

respecting the second state of consciousness. Some of the most interesting of these are collected in Dana's article in the first edition of this HANDBOOK (Vol. II., pp. 277 *et seq.*)

Many of these cases show psychical states which are in the borderland between the sane and the insane and as such are worthy of the most careful analysis, and these are capable of the most interesting experimentation. Their relationship to the hysterical and epileptic symptom-complex should be kept in mind. It is impossible to enter into all of the details of such amnesic and automatic states. The countless varieties of the hundreds of cases that have been reported now make up an imposing mass of literature. It seems clear, however, that they occur for the most part in the highly strung neurotic individual, the artistic and emotional *déséquilibrée*.

3. *The Intoxications.*—It is only necessary to call to mind the altered mental states brought about, in man, by the toxæmias of the microbial diseases. The maniacal states of scarlet fever, diphtheria, typhoid, pneumonia, and other diseases are too well known to require further details. The muttering delirium of renal insufficiencies is also of this type.

The altered mentality induced by alcohol is also too well known to need further description; and the same is true, although to a less extent, of the mental states of the habitué to morphine or cocaine.

*Cannabis indica*, as is well known, brings about a condition of altered subjective personality which is interesting, but the reader is referred to that drug for its consideration. Like the following category, this subject is taken up only that the mosaic may show some pattern.

4. *The Insanities.*—The final stage in the gamut of disordered conscious states falls into the loose category of the insanities. Here the prevailing note is markedly anti-social conduct, and the individual and society are at loggerheads. It is not the purpose of the present article to discuss the insanities, and they are here included more for the purpose of rounding out the general conception of what is in the present article regarded as the "Disorders of Consciousness." Even in the insanities there can be traced the final stages of many of the milder forms of disordered conscious states. The analogies of a *melancholia attonita*, for example, to hysterical paralyses are suggestive, even if apparently far fetched, and certainly the vagaries of a major attack of hysteria, so far as the emotional content is concerned, pass by insensible stages into many maniacal states. The present writer would not push the analogy too far, however, but would employ it merely as suggestive of the continuity of the mental activities which both in their normal and abnormal manifestations present such a richness of variation as to defy all categorical classifications.

Smith Ely Jelliffe.

**CONSTIPATION.**—This term is applied to an abnormal sluggishness in the movement of the intestinal contents through their canal. In extreme cases, when the bowel becomes entirely closed up, one speaks of the condition as obstipation. When there is a movement daily, but the amount is small, so that an accumulation takes place within the intestine, it is called costiveness. It is obvious that there is no sharp line separating constipation from health. But in general it may be said that most persons to be in health require to have a stool daily. Exceptions do occur; some people habitually have an operation only once in two days, and show no signs of suffering for the lack of a daily evacuation; others habitually have more than one discharge a day. The defecation should be moderately soft in consistence, and cylindrical, not spherical, in form.

Among the symptoms, other than infrequency and incompleteness of defecation, may be mentioned headache, furred tongue, foul breath, muddy complexion and conjunctivæ, a sense of weight in the abdomen. The constipated condition may even be masked by a diarrhoea affecting only the lower bowel, while an actual impaction exists above. At times, moreover, in the cæcum and

colon hard masses may accumulate in sacculi in the periphery, while a moderate amount of liquid faeces flows along the centre of the gut. Many of the symptoms of constipation are those of dyspepsia, the two conditions often co-existing, and mutually aggravating one another.

The causes of diminished bowel action are numerous. First may be mentioned mechanical or structural causes, including adhesions, bands resulting from inflammatory deposits, new growths within and without the intestine, constrictions, invaginations, twists, for whose discussion the reader is referred to their appropriate heads. The non-structural causes only will be considered in this article. Dilatation of the intestine with atony is, perhaps, the commonest cause of constipation. The fault lies especially in the large intestine, which is intended especially as a receptacle for the faeces. Normally, they rest, in the intervals of defecation, in great part upon the sigmoid flexure, and the rectum is for the most part empty. The passage of a portion of the dejecta into the rectum and the vicinity of the sphincter sets up that irritation which by reflex action produces the phenomenon of defecation. If this call is habitually neglected, the sensibility of this portion of the bowel is blunted, so that a great accumulation of fecal matter may take place. This dilates the bowel and still further obtunds sensibility, so that a vicious circle is established and the evil is increased. Another cause of this condition of things is the lack of a regular habit of defecating at a fixed time daily. It seems possible to train the intestine, as it were, to send its contents into the rectum at a stated time daily; and if this periodicity can be secured, one has a powerful aid toward regular and complete evacuation. From the atony above described one finds various degrees up to paralysis of the peripheral nerve endings in the intestine, and of the centres in the cord presiding over peristalsis and defecation. Again, the atony may not be confined to the unstriped muscles of the intestine, but may affect the voluntary muscles as well. This is especially the case in obese persons, and those having lax, pendulous bellies, as after numerous pregnancies. Deficiency of secretion of the intestinal glands contributes to constipation by lessening the fluidity of the chyle. Over-active absorption of the fluids of the chyle may act in the same way; this occurs in febrile states, and when the perspiration is abundant. Anæmia is usually given as one of the causes of constipation; perhaps it would be truer to say that the two conditions have some causes in common; among them an indoor life and sedentary occupations. Probably a large proportion of individuals engaged in sedentary callings suffer at some time from constipation. This is especially the case in those who have changed their mode of life from a more active one, as in the case of students who have formerly been active bodily workers. Any change in surroundings, even though it do not involve a lack of exercise, may cause constipation, as when a person removes from one climate and soil to another. The change of water very possibly adds to this effect. Most landsmen taking a sea voyage suffer more or less from constipation. Congestion of the mucous membrane of the bowel has sometimes a constipating effect, especially when it is due to chronic venous obstruction. For this reason diseases of the liver involving passive congestion of the portal system are often attended with constipation. The explanation seems to be that long-continued passive congestion leads to thickening of the mucous and sub-mucous coats, which impairs peristalsis.

Some forms of cerebral disease, notably tuberculous meningitis, are attended with constipation to a greater degree than other maladies of like febrile intensity. An important aggravating, if not primary, cause of constipation is the use of cathartics. These are seldom if ever required in the treatment of constipation, laxatives always being preferable to purgatives. But, through a mistaken notion of what is needed, the laity are much addicted to the use of powerful cathartics, which, though they relieve temporarily, in the end aggravate the difficulty. Enormous quantities of cathartic pills, chiefly of the proprietary order, are consumed by the public, and

no small proportion of their users arrive at that unfortunate condition when nothing but a repetition of these drastic purges will procure them an evacuation. Improper foods are another cause of constipation; among such we may mention those which are specially concentrated, so that they leave little residuum; a certain bulk of unassimilable residue is necessary for the intestine to act upon. Foods that are too bland, as milk, act in the same way, not affording an irritation sufficient to stimulate peristalsis. This effect of faulty foods is specially observable in young children. Finally, chronic lead-poisoning has among its symptoms marked constipation; here of course, ordinarily, one can obtain the collateral evidence of colic, blue line on the gums, etc.

Much of the importance attaching to constipation depends upon the effects which it produces. Among these that upon the digestive function has been referred to. It is perhaps to the latter that the mental depression so often observed in constipated persons is more directly due; but however this may be, the coexistence of constipation with mental irritability and melancholy is often marked. Intestinal catarrh may be induced by constipation, and may, as already hinted, show itself by a diarrhoea actually coincident with constipation in other parts of the bowel. The catarrhal process occasionally localizes itself, notably about the ileo-cæcal valve; inflammation here (typhlitis) may go on to ulceration, and even perforation, or may by extension cause perityphlitis, with or without ulcers. Other neighboring viscera may suffer from overloaded bowels; a distended and dilated rectum may cause uterine congestion, thence proliferation of tissue adds weight and finally causes displacement. More frequently is its aggravation of symptoms due to uterine disease that had an independent causation. Neuralgias, ovarian, and especially of the sciatic nerve, may be determined by constipation. In the male, seminal emissions are sometimes so caused. Hemorrhoids constitute one of the most annoying and serious consequences of constipation, the distention of the hemorrhoidal plexus being evidently aggravated by a loaded rectum. The general effects of the irritation of the blood by the absorption into it of the contents of the lower bowel, through the prolonged exposure of the latter to an absorbing surface, are shown by the fact that repair of traumatic injuries and operative wounds is observed to be delayed when the bowels remain for a long time constipated. From this it seems reasonable to suppose that other vital processes, depending upon a healthy state of the blood, are similarly hindered by habitual inaction of the bowels.

Auto-intoxication has lately come to be recognized as a cause of many diseases, especially of a mental or nervous character.

**TREATMENT.**—This is often a matter requiring great judgment and patience. Some of the essentials of treatment have been hinted at in what was said of the causes of constipation. Special attention should be paid to the prevention of this trouble in young children, by training them from their earliest years to regular habits in this regard. The person who is suffering from constipation must be enjoined to select a definite hour (if possible, directly after breakfast), when he will be able daily to devote at least fifteen minutes to securing a proper evacuation. This attempt should be made daily, whether the desire is felt or not, and in time the endeavors will gradually become more and more successful. The water-closet should be made comfortable enough, so far as temperature and accessibility are concerned, so that the individual can spend that amount of time in it without danger of taking cold. Unsheltered and exposed privies are a fertile source of constipation in delicate females. After a stool occurs, a few minutes should be given to see if a further amount of fecal matter finds its way into the rectum, a thing which often happens. It should never be allowed to remain in the rectum, for that will blunt the sensibility of the mucous membrane, and so delay the cure. A call to defecate, no matter when it occurs, should never be neglected for a moment. The "post-ural" treatment has been recommended, wherein the pa-

tient assumes a squatting rather than a sitting attitude, thereby securing a mechanical advantage in the act of defecation. The diet is of great importance to a constipated subject. Fruit is usually of benefit, particularly figs, berries, stewed prunes, and baked apples. Oatmeal has a popular reputation in this regard, though occasionally persons are found upon whom it seems to have a binding effect. Brown bread and molasses are anti-constipative. An orange, or a pear, taken immediately on rising, will sometimes act as a laxative. In infants, after the fifth or sixth month, costiveness is usually an indication for introducing starchy substances into the diet. Among hygienic measures, we mention out-of-door exercise—in particular horseback riding; massage or kneading of the abdomen, which should be practised daily on rising, the manipulation being over the ascending, transverse, and descending colon, in that order. Electricity similarly applied has proved effective. It may be mentioned that tobacco-smoking acts with some persons as a laxative. The ingestion of a considerable amount of water is to be recommended, and a glass taken on an empty stomach in the morning is particularly effective. Mineral waters are, many of them, of value chiefly by attracting patients to ingest large quantities of fluid, which otherwise they would neglect to do. Some mineral waters, of course, have a distinct laxative character by virtue of their dissolved ingredients. Such are Hunyadi János, Friedrichshall, Congress, Carlsbad, Rubinat-Condal, Apenta, etc. Laxative waters that can be drunk on the spot, *i.e.*, among diverting and pleasant scenes and society, are particularly useful. One to five glasses daily, according to the strength of the water, may be required. The drug treatment of constipation always requires caution. Purgatives are almost never indicated, except, perhaps, once at the beginning of a course of treatment. Laxatives in the form of mineral waters, just alluded to, or as salines, magnesia, potassii et sodii tartras, etc., may be given in small repeated doses if necessary. Probably no better drug exists for the treatment of chronic constipation than aloes, which acts specially on the lower bowel, and but little upon the secretions. This should be given in small doses (say 0.01 to 0.02 gm., gr.  $\frac{1}{4}$  to  $\frac{1}{2}$  in pill; two pills to be taken two or three times a day). Unlike other cathartics, this does not require to be increased in dose to maintain its effect, but one pill can be dropped at a time till the motions are natural. Belladonna in the form of the extract, 0.01 to 0.15 gm. (gr.  $\frac{1}{4}$  to  $\frac{1}{2}$ ), once or twice a day, is highly recommended by Trouseau. Nux vomica and strychnine have given good results, but are most reliable when combined with other remedies. They act not as cathartics, but probably by increasing the reflex irritability of the spinal centres which preside over peristalsis. The buckthorn (*Rhamnus frangula*, *R. purshiana*, etc.) has been advocated, and the cascara sagrada, in the form of the fluid extract, in doses of 2 gm. and over (3 ss.), seems to be a valuable addition to the therapeutics of constipation. The latter drug is also used in the more palatable form of compressed tablets, with or without aloin and nux vomica. Cold- or hot-water injections may be practised daily as an adjunct to other treatment; suppositories of glycerin or of soap immersed in oil are sometimes effective, especially in children. Finally, in cases of obstinate rectal impaction, mechanical removal of the faeces by the finger or by a scoop may be necessary. Charles F. Withington.

**CONSUMPTION, CLIMATIC RELATIONS OF.**—From the period when *De æribus, aquis et locis* was written to the present time, when each year sees a number of new publications devoted to the special virtues of particular health resorts, it has been generally accounted true that Hippocrates was right when he wrote, "Whoever desires to understand medicine thoroughly can by no means neglect the study of the seasons with their variations, of the winds, both as to heat and cold, and those peculiar to certain regions, and of the properties of different waters." The bearing of these words has, by writers of every age, both historical and scientific, been noticed in