Although far removed from primordial life we are, nevertheless, the inheritors of every level from the simplest to our own crowning heights in humanity, and are inherently furnished with the means of living in an environment swarming with battling factors, which we should be capable of overcoming, and also adapting ourselves to our surroundings. All life is one vast brigandage, the greater absorbing the lesser ; but these natural phenomena, seemingly cruel by our human standards, should be explained as part of the scheme of the universe, and not hidden from developing youth.

It is reproduction which replenishes this wastage and reveals a unity of purpose which we can observe but neither explain nor understand. Examples of natural forces constantly working can be demonstrated—such as gravity, magnetism, polarity, and the affinities of the elements of which our bodies are composed. The school chemistry experiments serve to show the perpetual flux in the inorganic kingdom ; also plants flowering, seeding, and springing up again. To the more advanced youth the ties of companionship, affection, love, and passion may be dwelt on and explained in their setting of romance and tragedy, and he may be shown how links can be forged in the mind which survive when passion and love have faded. A background of this kind of abstract texture gives the subject of sex a fitting place as one of the most profound mysteries, and without which life would be poor indeed. Unfortunately the subject is approached too directly, and with insufficient delicacy, or is treated as though it were altogether taboo, producing shock and embarrassment in a matter which can be made beautiful ; for there is nothing improper in nature—it is only the mind that makes it. Later on, with no apprenticeship to life as it is, and little knowledge of the facts, the rough-and-tumble comes as an astonishment, and there is inability to adjust matters ; the usual problem of undeserved suffering presents itself, and either Job's attitude is taken, or his wife's, which is frequently the prelude to a mental home. There is nutritional hunger and sex hunger, and with some, who are more highly charged, it is almost as dangerous to renounce the one as the other, for there is that insistent inarticulate quest which will assert itself at times for satisfaction and full-orbed development of self.

Canon Pym has given most valuable assistance towards handling a very hushed subject, and these humble suggestions are made as a plea for extending and further clothing the subject, without in any way clashing with modern Church doctrine or morality. In my experience I have been forcibly led to the opinion that with many people the mere mention of " sex " envisages the organs of reproduction rather than one of the most wonderful mysteries in creation ; and (as stated in the address) it is to the quality of the mind of the educator that we must look for suitable presentation of this interesting and important theme.—I am, etc.,

Armagh, Nov. 28th. ARTHUR KING, M.D.

THE CREOSOTE ENEMA IN PNEUMONIA

SIR,—In recent papers and lectures on pneumonia no mention appears to have been made of Schoull and Weiller's method of treatment by the creosote enema. No one imagines that the use of creosote in respiratory affections is new, for fifty years ago it was advocated in the treatment of pulmonary tuberculosis. But these authors, in their small brochure[1] of 70 pages, advise its use, not in chronic lung infections, but in the acute, particularly those due to the pneumococcus. Their method, briefly, is as follows. In pneumonia, after a wash-out enema, forty drops of pure creosote, *well shaken for several minutes* in 2 ounces of warm milk, are injected slowly well up the rectum. The enema should be retained about two hours. If not retained longer than half an hour it should be repeated, and in the adult ten drops of tincture of opium may be added to it. This dose in an adult should be repeated twice in twenty-four hours. In children under 1 year two to ten drops is the dose, twice daily ; in second infancy and adolescence five to ten drops, with an extra drop for each year. In old age less than forty drops may be given. The action of creosote in the purely pneumococcic conditions seems to be almost specific, like serum ; when it fails, a streptococcic infection must be feared. It is interesting to note that in pneumococcic peritonitis Daru, Loederich, and Mamon[2] also advise its use for its selective action on the pneumococcus.

In the *Presse Médicale* (November 11th, 1931) there is a useful summary of the value and details of the method. When our attention was called to this use of creosote we at once obtained some striking results in the treatment of pneumonia at all ages. We then applied it as a prophylactic in post-operative pulmonary complications. It quickly clears up catarrhal states in patients awaiting operation, and is now part of our routine preparation for all laparotomies or major operations of general surgery. In 150 cases of laparotomy of all types under open ether no case occurred of post-operative pneumonia. But in two cases in which the enema was omitted by mistake pulmonary complications occurred—a broncho-pneumonia in a simple inguinal hernia, and a severe and prolonged congestion of the right lung in a gastrectomy for hour-glass stomach. Both patients recovered, creosote being given at once on the appearance of the lung trouble. In urgent surgery we try to give the enema before the patient goes on the table if there is time ; if not, immediately after operation.

Bassett[3] has also recently called attention to the value of creosote ; in 174 operations, mostly gynaecological, no death occurred from lung complications when the drug was administered for some days before operation. Kocher,[4] over twenty years ago, evidently believed in its efficacy, for he then wrote:

" We do not hesitate to give large doses of creosotal when necessary ; two and a half drachms may be administered night and morning in the form of an enema with milk. Dr. Rollier, who has carefully investigated the action of this drug for some years, has shown it prevents complications, and acts beneficially on the course of a pneumonia."

In these days, when economy is necessary and three doses of Felton's serum cost approximately £10, it may be worth while giving another trial to creosote, administered in this simple way.—I am, etc.,

Huelva, Spain, Nov. 17th. IAN MACDONALD, M.D.

THE " SOBERING-UP " RATE

SIR,—A matter of considerable medico-legal importance is raised by the question whether persons under the influence of alcohol " sober up " at the same rate, or whether individual variation may be exhibited in this particular, such as is well known to occur in the process of becoming intoxicated. From inquiries made, the latter view appears to be held widely, and although I am unable to find any statement in current literature to the effect that the sobering-up rate is constant for all persons, I venture to suggest that all the experimental evidence at our disposal supports that view.

Schweisheimer, Mellanby, and others have shown that there is a close relationship between the concentration of alcohol in the blood at any given time and the symptoms

[1] Published by Maloine, Paris.

[2] *Journ. de Chir.*, October, 1931, xxxviii, No. 4.

[3] *Bull. et Mém. Soc. Nat. de Chir.*, November 22nd, 1930, lvi, No. 29.

[4] Kocher: *Operative Surgery.*

of intoxication of the nervous system at the same time. Mellanby showed that in dogs, after alcohol had reached its maximum concentration in the blood, it disappeared from the blood at a uniform rate ; and he further showed that the rate of decrease was constant for all concentrations. Southgate showed the same results in human beings. In his paper published (with G. Carter) in your issue of March 13th, 1926, his graphs illustrating this point show very strikingly the fall in blood alcohol as a straight line. In graphs dealing with two or more persons showing different degrees of concentration, the lines denoting this fall are almost exactly parallel. The rate of elimination has, indeed, been shown to be 0.012 per cent. per hour.

Whatever may be said about the advantage or otherwise of putting this knowledge to practical use in medico-legal cases, I do not think that the validity of these experimental results has ever been questioned. Consequently, if the symptoms of intoxication are due to the presence of alcohol circulating in the blood (a close correlation can be shown to exist), and the rate of elimination is constant for all persons, it must follow that no individual variation in the rate of becoming sober can be admitted. The popular view to the contrary no doubt gains credence partly from the false analogy with the known differences which individuals exhibit in their capacity to imbibe, and partly to the fact that many intoxicated persons can apparently "pull themselves together," and exhibit a regained degree of control when necessity arises which is often surprising. Tests designed to estimate judgement, reaction time, and neuro-muscular control would surely show that the improvement noted is specious only, and has no real foundation.

The importance of this matter needs no stressing. If a man showing symptoms of intoxication that render him unfit to drive a motor car is arrested, he cannot have advanced far in the process of becoming sober one hour later. If the alcohol concentration of his blood at the time of arrest is 0.1 per cent., putting it at a reasonably low figure, it will still be 0.088 per cent. one hour later, and over eight hours must elapse before that man has completed the work of elimination. When it is remembered that much higher degrees of concentration are commonly present, even up to 0.2 per cent. and more, it is quite possible to come to the conclusion that the sobering effect of the police charge-room is in danger of being overestimated. Quite recently, in a case of this nature, I stated in court that the sobering-up rate was constant in all intoxicated persons. The effect was peculiar. The bench looked frankly incredulous, prosecuting counsel became speechless, the clerk of the court suggested that he might leave their worships to deal with the point raised, thereby also showing clearly what his own opinion was of such a doctrine, and I left the court feeling that my evidence had been somewhat discredited.

As matters stand at present the position appears to me to be anomalous, and it is in the hope of drawing attention to it, and hearing the views of other doctors, that I venture to send you this letter.—I am, etc.,

Llandudno, Nov. 15th. KNOWLES BONEY.

SUN-BATHING AND PULMONARY TUBERCULOSIS

SIR,—I am very pleased to confirm the view expressed by Dr. Hudson in his letter, published on November 14th, regarding the danger of the uncontrolled use of sunlight, natural or artificial, for patients with tuberculous lesions of the lungs, known or unsuspected. Further, I should like to stress the possible danger to such patients of lying in the sun—if it is at all warm—even in their clothes. I have seen focal reactions occur as a result, the patient in many instances having received such harmful medical advice as to "lie in the sun as much as possible." Despite these dangers referred to by Dr. Hudson, sunlight has definite value in the treatment of pulmonary tuberculosis, and in my opinion there is a much wider field of applicability in this disease than he appears to accord it. Certain factors, however, are essential for this wider applicability and the successful use of sunlight. In the first place the treatment should be given only by a clinician with special experience. Secondly, cases should be carefully selected. Thirdly, the dosage of sunlight must be meticulously adapted to each patient and modified constantly according to clinical and meteorological circumstances. A nursing staff of ample numbers and with special training in this branch of treatment is of great importance.

Under the general term "sunlight" I include for purposes of practical convenience: (1) direct exposure of the skin to the rays of the sun ; (2) exposure to the indirect solar radiation from the sky, but not to the direct sun-rays—"air-bathing" so called ; (3) exposure to some artificial source of ultra-violet light (the commonest form of light therapy used in pulmonary tuberculosis). Each of these, according to the clinical factors and the weather conditions, has its definite value in pulmonary tuberculosis. Treatment by ultra-violet light from an artificial source has the disadvantage that the beneficial effects of fresh air on the skin are absent. Nevertheless it has certain advantages. Its dosage is extremely easy to control. It is always available. The pigment produced is an added protection against reactions if artificial light treatment is succeeded by natural sun-bathing, and against cold if combined with or succeeded by simple air-bathing.

While air-bathing, the patient is screened from the direct rays of the sun, but lies with at first only parts of the body, and later in many cases with the whole of the body, uncovered to the air and to the indirect solar radiation from the sky. This indirect radiation is particularly strong in the Alps, and is sufficient to cause marked pigmentation after prolonged exposure. The advantages of air-bathing in pulmonary tuberculosis are many. It can be prescribed with safety to patients who have not reached the stage of improvement where sun-bathing should be permitted, since the safety limit, as regards the avoidance of harmful reactions, is extremely wide. It is necessary only to protect the patient against cold and to permit exposures of such a length that the patient has no after-feeling of fatigue. If due attention is paid to these points air-bathing has a decidedly tonic effect ; appetite and appearance are improved, and its psychological value is most striking. Further, a course of air-bathing, having increased the patient's tolerance to cold and brought about pigmentation in the great majority of cases, renders safer any subsequent transition to sun-bathing, should such treatment later be undertaken. One of the limitations of air-bathing *per se* is that during cold weather it cannot be employed extensively. Further, when employed at such times, it is as a rule expedient to expose only the extremities, and these only in patients already pigmented.

I think that direct sunlight, speaking generally, can be employed in pulmonary tuberculosis with safety and advantage in those patients whose temperatures have settled at a normal level and whose blood sedimentation rates (estimated regularly once a month) are normal or nearly so. I believe that these two systemic factors (which when taken together give a reliable objective indication of the course of the disease) are, except in patients particularly susceptible to haemoptysis, a sufficiently safe guide in the selection of cases. In certain patients with pulmonary tuberculosis—in particular those complicated by some manifestation of surgical tuberculosis or by intestinal tuberculosis—"sunlight" treatment