Conclusion

The disappointed undergraduate is, of all the emotionally handicapped, the most likely to go unrecognized and unhelpt. Efforts to draw attention to him and to make him aware of the nature of his difficulties and of how he may be helped to deal with them are apt to be criticized by some university teachers and even by some doctors as improper interferences in the affairs of healthy men, calculated only to create difficulties where none existed, to encourage the morbidly introspective, and to attract the overdependent. Yet to some tutors, chaplains, hostel wardens, and doctors the disappointed undergraduate is a familiar figure to whom they have long been accustomed to give effective explanation and encouragement. But some men and women undergraduates never receive the help they need and leave the university with unsolved emotional problems which could have been resolved and which are apt to be a source of unhappiness to themselves and their families and of friction in their professional and social contacts.

In consequence the early recognition of the disappointed undergraduate and the provision of appropriate help is one of the important problems of student mental health.

Primarily the need is for a wider acceptance that some undergraduates, though not overtly ill, need psychological help which they should not feel ashamed to seek; that the availability of the various sources of skilled help should be known to undergraduates; and, most important of all, that tutors, chaplains, wardens, doctors and others should know each other and co-operate with each other. In this way men and women in need are most likely to make contact with the source of skilled help appropriate to their problem.

I am indebted to the governing bodies of the five Cambridge colleges (which must remain nameless) who allowed me to ask their freshmen to take part in the investigation and to the men who subsequently volunteered; to Mrs. Marjorie Sisson, M.R.C. research assistant, for much laborious work and many valuable suggestions and criticisms; to Mr. R. G. Carpenter, statistician to the Cambridge University Medical School, for assistance with the statistics; and to Sir Alan Rook, Senior Health Service Officer, Cambridge University Health Service, for his advice and encouragement.

TREATMENT OF PRE-EXAMINATION STRAIN

BY

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Every year the physician at a university health centre will be called upon to treat a substantial number of students suffering from nervous strain in the period before and during major examinations. Both in their clinical features and in the principles underlying their management, these cases have enough in common to warrant description as a "syndrome." And description here may be of some value, not for university physicians who know all about it already, but for the ordinary practitioner who, if he is on the look-out for cases, may find one or two a year among the young people on his panel. Knowing how to go about it, one can give quite a lot of help not only in lessening symptoms, but, *pari passu*, in improving efficiency and the prospects of passing the examination.

As important examinations draw near almost everyone experiences a certain amount of tension and apprehension; that is only natural, and is probably a valuable spur to increased study. Pre-examination strain can be defined as the condition wherein the nervous tension is of such a quality that it diminishes the efficiency of study and impairs the prospects of success. The severity can vary from a modest insomnia with daytime tiredness to extreme paralysing alarm.

Incidence.—It is in the nature of the condition that no accurate estimate of its incidence is possible; the number of subjects seeking medical aid must be a product not only of the numbers at risk but also of the availability—or rather the approachability—of that aid. At University College Student Health Centre we have tried assiduously to nourish a reputation for being approachable. As a result some 10% of students facing their major examinations (finals, B.A., and B.Sc., second M.B., librarianship diplomas, etc.) come to us with strain symptoms. For lesser examinations (intermediates, part I, crucial sessionals, etc.) the figure is less, perhaps 3%. In British universities and technical colleges there are some 170,000 full-time students, and nearly half a million doing degree or diploma-type courses part-time. Even if one excludes schoolchildren (whom I presume can suffer much the same at the G.C.E.), the number of cases going largely unhelpt at present must be very great; this cannot be an uncommon condition.

Clinical Features

Presentation

There are three principal ways in which cases usually present themselves. (1) The largest group (the most easily recognized group, perhaps 50%) come with the classic symptoms of overt anxiety which they themselves clearly associate with the impending examinations. There is sleeplessness, persistent daytime apprehension, with thoughts continually turning pessimistically to the examinations, difficulty in retaining and recalling recently learned material, and in consequence a growing sense of desperation and hopelessness. (2) The next most common presentation, perhaps 30%, is of an increasing torpor frequently associated with nocturnal insomnia, though often with dropping to sleep over the textbooks during the day. Here the student may not at first recognize that his symptoms are causally related to the impending examinations. He comes for medical help, often directly requesting a stimulant; his torpor "happens" to have come at an awkward time. (3) The third group, perhaps 20%, present with a physical symptom; usually it is something clearly psychosomatic like vertical headache or nervous dyspepsia.

The Leading Symptom: Fear

The main subjective symptoms are usually those of anxiety, familiar to all practitioners. Insomnia, tension, obsessional thinking, tearfulness, bouts of depression, somatic conversion symptoms, and particularly headache are the principal complaints. But anxiety as normally met with in general practice is something diffuse, related to personal inner problems. Here there is a quite specific fear related directly to the approaching examination.

The fear felt by the student is two-handed. There is a fear of failure, and there is a fear of the examination itself. Usually they go hand in hand, but sometimes they are quite distinct. Students who know they have first-rate ability can be troubled almost as severely as poor students with only an outside chance; they fear the examination, not its outcome. It is perhaps true that the worst cases are usually among the weaker students, but exceptions are very numerous.

The Secondary Symptom: Study Difficulty

The soldier suffering from fear before an impending attack, or the airman facing his first flight after a crash, can, if he is tough enough, screw his courage to the sticking point and get through the dreaded incident. The student's problem is more complicated. To pass his examination he must be moderately calm at the time, and he must do a certain amount of consistent study and revision in the weeks preceding. But in fact it is almost impossible to study effectively when in the grip of a pervading anxiety. As soon as a person sits down with his books and clears his mind to receive intellectual matter, it is flooded with obsessional fears of the coming examination or its outcome. These can be pushed aside, but only with persistent effort. As he begins reading, the effort imperceptibly relaxes, and in a few minutes the fears have crowded back, displacing intelligent concentration once again.

Extreme study difficulty can amount to nothing short of panic. The student tries to study but cannot hold off his fear. He begins to feel desperate, not only because of the examination but because he feels his mind is failing him. He tries to remember what he read before lunch; he cannot recall it. He reproaches himself for stupidity. His head is hammering, so he decides to have a rest. But he can think only of the examination. This spiral of fear leading to study difficulty can get a normally steady and unneurotic chap into a really parlous condition.

Such study panic is the extreme. In most cases the vicious circle, though constantly present, does not get so utterly out of hand. The holding back of fear consumes mental energy—not enough completely to prohibit study, but enough to tire the student and to diminish his efficiency. Three or four hours' work produces a lesser result than he expects. He then counters this by trying to do longer hours. In consequence he gets increasingly tired as well as increasingly anxious. It is the student's innate capacity to hold back anxiety that determines the type of principal presentation, whether overt anxiety or daytime torpor.

There is a less common but interesting form of study difficulty, sometimes to be found among those who present with psychosomatic symptoms and little insight. It is to be compared with the classic *belle indifférence* of hysteria. The student, when asked about his impending examination, says he is certain that it cannot be responsible for his symptoms, for he isn't at all worried about examinations—quite the reverse. Indeed, he wishes he could get a little more worried, as he really can't bring himself to get down to any revision.

Lack of Insight

A few of the cases in which torpor preponderates over frank anxiety, and a good many of the cases with psychosomatic symptoms, have no insight into the nature of their trouble. The majority of students, even those with physical symptoms, are very ready to accept that worry about the examinations is the cause of their trouble; indeed, they have usually thought so themselves and the doctor's opinion comes only as confirmation. But there is this small group who not only do not know it for themselves, but steadfastly refuse to accept it: they may listen to one's advice, they may even take one's medicines, but clear on their faces is written stark disbelief. The condition here is really a sort of conversion hysteria. The secondary gain is a sort of insurance; failure, if it should come to that, can be blamed on the illness. Illness, after all, can save his self-respect, and a doctor's certificate can save his place in the university. Small wonder if a hard-pressed student half welcomes the onset of his headache or dyspepsia.

Examination Panic

Every university teacher has known the able, even brilliant, student, who, out of the blue, panics and leaves his examinations uncompleted. The form of such an acute panic varies. Sometimes the student is seized by a blinding and incapacitating headache. Sometimes he finds himself suddenly un-

able to think logically or to recall facts—what he calls a "mental black-out." Sometimes he has a vasovagal syncope, and is unable to get over the subsequent sense of giddiness and weakness. Sometimes he just feels the paper is hopeless and is overwhelmed by a sense of fear amounting to an intolerable claustrophobia.

A careful history of these cases, in my experience, nearly always reveals that they have suffered from classic pre-examination strain or from *belle indifférence* in the weeks before; examination panic seldom really comes "out of the blue." In reality the examination has only acted as a last straw to a back already bent.

Severe Psychiatric Disturbance and Suicide

Students who seem normally stable and unneurotic can get into a quite distracted condition over examinations. But once the examination is over, even if it has resulted in failure, they quickly regain their usual composure. The only serious psychiatric emergencies I have encountered in students over examinations have always arisen in people known to be mentally unstable anyway, the examination merely triggering off a crisis which has for some while been brewing. In judging how seriously one should regard a student's symptoms, in particular whether one should intervene by forbidding the examination, or by arranging admission to a mental hospital, one should weight the past history and personality more heavily than the current picture. And by and large one need not be too apprehensive. Certainly one does read newspaper reports of students who have committed suicide because of their examinations. But examinations are common things, and so is suicide. In seven years at University College (student population 3,400) I know of four suicides, only one of which was associated with an examination, and that in a student known to be deeply disturbed for several years previously and who had certainly been a suicide risk on more than one occasion before. I have written to a number of my colleagues at other universities, and find that they have had very much the same experience.

In general, I think it is safe to regard pre-examination strain as a circumscribed condition of minor medical, though of major social, importance, and one that can be safely and often most fruitfully handled by the ordinary practitioner.

The "Pathology"

I have seen many students, wont to attend college every day in a sports jacket and jersey, troop in for their written papers brushed sleek and squeezed uncomfortably into stiff collars. This is apocryphal. People so easily fear examinations because they feel that not only their technical knowledge is a bar of judgment but their lives and characters too. As I see it, the whole process whereby the newborn infant is progressively trained into a socially acceptable adult is one of judgment: "good boy; bad boy." Judgment is necessarily deep in the personal experience of all of us from the cradle onwards; it is therefore deep in our culture too: "Judge not lest ye be judged." There can be but few people who never have those anxious day-dreams about being on trial, protesting innocence and proving alibis. The examination, as a student meets it, comes as the quintessence of all judgment situations. It is because of this, I believe, that the fear of examinations so easily becomes disproportionate to their reality importance. This is the psychopathology of the condition.

Management

The treatment of these cases of pre-examination strain is in some respects in contrast to the usual psychotherapeutic handling of anxiety in general practice. There the essential is to get the patient to verbalize his anxiety in order that he can see his way to managing his own problems with as little direct intervention from the doctor as possible. The patient's crisis is usually a subjective one, and if he can be brought to see it as such the problem partly dissolves. But with these cases the problem is a real one. The examination is really coming, usually within a week or two. "Characterological"

insight, even if there were time to achieve it, is not of much help. The doctor must stride in boldly, pull the floundering student back on to a steady path, and stay beside him with unbounded confidence, so that he does not get lost again. The examination crisis is so short-lived, and so curiously unique in life's stresses, that here a frankly surrogative approach is necessary in a way that it can seldom be in other psychiatric upheavals.

The cornerstone of treatment then is to give confidence. But, unlike most incidents in which the doctor is involved, the patient does not seek the confidence that his health is being preserved and protected. He wants confidence that his mental efficiency is being boosted to the uttermost so that he has the greatest possible chance of passing the examination. He is only too ready to put his health in second place temporarily. Right from the beginning the doctor must acknowledge that he recognized this and say that efficiency is his aim too. If he fails to do that the student will always half distrust his advice as ulterior; "health," he will feel, is his doctor's realm—even his fad.

Contact with the Student

To give confidence it is essential to maintain contact with the student right up to and over his examination period. It is only by a close and repeated contact that the student can come to feel that the doctor is standing with him. It is best to make firm appointments each time. Once a week is usual, but they may be needed more often as the examination draws near. Though often the consultation need only be very short, looking after these cases certainly takes time. It is worth remembering that an avoidable failure, meaning another full year's university attendance, costs somebody—the student's father or the taxpayer—the best part of £400, let alone the disappointment and distress of the student himself.

Drugs

Drugs are seldom, if ever, the most important part of treatment. But, used sensibly—that is, in modest doses—they can be of great help. To be able to give an indication of how often medication is necessary I have turned back the records of the 68 cases treated at the unit here in the last year: 37 (54%) were given hypnotics—usually quinalbarbitone, $\frac{1}{2}$ or $1\frac{1}{2}$ gr. (50 or 100 mg.); 28 (40%) were given basal sedation—usually amylobarbitone, $\frac{1}{2}$ or $\frac{3}{4}$ gr. (25 or 50 mg.) three times a day (15 were having hypnotics); and 18 (26%) were given stimulants—usually caffeine, 5 gr. (320 mg.), sometimes one or two "drinamyl" tablets; 9 (13%) had no drugs given them at any time. These crude figures are a little misleading in that in many cases the drugs were added late in the series of consultations. On occasion, administration of two methylpentynol capsules ("oblivon") half an hour before the examination, particularly before vivas, is helpful.

I personally see no objection, clinical or ethical, sometimes to giving students drugs before examinations. No amount of pills will make a student more intelligent or more knowledgeable than he is. All one can possibly hope to do is in some measure to counteract any undue nervousness or psychogenic torpor from which he is unlucky enough to suffer. There are certain practical difficulties, however, and they must be borne in mind. *First*, there is no evidence that any drug improves high-grade intellectual performance; there is plenty to suggest that most preparations can, at times, impoverish it. In prescribing, one must cautiously balance the possible gain through reduced nervousness with the possible loss due to intellectual blunting. *Second*, anxious students are unreliable; unless the idea of a carefully chosen optimum dosage is explained they are very apt to double the dose simply because all doctors are known to be pernickety. *Third*, as pharmacological tolerance develops and tension and insomnia heighten as examinations draw nearer, dosage has often to be increased. One must therefore start with the smallest possible dose, so as to allow elbow-room. *Lastly*, and most important, no drug should be given for the first time on the night before or on the day

of an examination, for failure then will certainly be blamed on an untoward effect of the doctor's pills.

Managing the Consultations

The detailed form of one's therapeutic interviews, their time, the medicines given, what problems one discusses, cannot of course be preordained; they must vary with the patient and with the doctor. Here I wish only to suggest a sort of general pattern that can be varied as occasion dictates.

As with all psychiatric cases, it is essential that the first interview be a fairly long one, and the student be given time to speak out his major worries. An ordinary "surgery" consultation is seldom adequate; it is best to give a special appointment. The student should be asked about his academic career, and about his studying difficulties, and about the examination itself, and the sort of consequences of possible failure. He should be given the opportunity of cataloguing somatic symptoms if he has any, and then a modest physical examination to allay fears of real illness should be undertaken. In so far as symptoms are not organic, their psychogenic nature should be clearly and categorically, but sympathetically, stated.

In the first interview I like usually to explain that pre-examination strain symptoms are common, and say confidently that their treatment is straightforward. I explain that I shall keep in close and regular contact with the student and shall guide him as necessary to get the very greatest amount of effective revision done and to keep him clear and fresh for the examination itself. Often I explain the psychopathology of the common anxiety about "judgment" in much the same terms as I have described it above. Many students, particularly the more intelligent and insightful, feel helped if they have some explanation of why they are feeling so disproportionately nervous. I try also to describe the sort of floundering and anxiety that strained students feel when trying to study. It helps the student and gives him confidence in you if he recognizes the symptoms described as his own—no one likes feeling exceptional in his troubles.

The most important part of treatment is to give guidance about working hours and technique. If the first interview has already gone on some while the student may not be able to absorb it, and another appointment in two or three days' time is necessary.

To help in regulating his study one should inquire carefully about how much work the student is attempting daily, asking for his average daily programme in some detail. In nearly every case the student is attempting more than six hours a day—often much more. The fact that he is in difficulties with his study can then be taken, *ipso facto*, that this is too much for him in his present circumstances. Indeed, though the evidence about normal learning is scanty, I doubt whether the ordinary person can effectively swot for more than five or six hours a day; certainly most *anxious* students cannot. The usual problem in regulation, therefore, is to urge a reduction in the hours of work attempted. (For the case with *belle indifférence* the opposite is true, and a firm programme, beginning small and steadily increasing daily, is necessary; but these cases are not common.)

The anxious student will never really consent to reducing his work unless given convincing reasons in terms he can understand: this is the sort of thing I say, and as I do so I draw this little graph:

"There is a lot of misconception about this studying business. Most students have not really been taught the principles behind really effective working. This is a graph showing the amount a person learns against the number of hours he works in a day.

If he doesn't do any work, he learns nothing [I put a mark at 0]. If he does an hour's work he learns say that much [I put a mark at 1]. If he does two hours' work he learns about twice as much [I put a mark at 2]. If he does more work he'll learn still more [I put a mark at 3]. Now, if he tries to do 23½ hours' work in the 24, he'll be so exhausted that he'll hardly remember anything: what he learns will be somewhere there [I put a mark at 4]. If he did less work he'd learn more [I put a mark at 5]. Now, whatever the exact shape of this curve, it must be something like this—it must have a crest [I draw in the curve]. This point X [I mark it] is the very maximum anyone can learn in the day [I draw the horizontal line to M]. And this represents the optimum, the best, amount of work to do [I draw the vertical line to O]. The point X is the best possible compromise between adequate time at the books and fatigue. Fatigue is an absolutely real thing; one can't escape it or try to ignore it. If you try to, if you press yourself willy-nilly to work past the optimum (and any fool can prop his eyelids up and do 14 hours a day), you can only get on this downward slope and achieve less than the best—and then get exhausted and headachy and lose your power of concentration. That is what all these symptoms of yours are—just the perfectly natural consequences of passing the crest and being on the downward curve.

"The skill in being a student consists in getting one's daily study as near the optimum point as possible. I cannot tell you, *ex cathedra*, what the optimum is. It differs with the type of work, it differs from person to person, and even in the same person it varies from week to week. You must try to find your own. Every day you study, bear this principle of the optimum in mind. When you feel yourself getting fatigued, if you find yourself repeatedly reading over the same paragraph and not taking it in, that's a pretty good sign you've reached the crest for the day and should stop.

"Most ordinary students find their optimum at about five hours a day. Yours may be a little more or a little less—but if you get five hours' good consistent work in every day, you will be doing well."

Regarding this last paragraph one must stretch a point. A really obsessional hard worker, one perhaps aiming at 12 hours a day, may simply be unable to accept the suggestion of five or six hours; he will think one is potty and ignore all advice. I will then sometimes say "eight or nine," and be content with achieving at any rate some reduction—one has to feel one's way.

Having at the first or second interview fully explained the principle of the optimum, one should give another appointment not more than a week hence. Nearly always one will find there is quite substantial improvement. One should have the student describe his new work routine and should discuss it sympathetically, using the opportunity again to impress the optimum principle upon him. At all subsequent interviews one should spend a few minutes in just this way—confirming that the study routine is kept within his *de facto* capacity.

In this highly surrogative relationship the student is helped if one gives, each time, certain other measures of assimilable advice. I have several little "lessons" which, much compressed, run like this (the order in which one calls on them, if at all, must vary with the circumstances):

1. "Now, what are you doing with yourself when you aren't working?" (He tells me: it is usually nothing at all except to sit in a chair and worry.) "Here is another misconception. People too easily think of the mind as if it worked like the body; it does not. If one wanted to conserve physical energy to cut the maximum amount of firewood, one would lie flat on a bed and rest when one wasn't chopping. But the mind cannot rest. Even in sleep you dream, even if you forget your dreams. The mind is always turning. It gets its relaxation only by variety. That is what makes mental rest. When you've finished your optimum hourage you must stop, cleanly and briskly. You must not then sit around in the chair thinking about the work—that only tires without any learning. You must get out and do something. I don't mind what—whether it's playing squash, taking out the girl friend, or reading Peter Cheyney—anything so long as you are actively doing something else but work. The college is full of chaps who come up for their final term and decide to cut everything but work out of their lives. Before halfway through they are so flat and stale that their concentration has fallen to a fraction and they are downright depressed. So keep up normal activities outside working hours."

2. "About revision. The mind is like a storeroom—its efficiency depends not only on what is in it but on how well catalogued and accessible it is. In revising when the examination is near you must *never* try to learn new material. You cannot assimilate it—it lies on the top, and you'll drag it into your answers, even if it is quite irrelevant. In storeroom terms, you can't get it neatly packed in the racks; it lies in the passage-ways and keeps tripping you up as you hurry down. In revision you must go over only the stuff you know: not the stuff you are really bad at. There are bound to be some parts of the syllabus you don't know; leave them be, it is too late to bother with them now. Revision should tidy up the loose ends. It is to get the stuff you do know really polished up and accessible."

3. "You've got to accept some gaps in your knowledge. Trying to know absolutely everything in the syllabus can be a student's downfall. The best you can do is to be like everybody else. And that means that you know your way around about two-thirds, and are quite at sea in a third. When you open your examination papers you find three questions you can do, one that isn't quite as bad as it first looked, and one that is hopeless. It is the same for all the others as for you. The truth is there is always a bit of luck in examinations: if the questions fall out the other way you may be stumped; but you've got to take that risk. You only work yourself into a state if you try to cover all the gaps."

4. "How much work should one do on the day and night before the examination? Ideally, none at all. You pass the examination on what you already know, and on your mental freshness and composure when you go in. Heavy study on the day before can add very little to your knowledge; and if you go in jaded and tired in consequence you've made a very bad swap. Nevertheless, the pressure on the day before is sometimes so tense that really a couple of hours' work is soothing to the nerves and restful to the conscience. If so, do a couple of hours—but not more, and not in the late evening. Broadly speaking, the essential thing is to plan a nice full day, with company, well in advance; particularly go to a movie or something specific like that in the evening."

Such little talks, lacing one's clinical contacts, the study regulations one gives, and the modest medication, very seldom fail to be helpful; often they are crucially helpful. Any measured assessment of one's efficacy is difficult. All one can say is that the students we treat for pre-examination strain at the Student Health Centre have a pass rate very much the same as the college average: and, seeing they are the ones who come in trouble, the work seems to us well worth the effort we put in.

I should like to acknowledge my indebtedness to Dr. Arnold Linken, assistant physician to the Student Health Association. Not only has he carried the burden of much of the clinical work upon which this article is based, but by regular discussion and case conferences he has been jointly responsible for the clarification of our ideas on this condition.

A new British Standard "Cupboards (Wall-fixing) for Poisons and Dangerous Drugs" has been prepared at the request of the Hospital Equipment Standards Advisory Committee to provide a cupboard of approved design and layout for the storage of poisons and dangerous drugs. In accordance with the Dangerous Drugs Regulations, 1953, each cupboard has an inner independently locked compartment for dangerous drugs, opened by a second key; to minimize the risk of errors in the administration of drugs this compartment is placed at the lower left-hand corner, whatever the size or shape of the cupboard. The cupboard lights up automatically when the door is opened, and a red warning light shows until both inner and outer doors are closed and locked. Materials, dimensions, construction, and finish are specified for both metal and wooden (block-board) cupboards, and plans and elevations illustrated for both narrow and wide cupboards. Provision is made for firmly attaching the cupboard to a wall, but the actual means of attachment is not included, as requirements will vary according to circumstances. Copies of the Standard, B.S. 2881:1957, may be obtained from the British Standards Institution, Sales Branch, 2, Park Street, London, W.1, price 3s. 6d. net.