HEALING OF TUBERCULOUS CAVITIES*

BY

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A cavity in a tuberculous lung is a source of danger, and adds to the gravity of the prognosis. At the same time a large number of cavities heal without any form of collapse treatment.

The modern view that a cavity must be collapsed at all costs is open to the criticism that the danger of the treatment sometimes exceeds that of the disease. It is usually good treatment to try and collapse a cavity by artificial pneumothorax, but if this fails it does not follow that surgical methods, such as thoracoplasty or plombage, should be tried.

McMahon and Kerper (*Amer. Journ. Med.*, 1933, lxxx, 170) found that 27.7 per cent. cavities treated with simple medical means healed. They also state that prognosis varies with the size of the cavity. Spontaneous closure occurred in 40 per cent. of those not larger than 2×2 cm., but in only 6 per cent. of those over 4×4 cm. In a right-sided cavity spontaneous healing was twice as likely as in a left-sided, and three times as likely as in a bilateral, case. Healing is less likely in a peripheral cavity or a thick-walled one.

It is usually the type of disease rather than the presence of a cavity which renders collapse treatment necessary. In acute and rapidly spreading unilateral disease artificial pneumothorax is urgently needed before cavities have time to develop. If there are cavities when the patient is first seen collapse is still needed to check the spread of the disease as well as to close the cavities.

The thin-walled cavity which may appear early in the ordinary subacute adult type of the disease will often heal with rest and simple medical treatment, but unless there are contraindications artificial pneumothorax should be tried because it usually gives the patient a better chance and, if delayed, may become impossible owing to the development of adhesions. In almost every case of this sort pneumothorax is indicated for the disease, so that it is wrong to wait for the development of a cavity before inducing it.

The chronic cavity with secretion containing tubercle bacilli is a serious danger to the patient and, if it cannot be closed by pneumothorax, surgical methods are usually indicated. It is for this type of cavity that surgery offers the best chance. Apicolysis is the simplest operation, but its results are often disappointing. A partial thoracoplasty may close the cavity, but is often followed by spread of disease into the lower part of the lung, so that a total thoracoplasty becomes necessary.

The dry, chronic cavity in a patient with no toxæmia and few, if any, symptoms is usually best left alone, for the patient may have many years of active life. Periodical x-ray examinations should be made and surgical intervention advised in the event of spread of the disease.

Cases where the patient has no signs or symptoms but x rays show an annular shadow should also be left, and a major surgical operation is quite unjustified. They often disappear or come and go, although necropsy shows that most of these shadows are cavities. Some are probably due to bullae in the lung even if a fluid level is seen, and it is this type of shadow that varies from time to time.

* A communication to the Association of Physicians, June 7th, 1935.

I fully appreciate the enormous strides made by thoracic surgery in recent years, and know that it has given a new lease of life to many whose condition would have been hopeless some years ago. The object of this paper is not to underestimate the value of surgical treatment in these cases, but to point out that it is a serious thing to remove a large part of eleven ribs from a patient, and that such a procedure should not lightly be recommended.

TEMPERAMENT AND DIGESTIVE
DISORDERS*

BY

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The use of the word *temperament* in this connexion lacks accuracy. The temperament of a man may be provisionally defined as the sum of the effects upon his mental life of the metabolic or chemical changes that are constantly going on in all the tissues of his body (McDougall, *Outline of Psychology*, p. 354). More correct would be *temper*—that is, the expression of the way in which the conative impulses work within him (*ibid.*, p. 353).

The attitude I am taking towards disturbances and diseases of the digestive organs is, I will frankly confess, interrogative, and I might give as an alternative title: "What sort of man tends to suffer from some specific kinds of digestive disorder?" Any answer I may propose is quite tentative. I feel, indeed, that it is rather an impertinence for me to venture upon the subject of digestive trouble to which others have devoted years of attention, though as evidence of good faith I will inflict upon you a personal reminiscence.

I had the good fortune to go into general practice immediately upon qualification, and after two years to return to hospital and take up house appointments. I had become aware of my ignorance in the treatment of common digestive troubles and decided to make up that deficiency, so when I became an out-patient clinical assistant I sought the permission of my chief to "special" the chronic dyspeptics and keep them for myself. I still remember the alacrity with which that permission was given, but I knew too little to be daunted by it; I had these cases for my own. I read up the subject; I took what I then regarded as full histories; I drugged and dieted the unfortunate patient; and at the end I felt that I must be a complete fool, for I had learnt nothing, not perceiving that to realize that was to learn a valuable lesson.

Surgery was then going through the fashion of "pexies"; nephropexy, colopexy, gastric plication or gastro-jejunostomy for dilated stomach, were familiar operations. I could to-day describe three different and equally ingenious operations for fixing a movable kidney, but even then surgeons were growing wary of these operations, for the very sound reason that the patients made themselves such a nuisance afterwards.

Visceroptosis and Neurasthenia

Turning to my 1901 edition of Osler—a valuable edition, if read in a historical frame of mind—I find a chapter on visceroptosis in which the author notes: "It has been suggested by Glenard and others that the vascular dis-

* A paper read at a staff meeting of the Institute of Medical Psychology, May 20th, 1935.

turbances in the abdominal viscera in consequence of displacements and kinking account for the feelings of exhaustion and general nervousness." Again, "Some of the more aggravated types of visceroptosis are combined with such features of neurasthenia that a rigid Weir Mitchell treatment is indicated. . . . In a few very refractory cases surgical interference may be called for." We must remember that this period marked the closing years of a dark age in the history of psychology in medicine. The anatomical, or metaphysical, conceptions underlying the use of the word neurasthenia were in accordance with the spirit of the times, which demanded that an anatomical cause should not merely be sought but postulated as actually existing for a collection of symptoms summed up with complete satisfaction under that word.

Satisfied with neurasthenia as a signpost pointing along the path to a really scientific handling of the patient, we thought vaguely of Galen's doctrines of temperament as an amiable, if well-intentioned, failing, which had rather hindered the progress of medicine. But Galen and his successors knew what they were seeking—a correlation between physiological and psychological make-up. They were clinicians, and a return to their methods of approach may teach us something. Let me quote from Stahl—familiar to you as the author of the phlogiston theory, which, considered in the light of contemporary philosophy, was not nearly so foolish as it is made to appear:

"The melancholics are fairly satisfied and content with the present, but live in a perpetual state of anxiety about the future. Full of doubts and suspicions they weigh everything with exactitude and then make their conclusions; anticipating, however, not what is useful and pleasant, but troubles, adversities, mysteries, and dangers, except that they nearly always fix their attention more on what *may* in the far future turn out badly than on what is already in actual fact either going wrong or leading in that direction. Hence they always act with circumspection, care, and forethought. They are given to application, ready for moderate exertion, perform their duties with attention and industry and with over-anxious care. They are watchful and indefatigable except in so far as fear and the panic that it engenders in violent crises nullify their strength for the time. In extreme difficulties they are not so much purely and simply desperate, but rather hurl themselves with strange force to (or at any rate concentrate all their attention on) the extreme remedies of the most extreme form of the present ills. They hold fast to their intents though they do not embrace them in the beginning without reason or some special, and to themselves wholly plausible, show of reason. They are averse from deceit except in so far as necessity drives them to dissimulation. They love justice and equity, and being averse from simulation because they know that false accounts of true events are futile, they remain, no matter what others may be, true and incorruptible judges. In friendship they are faithful and sincere, but not ready either to make or trust friends. It is easier for others to expect justice and goodness from them than for them to expect such things with any confidence from others. They are always suspicious and fearing the worst. They are not lazy where work is concerned, but given to application and eager to perfect their undertakings rather than favouring careless, superficial, and tentative action. They are given to speculation on everything that may happen. They love moderation, proportion, certainty. In difficulties they never indulge in moderate fear, but always anticipate the worst." (*Theoria Medica Vera*, circa 1720. Translation by Miss V. Hill.)

Now I will try an experiment upon you. I think we all, as clinicians, know more than we think we do, and sometimes express it as intuition. Can you imagine the type of man described above as suffering from visceroptosis? I am sure that some of you at least will feel that he is not that sort of man.

The Stance of the Nervous Child and Adult Visceroptosis

Leaving for the moment the discussion of what form of intestinal disturbance he *might* be expected to present, let us turn to the question, "What kind of man does suffer from visceroptosis?" To this I had given no thought until about 1922, when I heard Dr. H. C. Cameron describe what he called the stance of the nervous child. He sketched a picture of the child standing with shoulders drooped, chest sunken, lumbar spine lordotic, and abdomen protuberant, and subsequent speakers agreed with his observations—which I have confirmed myself—and one pointed out that if the child's disposition changed from dejection to truculence the stance changed with it. When Dr. Cameron drew this picture on the blackboard it seemed somehow familiar to me, and suddenly I associated it with the stance of some "neurasthenic" war pensioners, of the man we used to hear say, "I was an A1 man when I joined the Army, and look at me now."

Whether the visceroptotic adult was a depressed nervous child I cannot say, nor why one child should express dejection by ventro-dorsal yielding to gravity while another yields laterally and presents an adolescent scoliosis. As to this latter, I will quote Mr. Blundell Bankart, who once wrote: "If you want to know whether a girl has scoliosis look at her back. If you want to know why she has it and how to treat it, look at her face." If physical examination of an adult reveals traces of an adolescent scoliosis it is usually a safe gambit to remark: "You were not very happy as a child."

My evidence for the connexion between scoliosis and emotional history is anecdotal rather than statistical. I cannot present even such weak evidence for an original connexion between adult visceroptosis and the stance of the nervous child. Poor, however, as the evidence may be, I suggest that, in a stance expressive of mental dejection, and in asthenic emotional interference with gastric and intestinal motility, we have the origins of the coexistence of nervous symptoms and visceroptotic signs.

Consideration of the relative position of horse and cart in this relation will probably, in this age, result in the nervous—that is, emotional—factors being regarded as primary. But we shall miss the moral of the story if we feel intellectual pride in our improved outlook when it is compared with that of the ingenious surgeons who took a generation to discover that, as one eminent abdominal surgeon put it a few years ago, "virginal visceroptosis should not be operated upon." The true moral of the story is that a fundamental alteration of our attitude towards the influence of emotional states upon bodily functions has taken place; an alteration which enables us to perceive relationships in a different perspective. Sporadic references in recent literature indicate this change of attitude, especially towards abdominal disorders. An article in the *Journal of the American Medical Association* about three years ago described, for example, cases of spasm of the colon, some of the patients being operated upon as abdominal emergencies, in which investigation revealed current emotional stress as the cause of the condition. Even while preparing these notes I read in an article on paralytic ileus: "The cause of paralytic ileus is obscure, but apart from toxæmia there is probably a nervous factor. Anxiety at the thought of an operation may cause overaction of the sympathetic, which is known to have an inhibitory effect on intestinal peristalsis." I was reminded by this of two cases of my own—one of a recently strangulated hernia, the other a case of acute appendix of a few hours' duration—in both of which the patient, a young adult, reiterated before the operation, with considerable emotion, that he would die. The operations were simple and there were no warning

signs, but in each case the abdomen became distended after operation, nothing relieved this distension, and a post-mortem examination showed no cause for it. Both occurred in the Army in war time, and though the story proves nothing, it may yet provide food for thought.

Mucous colitis is apparently passing out of fashion; I should like to hear opinions from others on that point. Even in the dark ages the clinician recognized its correlations, for Osler says: "The cases are almost invariably seen in nervous or hysterical women or in men with neurasthenia," and decides that "it is probably not an enteritis but a secretion neurosis." I must plead guilty to having read that statement in my student days without being prompted to ask my teachers, "What is a secretion neurosis?"

Emotional Stresses of Gastric Ulcer Patients

Gastric ulcers do not come to the psychotherapist as a rule. In seventeen years I have recognized only three cases. One, that of an ex-service man at the Ministry of Pensions clinic, taught me a useful lesson. I forget all about the patient, except that one day he said to me: "These pains in my stomach are different from my other troubles, doctor." I examined his belly and found a rigid right rectus; I sent him into hospital, and a gastric ulcer was operated upon. The lesson was not the need for thorough examination of the neurotic patient, for I do not know why that need should be stressed any more than for the patient with flat-foot. The diagnosis should be made on positive grounds in each case, though the wary clinician will always be on guard lest other conditions may be present. The lesson I learnt was that the patient, the so-called neurotic patient, can co-operate in separating "organic" from "functional" symptoms, and in later cases I have frankly discussed with the patient whether a specific symptom is "nervous" or not.

In two people sent to me for psychological treatment of undoubted psychogenic symptoms I have, by following that principle, been led to suspect a gastric ulcer. In one case the diagnosis was so certain to me that I sent the patient straightway into hospital, where it was confirmed. In the other, not so clear-cut, she went into a team-work establishment. Her nervous symptoms were bad enough for her to be sent to me for their relief, but in the report from this institution the only note on the subject was that the patient was highly neurotic. Laboratory methods failed to reveal the ulcer, which perforated six weeks after the patient left the establishment. I do not tell this story to show what a fine diagnostician I am, for I only thought the symptoms suspicious enough for investigation, but I do wish to point out how handicapped is the clinician whose attitude is revealed by the words, "the patient is highly neurotic." He will remain blind to any connexion between the *kind* of patient and the *kind* of intestinal disorder, and, more important still, he will not receive the co-operation of the patient in evaluating subjective evidence. Unfortunately, I cannot tell you any more about these patients, except that they suffered from anxiety; my methods of examination were not so systematized as they are now. But they obviously all three had *insight*; they recognized the emotional origin of some symptoms and the different origin of others; and that, you will agree, puts them rather in a special class.

"Neurasthenia" and "Gastric" Disorders in Industrial Sickness

I have been obliged recently to consider the subject from another aspect. The study of sickness returns, now available from some firms that keep records and from sickness insurance figures, shows a peculiar negative correlation between disability from the "nervous" group of disorders and the "gastric." I have seen graphs showing how they vary inversely with each other, and in a few

cases I have satisfied myself why this peculiar relation occurs. In a lecture published several years ago I gave a table showing how, in one firm, there had been a sudden drop in "neurasthenia" by 40 per cent; the total sickness, however, remained the same, the subsidence in the neurasthenia group being balanced by the rise in the "gastric" and anaemia groups. The name of the firm was, of course, withheld, but after publication I received a letter from the medical officer of the firm telling me that he recognized his figures and could account for the change. He had been alarmed at the lost time from "neurasthenia," and, without being unsympathetic, had inquired into all cases of absenteeism from that cause, with the result I had noted. In another firm, whose figures are available, the totals show an absenteeism rather above the average, but the "nervous" group is very low; acute gastro-enteritis stands high, and the average duration of absence from that cause is eleven days, as to which I would remark that if I had a patient with acute gastro-enteritis who was not well, or dead, within a week, I should think of arsenical poisoning. Dr. Halliday of Glasgow has come upon a similar curiosity in his examination of 1,000 people drawing sickness benefit. Of seventy-two cases diagnosed gastritis he found fifty of the patients to be suffering from a psychoneurosis, and of twenty-two diagnosed gastric and duodenal ulcer nine were cases of psychoneurosis (*Supplement, British Medical Journal*, March 9th and 16th, 1935, pp. 85, 99).

These figures, however, are outside my main theme. I give them to emphasize some of the difficulties in investigating industrial sickness, though I fully realize the dilemma in which the panel practitioner is placed by the official demand for a diagnosis. The difficulties have been made more significant because it has been suggested to me, as an investigator, that specific occupations carry with them a special liability to gastric disorders. Meanwhile I turned to the literature and to talk with clinicians. A line of inquiry was suggested by a communication to the *British Medical Journal* (1930, ii, 265) by Mr. Harold Dodd, who noted that in a series of twenty-nine male cases of operated gastric ulcer the patients could be divided into three groups: (1) The driver class; (2) a class of casual workers; and (3) foremen, clerks, managers, and retired business men—men in responsible positions. A curious grouping, including what Mr. Dodd described to me later as "those who drive vehicles and those who drive themselves." (Thirteen cases were in transport drivers.)

The "Obsessional" Subject

Now I must digress to the way of approach by psychological interviews. In my investigations for the Industrial Health Research Board into the prevalence of psychoneurotic or temperamental difficulties in the general population, I had systematized a method of examination that allowed me to classify cases according to the severity of the symptoms discovered in the course of a half-hour interview. My colleague, Miss May Smith, took a record of each subject's performance upon the McDougall-Schuster dotting machine, and we found a statistical correlation between those records and the severity of the symptoms as expressed by my classification. Severe symptoms correlated with a bad dotting, as might be expected in a test originally planned as a measure of neuro-muscular co-ordination. (This correlation is not true in every case, for other factors than the nervous symptoms are operative, but, spread over a sufficient number of subjects, the two methods of measurement do show an agreement that is of statistical significance.)

But, occasionally, I would mark a subject at a high figure for symptoms, and he would put up an exceptionally good dotting record. This rather spoils the general correlation, but it had to be accepted. Then one day

my colleague put before me a set of my own case notes and said: "Can you see anything common to those cases?" After a little study of them I said: "They are all obsessional." "Well," she replied, "those are the ones who are spoiling our correlations!" So one problem was solved, only to open up another. (Not all obsessionals did a good dotting; some were very bad.)

I use the word "obsessional" more freely than it is used in the textbooks, for my work led me to recognize minor obsessional tendencies that do not interfere seriously with happiness or efficiency. For instance, one patient hit all the circles in the test, although the test was so designed that no one was expected to complete it. On turning to my notes I found that this man was bothered by an obsession to move, when in a room with other people, so that they should be in the relative position of the bishop's move at chess; so bad was the obsession that he gave up playing chess in an effort to free himself from it.

Why should that symptom have relation to a superfine dotting record? It puzzled me for a long time, but I think I know the answer now. Janet has described people among his "psychasthenics" whom he called *les scrupuleux*—a good substitute title for Stahl's "melancholics"—and I came to see that the scrupulous traits of the obsessionals were associated with inordinately good dotting, then that it was more especially, and more intelligibly, a peculiar inner urge to performance that produced the phenomenon. The sufferer from this urge is impelled to strive always after an ideal, and this striving is called forth in the extreme by a test which has been described as "containing its own stimulus." The little circles go faster and faster, and the inner drive of the obsessional subject makes him pursue them as if his life depended upon the result—nay, more than his life, his self-respect. I now recognize the grim determination with which these people react to a test before which the more easy-going of my experimental subjects soon smilingly admit their defeat, or which reduces anxiety subjects to a state of exhausted resignation.

It is probably going too far to assume that all obsessional subjects possess this inner drive, but we may safely suppose that an excess of obsessionals in any group bears with it an excess of people with the drive. Two occupational groups that I have investigated show an excess of the obsessional type—art students and scientific workers; and in another group of clerical workers that had been subjected to a shrewd though non-academic form of psychological selection there was a diminution of anxiety and hysterical people with a relative excess of obsessionals.

Distribution of Obsessional Types among Gastric Cases

I had for some time wished to apply these methods of examination to groups selected not by occupation but by sickness, and the opportunity at last arose to ascertain how recognizable psychological types were distributed among actual gastric patients—that is, patients being treated primarily as gastric cases and not for any other reason regarded as calling for attention. By the kindness of Mr. Dodd and the help of Mr. Merton, a trained psychological worker, such an investigation was set going. Although it is not completed, it has gone far enough for me to tell you that the results, when published, will show a great excess of obsessional subjects afflicted with the "inner drive" together with anxiety subjects. Such an investigation has the great advantage of lifting the evidence from the anecdotal to the statistical level, but until the full results are available you must be content with anecdote.

Case 1.—The patient, a married woman aged 50, who has two children, and is engaged in house work, had an operation

for chronic pyloric ulcer on December 31st, 1934. She has a weak handshake and an anxious expression, complains of headache, is nervous, and goes shaky all over at the slightest thing, and is worried by a mentally deranged daughter, who lives with her. She experiences general floating anxiety; when on a holiday she has a restless feeling and "wants to be back." There is excessive indecision and she gets "worked up" about it. She eats very fast. Although "fed up" with housework she feels she must keep her home spotlessly clean. She is unable to take work easily; "I have to go hard at it," she says, "I can't keep still." She is always thinking of others, and at night cannot stop thinking. "I'm tired and can't sleep. I think, think, think, until I can't think any more," and the thoughts are apparently of an obsessional nature. She has *sentiment d'incomplétude* and a tidiness ritual, and is very upset if things go wrong. She is very self-controlled, and inclined to be proud of it.

Case 2.—A clothing salesman, aged 61, married, with two children, had an operation for gastric and duodenal ulcer on February 7th, 1935. He is financially worried, and afraid of the "sack," but no anxiety symptoms are elicited. His handshake is firm and his manner confident. He works full out and takes games seriously. He says, "I feel driven, even at home—must keep going—can't be idle—even at gardening I go hard at it." He has *sentiment d'incomplétude*, sometimes going back two or three times to make sure he has done something, and a tidiness ritual, and if put out he must "do it over again." He cannot divide his attention, but has his mind on the work in hand the whole time, even at home. He is very self-controlled.

And here is a case of my own, in which investigation was carried out beyond the eliciting of symptoms and temperamental peculiarities.

Case 3.—The patient is a professor of chemistry, aged 35, married, with three children, who has had indigestion since the age of 19. Gastric ulcer has been suspected, and he has gradually cut his diet down by the avoidance of eggs, meat, etc.; he claims that eating a piece of cake containing egg is followed eight hours later by severe intestinal spasm. His parents were very strict and rigid in their beliefs. He declares that he had no knowledge of sex until the age of 18; such a statement, when made by an intelligent and well-educated man, indicates a hysterical dissociation. He was always a "scholar." He now prefers research to routine teaching, although his indigestion is worse when engaged on the former. He has some mild anxiety symptoms—for example, he worries over any college dispute, and says that he "fights" it over again at night; but he is self-controlled and never loses his temper. He is troubled by indecision and "has to fight it" (an obsessive symptom). Sometimes there is a feeling that he "can't think clear," which lasts two or three days and is associated with insomnia. He says he must use all his energy: "If I didn't go all out I shouldn't feel satisfaction."

This man conforms temperamentally to the type 1 associate with gastric ulcer, but his dietetic limitations, though of a kind frequently observed in other cases, were not typical. He expressed a desire for psychological treatment, and I started him on the process of free association. To my surprise and his own amazement he at once plunged into a welter of symbolism that indicated an exceptionally rich unconscious fantasy life behind his adolescent ignorance. Much of the symbolism referred to food, and on one occasion, after producing many associations on the subject of eggs, he said: "Now I know why I couldn't eat eggs." After nine sessions he left London, and he has written to say he now eats meat and eggs without the extreme trouble he had learnt to expect, though some discomfort still follows.

It is too much to expect a "cure" from this experiment, but the case suggests an analogy with other psychoneurotic manifestations. A war stammerer, for example, had suppressed most of his war memories and symbolized them in the stammer, so that each difficult initial, each grimace or tic, each gurgle, bore reference to a specific experience. A lady with writers' cramp had found in it expression of many different items of her unconscious fantasies, a fairly lengthy analysis allowing us to trace the gradual increase of the symptoms by the accretion

of more and more symbolisms. In Case 3 the dietetic limitations had probably grown by a similar accretion, though I regard this phenomenon as independent of the main theme of the relation of gastric symptoms to temperamental make-up, the symptoms being, I should think, generally void of specific meaning to the patient.

I could produce other cases showing this association of inner drive with gastric symptoms. One patient had been radiographed, told he had a "hypertonic stomach" and an appendix "not emptying properly," and was advised appendectomy. At an interview he told me he had decided it was nervousness that upset his stomach, and he wanted advice as to continuing a very lucrative occupation in which a specific drive had translated itself into action as speedway racing.

If I stood alone in these views I might not have ventured to put them before you, but although the approach to the subject was my own I cannot claim originality. In 1924 von Bergmann referred to the generally accepted belief that a strong emotional factor contributes to the cause of ulcer, and urged physicians not to be misled by the stolid mien of the Holsteiner, beneath which the tension of emotional conflict may be terrific. (The Holsteiner, I am told, corresponds to our "Essex born and Essex bred, strong in the arm and thick in the head.") This reference I have borrowed from a lengthy article by Draper and Touraine in the *Archives of Clinical Medicine* (April, 1932), in which the physiological and psychological make-up of the "ulcer race" is contrasted with that of the "gall-bladder race." These workers had carried out a psychological examination of the two "races," and although, unfortunately, such an examination is not yet standardized, either in its method or in its nomenclature, yet I can recognize in the results an identity in some points with my own results and with the description of Stahl's melancholic. They emphasize the femininity of the ulcer race—an aspect that has not thrust itself upon my notice—and give detailed histories of the emotional stresses of their ulcer patients.

The inner drive, to which I attach importance, is not referred to by them specifically. It may be concealed under "enthusiastic motor and psychomotor activity" and "overpreciseness," and on reading through case details I found abundant evidence of "drive" in such phrases as: "She was always in a hurry, ran, and never walked." . . . "I am the fastest bricklayer in New York." . . . "He was always driving at his work." . . . "I can do in one day what it will take another man two days to do." . . . "She was always in a hurry; she worked hard all the while." . . . "The patient always kept busy and active." . . . "She was inclined to be active, on the go, probably overactive." . . . "I work too fast; my reason tells me one thing and my emotion another." . . . "He had by great determination become the driving executive head." Here is positive evidence of the drive in nine cases out of twenty-two, evidence produced by people who were not looking for it; there is weaker evidence in others, but in none is there a picture of the common type of nervous patient who has sought to evade the curse of Adam and used psychoneurotic symptoms as a means of escape.

An Explanation of the Association

There is, then, a psychological state to be found commonly associated with gastric ulcer. I do not like armchair speculation, but my physiological bias makes me seek some possible explanation of this association. I am inclined to picture it as the result of the state of continued tension acting upon gastric motor and secretory activity.

But what of the other group? Those who drive, not themselves, but mechanically propelled vehicles. Mr.

Dodd will forgive me for being the vehicle of the statement that the statisticians will not admit his figures as being more than suggestive. They ask, for example, what population he is drawing his patients from, and also other awkward questions that I have come to expect from statisticians, whose control, however, I feel more and more to be necessary in any investigation.

There is, nevertheless, a general belief that transport workers have an excess of gastric trouble, but I do not feel tempted to start an investigation into a *why* until the statisticians have answered the *whether*. My earlier digression into sickness returns explains some of the difficulties before them. It occurred to me, however, to turn to death rates, where diagnosis is more accurate than in sickness returns, and I found that the death rate from gastric ulcer among females has been stationary, while that for males has doubled, between 1921 and 1931. "Ha!" thought I, "increase in motor transport—the obvious explanation." But the Registrar-General gives corrected death rates for occupational groups, and we find that the rate from gastric ulcer in transport workers is actually well under that for unselected males.

So far, then, evidence for the general belief is lacking, but we may glance at the general conditions of road transport from the psychological point of view. Driving demands constant attention, and I have learnt that in industry the opportunity of dividing attention while at work has an important influence upon the well-being of the worker. Monotony is often only in the eye of the beholder, and provided the work allows of day-dreaming there is little or no stress. But if the work, without being intrinsically interesting, demands constant forced attention then something happens—perhaps irrational discontent, excessive sickness, absenteeism, or a heavy labour turnover. Constant forced attention may be a characteristic of lorry driving, and may lead to physiological results similar to those produced by the inner drive of the obsessional subject—in other words, an outer is substituted for an inner drive.

This is speculative, but I take every opportunity of talking with transport drivers. Some are happy at the job and some are not. Here are some expressions used by the latter group: "You are working under agitation all the time." . . . "You've got to have your mind on your job." . . . "I'm all out as hard as it's possible to go." . . . "It wouldn't do" (in answer to a question about dividing attention). There is a striking likeness between this phraseology and that of the people with the inner drive; the physiological results may be identical.

In conclusion, I do not claim to do more than indicate a probable factor a little more definite than the already accepted emotional cause of stomach disturbances. You must not think that this drive—of which you are getting rather tired—is always of pathological import; in many people it is an admirable and useful character trait, and perhaps accounts partly for the saying that the best work of the world is done by neurotic people. Nor, when pathological, is it necessarily associated with gastric disturbances. It may, indeed, appear in any combination of psychoneurotic symptoms, but most often in a make-up diagnosed on other grounds as obsessional, sometimes to a severe and disabling degree.

Miss Louisa Lye of Luton and Brighton, daughter of the late Thomas Lye, founder of T. Lye and Sons, bleachers and dyers, of Luton, left £24,000 and her Brighton residence to the trustees of Bute Hospital, Luton, to establish a convalescent home in connexion with the hospital, to be known as the Thomas Lye Convalescent Home, £2,000 to that hospital to endow a bed or beds in memory of her parents, and £100 for general purposes.