

should be maintained to the rule. In a certain proportion of cases, however, as in the vast majority of those seen in dispensary practice, proper hygiene and nourishment cannot be had; and it is precisely in this class that it becomes of paramount importance to determine the relative value of the drugs, upon one or more of which we must alone rely. In regard to this class, I should arrange a scale, headed by arsenic, to which should succeed respectively, sulphate of zinc and iron; and any combination of these should be in pursuance of the preceding rules.

ON THE USE OF CHLORAL-HYDRATE ENEMATA

Dr. Starcke, of Berlin, has a paper on the employment of chloral-hydrate enemata in the *Berliner Klinische Wochenschrift* for August 19. He observes that there are great prejudices, especially in England, against the continued use of chloral, occasioned, probably, by the not unfrequent misadventures occurring in connection with its use in habitual drunkards. Last year Dr. Starcke himself fell ill of a chronic gastric catarrh, with great acidity of the contents of the stomach, and considerable emaciation and prostration. The principal and most distressing symptom, however, was persistent insomnia, only half an hour to an hour's sleep being obtained at night. At the suggestion of his colleagues Dr. Starcke resorted to the use of chloral, but the irritable state of the stomach forbade its use by the mouth, and hence he determined to take it *per rectum*. An aqueous five per cent. solution of chloral was warmed to about 95° Fahr., of which he injected first 10 grammes, and after a quarter of an hour a further quantity of 10 grammes, so that in all 1 gramme (15½ grains) of chloral were thus taken. This was in a few minutes followed by a feeling of warmth, comfort, and repose, and lastly by sound sleep, which lasted uninterruptedly for five hours. In this manner Dr. Starcke continued the injection of chloral for five months, taking in all 120 grammes of the drug. Decided convalescence set in after almost the very first dose, which was followed every morning by a sense of vigor and a desire for food, without any headache or other discomfort. Nor did the efficacy of the dose of chloral diminish, and latterly even half the quantity, *i. e.*, 0.5 gramme, was sufficient. Frequently the attempt was made to obtain sleep without resorting to the chloral, but in vain, until within the last month, when Dr. Starcke found he could discontinue it altogether. This employment of chloral *per rectum* has decided advantages in cases of gastric irritability. Dr. Starcke tried twice to take it by the mouth, and each time it was after a few minutes completely rejected, and no sleep ensued. The absence of all unpleasant results when administered by the rectum

is doubtless due to its undergoing no decomposition, as is generally the case when it comes into contact with the contents of the stomach. Of course the drug should be absolutely pure. The sensation of burning and tenesmus which at first follows an injection, may be materially obviated by well oiling the nozzle of the syringe. And since the site of the tenesmus is chiefly in the region of the sphincter, contact of the chloral solution with this part of the gut should be avoided by passing the injection pipe as high up as possible. And if the injection is made by one's self, the position on knees and elbows will be found the most convenient. It is also of consequence that the solution should be complete, and that it should be warmed to the temperature of the body; also that the dose required is a moderate and even small one as compared with that usually given by the mouth. Dr. Starcke has subsequently used chloral in the same way in various cases and with the same uniformly safe and favorable results. It seems especially applicable in the case of aged people, and in no case need the dose exceed one gramme (15½ grains).—*London Med. Record*, Oct. 15, 1878.

THE PHYSIOLOGICAL ACTION OF PURGATIVES.

Med. Times and Gazette: This subject has recently been re-investigated by L. Brieger (*Archiv. für Exp. Pathologie*). Large dogs were used. Dilute solutions of saline aperients (sulphate of magnesia and common salt) were absorbed without causing any change in the bowel; but as the strength of the solution was increased, the ligatured bowel contained more and more clear yellow alkaline liquid, containing flakes of mucus, intestinal epithelium, and mucous corpuscles. Drastic drugs (croton oil, colocynth) caused the secretion of a bloody liquid, or even set up diphtheritic inflammation of the mucous membrane, while laxatives, such as senna, rhubarb, aloes, gamboge, and castor-oil invariably caused firm contraction of the muscular coats, the injected drug, its watery parts being absorbed, being found spread over the whole mucous membrane, which was *not* inflamed. It thus appears that laxatives mainly act by exciting peristaltic contraction of the intestine; whereas salines, as was previously known, attract water into the bowel, and also induce abundant secretion from the intestinal glands. On the other hand, drastics in small doses have a similar action to laxatives, but in large ones they cause inflammatory exudation and hypersecretion. Brieger's results, therefore, differ from those of Moreau and Brunton in the role he assigns to the laxatives. If we remember rightly, the latter observers found that the various purgatives used agreed in producing a copious transudation of watery fluid into the bowel, and this Brieger only admits in the case of the saline and drastic aperients.