THE MENTAL REGULATION OF INTESTINAL ACTIVITY.

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THE control of the colonic motor function, and especially of the series of events which lead to defæcation, is generally recognized as being a subject of the greatest importance in medicine; and, more particularly, the possibilities of varying that control. There are a large number of diseases that may, in special instances or in general, be due to constipation and inefficient elimination of waste products. Constipation has been claimed as the first step towards the different catastrophes ranging from Menière's disease and otosclerosis, gout, hyperpiesia and certain of the rheumatisms, to cases of hernia and abnormal presentation. It is my endeavour to look upon it as being even more prominently a secondary manifestation, a symptom of an even more widespread condition—mental misapplication and disorders of mental forces. With this in mind and dealing with an argument that is already proved to some degree in its most marked details, it is hoped to present, not masses of data and deduction so much as an illustration of the value, and even a hint at the frequent therapeutic necessity of orientating the various causation circles in this direction. As a cause, and especially of these mental difficulties themselves, constipation is well enough stressed; constipation as a result has not yet been sufficiently realized, nor attacked rationally from its base. The words "habit formation" cover most of the therapeutic efforts from the mental side, and that is conceived very much as a time-conditional reflex of purely physical determination. A more definite idea, then, of the mental aspect of intestinal motor function may be helpful, and especially so when so many of the habitual purgative class of drug are being authoritatively questioned as being disorganizing to this proper function. The treatment of constipation is hardly yet on a successful or rational basis.

It is a matter nowadays of common agreement that great influence can be, and commonly is exerted on the somatic function as a whole by emotional states; particularly by repressed emotions (1), and the action even particularly clearly shown on the intestinal motor function (2). Precisely what is the mechanism for psycho-somatic interplay at this level has not yet been fully worked out, but mental states have been shown to have definite effect on factors as basic as respiration, oxygen consumption, and the whole function of acid-base equilibrium, as well as on the endocrine organs (3, 4, 5, 6, 7, 8). Through these there is room for any number of ulterior effects. The whole postural

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interplay of metabolism and somatic adaptation appears to be swayed by mental feeling states. That this is perfectly natural is shown by the reflection that emotion, or its longer variant mood, is in fact no more than the conscious feeling that goes to the elaboration of the general type of change that the organism wishes to produce between itself and its environment (9, 10, 11, 12). Of necessity, then, these emotions will induce alterations and adaptations of functional activities throughout the whole body. Taking the organism as being healthy, each cell will alter in its reactions according to, firstly, its own tendencies to differential function under its own environment (e.g., to secrete in the presence of food), and secondly, according to higher, correlated units of activity tendencies. These higher units are correlated in nerve centres from other somatic or external aspects, and are shown as tendencies, such as, in the highest degree, are demonstrated in emotional states —tendencies of the whole integrated personality. It is of primary import that the higher unit can inhibit and control the level of action-response of the lower unit (13, 14). The more inclusive unit will naturally exert a more general and less selective effect on the action than the more local reflex. Just as the primitive withdrawal reflex gives way, so should the reflex intestinal functions give way—to conscious preoccupation, or unconscious, in activity of another direction.

There are certain general emotional results on intestinal action that are well known—the diarrhœa of fright and fear perhaps best. The constipation of acute mental disease is a corollary to this. The need for habit production is realized well by all, but, not so well, that the sensory stimulus to defæcation will probably be overlooked if the mind is at work on some other problem. In an opposite way it is common practice to give a patient a purgative medicine when he comes with the complaint of being generally below par and of worrying too much. But, in this instance, which is the more likely to start the vicious circle? Constipation out of the blue to an otherwise sound organism? Or mental overloading and misapplication out of life to a man who, though healthy enough, is immersed in life? Indeed the doctors and the patients often realize this when they stress the need for a "change of air", or for "getting out a bit", which does represent an attempt at least at mental treatment. These attempts are usually symptomatically successful to a degree, for the time being.

When the whole body, then, is toned to despondency, the whole bowel is likely also to be sluggish in general. Proper intestinal action is, like other function, dependent on the correct individual working, and then the accurate interplay of a series of interlocking mechanisms. Taking the separable parts, one can trace more detailed action. Proper digestion is a first necessity (15, 16). This, in the normal individual, has been shown to hinge to a very large extent always, in each part of the intestine, on the adequacy of the previous step in digestion. The first step is very largely dependent on appetite. A poor

appetite must mean poor reflexes all along the line and, apart from direct secreto-motor reflexes, the lower bowel will be getting an "unprepared" type of food, which is *a priori* unlikely to provide the best stimulus to action. Also it may mean fermentations, putrefactions and an abnormal bacteriology, from which various vicious circles of toxicity and so on may be set off in turn. Proper digestion, too, demands proper post-prandial leisure, and presumably mental leisure. Then there are the various movements from the ileo-cæcal valve to the rectum. For the valve itself, it opens reflexly to allow food to pass and to prevent it passing too early, in too fluid condition (17). It has been shown to open most freely after meals, and reflexly with the openings of the pylorus. It is also most noticeable after meals that emotion will induce spasm of the pylorus and inhibit the gastro-ileal reflex at its start. Clinical evidence shows that minor mental worries inhibit gastric emptying in a parallel way. Meanwhile, apart from disorganization of digestive and absorptive processes as a whole, more water will be absorbed, and the food mass is already delayed and less fluid. In the colon itself there are two types of movement. First is the more local and simple variation of muscle tone. This is most probably myogenic (18, 19), and appears less likely to be affected reflexly from other parts. Emotional disturbances, however, and adrenaline secretion have been shown to produce exaggeration or even spasm in them, and these movements are such as to increase absorption, and will also tend directly to stagnation of the contents. In the first place, the mass peristaltic movement will be slowed by more solid fæcal matter; in the second, they will be themselves directly inhibited by the spasticity of the muscle. This mass peristalsis is the direct propulsive mechanism of the colon. It is of comparatively infrequent occurrence and is brief and powerful. Normally it is set up reflexly from the pylorus, and thus is demonstrably interfered with by emotional states. Its brief nature implies that a comparatively short inhibition may lead to a comparatively long period with no forward movement in the colon at all. It is clear, besides, that all these reflexes are mechanisms likely to be exaggerated or disorganized as a result of higher nervous activity. Emotion notably causes spasm through the whole intestine.

Then there is the act of defæcation itself (20). This consists in the perception of a sensory stimulus and a corresponding reflex action, of peristalsis and accurate voluntary pressures. The perception is conscious and there is the voluntary muscle adjunct. If the brain is preoccupied with a seething emotion or mood, or intellectual content, the stimulus may be ignored by the individual. Not only this, but it is a matter of common experience that even if we replace the missing conscious stimulus to defæcation by a cerebrated desire to do so at a time when we know the reflex should be workable, even then the reflex response is likely to fail, probably at a lower integration level, if we are emotionally upset.

Constipation is clinically of either dyschezic or spastic type, in otherwise

normal individuals. Both types may be produced by common mental states. The neglect of a sensory stimulus is usually ascribed to laziness in the first place, but it is even more likely to be due to mental preoccupation consciously or unconsciously determined. An aberration like constipation is not likely to arise *de novo*, and in most cases there seems to have been little if any alteration in feeding condition. Diet is obviously capable of altering bowel action to a considerable extent, but normal variations are not enough to disturb most people, and if some need a special diet, that surely means to say that their intestinal tract is functioning less adequately. It is then still no more than a symptom of a more general condition of body reactions that is being cured. It seems irrational to treat constipation as primary, or as due to bad feeding.

In the attempt to correlate mental conditions and bowel action with any degree of accuracy, it is the assessment of the mental side that is difficult. Apart from the field of common experience, the most likely group for investigation is that of the psychotics, their mental tone being comparatively well manifest. There are two main mental states apparent as having physical side effects—apart from the emotions (21). There are those who, as far as possible, fail to react to stimuli, and those who react to stimuli in an exaggerated and disorganized manner. These correspond roughly to the introvert and extravert types respectively, and it is interesting to note that the first shows both a decreased, slow reaction secretion of adrenaline and a decreased general reaction to adrenaline, whereas the second type shows just the opposite in both cases (22, 23). Boles (24), for instance, says, " In making a diagnosis as to the type of constipation, the first essential is to know the patient ", and later he roughly defines the phlegmatic and the irritable types. He also considers, and others agree, that the frequency of motions that should be considered normal for each person depends on whether he is irritable or phlegmatic. Again, he and others have pointed out that constipation, and more especially the spastic type, is a product of civilization. Yet surely this rush produces as much attempted withdrawal as it does attempted hypertrophy of energy : hypotonicity as much as hypertonicity.

The disorders of action fall into the main groups of (1) over-reaction with disorganized reflexes ; (2) simple over-reaction ; (3) simple under-reaction ; (4) under-reaction with disorganized reflexes. Taking the views that the mental state is a tendency reflected throughout the organism, we should be able to account for bowel conditions by corresponding mental conditions, in the absence of organic disease. Disorganization of reflexes, then, by itself is likely to be due to emotional conflict and difficulty. Pavlov's dogs seem to show this (25). Also it will be worse, as with Cannon's reaction (2), when suppression is attempted (26, 27). The more lasting corresponding states are anxiety, despondency and so on ; roughly speaking, any failures of the mind to adapt. Again, it is states of displeasure and not pleasure that will tend to

interfere with normal action directions, as being a desire for change. Over-reaction and quick reaction are main factors of the extravert type; under-reaction of the introvert, schizoid type. A complication arises when a schizoid type or intermediate is trying to work at high pressure, or conversely, when an extravert or other type is trying to withdraw from reality contacts. Thus we can elaborate our groups.

(1) *Over-reaction with disorganized reflexes.*—Seen in spastic conditions. It corresponds roughly to extravert types with a degree of mal-adaptation. Clinically these are recognized as hyperpietic and sthenic types, which rightly include the intense triers of other character groups. The intensity is in itself, as a rule, a sign of poor adaptation in some way—a continual effort to "keep up the pace". Perseveration of mental activities occurs markedly in these, and is most important as a tendency to preoccupation and inhibition. Many sthenics are regular enough while keeping a careful routine, but will be the first to inform one that even a small complication arising will upset both mental and intestinal poise.

(2) *Simple over-reaction.*—Well known in the case of mucous colitis. This should be a type that is hyper-responsive to stimuli and extravert, and yet refuses to feel anything to such a degree as would have any sense of difficulty in it. Most hysterics are like this, and this again is recognized clinically as the type tending to mucous colitis. It has been shown that the mucous secretion is the result of local irritation and not nervous control (28), and in that case, clinical evidence equally shows that the increase results from greater irritability of the glands rather than from a more irritating fæcal content.

(3) *Simple under-reaction.*—The introvert, or other type, has the temperament or wish to travel slow, a desire to stay still, and no particular under-current of dissimilar or disturbing mental activity. This group is recognized as those who, with less frequent motions than might be desired, are yet normal enough for themselves.

(4) *Under-reaction with disorganized reflexes.*—This applies most directly to dyschezia. The group is of those who are too lazy, or ignorant, or demented to respond to the stimulus, and those who, while well able, are over-occupied mentally—overdriven and trying to lag back. The introvert is most susceptible to this type of reaction; also weak types, the ptotic and asthenic types. In acute mania there is a profound loss of true reactive power also; true emotion is lost and the body is limp and exhausted. The dyschezic element itself may be due simply to excessive distractibility.

In the types, overlap will naturally occur, and each patient must be taken as an individual problem, to be sorted out and given perhaps more than one label. A hard-going spastic extravert may easily have preoccupation enough, for instance, to add a dyschezic element to his trouble. All along it is the latent and not the immediate mental content that counts; it is a fairly steady action adjustment trend, such as nearly all form in their attitude to life.

As a corollary to these we should find that well-adjusted people reacting at a normal speed will not be constipated at all, except when organic disease is present.

The question of habit arises. The bowels are brought under voluntary control to quite a considerable extent, as is clear in tracing up the infant into the child and the man, and it is also clear that a habit can be trained, and can be very powerful in resisting other and alterative tendencies. It seems not to be a question of a momentary attention that is acquired, but an automatic ordering of a whole little section of one's attitude. Merely going to the lavatory is not enough. It must be regular, long-standing, automatically timed; one should "not be anxious", not "look behind", and so on. It seems a case of dissociation in various degrees up to the most marked cases.

CASE 1.—A strong, vigorous extravert, rather overdoing things, and very hearty. Regular motion after breakfast; and at the same time not quite his proper bouncing self round about breakfast. A strongly vegetative, automatic undertow was visible in him from about 8 a.m. to 8.15 a.m., culminating in the lavatory.

This may be an extreme case and may be overdrawn, but it seems to me that something of this is very frequently discernible. Another form that is often noticeable is a parallel type going regularly, immediately on rising from a deep slumber that belies his daytime worries and anxieties. This is a further reason for the greater simplicity of the question in psychotics, for they seldom have the organizing ability for dissociation in a constructive direction of this sort. The difficulty of inducing the habit anew—an endeavour on which most medical men concentrate exclusively when attacking the mental side of constipation—this difficulty is entirely to be expected, reasoning on these lines, and seeing that the endeavour is, as a rule, directed without precise psychological knowledge.

With these probabilities in mind it was decided to see whether it was possible to show that a definite connection was visible between the mental and intestinal functions of the patients in the mental hospital. The mental content could be assessed with more accuracy than usual in such a group, and the condition of their bowels was, as a rule, equally clear, thanks to a careful nursing staff. After a general survey, to see what characters appeared most to the point to look out for, a short mental assessment was made of the condition of each patient on the male side. A parallel set of notes was then made of the state of the bowels, as noted by the nurses. The personal factor remains considerable in such an investigation. It would, perhaps, be best simply to copy out the lists, but the most precise phrasing would still be no more than personal impression, and would, in addition, be liable to misinterpretation. It has, therefore, seemed best to tabulate a little, and to group, for convenience of interpretation, giving brief examples only of the actual assessments made. Similar, though less intensive, inquiries were made on the female side, and of these no more need be said than that the results were precisely parallel. Only

a few examples are taken from these. It was at once clear, as suggested above, that it was not the overt mental activity that counted so much as the back ground, the readiness and steadiness of attention, the tendency to perseveration and continuity of action or to the reverse, the amount of basal mental activity, its force and its pleasant or unpleasant character; most important also, the adaptation factor. No elaborate analysis seemed necessary or profitable.

On the male side there were four wards and an admission block. There were few patients in the latter at the time and they were conveniently grouped among the others. One or two workers were left out, as their bowel condition did not seem accurately known, though appearing to be regular. The material is shown in Table I.

TABLE I.—*The Material.*

Category.			Number.	Rough % constipated.
Ward	I.	Best workers	24	15%
,,	II.	Retired	23	20%
,,	III.	Refractory	24	50%
,,	IV.	Hospital	38	50%

It is interesting that the percentages should so clearly correspond to the difficulties set out in this table, but the real argument in this case is to be drawn from much less symptomatic and more individual rating than is implied in the ward divisions. A summary of each of the cases in Ward III will act as an example of this—Table II.

TABLE II.—*Ward III.*

Patient.	Summary of mental aspect.	Bowel functions.	Remarks.
1	Easy-going, manic, very easily roused. Constant grumbling and laughter on every occasion, but seldom really active.	Frequent, regular	2–3 per day.
2	Cerebral syphilis. Very easily roused. Delusions of grandiose happy type. Sometimes violent; works easily and happily.	Ditto	2 usually.
3	Dementing extravert, who likes to sleep, but can keep tidy, and is extraordinarily easily roused for a moment at a time. Pleasant delusions.	,,	,,
4	Extravert. Simple and rather withdrawn, but pleased and good tempered.	Regular	1 per day.
5	Quickly reacting, but fairly withdrawn and occupied mentally. Talks to himself a lot, and pleased with life.	,,	,,
6	Easy-going new case. Schizophrene. Always smiles to himself and is withdrawn, but works and co-operates well.	,,	,,
7	Dementing and scarcely works at all; will not speak, but does as he is told easily and seems well pleased.	,,	With occasional aperient doses.
8	Old delusional case. Now easy-going enough, but easily roused and rather aggressive. Not worried.	,,	Ditto.

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TABLE II.—*Ward III—continued.*

Patient.	Summary of mental aspect.	Bowel functions.	Remarks.
9	Much withdrawn, but works well automatically. Co-operative as far as he is anything. Very dull.	Fairly regular	..
10	Persecutory delusions. Now almost used to them, and easy apart from an occasional storm.	Ditto	..
11	Dementing epileptic. Rather untidy, confused and difficult. Extravert.	Slightly constipated	..
12	A much confused and hallucinated schizophrene. Now better and more accessible. Still withdrawn and mentally active to a fair degree, but improving.	Ditto	..
13	Much withdrawn and dementing; does as he is told, but has to be told all the time. Seems equable and happy.	,,	..
14	Weak, worried and unhappy. Delusions of infection.	Constipated	Only irritant purgative.
15	Introvert. On suicidal card. Dementing, but still rather intense.	,,	Any purgative.
16	Deluded and dull-witted. Also usually apathetic and depressed.	,,	Only irritant purgatives.
17	Intense introvert recently admitted. Very intense and preoccupied, but co-operates well when required, and tries hard.	,,	Only paraffin; belladonna helps.
18	A worrying, petulant schizophrene. Weak and dull.	,,	Irritants or salines.
19	Very demented and stupid; untidy; tears off his buttons, etc.	,,	Irritants.
20	Intense introvert, with periodic attacks of depression. Persecutory delusions.	Alternates	Though always a degree of constipation.
21	Intense paranoid. Delusions of persecution and very active depression.	See below	
22	Dementing schizophrene. Smirking and happy and fairly active in mind. Quite unco-operative and careless, and increasingly auto-erotic.	Dirty	Fairly regular.
23	Demented and dull. Hardly understands the simplest order and is quite beyond showing attention to anything.	,,	Constipated.
24	Schizophrene. Blank and morose. Negative and talking to himself incessantly, with unpleasant delusions.	,,	No enema, no action.

Patient 21 is the only case where the correlation of states was not clear, and even here there was probably no exception. His mental state should go with severe constipation. As a paranoid dement he might well have been capable of dissociating adequately, but this man was hallucinated, unhappy, and seemed very much in the power of his obsessions. The story ran that he went regularly to the lavatory and stayed there half an hour or so, remonstrating occasionally with himself. Afterwards he would say that he had had a motion, if asked. He greatly resisted any attempt to inquire into his physical condition in any direction. In every case, then, there would seem to be a definite and individual, not merely statistical, correspondence between the two states or levels of action. It is seen that, while, as expected, the

reaction type was responsible for a general tendency, the deciding factor was the adaptation and effort or otherwise of each in relation to his type. To follow this out better, the results may now be shown in more deduced groups, with the understanding that they really do, as in Table II, represent a sum of individuals added into groups, and not a mere form of average representations. The main divisions are shown in Table III, to bring out the tendencies of each type. Border-line cases and overlapping cases were, naturally, present throughout.

TABLE III.—*Groups.*

	Extravert.	Introvert.	Paranoid.	Others.
Frequent	6	..	..	5
Regular	12	7	7	11
Irregular	6	5	3	6
Constipated	2	16	3	8
Varying	11	1	1	..

The frequent group are those who usually had more than one action per day. They are of great interest. Six were typical extravert insanities, all of whom were quick and over-reacting, well adapted, and pleased with themselves. One had asthma, and was very ill. Delusions, if shown, were of pleasant, sometimes hysterical type, or else the patient noticeably liked having them and had quite ceased to worry over them. One was being hit repeatedly in the stomach by enemies. He seemed not only pleased, but considerably brightened by this reflection. Of the others, one was a case of cerebral syphilis, one of general paralysis and three were epileptics. The first two were in a typical, happy, elated state; the epileptics were equally typically self-satisfied, quick and rapid. The introverts, as would be supposed, are not represented; nor yet on the female side, where indeed the group was practically a replica of the above. There were no cases of pathogenic diarrhœa at the time.

The regular group was larger than might have been expected in a mental hospital. Walshe (29) gives 20% as a very rough estimate of the prevalence of constipation in the United States. This does not sound an over-estimate. In the hospital it is about 40%—just double. On adding up, however, the cases of acute mental state and advanced dementia—very vague, admittedly—they also made up 40% or more of the whole. Once the acute stage is over, it is comparatively easy for patients to adapt to their new mental and environmental standards, and to maintain life at their own pace more or less to their wishes, until dementia supervenes, and they fail to maintain self, wishes, or the action of their bowels. Of the extraverts in the regular group all showed, besides their extraversion, good adaptation with a degree of dementia or senility, or else greater capability of reaction with a less markedly good adaptation and self-satisfaction. At opposite ends of the scale:

CASE 2.—A very good worker; very extravert and quick reacting. Bursting with song when not thinking particularly; but he is working to his full mental capacity, and is rather anxiously aware of his chances of discharge, if he can keep it up.

CASE 3.—Is now silent and very demented. He does a very little automatic work, and in this, as in the other components of his life, he evinces a pleasure equalled only by his unconcern. He does not get untidy.

The introverts are all the best adapted of their kind, and not so demented as to be unable to look after themselves. The seven paranoids are hardly typical. All were cases pleased enough with their life, and used their tale of woe not with intensity as a scourge, but for the occasion, with a fair show of interest. Some were probably schizophrenes.

CASE 4.—An artist and quite a character. He looks rather fiercely venerable, distant and intense, but when approached is aged, quite pleasant, and absent-minded. He likes to go on long walks, and, occasionally, to write and remind the Government that something may yet be done. Paranoid.

The remainder of the regular group are all clear enough cases, and among them some easy-going imbecile types.

The irregular group was naturally a little vague—patients whom one did not like to describe as definitely constipated, yet who were none too regular, and seemed to have difficulty in this way. On the mental side it was quite remarkable that all of them were just as indefinite: not really well adapted, nor yet frankly displeased; not quick, perhaps, yet not incapable of doing what they were told. There is, of course, a complete gradation, as implied in Table II, but the difficulty of precise measurement on both sides makes it perhaps as accurate, as well as more convenient, to deal in groups.

The definitely constipated group is not alarmingly large. The definite extraverts among them are very few. Extraverts will tend to constipation when making considerable effort to get along, and psychotics are unlikely to do this except in the acute stages, which are mentioned later. Of these two, one is the most demented patient in Ward I, the other an unhappy and maudlin general paralytic, though with a fairly well-preserved intelligence. A few more could be added to these from the female side, but it seems to take a very considerable dementia or an especially anxious mental state to make a typical extravert's bowels sluggish—apart from acute stages. Of the introverts, on the other hand, more than half are constipated, and of these the majority again are so demented as to be past thinking of their bowels for themselves at all. Some, less demented, were yet beyond thinking of externals, being acutely withdrawn and taken up with verbigeration or catatonic activity. Table II, 17, is interesting as the only introvert, excluding paranoids, who had spastic constipation. It was, however, clearly correlated with his state. Table II, indeed, shows an interesting gradation of schizophrene types. Of the three paranoids one was recent and acute, one was rowdy, difficult and dementing, and the other was old and querulous, though not acute. The paranoid

irregulars, to revert, were those whose delusions were in process of becoming less troublesome and more routine to them. There were more on the female side. The remainder of the constipated were the same, with a number of worrying hypochondriacs.

The dirty cases were of interest, and Table II shows a good epitome of examples. One thoroughly careless with a motion every day somewhere; one extremely occupied and worried with no motion at all; the other intermediate. In the hospital ward there were two of another extreme—extreme dementia.

The type of constipation shown has already been suggested. It was extraordinary how regularly it was possible to predict the successful or unsuccessful class of drug in a given case. Spasticity went with positive intensity. Underaction with mental withdrawal, and dyschezia in itself with forgetfulness engendered by whatever cause. Table II again shows a good variety.

In the varying group are included all the acute cases showing recovery and the definite alternating psychoses. Almost all our recoveries showed a degree of coincident improvement in bowel function. But two minor degrees of recovery on the female side did not. One had carcinoma of the descending colon, and the other appears to have pain of organic origin in the abdomen, as yet undiagnosed. She is old, and is very worried about herself. Both are severely constipated. On the same side one " recovery " from acute catatonia has to have regular enemata. She is keen, nervous, intense, and wideawake, and the type of constipation is now spastic. She has not, in fact, recovered to an equilibrium, but to difficulties, and it was interesting to follow out the accuracy of this distinction in certain other cases. Of the alternating cases, the milder went from constipation to regularity. A few, varying but always anxious, went from less to greater degrees of constipation; of these were the one introvert and the one paranoid in the group. One new admission with general paralysis changed from extreme annoyance at finding himself there, to high spirits and great gusto when the discovery was forgotten. He was at first very constipated, but now goes two or three times in the day.

Just as remarkable was the way in which minor mental set-backs in any patient were attended by increased constipation. Sometimes it seemed that a mild degree of constipation cumulated to cause a mental exacerbation. These were known to recover immediately with enemata. In most cases, however, it seemed that the mental state altered directly primarily, and in these enemata had little effect.

Two male patients, not noted above, were old men who had to retire to bed, one with a broken thigh, the other with a failing cardio-vascular system. Both had been refractory, worrying patients, but became more co-operative and pleasant under the humanizing influence of illness. Both, constipated before, became almost regular, despite their illness. Another case was a typical happy extravert succumbing to a rapid, ulcerating carcinoma of the anus. Here frequency gave place to regularity and thence to slight

constipation. The deep ulcer seems never to have interfered itself with the passage of fæces, and the sphincter went early on, but the pain of any movement has increased, and is now great, making him very anxious in that direction. In the same way two bad cases of piles showed more constipation than would have arisen from their mental state in general.

In each of this series of patients, then, a recognizable correlation was present between state of mind and bowel function. No measurable index was found, but the rough degrees were not hard to assess in the individual. A good account of the mental state should make possible an accurate general forecast of bowel function, and, where these did not agree in the investigation, organic disease was found to be present. It may seem rash to claim 100% of accuracy, yet in a matter of this sort the correlation, if present at all, will surely be present in all cases, though it may vary as to degree in each. The whole, perhaps, amounts only to the statement that constipation is always a symptom of either mental or organic aberration, but it attempts also to show the very high percentage of the former, and to draw attention to constipation as a very immediate symptom of mental difficulty. Constipation does aggravate such difficulty, but must itself be caused by something. The attitude of mind is always there to affect function—organic disease only seldom.

It may be apt to conclude with a short account of an interesting case from outside the hospital, of a type which must be very common.

CASE 5.—Male, born 1910. He had had a typical introvert history, and was of athletico-sthenic appearance. A hard worker, though not bright, he had found life to require a considerable intensity of application. In school days he had regarded a regular motion in the mornings, after waiting in the queue, as rather a luxury, to be indulged in by such as could afford to waste time. It is not unnatural that a considerable degree of constipation had obtained. On leaving school he soon realized the importance of setting the matter right, and endeavoured to acquire the habit. For a time he was unsuccessful. During the next few years, however, much of his intensity wore off, and life was seen to be less of an ordeal to him. This was under the softening influence of early maturity and of a slight but welcome degree of success in a local branch of sport. He now became quite regular, although soon getting lazier in observing the precision of habit. At the age of 22 a further change occurred. The process of maturation continued and assumed a less jocular aspect. His mind began to fill again with the whole tragedy of conscious existence, and at the same time he was forced by examinations, the threat of the future and his new turns of thought to realize the great futility of his previous efforts, and the little successes gained by a mental effort that might with more profit have been spent on work or on acquiring some knowledge of social procedures. He again had to concentrate on regular evacuation, but only became more and more constipated, and by April, 1934, started taking considerable doses of aperients, with indifferent success. At this date circumstances sent him to a job at some distance from the set of associations that had been undermining his sense of equilibrium. At first he was distressed and uneasy, and was having to work hard. He picked up, however, and early in June passed an important examination. He had had a period of psychological attention from the writer, with the advice of Dr. Davies-Jones, and, his difficulties passing the crisis together, he returned from his success with confidence restored and a less intense and difficult manner. He stopped taking patent medicines, and now had no difficulty in going regularly twice a day. This lasted for two months, and still obtains, except that an occasional short fit

of recurring intensity puts him out for a day or two at a time. In the early period, the type of constipation seems to have been dyschezic. At the time of examination in April the colon was spastic and there was no rectal accumulation of fæces. The last year or so he had complained of pains in the right iliac fossa. He now feels that constipation is not a matter to be blasted out with medicines, but a warning that his attitude is going wrong.

In a great majority of all these cases the constipation had been treated long, by both medicine and exhortation to correct usage. The endeavour produced no change. Mental improvement, however, was always at once accompanied by improvement. It seems difficult to doubt the direction in which therapy should most rationally turn.

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