report is based on the findings in a series of 150 patients with clinical or radiological features of sarcoidosis supported by histological evidence of sarcoid tissue. Many patients with good clinical, radiological, and immunological evidence of sarcoidosis have been excluded because there was no accompanying histological confirmation. Likewise, patients with histological evidence of sarcoid tissue have been excluded if this was a local reaction unaccompanied by evidence of generalized involvement.

Clinical Features

The lesions caused by the granulomatous process or its fibrotic sequelae are so widespread that clinical manifestations may embrace any branch of medicine (Table I). Its

TABLE I.—*Showing Widespread Clinical Manifestations*

Chest Physician:	Routine chest x-ray changes
	Breathlessness
Dermatologist:	Nodules, papules, vesicles, scars
	Lupus pernio, keloid formation
Ophthalmologist:	Uveitis
	Enlarged lacrimal glands
	Sjögren-like syndrome
	Glaucoma
Cardiologist:	Pulmonary heart disease
Gastro-enterologist:	Splenomegaly
	Diagnostic liver biopsy shows granulomata
Neurologist:	Eye changes
	Meningitis
	Isolated cranial nerve lesions
	Space-occupying lesion
	Pituitary involvement
Surgeon:	Diagnostic lymph-node biopsy
E.N.T. Surgeon:	Nasal granulomata
	Laryngeal plaques
Obstetrician:	Should pregnancy continue?
Radiologist:	Chest x-ray changes
	Bone cysts
General Physician:	All the above referred for "sorting-out"
	Atypical mumps
	Acute rheumatism
	Lymphadenopathy
	Hepatosplenomegaly
	Nephrosis
	Hypercalcaemia
	Renal calculi

masquerades are reminiscent of those of syphilis in the pre-penicillin era. The modes of presentation indicate the diversity of onset (Table II). Further examination frequently revealed involvement of other organs or systems.

Sarcoidosis most commonly presents with intrathoracic involvement, either by routine radiography, possibly in a symptom-free and apparently healthy young adult, or,