present at the interview, were of the opinion that the child could hear and understand very simple sentences. She was said to have difficulty in expressing herself, owing to her Turkish-speaking background. Her intelligence and emotional stability were said to be at least average, and her adjustment at school appeared very satisfactory. Auriscopy showed the left drum to be normal, and the right drum retracted. Calling the child by name, with her eyes closed, or while standing behind her, on either side, produced the impression that she did not respond to or localize sounds in either ear.

Some days later the headmistress mentioned that on a previous day she had repeatedly called after the child, who was going home from school, and the child had remained unaware of her. This was the first time that any member of the teaching staff had suspected deafness during the six months in which the child was at school.

The mother later attended for interview, and was accompanied by an English-speaking Turkish Cypriot friend. Deafness was said to have been first suspected by both parents at the age of 4 years, when there was no progress in speech development. It was said that the child's speech, even in Turkish, was very restricted.

The child was later tested at a special audiology unit and it was clear from the audiogram that she had a high frequency loss of hearing, with a fairly severe superimposed conductive loss.

The child was recommended for a school for deaf children, and some months later was seen to be using headphones, with an amplifier, for school lessons, and was using hearing-aids at other times. She had fitted in well at the school and was making some progress despite the language difficulty.

It is unusual to see a child with bilateral undetected deafness at the age of 8 years. The diagnosis at this age may be overlooked because of the assumption that the condition would have been discovered earlier.

It was initially thought that the Turkish-speaking background of the child, and not deafness, was the cause of lack of comprehension of speech. In addition, the high intelligence of the child had enabled her to develop the art of lip reading and of interpreting facial expression.

I would like to thank Dr. L. Fisch, consultant otologist, for his help with this child.

—I am, etc.,

London S.W.3.

J. J. TROY.

Scared to Death?

SIR,—I read with interest the account of the woman reported by Dr. Elkington and his colleagues (7 August, p. 363) who accurately forecast her own death at the age of 43. However, one is left wondering why a fortune-teller should impart such devastating information to so young a child which was to make such a terrible and lasting impression upon her.

Her case reminded me of the instances of "angor animi" which were reported in this journal last year,¹⁻³ though in these patients awareness of "impending dissolution" was of a much shorter duration.

I well remember seeing another patient in 1952 in his early 40's, who I have little doubt had some foreknowledge of his imminent demise. On admission to hospital he was extremely agitated, overbreathing excessively, and appeared to be suffering from cardiac asthma. There was no significant previous medical history. He was sitting up in bed all the time struggling for breath, clutching on to me and another doctor shouting,

"Doctor, doctor, I am going to die, I am going to die, please don't let me die, please don't let me die, please, please. . . ." He repeated this over and over again and caused much commotion in the ward. With great difficulty we administered oxygen and intravenous aminophylline, but perhaps mistakenly withheld morphine, fearing that this might depress his respiration. Thereafter we just stood back and watched him helplessly while he cried out. Suddenly he stopped and slumped down in the bed. He was dead half an hour after admission. Curiously, a most careful necropsy revealed no abnormalities whatsoever and there was no evidence of pulmonary oedema. We were all of the opinion that he had died of fright.

It would be interesting to know much more about the personality of Dr. Elkington's patient, perhaps from relatives or friends, and about the nature of her anxiety during the preceding three years; also whether she was often depressed or had ever made a suicidal attempt. Furthermore, it is possible that were she a hysterical manipulative type her psychological symptoms, stress incontinence and reaction to it, leading to surgery and its attendant complications, might have resulted from her own unconscious efforts to pre-determine her demise at the appointed time, having reflected endlessly upon the admonitions of her soothsayer. Hysterical mechanisms of this kind are not uncommon and have been lucidly elaborated by Menninger,⁴ particularly in patients who undergo repeated operations ("polysurgery," "polysurgical addiction," "Munchausen syndrome").^{5,6} Such patients may readily transfer responsibility for their own actions on to another party, the surgeon, who may thereby be unwittingly and quite easily drawn into the patient's scheme of things.

Nevertheless, the problems presented by this patient and which occupy the fringe territory of medicine and psychiatry are of considerable scientific interest, and much more research is needed. Perhaps the boundaries of western psychiatry should now begin to be extended to include some of the phenomena of extra-sensory perception?—I am, etc.,

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J. C. BARKER.

REFERENCES

- 1 Barker, J. C., *Brit. med. J.*, 1964, 2, 688.
- 2 Morrison, J. M., *ibid.*, 1964, 2, 949.
- 3 Woolich, J. G., *ibid.*, 1964, 2, 1141.
- 4 Menninger, K. A., *Man Against Himself*, 1938, Part IV, p. 259. Rupert Hart-Davis, London.
- 5 Asher, R., *Lancet*, 1951, 1, 339.
- 6 Barker, J. C., *J. ment. Sci.*, 1962, 108, 167.

SIR,—I was very interested to read the letter under the above heading (7 August, p. 363). The case may represent a version of voodoo death. Voodoo-like suggestion caused the development of a previously non-existent and eventually fatal episode. The suggestion implanted into the patient's mind at the age of 5 that she would die when she was 43 triggered off the mechanism of her post-operative collapse.

A number of observers in independent reports¹ gathered from various parts of the world admit that there are instances indicating that the belief that one has been subjected to spells of sorcery, and in consequence is inevitably condemned to death, does actually result in death in the course of time. This phenomenon is characteristically noted

among the primitive human beings. Some, however, believe that it may exist in our cultured society. A persistent state of fear can end the life of man. Fear is one of the most deeply rooted and dominant emotions. Associated with it are profound physiological disturbances, widespread throughout the organism.

One of these is the overaction of the sympathetic nervous system, which exercises control over the internal organs and also the blood-vessels. If the state of perturbation due to fear continues uncontrolled for a considerable period very serious results may ensue. There is a gradual fall in the blood-pressure towards the end, which is due to a reduction of the volume of the circulating blood. Deterioration, therefore, occurs in the heart and also in the nerve centres, which held the blood-vessels in moderate contraction. The very organs which are necessary for the maintenance of an adequate circulation are damaged. The gradual reduction of the blood volume is due to the action of the sympathetic nervous system in causing a persistent constriction of the small arterioles. The very thin walls of the capillaries are sensitive to oxygen want, and become more and more permeable to the fluid part of the blood. The plasma therefore escapes into the perivascular spaces. The loss of fluid excites the sympathetic nervous system; thus a vicious circle is set up. A state of shock is produced by the continuous outpouring of adrenaline characterized by a rapid pulse and haemoconcentration. The heart is beating faster and faster, finally getting into a state of constant contraction and death in systole. The post-mortem examinations in such cases usually reveal nothing definite which could account for the fatal outcome.

A case of death from a voodoo-like suggestion was reported by Mathis.² A man aged 53, in a civilized community, developed as a result of a voodoo-like suggestion a previously non-existent and eventually fatal illness. It was unfortunate that in the "Labrador" case the fear of the patient was not known at the time of the operation. Fear expressed by a patient about the result of an operation is a reason why some surgeons would refuse to operate.³ A suggestion implanted into a human mind can persist for many years. It has been found that some post-hypnotic suggestions can last effectively for many years. If the suggestion of "Death at 43" could have been removed by counter-suggestion before the operation, the fatal issue could have been avoided.

"Scared to Death" is not an idle saying. A feeling "I am afraid I am going to die" may actually result in death. The anxiety is not removed even when the patient is anaesthetized. Although asleep, the patient is still suffering from anxiety.—I am, etc.,

London S.E.25.

A. FRY.

REFERENCES

- 1 Cannon, W. B., *Psychosom. Med.*, 1957, 19, 182.
- 2 Mathis, J. L., *ibid.*, 1964, 28, 107.
- 3 Finney, J. M. T., *Ann. Surg.*, 1934, 100, 746.

"Early, Curable Stage" of Rheumatoid Arthritis

SIR,—It was not my intention to instruct Dr. John W. Todd how to treat the "early curable stage of rheumatoid arthritis," but to point out that a great deal can be done now to mitigate the crippling effects of arthritis.

In his second letter (24 July, p. 234) Dr. Todd challenges me with "What is the proper advice?" to the patient and his doctor.

I agree with Dr. Todd that aspirin may well have been a proper drug to prescribe for the "subjects" that he questioned. He tells us that, as a profession, our fault is not the failure to give treatment, but the giving of too much treatment. "Steroids, chloroquine, gold, and phenylbutazone are all dangerous drugs which should be reserved for the severely afflicted but which are too often given to patients with minor diseases who 'demand' that something be done."

If treatment means just the prescription of drugs he has a case, but every experienced family doctor and many consultants know that proper advice is advice proper to the individual patient, and that the prescription of drugs forms only a small part of the management of the patient. When we see an out-patient for the first time, we do not know if this patient is suffering from "a minor disease," or will in five years' time be "severely afflicted" and be suitable for treatment with "dangerous drugs"—a stage at which these drugs may be dangerous but will almost certainly be ineffectual in preventing disability.

Complications usually arise because these drugs are given in unnecessarily large doses and for too long a period of time. If the doctor, before prescribing, listens carefully to what his patients tell him, he will realize that in many of his patients the dominant complaint is not the morning stiffness, pain, and joint swelling, which are accepted as characteristic of early rheumatoid arthritis, but anxiety, frustration, and a fear of crippling which are common early manifestations of this disease and can be relieved by sympathy and willingness to understand the patient and his problem, accompanied sometimes by a prescription for one or two aspirin.

In a few patients the symptoms and signs that are manifest are due essentially to the structural changes of early rheumatoid disease. In those patients gold and steroids may be properly prescribed in the early, curable stage of the disease. A simple test can often help in deciding to which group the patient belongs. If at the end of the first consultation a large dose of corticotrophin is given intramuscularly, and the patient is asked to report by telephone at 8 o'clock next morning, those patients who belong to the first group will usually report nausea, headache, and no, or very little, improvement in their joint symptoms; whereas those in the second group will report a "dramatic" improvement, relief of pain, stiffness, often a diminution of joint swelling, an ability to get out of bed, and often dress for the first time in months with speed and comparative ease. That this is a diagnostic test, and that the relief will only be of short duration, should be explained to the patient.—I am, etc.,

London W. 1.

FRANCIS BACH.

Unusual Urinary Contaminants

SIR,—The report of a case in which pollen grains are identified in the urine of a female animal attendant (31 July, p. 302) prompts this letter, indicating that while uncommon this source of contamination may not be rare.

A fresh midstream specimen of urine was received in a sterile Universal container from

a woman aged 52 after operation. The urine was examined microscopically unstained, and an object seen. Its size was about 30 microns. No motility was apparent. Rather like Dr. R. A. Holman's example, the wall appeared thin but double; within the object no nucleus could be discerned. The "cytoplasm" exhibited slow Brownian movement. From one pole a "vapour trail" appeared to be arising. Although I am familiar with the possible occurrence of pollen in urine as a contaminant, careful and prolonged observation with added glucose failed to induce formation of a germination tube.

Repeated catheter specimens were free of contamination and the object was reported as a contaminant "yeast." Examination of the ward revealed a similar situation to that described by Dr. Holman.

I am grateful to Mr. C. Smith for drawing my attention to the object in the first place.—I am, etc.,

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Disinfectants for Use in Hospitals

SIR,—On 13 February (p. 408) you published a report on this subject by a Public Health Laboratory Service Committee, of which I was secretary. In this report phenolic disinfectants were recommended for general use; in the absence of any better test it was suggested that "the Chick-Martin coefficient can be employed to arrive at a use-dilution provided that only known broad-spectrum fluids are used."

Further experience has shown that this proviso was in fact necessary. There are on the market a few phenolic fluids of the clear soluble type which are said to have a C.M. coefficient of 1.5 or over but which, when tested, are found to have a narrow antibacterial spectrum. These fluids may well be sufficiently active against the standard strain of *Salmonella typhi* used for the C.M. test, yet they are much less active against such resistant organisms as the pseudomonads. So far there are no official arrangements for the quality control of disinfectants for hospital use; it may therefore be of interest to record the way in which such phenolic fluids are at present evaluated in this laboratory.

Two simple tests are used both of which have now been described in detail elsewhere.¹ First, the minimum inhibitory concentration (M.I.C.) is determined against several organisms, using a standard technique and standard strains. This serves several purposes: it gives an indication of the antibacterial spectrum, because for such phenolic fluids there is a good correlation between the bacteriostatic and bactericidal activity; it enables the most resistant strain to be selected for further tests; and it suggests whether, in such tests, simple dilution will be enough to neutralize any disinfectant carried over or whether specific neutralizing agents will be needed. A capacity use-dilution test is then done, with and without yeast. In principle the test organism used would be that found by the M.I.C. determination to be the most resistant, but in practice this has always been the standard strain of *Pseudomonas aeruginosa* NCTC 6749. Unknown disinfectants

are tested at the maker's recommended use-dilution and then at half or double this, as indicated. Finally, safe use-dilutions can be suggested for clean or dirty situations.

The use of the capacity test is discussed in detail in the paper quoted. Our experience is that it is simple and more reproducible than we had hoped and that it gives results that are intrinsically credible. Black and white fluids (to BS 2462) and some clear soluble fluids show up well, but others are revealed as being substantially inactivated by organic matter or as having a dangerously narrow spectrum.

Our results indicate yet again that there is a need for the evaluation of new disinfectant fluids. Although the tests we have described are straightforward, it would not be economic for them to be made on samples bought by individual hospitals. Much advantage would be gained from bulk purchase and regular quality control by such bodies as regional hospital boards.

Technical methods are now becoming available for the evaluation of disinfectants—what is lacking is the administrative machinery to exploit them.—I am, etc.,

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REFERENCE

- ¹ Kelsey, J. C., Beeby, Melanie M., and Whitehouse, C. E., *Mon. Bull. Minist. Hlth. Lab. Serv.*, 1965, 24, 152.

Immunization Against Poliomyelitis

SIR,—Your leading article (21 August, p. 436) on immunization in poliomyelitis concludes with the statement that the present recommended schedules can be reviewed when full information becomes available on the extent to which victims of the disease at Blackburn had or had not been previously immunized. May I point out that in December 1964 the then London County Council sent a letter to all general practitioners in the County of London informing them that from 1 January 1965 vaccination and immunization records relating to persons over the age of 16 would no longer be accepted nor qualify for payment. This apparent saving of money is now made to look foolish, for records of all immunized persons will be of vital interest.

I am sure that no practitioners have refused to immunize people over 16 because of this cut in payment, and I urge the new London boroughs to request that all immunization records be returned to them in future, whether they pay us or not, in the interests of public health.—I am, etc.,

London S.E.7.

CYRIL FOX.

Immunization Against Whooping-cough

SIR,—Dr. R. M. Forrester's letter (24 July, p. 232) on this question is to be welcomed, particularly where he questions the safety as well as the efficacy of the vaccine. He is right to state that (some) doctors in public health are worried, but no less cause for concern is the too common ignorance of the possibility and nature of these reactions. I would like to mention two illustrative incidents with triple vaccine where children have collapsed in the manner in which he describes.