

## INHERITANCE OF MENTAL DEFECT

The following letter of inquiry and the answer thereto are taken from the *British Medical Journal*, 1928, i, 823.

Sir,—Any editorial pronouncement in the *British Medical Journal* of necessity carries such weight that I am tempted to invite your attention to the annotation in your issue of April 21st (p. 680) on sterilization of the feeble-minded in Alberta, where this sentence occurs: "Scarcely any fact is more securely established than that it is only a small, almost negligible, minority of mentally defective persons who are the offspring of parents themselves certifiably mentally defective." On the other hand, I read in a paper on heredity of feeble-mindedness by H. H. Goddard, Vineland, N.J. (reprinted from the *Eugenics Review*, April, 1911), with regard to one single family, "Since this was written this family has been further investigated, with the result that we now know the facts concerning 319 members, of whom 119 are feeble-minded, with only 42 known to be normal." Can you assist me in reconciling the two statements.—I am, etc.,

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The two statements to which Dr. Davies directs attention are not contradictory. It is true that where both parents are mentally defective the offspring are almost certainly mentally defective also, and that even where one parent only is mentally defective, some of the offspring are likely to show the same characteristics. Nevertheless, it is true also that in any generation only a small proportion of mental defectives are the children of parents who themselves are certifiably mentally defective, the overwhelmingly larger proportion being the children of apparently normal parents, of "carriers" who themselves are normal, or of those who suffer from mental or nervous instability or from psychoneuroses or a mild degree of mental abnormality not certifiable. It follows that, for the purpose of eradicating or preventing the spread of mental deficiency, the sterilization of a small number of feeble-minded persons would be ineffective. Attention may be again directed to the pamphlet on *Sterilization and Mental Deficiency* published by the Central Association for Mental Welfare.

## AVERTIN

In a recent lecture,\* on the trend of thought in the art of therapeutics, Dr. W. E. Dixon described a new type of general anæsthetic. This was a tribrom-ethyl alcohol, known by the trade name of "avertin," the action of which had been determined precisely by Straub.

\* *Brit. M. J.*, 1928, i, 896.

"It was a solid substance which at body temperature dissolved only to about 3 per cent in water, but if more concentrated solutions were required it could be employed in a suspended form. To produce general anæsthesia in a patient weighing 11 stone about 10 grams of this substance was administered per rectum; this was rapidly absorbed—indeed, considerably more rapidly than water or saline solution—and the patient was anæsthetized and ready for the surgeon within ten minutes. With this anæsthetic operations had been performed lasting two hours or more without pain or any subsequent discomfort to the patient, and a considerable clinical literature was already available. At first, accidents happened after using it, but since the mechanism of its action had been better understood these had entirely disappeared. The drug after absorption acted on the central nervous system like the commoner anæsthetics, but within a few hours it was completely broken up in the body, the bromine being converted to sodium bromide. With an anæsthetic dose of 10 grams about 11 grams of sodium bromide was produced, and such an amount led to sleep lasting, perhaps, for thirty-six hours after the operation had been completed. The proportion of bromide excreted depended upon the amount of sodium chloride in the blood, and varied with it; it was well known that under normal conditions when the chloride was constant the excretion of bromide was very slow, and, after a single dose, could be detected in the urine for several days. It was a simple matter, however, to get rid of this excess. In the case under consideration after the operation had been completed the excess of bromide should be eliminated by increasing the excretion of chlorides; this was effectively achieved by injecting from 5 to 10 grams of common salt, suitably diluted, into the rectum. One objectionable feature of this form of anæsthesia, as indeed of other forms of anæsthesia, was the production of some degree of acidosis. To combat this it was advisable to dose the patient before operation with sodium bicarbonate. The great advantages of this method of producing anæsthesia were obvious. The ease and certainty of producing the desired effect in a short time and for a long period, the absence of discomfort during administration, and the general comfort of the patient for several hours after the operation was completed, were some of them."

## NARCOTIC PLANTS

In the appropriate setting of the old Physic Garden at Chelsea on June 7th, Dr. W. E. Dixon, F.R.S., Reader in Pharmacology at the University of Cambridge, delivered a Chadwick Lecture on the subject of narcotic plants. It was an interesting discourse on the various specimens (in the green leaf) which were on the table in front of him, and was lighted up by a genial philosophy. One of Dr. Dixon's observations was the curious fact that all over the world the national beverages

containing caffeine were dependent upon plants without any characteristic smell or taste. Of all the alkaloids, he said, caffeine was the most widely used by man. It was found in the leaves and beans of the coffee tree, in tea, and also, in small quantities, in cocoa. It might be said that tea, coffee, and cocoa were not narcotics, but that was because they were not taken in large enough quantities. People of all races seemed to crave for something which exerted on the brain a mild narcotic influence. This craving might be understood among highly civilized peoples, accustomed to work or play at high pressure and subject to the strain of modern life. In such circumstances anything might be seized upon which prevented the exercise for the time of the higher faculties of the mind; but why should the primitive people in Northern India smoke Indian hemp, which also produced a narcotic effect on the nervous system? To some extent it was explained, as was the taking of opium, as a social function. The natives sat round in a ring and practised this indulgence, passing into a state of languid ease, obtaining an exalted sense of their own superiority, and losing their relationship to time and space, so that the minute became an hour. Such was the result which followed the use of the essential oils exuding from certain plants. Often these oils were closely allied, though the plants producing them were very different. Who would imagine that attar of roses, eucalyptus, and turpentine had much in common? Yet when any of these was taken by the mouth the person taking it smelt of roses. In the days of imperial Rome the maidens used regularly to take a drop of turpentine so that the fragrance of the queen of flowers might cling about them. Another essential oil of very powerful properties was exuded from the nutmeg, and in the early days of tea drinking in this country the nutmeg grater was an accessory to the teapot, a little of the aromatic kernel being used to give a fillip to the tea. But, of course, the outstanding example of the narcotic plant is tobacco, whose innocent leaf Dr. Dixon exhibited to his audience. Incidentally, he said, it was a fortunate thing that we did smoke tobacco and not eat it or inject it. This led him on to the generalization that in all these matters, so long as we kept away from the chemist, we were tolerably safe. Who ever heard of the juice of the vine doing any serious harm until the chemist came on the scene and practised his distillations? With opium, again, the great mischief was not done until the chemist came along and extracted its chief narcotic principle, morphine, and offered the hypodermic needle. In the same way, when tobacco was used for smoking it was relatively harmless, although Dr. Dixon emphasized the evil effects of inhalation, pointing out how the CO fixed the hæmoglobin, and how even the non-smoker who had the misfortune to ride in a full-blast smoking carriage with the windows closed suffered with the guilty and had a certain percentage of his blood put out of action. But of nicotine it must

be said that its effects were marvellous in that it seemed at the same time to soothe the irritability of the supersensitive and to stimulate the dull and apathetic. How to correlate those two actions was a task which must be left to others. On the general question of tobacco smoking and of narcotic indulgence Dr. Dixon remarked on the sad paradox that we seemed to get our chief pleasures in life by escaping out of life. But in smoking he thought there were some values not often considered—for example, the ritual of smoking, the lenitive effect of its rhythms, and the half-unconscious occupations it afforded.—*Brit. M. J.*, 1928, i, 1038.

#### MACALISTER LECTURE ON MEDICINE IN ART

The second annual lecture in memory of the late Sir John MacAlister, Secretary of the Royal Society of Medicine, was delivered at the London Temperance Hospital, under the auspices of the London Clinical Society, on June 7th, by Sir Berkeley Moynihan, Bt., President of the Royal College of Surgeons. It was a popular lecture to which nurses and a number of the lay public were admitted, and was on the subject of "Medicine in Art." Substantially it followed the lines of the lecture which Sir Berkeley Moynihan gave last autumn to the St. Pancras Division of the British Medical Association. He began with the gargoyles of Notre Dame and the "Lincoln imp," and showed what interest there was in the curious deformities, no doubt shaped direct from models by the mediæval sculptor, to those who viewed them with an eye trained in medicine. Incidentally, these figures often carried horns on the head, and there was also a horn on the head of the most majestic sculptured figure in the whole world—the figure of Moses by Michelangelo, so badly placed in the church of San Pietro in Vincoli at Rome that few people realized what a masterpiece it was. The horn on the top of the head of Moses was supposed to be due to a misreading of a passage in the Vulgate. The most famous of all gargoyles was to be seen in the church of Santa Maria Gloriosa at Venice, and was the subject of an exquisite passage by Ruskin, in which he lamented the leering wickedness, the extreme of debasement, which it portrayed. But when Charcot visited this church and saw the gargoyle he said at once that it was exactly the kind of hystero-epileptic familiar to the Salpêtrière. The hystero-epileptic was considered in the Middle Ages and earlier to be the victim of "possession," and the image of him was put especially on the roofs and towers of sacred buildings to suggest that evil spirits had been driven out of the church. Another deformity familiar to very ancient artists was evidently achondroplasia; witness the representations of the great god Ptah of Egypt and Bes of Memphis—the large-headed goggly-eyed dwarf, with the short arms, the gross body, and heavy buttocks. Sir Berkeley Moynihan touched on the repre-