stages. The Goodenough Report observes that the Conjoint is "of good vocational standard"; dare it be said that it is, too, tougher than some university examinations for the M.B., B.S.? One great point about it is that it is conducted by those who in the Royal College of Physicians and the Royal College of Surgeons are masters of the art and craft of a practical profession.

ARBITRATION ON G.P.s' PAY

At a special meeting on August 15 the General Medical Services Committee welcomed the acceptance of arbitration by the Minister of Health and the Secretary of State for Scotland. The Special Conference of Representatives of Local Medical Committees on July 19 passed a resolution requesting the Minister of Health "to refer to arbitration the determination of the proper size of the central pool, having regard to the recommendations of the Spens report and to present-day money values, such arbitration to be arranged without delay." At its last meeting the G.M.S. Committee had before it a letter¹ from the Ministry of Health stating that the Minister of Health and the Secretary of State for Scotland would be prepared in agreement with the G.M.S. Committee to seek a decision by an independent adjudicator. Discussing this reply, an account of which appears in the *Supplement* at page 69, the Committee decided to arrange to discuss with the Ministry the names of persons likely to be acceptable to both sides as an adjudicator "before committing the profession to arbitration other than by a recognized court." The Committee assumes also that the discussions will include the precise terms of reference for the arbitration and agrees that the adjudicator should be asked to decide the date from which any new sum should apply.

Subject to the overriding authority of Parliament, the Ministers agreed to accept the adjudicator's decision, but made two provisos. These were (1) that the G.M.S. Committee should also undertake now to accept the decision, and (2) that an agreement satisfactory to both sides is reached on a revised plan of distributing the central pool calculated on the new basis. In response the Committee undertakes to accept whatever decision may be reached following the arbitration. As to the second proviso, the Committee has agreed, on certain conditions, to co-operate in a joint Working Party to investigate a revised plan of distribution in accordance with the recommendations of the Spens report. The Committee has assured the Ministers that "it would be the aim of its representatives on a Working Party to work harmoniously with a desire to provide the best possible service for the public and make possible a better and happier atmosphere among the doctors who take part in it, but in the Committee's view the profession would feel rightly aggrieved if the award following arbitration were nullified by failure to agree in the Working Party upon a proper distribution of the pool." The Committee has offered to send a deputation to the Ministry to discuss details, and a reply from the Ministry is now awaited.

¹ *British Medical Journal, Supplement*, 1951, 2, 56.

THE CAUSES OF FAILURE IN EXAMINATIONS*

BY

T. R. HENN, C.B.E., M.A.

Senior Tutor of St. Catharine's College, Cambridge

When I was asked to open a discussion on the causes of failures in examinations my first reaction was to ask myself, "Is there a problem at all?" Under present conditions at Cambridge the incidence of failure in examinations should, in theory, be negligible. The pressure of admissions is such that, given efficient selection of the material, every candidate who enters the university should be capable of passing all his examinations without undue difficulty. The actual figures are difficult to ascertain, but it seems likely that between 15 and 25 candidates are rejected for every one accepted throughout the university as a whole. Theoretically the field should be large enough to ensure that those finally chosen have full academic qualifications. Therefore there should be no failures, other than the "calculated risks."

I use this phrase deliberately of an interesting and important (though numerically small) class of undergraduates, and I must explain what I mean. In brief, they are—I speak for my own college only—men whose paper qualifications as regards examinations passed before matriculation are below those empirical standards which we find to be effective guarantees of a good honours degree, but who should, we think, be admitted to the college for one or more of the following reasons: (a) as having a planned "single-minded" career before them—such as medicine, architecture, engineering, business; often with potential inherited responsibilities; (b) as having special personal qualities, or talents, to contribute to the corporate life of the college; and (c) in the years immediately after the war, special "hard-luck" cases—the "broken men" whose main chance of rehabilitation was a university career.

These men were, and are, accepted with full knowledge of the risk, in the belief that they have an outstanding contribution to make, as graduates, to the national life. Often they are pass degree men. If they fail, "it's just too bad"; but it is surprising how seldom they do. And they are never the "nerve" cases with whom I shall be mainly concerned.

The Failures

I now turn to what we may properly consider the "failures." These I hold to be men who, with adequate or outstanding paper qualifications—records in school or public examinations of various kinds—either fail completely in their examinations or produce results far below what is expected of them. I would instance the case of the scholar or exhibitioner who gets a third class, or is allowed the ordinary degree—since we regard a scholar as a safe top second, with an even chance of a first, and an exhibitioner as a safe second with, say, one chance in three of a first. (I should not class a low second as a "failure" in either case, as there seems

*A paper read to the Third Student Health Conference at Cambridge on July 6, under the auspices of the Nuffield Provincial Hospitals Trust.

to me to be a steady possibility of error in the initial selection of scholarship candidates. I believe that we should have this "error" constantly in mind.)

As regards the numbers involved, I should, under present conditions, put the complete failures among honours candidates at about 1 to 1.5% of the total sitting for examinations, and the partial failures, those with unexpectedly poor performance (having regard to their previous university work), at about 2.5%. In a college such as mine these might represent four and eight men, respectively, each year. I understand that, for the whole university, the number of men not classed in the tripos examinations for 1945-9, taken together, was 5.1%. No doubt this would include some cases of illness.

These figures are, of course, ridiculously low compared with, say, the 40% rejects at certain U.S. universities at the end of the first year, but they do constitute a certain "loss."

System of Selection

From one point of view such "losses" may be held to represent a failure in the system of selection, and in order to carry my argument a stage further I must explain, in the barest outline, how that system works.

A typical year's entry at my college is composed of the following classes: (a) Scholars and exhibitioners, selected competitively on the results of the entrance scholarship examination. Say 25% of the intake. (b) Others selected on the same examination, often actual or potential State or county scholars who have, in addition to their scholastic qualifications, strong personal qualities. Say 25-35%. (c) Other commoner entrants, highly selected on interview plus school credentials, with a known minimum academic standard sufficient to ensure their obtaining an honours degree. Say 15%-30%. (d) "Calculated risk" entries. (e) Those who for one reason or another cannot be interviewed before admission—for example, because they are overseas. (f) Serving officers and certain similar special cases.

For the moment I am remarking only on the fact that I should not expect failures of any kind in groups (b) and (c). There may well be in group (a), as this will include examples of the potential genius whose development is not always predictable.

Now selection—other than that of scholars and exhibitioners, who are the subject of a written recommendation by the examiners which is not normally challenged—can be considered as being dependent on two sets of factors, positive and negative. In each group I mention only those factors which bear upon our subject.

Among the positive I include energy; independence of mind; possession of an objective, or a deliberately assessed lack of one; capacity for readjustment at the university; a range of interests outside purely academic work; sufficient independence and humility to profit from the pupil-teacher relationship; and some scale of what one must call (very loosely) "philosophic" values, however immature.

On the negative side one might suggest undue suggestibility; an anxiety-pattern so pronounced as to be abnormal; sexual maladjustment; an undue sense of responsibility to the past—for example, parents, school, etc.—rather than to the future; undue

aggressiveness; lack of social adaptability; and a negative tendency to the "philosophic" synthesis mentioned above.

It should be noted that it is the positive aspects that suggest themselves from the school records and testimonials; in only a few instances are the negative ones suggested. It is unlikely that the boy with overt negative aspects will get as far as an interview. We are therefore left with the residual cases—that is, boys with a considerable positive record, whether academic or "special" (but not "all-round" qualifications), whose negative aspects are not discernible until the interview stage.

Primary Causes of Failure

I am going to suggest that "failures" in examinations are, for the purpose of our consideration, to be accounted for in terms of one or more of these "negative" aspects. You must remember (a) the highly competitive nature of the university entry, and of the schools "ladder" that leads to it; (b) the fact that there is, practically speaking, no financial barrier for a boy of moderate ability; (c) the consequent blending (or confusion) of the social strata; (d) the modern tendency to produce very small families; (e) the undue value placed by certain social strata on a university degree (because of its step upward); and, in consequence, (f) the undue importance attached to failure at any given stage; coupled with (g) a pathetic faith in the infallibility of examinations (or, as a correlative, an angry denunciation of all examinations).

I suggest that there are three, and only three, primary causes of failure in examinations. I attribute them, not to any one negative factor, but to a number in combination.

(1) An incapacity to work, in an effective sense. Such boys will "work"—that is, sit in front of books—for long hours, absorb little or nothing, and consequently fail to retain even the bare minimum of knowledge. Such boys have been badly taught at school. But except as "calculated risks" we see little of them, as they are most unlikely to have overcome our preliminary hurdles.

(2) Insufficient work, through dispersal of interest and energy; though it should be noted that the boundary between this dispersal and the highly desirable extracurricular activities is often a delicate one. These boys again are rare, and not very interesting. They can usually be picked up, and checked, in the early stages of their university career.

(3) Failure through some form of what may be loosely termed "breakdown," either before or during the examination.

It is this last class which I wish to consider in detail.

Cases of "Breakdown"

So far as we can generalize, I should expect to find, in each case of a "breakdown," one or more of the following factors: (a) Acute anxiety about the result. (It should be noted that a system of once-a-year examinations probably accentuates this state. Continuous testing by terminal examinations might be less objectionable.) (b) Insecurity in the family constellation, leading to a wider sense of social insecurity at the university. Factors in this may be divorced parents, an unbalanced upbringing through the death of one parent, an unduly dominating parent, and so forth. (c) Sexual infantilism in some form, often associated with (b). (d) Failure to adjust to the highly complex

conflicting claims at the university. (e) A history of "invalidism" in adolescence—for example, a long succession of minor ailments.

The manifestations are of two kinds.

(1) The simple "refusal to face the fence" so familiar to psychiatrists: more especially the last fence, if one or two have been cleared previously with outstanding success. This is the typical "nervous breakdown," often with functional symptoms. It is apt to be produced up to and including the morning on which the examination starts; it does not often appear, say, more than a week before, though its causes have no doubt been latent for some time previously. As regards this state, two points may be noted: (a) These "breakdowns" have a strong "infection" or "epidemic" aspect. They appear to be readily communicable in undergraduate society, and can be arrested by strong action on the part of the authorities—for example, by the announcement that *aegrotats* will not readily be given for such cases. (b) They often yield to "shock" treatment—for example, by telling a man that he will go into the examination, or else . . .

(2) The "flap" or breakdown in the examination itself, sometimes amounting (so far as one can judge) to a mental black-out.

Again it is this last case that I find most interesting. Here I propose to digress a little to draw a lesson from war experience.

The Phenomenon of "Flap"

Perhaps one could define the phenomenon of "flap" in war as a mental state which rendered the individual incapable of evaluating the component factors in a rapidly developing situation, and therefore incapable of embarking on any considered sequence of action such as would result from a logical assessment of them. From another angle, the symptoms might appear as rapid and violent physical actions (themselves an expression of mental disturbance), or, in extreme cases, of a kind of physical paralysis.

Such states seemed to be produced (as a rule) by the over-rapid impact upon the individual of a large number of stimuli perceived as serious—that is, with possible grave consequences—upon a mind which, by reason of its state of tension, was unable either to judge them relatively or to force them into a logical pattern, with a view to initiating effective action.

Now I had the good fortune to go through the highly compressed "war course" at the Staff College in 1942, as one of the oldest officers who had ever done that course. Of my fellow students some 70% were regular officers; 30% were amateurs like myself. It became very clear to me that one of the things that was being tested was the liability to "flap"; for if officers "flap" in training they will, *a fortiori*, be liable to do so in battle. The technique was to load each individual with a series of widely differing problems to be worked simultaneously, and against time, without much rest or sleep, over a period of some 10 days, though there was no formal examination.

Watching myself and my brother officers under such conditions it became clear to me that "flap" under these or examination conditions was a very real thing, in no way to be despised or ridiculed. There was obviously a greater tendency to it among the regular officers, as their careers were involved; the irregulars could regard matters more light-heartedly. Further, while certain temperaments were more liable to lapse than others, it was clear that these were not necessarily the highly strung types, which, indeed, often became cold

and doubly efficient under pressure. It looked as if the key were to be found in certain fairly simple psychological attitudes, and I decided to watch for these when I ceased to be a pupil and became a teacher again.

Strain of Examinations

At the root of it all, I am convinced, is the perspective in which the examination and its results are seen. Sir Herbert Grierson used to say to his pupils: "The publication of the Class List doesn't mean that the day of judgment has come." It hasn't: but who, at the age of 21, will conclude, of his own accord, that this is so? Further, the lower the candidate is on the social ladder, the greater will appear to be the "career" rewards of doing well, and the greater the importance he will attach to the result. The well-to-do classes may regard an examination result as important, but not all-pervading in its significance, for their possible field of employment is wider, their tradition more flexible, and they have known the public-school tradition of real or affected *insouciance* when confronted with any type of crisis. They have been at boarding-schools; and hence the break with home, which often upsets the secondary-school boy, has no significance for them. They have been taught to regard a university career as their right: to others it may be, literally, a unique opportunity in which failure seems, for the moment, to spell disaster.

Now any examination which tests the results of one or two years' consolidated work by some 18 hours of high-pressure writing is a considerable strain. All we can say in its justification can perhaps be summed up thus: (a) it seems to be less open to objections than the other alternatives that have been suggested; (b) its "crisis" aspect appears to have some value as a test of the individual's capacity to deal with similar crises that will recur through his life; (c) its results seem to afford a rough correlation with observed development in later life—that is, within limits it is an adequate test of certain kinds of ability; and (d) it does not appear to produce any serious after-effects.

But it is true to say its critical and concentrated nature tends to show up, rapidly and violently, any serious psychological maladjustments; though there is no reason to believe that these would necessarily show up in later life.

Attitude to Examinations

To sum up, then, I would suggest that the most interesting examination failure is that of the candidate who "flaps," becomes uncoordinated, and who fails to reproduce in these conditions the "form" that one associates with his record before admission and his work in the period before the examination.

I would attribute this state, as a general rule, to the following: (1) Overanxiety about the result, and, basically, an intellectual and emotional failure to perceive the place of the examination in the pattern of life. (2) Overanxiety produced by (a) the consciousness of the long ascent of the social and intellectual ladder of which the examination represents, to him, the crisis or climax; (b) an unsatisfactory child-parent relationship in some form; often associated with (c) the consciousness of an overconcentration of parental interest upon his performance (the terrible moral burden which parents—particularly those from the lower walks of the scholastic profession—tend to impose); and (d) infantilism, often associated with only children and

this kind of family constellation; the determined and possessive mother, a sheltered existence—the pattern so familiar to psychiatrists.

With regard to this last, I see no evidence that homosexuality leads to these breakdowns.

We can best show the contrast if we think of the opposing types: (a) men to whom the result does not matter greatly, and who can look back on "compensating" activities at the university; (b) men who regard examinations as a battle of wits with the examiners: often with a commendable mixture of excitement, cynicism, and gaiety; and (c) the real scholar who does, I am convinced, find a keen intellectual pleasure in tackling the problems set in the papers and in presenting his knowledge in an ordered pattern. All these classes are at their best (as is any athlete) when they are "keyed up" in the right way—that is, in a state of excitement which may be likened to a coiled spring of mental energy. Incidentally, I have some suspicion that the "breakdown" case is often that of a *made* as opposed to a natural scholar; a man whose interests, consciously or unconsciously, have been forced into a particular channel. The breakdown may well be his psychic revenge.

Possible Remedies

In considering possible remedies I am forced to the following conclusions:

(1) The competitive examination system, seen in conjunction with the changing social structure, has now got such a firm grip on the national life that we can never get rid of it.

(2) We can, however, do something to mitigate its worst aspects by educating both our own men, and those who employ them, to attach a higher value to personality when it comes to questions of employment. But the effective use of personality for this purpose does postulate a fairly extensive individual knowledge by someone qualified to speak authoritatively for the man.

(3) In attempting to mitigate the possible evils of the examination system we must not go to the lengths of excluding the potential "breakdown" case, of the type I have described, for he may be a potential genius. "Great wits are sure to madness near allied"; and in this class I would mention—though with the utmost circumspection—mathematicians and musicians. Any method of selection must be sufficiently flexible and thorough to assess the chances of such men, and to accept them as legitimate risks.

(4) Once at the university they must be so handled (again the call for individual attention) that their development may proceed naturally. This development will, in most instances, involve one or more of the following factors: (a) a break-away from the family constellation and its "concentrative" influence; this implies knowledge of the family background by those who teach the man; (b) the growth of some philosophy of life which will enable him to see the examination—and other things—in a proper perspective; (c) the development of extraversional interests; and (d) the inculcation by his teachers of an attitude to the examination; this attitude will have to be developed specifically for each individual (though there will be much common ground) to enable him to minimize the "pressure-aspects" of the event.

Perhaps the problem is really that of diagnosing, at the selection stage, three classes of possible breakdown. There is, as I have said, the potential genius; he must be accepted, but might sometimes be saved if his past case history were known, and if treatment were available and accepted without any stigma attached to it. Then there is the evident neurotic, without any discernible compensatory qualities. If the neurosis is so pronounced as to offer little hope of the normal

adjustment by time, I am doubtful whether a student should ever be called on to undergo the strain of university life—a strain which may be rapidly and violently distributed among his teachers and his college. The third class is a borderline one. For my part I should be most reluctant to say that even 30% of adolescents were free from all forms of neurosis at the university age; but I should expect a more or less complete working adjustment three years later. As a tutor I should welcome the possibility of referring a few doubtful cases—perhaps five or six a year—to a competent authority, either at the admission stage or at the end of the first term.

Treatment

Emergency treatment is a difficult problem. One or two consultations for the man suffering from what has been called "tripositis" in the days immediately before the examination are not, in my experience, of much value. The time is far too short for therapeutic action, or even for the collection of essential data; and the resistance will seldom be broken down so quickly. Indeed, it is possible that these preliminaries merely result in an undue measure of concentration upon the man's own weakness, without giving him the opportunity (for his thoughts and energies are elsewhere) to co-operate with the analyst.

Concentrated psychotherapy or analysis after the breakdown has taken place seems to me, on the whole, unsatisfactory; the "hoof-slide has been scarred on the course," though no doubt prolonged and thorough treatment would produce good results. There have been times when I should have welcomed the advice—though not treatment—of a competent psychotherapist as soon as symptoms appeared, though the particular cases I have in mind have pulled through and readjusted themselves. It is a shattering thing to see, as I have seen, a major of a great regiment, with battle experience, weeping quietly in a chair in one's room because he cannot bring himself to go into the examination-room next morning. Yet another pupil, picked up in the small hours of the morning near Bedford on the way to the Welsh hills, where he proposed to become a shepherd (this 10 days before his tripos), achieved his first, did brilliantly in the war, and is now completely stable. The amateur therapy applied in that case is another story.

I will end my paper with a single quotation which I have used for lectures on other subjects—on international politics, and strategy, and other things. It is from Robert Bridges's *Testament of Beauty*, and it seems to me wise:

Our stability is but balance, and conduct lies
in masterful administration of the unforeseen.

An ingenious way of demonstrating the presence of A.C.T.H. inside the basophil cells of the anterior pituitary is described in the *Journal of Experimental Medicine* (July). It is a modification already reported of a method of localizing antigen-antibody reactions in tissue sections. Antibody to hog A.C.T.H. was prepared by injecting rabbits after they had been adrenalectomized and then separating the γ_2 globulin fraction of their plasma. To the protein of this fraction the dye fluorescein was linked chemically, so that when its contained antibody combined with antigen the insoluble product would show up in the ultra-violet microscope with a brilliant fluorescence. When freeze-dried sections of pituitary gland were examined after staining in this way the distribution of A.C.T.H. could be seen.