ones, proper mastication insisted on, all cereals and vegetables well boiled and eaten in the form of puree, and all indigestible food strictly avoided.

¹ Medical Record, April 30.

THE EFFECTS OF ALCOHOL, NITRO-GLYCERINE, AND AMYL NITRITE IN SHOCK.

THE surgical world is very much indebted to Dr. G. Crile for his valuable experimental researches into the physiology of traumatic shock, the nature of which he has done perhaps more than anyone else to elucidate; and some further inquiries which he has made concerning the effects of certain drugs upon dogs in which a condition of shock had been induced will be received with considerable interest.¹ The drugs used, namely, whisky, nitro-glycerine and amyl nitrite, were all vaso-dilators, and they all had the effect of increasing shock.

In the case of whisky administered intravenously, the first effect usually noted was a decline in the blood pressure. In the majority of such instances a compensatory rise followed; in a number of instances no change in this respect was noted; in but few was there a rise in the blood pressure. The average height of the pulse-wave was increased. There was no evidence that the heart beat more forcibly. In animals reduced to varying degrees of surgical shock the usual effect of an average dose of whisky was the production of a further depression. In a few instances, in deep shock, the administration of a considerable dose was followed by almost immediate death, and the more profound the shock the more marked was the depressing effect of the whisky.

The immediate effect of nitro-glycerine and amyl nitrite upon the pulse was an increase in its volume and a decrease in frequency. The immediate effect upon the blood pressure was a fall, usually rapid, and followed by a gradual rise up to, in some cases, but rarely above, the level previous to the administration of the drug. If the doses were repeated, the succeeding effects resembled the preceding one, even when the repetitions were at short intervals. Very large repeated doses were tolerated. On the whole, nitro-glycerine and amyl nitrite increased shock. Although in the experiments with alcohol it is not stated what brand of whisky was used, Dr. Crile's experiments must be taken as evidence that the common practice of giving brandy, whisky and other alcoholic stimulants to counteract surgical shock is a misguided and possibly dangerous custom.

¹ Medical News, May 7.

THE USE OF PURGATIVES IN ABDOMINAL OPERATIONS.

ONE of the many bugbears of abdominal surgery is the intestinal paralysis which is often such a frequent source of trouble in the next few days after operation. The usual methods of coping with this complication are the use of drugs, *e.g.*, strychnine and peppermint, by the mouth, rectal enemas containing turpentine or asafoetida, slightly changing the position of the patient in bed, and so forth. But with all these means the tympanites may persist and even lead to the patient's death. A suggestion put forward by Mr. F. Barrington¹ is therefore

well worthy of serious consideration. He recommends the routine administration of a purgative shortly before operation. For the last four years he has been in the habit of giving his patients five grains of calomel one hour and a half before operation, with satisfactory results. In septic cases two drachms of magnesium sulphate in concentrated solution, with lemon juice, are given in addition immediately before the patient is taken into the operating theatre. There are two reasons for this treatment. Mr. Barrington claims that the peristalsis caused is of value not only because it obviates the development of tympanites, but also because it produces intra-peritoneal currents which help in the removal of micro-organisms from the peritoneal cavity into the lymphatics. The movement also tends to prevent the formation of post-operative adhesions.

¹ Aust. Med. Gaz., February.

PREVENTION OF SEPSIS IN NASAL OPERATIONS.

ALTHOUGH sepsis following nasal operations is ordinarily of a mild type, there is not sufficient reason to neglect antiseptic precautions altogether, for occasionally severe consequences follow, such as infection of the accessory sinuses and of the middle ear, or even meningitis. Even if no severe infection takes place, the observance of antiseptic principles is likely to be followed by quicker and more satisfactory recovery. Dr. H. Beaman Douglas¹ recommends that before every nasal operation the skin of the nose and face should be carefully cleansed and disinfected. If there be a moustache it must be removed if any cutting of the integument of the nose is intended, in other cases it will be sufficient to treat it with soap and water and antiseptics, and to exclude it from the field of operation by a piece of gauze fastened in position with strapping. Whether the moustache is removed or not, the hairs in the vestibule of the nose must be clipped away. Three hours before the operation the interior of the nose should be washed, first with a solution of hydrogen peroxide (10 vol. strength). This may be done with a spray. The interior of the nose should then be douched with weak saline solution (a teaspoonful of salt to a quart of water); or if there be much pus or mucus in the nose a solution of 10 drops of tincture of green soap in a quart of water should be used. Whatever solution be employed for the douche it is important to have it warm (102° to 106° F.), and to inject it slowly and very gently, and in a backward direction, parallel with the floor of the nasal cavity, and with the patient's head bent well forward over a basin. If these precautions are not observed, and the liquid is injected forcibly, or too hot or too cold, not only may it cause much pain and discomfort, but there will be an actual danger of causing damage to the middle ear or accessory sinuses.

¹ Post-Graduate, May.

A NEW METHOD OF PRESERVING MUSEUM SPECIMENS.

DR. HUGH GALT,¹ after a series of experiments made in the Glasgow Samaritan Hospital for Women, advises the use of the following solution

as a medium for preserving museum specimens:—Common salt 5 ozs., potassium nitrate 1 oz., chloral hydrate 1 oz., water 100 ozs. For this several advantages are claimed. The cost is only about 4d. per gallon as compared with 2s. 6d. or more incurred by the alcohol or formalin method. The colour of the specimen is retained and is not apparently

affected even by bright sunlight. The salts can be kept in the solid form and the solution prepared as desired, thus economising storage space and portage. The preparatory treatment in this method is the same as in the old method of preservation in alcohol.

¹ Trans. Glasgow Med. Chirurg. Soc., Vol. IV.

PROGRESS IN MEDICINE AND SURGERY.

TUBERCULOSIS.

Early Diagnosis.—The importance of early diagnosis is especially seen in the results of sanatorium treatment, the success of which largely depends on its early application. Clarke¹ emphasises the following points as indications of early phthisis:—1. Increased pulse-rate. 2. Gradual loss of weight without obvious cause. 3. Digestive disturbance. 4. Tubercle bacilli, if present in *considerable numbers* in the sputum. 5. "Vesiculo-bronchial" breathing, which consists of a short, roughened inspiratory and a prolonged, blowing expiratory sound. 6. Small crepitant râles at the end of expiration. Of less value are: 1. Fever, which may be absent. 2. The tuberculin test, which is unreliable. 3. The shape of the chest, which may be normal. The x-rays may give confirmatory evidence. Clarke attaches importance to family history, and still more to personal environment as indications of possible tuberculosis; Lister² notes that in tuberculous families a greater risk attaches to the weakly, whose chest development and weight are below normal. Woods Hutchison,³ however, has shown that contrary to the received opinion, the phthisical chest is round instead of flat. The normal ratio of transverse to antero-posterior diameter is about 100:70 in adults, whereas in 40 tuberculous cases in America it was 100:79.5, and in 42 cases at the Brompton Hospital 100:79.6. Colbeck, at the Victoria Park Hospital, found the ratio in 75 cases 100:80.3, and from measurements on early cases considered that the shape of the chest was antecedent and not consequent to the pulmonary disease. The small râles which Clarke mentions are also to be detected by Cybulski's method. This consists of listening to the patient's respiration with the observer's ear about 2 to 4 inches from the patient's open mouth. Remouchamps⁴ states that fine crepitations which appear to originate in the larynx, resemble the scratching of a fine nib on paper, and are usually most marked at the end of expiration, are pathognomonic. Although in other lung conditions adventitious sounds may be transmitted by the mouth, all differ from this "laryngeal crepitation"; moreover, phthisis may even be excluded if this sign is absent after repeated examinations. Petruschky⁵ considers that even before physical signs can be found in the lungs the bronchial glands are often diseased, which gives rise to tenderness on firm pressure along the spine between the second and seventh dorsal vertebrae inclusive. With regard to the tuberculin test Marmorek⁶ considers that the mere presence of the tubercle bacillus without anatomical lesions is enough to give a positive reaction. If a limited number of bacilli are injected into guinea-pigs, they give the

reaction in 15 minutes, but after a longer interval phagocytosis interferes with it. He attributes the febrile symptoms to the formation of a peculiar toxin by the bacilli under the direct influence of the tuberculin.

Prophylaxis and Public Health.—The exclusion of tuberculous immigrants apart from pauperism has provoked much opposition in medical circles in the United States. Knopf⁷ and Robinson⁸ both strongly condemn the new law, pointing out that though phthisis is communicable it is not infectious in the ordinary sense of the word. A new law enacted in the State of New York giving local authorities power to veto the construction of sanatoria in their areas is also vehemently opposed. Robinson advocates extension of sanatorium accommodation, but also insists on improved sanitation and ventilation in tenements and better instruction for the labouring classes in hygiene and cookery. Lawson⁹ approves of the "Garden City" scheme, and of the passing of bye-laws against expectoration in public places. Ambler¹⁰ emphasises the following prophylactic points: disinfection of sputum, prohibition of promiscuous coughing and spitting; boiling of all eating and drinking utensils of consumptives; prohibition of kissing and handling of food intended for others by consumptives; and reduction of dust to a minimum in houses. He would not isolate cases, but would forbid their frequenting public halls and entertainments. He considers that young children run considerable risk of infecting themselves from dirt and dust of floors. Preisch and Schultz¹¹ found tubercle bacilli under the nails of 14 out of 66 children examined. The possibility of infection being spread by ordinary coughing is considered by Williams¹² to be negligible, as hospital nurses and doctors so seldom acquire phthisis, though frequently exposed to it in this manner. Newsholme,¹³ while considering that compulsory notification is bound to come, deprecates any undue haste in pressing for it. He advocates voluntary notification, and points out how a medical officer of health can assist and support the general practitioner in enforcing treatment and prophylaxis. He advocates thorough disinfection of the houses of notified cases, and careful inquiry as to the source of each case to check continued exposure of the patient and others. Alcohol and want of domestic or occupational hygiene are specially important points. He thinks medical officers of health should examine sputum gratuitously for medical men. Billings,¹⁴ however, says that sputum examination in New York does not lead to notification; out of 8,500 examinations, only 3,200 are reported by physicians. Lawson quotes Larnier's opinion that compulsory