

Personality and the Organization of Man

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I should begin by declaring my interest. It is that, as Blake has it, without Man, Nature is barren. Or, in twentieth century terms, the creative and dynamic forces that lead to progress derive from the human personality. If this is conceded, it follows that if we wish, in Mr. Whitaker's words, to release "a dynamic of progress" we should be much concerned with ensuring the free development of the human personality. In the context of social development, the decisive contribution is made, or is to be made, by and through organizations. My aim here is to suggest the significance to the effectiveness of organizations of more positively concerning themselves with problems of personality especially in relation to recruitment.

I think this to be a concern of all organizations; but my experience is mainly of organizations in the public service. Because accounts of what happens in such organizations tend, in this country, to be more accessible, what I have to say will be illustrated by some examples from the public service. Apart from this, the importance of the public service in our society and the pervasiveness of its works and influence make what happens in it of some general significance.

I—PERSONALITY

It would be well to try, if not to define, at least to indicate the sense in which I use two terms, "creativity" and "personality". The former is discussed from many viewpoints—artistic, scientific, cognitive, technical etc.—in an interesting compilation, *The Creative Process*.¹ At least one aspect of this can be put, individually and organizationally, in terms of what is known as the "canon of operations" of the empirical method.² By this we mean awareness of a problem, its analysis, a suggested solution (an "idea", insight, synthesis), implementing the solution, assessing the results, so revealing new problems, and so on and on. By this process the ultimate reality of development is enabled to achieve itself. But this development is not necessary: it can be aborted,

¹ Brewster Ghiselin (ed.) University of California Press, 1952.

² For a discussion of this see Bernard J. F. Lonergan: *Insight*, Longmans, Revised ed. 1958. p. 74.

frustrated or misdirected. To ensure that it occurs, and along its natural lines, is to assist the natural course of evolution: the evolving situation is helped to develop more smoothly by what, in organizational terms, we call administration. Administration is thus the creative process of organizations. It is in this sense that we can use the word "creative" in the present context.

The second concept, that of "personality", is more elusive. If philosophers in former times, and psychologists in ours, cannot agree on a definition of the term a layman may be permitted to evade the issue. (This is, of course, the typical administrative situation: every day we make selections on the basis of "personality", awarding fine shades of markings for it, at a time when the experts do not know what it is. The administrative process has been described as making the best decision possible on inadequate information.)

However, if we cannot define "personality" we can at least give some idea of senses in which it may be used; and for my purpose I propose to take two of these senses. The first regards the personality as an equilibrium between the elemental drives and the aspirations of the super-ego, with the rational ego mediating between them.³ Once the personality has been formed, and this is believed to happen in early childhood, this equilibrium achieves great stability. There have been cases of a "break-through"—religious conversion is a striking example—but they are exceptions. The normal thing is a stable equilibrium, which may shift round a fixed centre, but which makes no decisive change through life. The importance of this in the present context is that the stability of this equilibrium enables one to assess personality—that is what a person *will* do—by considering what he has been doing during his life time. The same sorts of decisions will tend to be taken in the same sorts of circumstances. This tends to give one a pessimistic outlook on many personalities. It is common to conclude from the contemplation of a personality that has made some mistakes of significance, or has failed to rise to opportunities, that given a chance he will do better next time. He may, but it is not likely: the pattern of one's life shows the equilibrium of one's personality.

The other sense in which I propose to use "personality" is a less pessimistic one. It is concerned not with what a personality will *do* but with what it will become. This conceives of personality as a structure seeking to realise its potentialities:⁴ what one might perhaps describe as a heuristic structure. In this way, one can conceive of the personality as striving towards development in the creative sense referred to above.

Perhaps one can reconcile these two points of view by considering the most venerable example of the "feed-back", the steam locomotive. Here the steam was kept in equilibrium by the governor—if too much steam was generated the lid lifted and the steam blew away. But the steady head of steam, the equilibrium was not maintained for its own end, but to enable the locomotive to get

³ See R. B. Cattell: *An Introduction to Personality Study*. Hutchinson's University Library, 1950, p. 82.

⁴ Gordon W. Allport: *Becoming*. Yale, 1955, s. 20.

from place to place, to achieve its transport potentialities. When I use "personality" in this paper it is in this synthetic sense, unless the contrary is said, of an equilibrium on one plane and a more fully realized structure on another. Similarly, one can join these two aspects of personality into that of the creative personality which is the dynamic force of human society in general and of the particular organizations that comprise it.

Having been so foolhardy as to venture into the trampled field of psychology, as a mere layman and unarmed, I now retire into the virtually uncharted jungle of my own interest, that of organization study. Making all allowance for the dangers of analogy as a method of argument, I still must insist that, as similars are to be similarly understood, there is such a thing as a "personality" of an organization. It seems to me that there is no doubt but that we can see within an organization the same sort of equilibrium of forces as we can find within the personality of the individual—the drives, the ideals and the moderating rational spirit—that keeps the organization doing things in the same sort of way over very long periods. There is no doubt but that the organization can also be regarded as a heuristic structure striving to realize its potentialities in achieving its goals.

The kernel of what I have to say here relates to the interaction of those two types of personality, the individual and the organizational. Quite obviously, one must always bear in mind that an organization consists of individuals; but there is enough significance in this concept of interaction to justify giving some time to it. At one extreme, a very strong or gifted individual can make a new organization an extension of his own personality so that it takes on his own characteristics. At the other extreme an organization that has lost its dynamism can kill off the potentialities of its members at a rapid rate: there is a sort of dry rot of organizations that is all too familiar in its effects. It seems to me that the ideal relationship between organization and individual is one by which each evokes the "plus-values" of the other: the heuristic structure of each achieves its potentialities in the process of individual and organizational development. One thinks of the sort of creative effect of a good school or university, or the implications of the "crack" regiment, or the impact on Christendom and the East of the early Jesuits.

II—COGNITIVE LEVELS OF ORGANIZATIONS

In more prosaic terms, can one relate this type of analysis to the practical administration of organizations, in particular public organizations here? I think so, but first one must face a major difficulty which is inherent in the structure of organizations. What I have to say relates to the cognitive aspects of organizations and does not address itself to the problems raised by members of the organizations whose job is to do what they are told: the problem discussed here is the problem of those who do the thinking part of the work of the organization, and take the decisions, except

the very highest, that is, those who have the cognitional functions. In civil service terms these would be divided into two classes, the executive and the administrative ; but I think that in general three distinct classes of work can be discerned. These overlap ; but are nonetheless distinct. The three types of work into which one can classify what goes on at the cognitive levels of public organizations (at least) are dealing with snags in the application of rules, the modification of those rules to keep them in tune with the environment, and the modification of the environment itself. Perhaps these should be spelled out in some detail.

Coping with snags in the application of rules is, in effect, the traditional civil service definition of executive work. It arises by way of the operation of controls which act as systems of communication to show where a problem arises. To discharge that work adequately one needs a firm grasp of the purpose and limitations of any set of rules.

Certain snags, conflicts etc. are insoluble in terms of pre-existing rules and if the problems they present are to be solved they call into question the adequacy of the rules themselves and the need to modify them. To appreciate this need and to respond adequately to it one needs a deal of sympathy for, and understanding of, one's environment and a capacity to synthesise problems and feelings into better rules more attuned to that environment.

At the third level the environment itself begins to show its inadequacies and calls to be "operated" upon by large-scale works, legislation and "infrastructure" generally, altering the climate of opinion, taking major decisions about the pace, scale or content of public activity. Here one comes to that indeterminate region where administration and politics intermingle and of course the final decision-making at this level is a matter for the politician, not the administrator ; but the apprehension of the need for this kind of decision, the analysis of the major problems revealed, the assessment of possible courses of action, the formulation of solutions—these are the task of the official. Similarly, when a decision has been made, the broad structure of the means of implementing it, the establishment of a system of appraising the results, and so on, is the task of the official. This is, in effect, the "canon of operations" at work in a way that can truly be called creative. The qualities called for by this type of work require the type of personality that can transcend its environment.

Thus we find ourselves with three classes of official : the one who seeks to alter the environment, and thus is in some sense at odds with it ; the one who seeks to attune his activities to a given environment which he tends to accept ; and the one who seeks to make events conform to rules that support that environment. These are distinct types of activity and there is no inherent reason why doing one of them should in any way fit one for any of the others. In fact, experience of making rules apply tends to give one a reverence for the done thing. Acceptance of one's environment is not the best training for altering it, and so on. This is the dilemma of the organization man : the more effectively he

adapts himself to his present job the more difficult he makes the adaption to a future, higher job. This is not to deny the value of experience as a test of the equilibrium of personality—there is probably none better: but it is to argue that, from the *structural* side, experience has been regarded as a positive handicap to development to the highest levels. This dilemma has, of course, long been recognized and is the basis on which the traditional practice of recruiting different classes of civil servants, at different educational levels, has rested. Thus, a good secondary education has been considered adequate for those whose job it would be to be copers with snags within existing rules. For the framers of rules the university graduate has traditionally been considered as the most suitable material. In some places, e.g. in Canada, Sweden, etc. there is the further level of recruitment to the really important jobs—such as “posts of confidence”—and these are often (e.g. in Canada) filled by those with a very advanced level of education.⁵ Even in Britain where there is no separate recruitment at this level, there is a practice of appointing the most senior men for one organization from another one—e.g. the experience of the Treasury. The point here is that it has well been recognized that experience of itself may be incapacitating rather than liberating: the structure of personality, far from being developed by a given experience, can become ossified by it.

The aim to have two or three main streams of recruitment at the cognitive levels of the public service tends to be broken down by the pressure of events and in some countries (e.g. Australia and New Zealand) it does not exist. In Britain, for example, the administrative class is being filled to an increasing extent from the executive class. In this country, as the recent Report on the Post-entry Education of Public Servants⁶ has made clear for all practical purposes there is only one channel of recruitment: the jobs in the two higher levels I have been describing are filled from the recruits to the third class. The practical point to make here is that this situation calls for new solutions now that the traditional solutions have shown themselves inappropriate, or at least not naturally workable, in our conditions.

What sort of changes does this suggest?

One can think of a static culture as having values thick on the ground, and of a vigorous culture as one where irrelevant values are replaced by ones relevant to the time. “Value” is a term that has come to replace “end” in the older terminology, but as far back as Aristotle⁷ ends could be arranged in a hierarchy; that this scheme is also relevant to values has not made its impact on the study of organizations⁸. This failure has led to some bizarre results.⁹ The net problem is how values come to be

⁵ See B. Chapman: *The Profession of Government*, Allen & Unwin, 1959, ch. 14.

⁶ Institute of Public Administration, Dublin, 1959, Part II.

⁷ *Nicomachean Ethics*, Ch. 7.

⁸ Though H. A. Simon: *Administrative Behaviour*, Macmillan 2nd. ed. 1957, ch. 3, discusses the point without, I think, getting to the heart of it.

⁹ There is some highclass muddle in the discussion of this issue in P. Meyer; *Administrative Organisation*, Stevens, 1957.

formed. I think there is not much doubt that a value is a decision that subsequent decision-makers accept as conditioning their own decisions. To increase the density of values in a culture, therefore, we need a steady stream of these higher level decisions, acceptable and relevant to our conditions. One can match the hierarchy of decisions to that. In so far as these organizations have high value decisions to take—and that tends to be true of the organizations of the public service—the importance to our culture (taking the term in its wide sense) of what goes on at the higher levels of those organizations is very great.

The first requirement this suggests is a high and restless level of intelligence, “the capacity to feel less and less satisfied with our answers to better and better problems”¹⁰ These problems are likely to be very difficult because, in a free society, of the residual function of the public service: it is left to solve those problems that individuals and other groups in society find beyond them. One thinks, therefore, of a penetrating intelligence, able to unravel complex problems and arrive at proposed solutions to them.

The second quality is a moral one: the motivation to get something done about a problem when it has been apprehended, long before it comes clamouring for attention. This moral quality comes second, because it cannot come into play until the problem has been discerned and until some way of tackling it has been worked out. This is not to say that only highly intelligent people have a strong moral sense—the opposite may just as often be true—but that, unless the intelligence is there to do the discerning, the moral forces have nothing to work on. A sense of moral responsibility without a penetrating intelligence to give it jobs to do leads to anxiety and frustration. It is the co-operation of these two forces in the individual that leads to the getting taken of big decisions about big problems, and thus to the creation of values.¹¹

There is a third quality, the dialectical sense, the understanding of the creative value of conflicting courses, that can distinguish (and smooth away) the emotional and personal conflict and evoke the creative one that leads to synthesis and decision. Perhaps one can call this quality social competence.

I think one can say of each of these qualities that, where it exists, it is innate. Each of them can be exercised and tempered by experience, by the sheer know-how of living; but unless each of them exists from the beginning, no amount of experience, even of the best kind, will fill the gap.

III—STAGES OF RECRUITMENT

Bearing in mind that these are the three leading qualities one seeks, perhaps we should take a quick look at the means the

¹⁰ Quoted by Allport *op. cit.* p. 57. One is reminded of Mary Follett's “A man is known by the dilemmas he keeps”.

¹¹ There is a remarkable discussion of this by Lonergan, *op. cit.* Ch. xviii.

public service has set before itself to get them. There have been four main stages—(a) advertisement ; (b) qualification ; (c) competition ; and (d) assessment.

The first of these, *advertisement*, is the key one in a democratic society. The implication is that every public office should be open to those members of the public who consider themselves suited to it ; and obviously they cannot apply unless they know the job is going to be filled. This is so obvious that we tend to forget that many posts remunerated from public funds are even yet not advertised.

The second stage is to define the *qualifications*. These are published so that those members of the public who feel they might apply may know whether they have the necessary qualities for the job. Sometimes, when the job is being filled as an individual one these can be specified in great detail ; but the public service having arrived at the concept of *grades* of offices sets out these qualifications in general form. The qualifications specify minimum and maximum ages, the need for good health, the standard of education, the standard of character, such special training as the job may require, and (where there is a marriage bar) that “ any candidate holding the office must be unmarried or a widow ”. Sometimes there are sex and nationality qualifications as well. It was the achievement of the stage of *qualification* in 1855 that constituted the great reform of the British civil service, following the Northcote-Trevelyan report. This set a minimum standard for *entry* into the civil service. Within most parts of the public service, however, there are no specific qualifications for appointment to higher posts : this stage of the *minimum*, except in very general terms indeed, has not been achieved.

The third stage is *competition*. If the stage of qualification was intended to ensure a minimum, the stage of competition aims at a maximum.¹² This was obvious for many years in the civil service in recruiting for the former grade of writing assistant. There the standard of the competitive examination, in effect the educational qualification, was of VII standard primary school. In fact, almost half the girls appointed had the secondary schools leaving certificate.¹³ Competition thus raises the actual standard much above the minimum specified. Here again, competition is the rule for entry to most posts in the public service but, excluding the higher posts in the local government service, very seldom afterwards.

To recapitulate at this stage, advertisement (the creation of a market), qualification (the laying down of a minimum) and competition (aiming at a maximum) apply to *entry* to most posts in the public service but seldom to appointments made within the service. The implication generally is that what has been recruited

¹² This is a striking exception to the conclusion of March and Simon : *Organizations*, Wiley, 1959, that organizational decision-making is normally concerned not to *maximise* but to *satisfice* (p. 141) because to get the best rather than what is just good enough, is more difficult by several orders of magnitude.

¹³ Report on the Post-Entry Education of Public Servants, p. 42.

at entry after a secondary school education possesses generally the qualities we have listed above to a degree sufficient for the best functioning of public organizations and that if any mistakes have been made experience will reveal them. Here again, the implication is that mistakes will be few. The sonorous tones of Macaulay come echoing over a century and a quarter :

“ Whatever be the language—whatever be the sciences, which it is, in any age or country, the fashion to teach—those who become the greatest proficient in those languages and those sciences, will generally be the flower of the youth, the most acute, the most industrious, the most ambitious of honourable distinctions.”¹⁴

This was part of his argument for written examination as a system of selection, an idea borrowed from the ancient Chinese civil service, via India. This brings us to our fourth stage, assessment.

Most people would no doubt agree with Macaulay, but there are two limitations to his argument. The first is that the conditions for a free market should exist, so that *all* of the best of the youth get a chance to compete. As we shall see, that condition is not yet satisfied in this country. The second limitation is the adequacy of the assessment. So far as written examinations are concerned there is ground for grave doubts as to the reliability of marking. I have previously cited¹⁵ evidence from a pre-war publication.¹⁶ To take one example from this study of fifty essays for a university entrance scholarship, each marked by five examiners, this study reports : “ It is noteworthy that though there is comparatively little difference between the averages of the different examiners, the order in which they place the candidates differs greatly. It is quite clear that in an examination of this kind the marks obtained by a candidate are to a very great extent a matter of chance, depending on the particular examiner by whom the essay is marked.” Dr. Eysenck¹⁷ says : “ there have been several empirical inquiries into the reliability of essay-type examinations, and the universal finding has been that while agreement between examiners is better than what one would expect by chance, it is not so far above chance as to make the results a good indication of the candidate’s ability . . . the evidence seems to show that in a well-run essay-type examination, the reliability of the final grade is indicated by a correlation of about .8; in a poorly run examination it may be as low as about .6, or even lower.” More recent evidence comes from Queen’s University, Belfast.¹⁸ After some weeks the same examiner re-marked thirty papers set at the final medical examination. Eight out of thirty candidates were changed from pass to fail, or fail to pass.

In the Appendix to this paper I present some evidence that

¹⁴ House of Commons debates, 10th July, 1833.

¹⁵ “ Selection in the Civil Service,” ADMINISTRATION, IV, 3.

¹⁶ Sir Philip Hartog and E.C. Rhodes: *An Examination of Examinations*, Macmillan, 2nd ed. 1936, p. 32.

¹⁷ H. J. Eysenck: *Uses and Abuses of Psychology*, Pelican, 1953, p. 106.

¹⁸ G. M. Bull: *An Examination of the Final Examinations in Medicine*, *Lancet*, 25/8/56.

corroborates the experiences I have just cited. I quote the general conclusion arising from this analysis.

“Experience here bears out experience elsewhere, that the written examination is not a very discriminating tool of selection, notwithstanding the air of precision its marking system suggests. If the examinations were fully efficient one would, ideally, expect a complete correlation in the rankings given by two of them within a month, that is a co-efficient of 1. If the examinations were so inefficient as to give results no better than chance, one would expect a co-efficient of 0. In practice, the co-efficients were generally in the range 0.6 to 0.8. One is left with the conclusion that the examinations are a shifting yardstick.

“The more closely one looks at the detailed discrepancies the stronger this impression becomes: the differences in ranking contain within themselves such wide variations, as the Tables show, that the overall impression is of an uncertain and inefficient instrument. This impression is reinforced by the failure of any examination to emerge as the most reliable; but if one had to choose, the Leaving Certificate seems to have a slight (perhaps very slight) edge on the *ad hoc* examinations. Thus, in effect, duplicating the examination cannot be shown to make the final selection, based on the second examination, any more reliable. If we are to get increased reliability it seems as if the effort spent on *ad hoc* written examinations as a means of selection could be more effectively devoted to experimenting with other tools, or, if that made no improvement, saved.”

The other method of assessment favoured by the public service has been the interview board. Here the efficiency of selection is just as doubtful. In the Hartog and Rhodes study already cited is given¹⁹ an account of two boards that on the same day interviewed the same sixteen candidates at civil service administrative class level. The candidate placed first by one board was placed thirteenth by the other, and the candidate placed first by the second board was placed eleventh by the other board. The two results correlated 0.41. (Compare these results—1:13 and 1:11—with the results given in the Appendix from the 1955 written examination of 1:13 and 1:12). Eysenck cites,²⁰ *inter alia*, the famous example of the salesmen. “Twelve sales managers, all experienced in personnel selection, interviewed 57 applicants independently and each according to his own style. Again the applicants were to be ranked according to their suitability for the position, and again each applicant’s ranking showed wide variations according to the interviewer. One applicant, for instance, was rated sixth by one sales manager and fifty-sixth by another. Another applicant was rated first by one of the judges and bottom by another” (Compare these interview results 6:56 and 1:57 with the 1959 written examination results given in the Appendix of 6:59 and 2:58). Eysenck goes on to say: “It would be pointless to go through the several hundred studies which have been done in replication of these experiments. There is practically

¹⁹ pp. 35-41.

²⁰ p. 106 ff.

unanimous agreement regarding the unreliability and lack of validity of the interview". The interview used solely as a test of "social interaction" scores high marks but, he concludes: "... as regards ability on the job there is very little doubt that interviewing is an extremely inefficient method which cannot rationally be defended".

Unfortunately, I am not in a position to present evidence from Irish sources on this issue; but if such evidence were available I do not doubt but that it would, in general, support somewhat similar conclusions.

IV—WHAT SHOULD WE BE ASSESSING?

Before we come to any such conclusion, perhaps we should have a clearer idea both of what degree of reliability a system of assessment might be expected to have, and what it is we want a system of assessment to do.

On the first, the find of efficiency one might expect from repeating an assessment technique is suggested by Vernon and Parry in *Personnel Selection in the British Forces*.²¹ This lists the forty-six main tests used during World War II. Retesting, mostly after one to six months, showed 28 (61 per cent.) to give a correlation of 0.85 or higher, and only (9 per cent.) 0.70 or less. Eight tests (17 per cent.) gave correlations of 0.95 or more. This degree of correlation is, of course, only for the usually limited factor the test purported to measure.

On what in the present context a system of assessment must do, the main point emerges that it must measure school-leavers not merely for their suitability for the job in hand but for virtually *all* the highest non-professional jobs as well.

So far as the equilibrium of personality is concerned it is not easy to test 17-18-year-olds because they have not had enough experience to give a pattern for their lives. That they have done well at school is *prima facie* evidence that they can do well in cognate activities. In this sense, examination results are a useful preliminary screen.

But so far as the dynamic structure of personality is concerned the examinations are not so useful. On the one hand, to do well in school examinations suggests a good level of intelligence and of application. On the other, the standard of examination is necessarily designed for a wide section of the community and thus must comprise a fairly wide spread of intelligence with the less intelligent having made up for them by good teaching the gap between them and the more intelligent. Apart from this, application at school may be a function of discipline there and at home. In the more permissive atmosphere of the public service and of adult life it may evaporate. Application in youth may be evidence simply of conformism, which one does not expect to find allied with creativeness.

The point here is that success at examinations does no more

²¹ University of London Press, 1949, Appendix II.

than suggest a good level of intelligence and application. As we have seen, to repeat the examination in effect does not give one much help in resolving this difficulty. The most we can hope to get from an examination result is a *first approximation* of those who may be suitable for appointment.

If we want to make sure that we are getting a high level of intelligence *and application* we must take steps to seek out and measure these qualities. For the reasons given intelligence is the essential quality for the kind of job we want to fill, and it can be measured with a fair degree of accuracy. The grouping of intelligence in any population can be seen from the chart. The spread of intelligence is roughly 3 to 1, from the genius to the imbecile, on a scale from about 150 to 100 (which is the average point) down to about 50. The grouping of intelligence is obvious from the chart: 48 per cent. of the population between 90 and 110; 16 per cent. between 110 and 130; 8 per cent. between 130 and 150, and 2 per cent. above 150. In a given population about 10 per cent. are believed to have the native intelligence really to profit from a university education, and about 25 per cent. (including the 10 per cent.) from a grammar school type of education. Each year something over 50,000 people reach 18 in this country. Thus, in terms of our population these figures would represent some 5,000 and 12,500 people accruing annually. But only about 9,000 do the Leaving Certificate each year and there is no assurance that these coincide to a substantial degree with the 5,000 to 12,500 of the most intelligent. This is for the reason that with us secondary education is a predominantly middle class affair and the scholarship system is not yet so developed that many of those with limited means but high intelligence can avail of it.

There is a belief that the public service recruits an undue proportion of the brains of the country.²² The pool of brains in this context might be held to be the top 10 per cent. or some 5,000 people a year. Because the recruits to the cognitive levels constitute the group from which the top jobs will eventually be filled, and because the top jobs are generally regarded as requiring the qualities possessed by the group from which graduates might be drawn, the field of recruitment is really this 5,000.

From the figures given in the Appendix, the intake into the cognitive levels of the civil service is rather less average than 60 a year. To these must be added an allowance for those promoted from the lower ranks, on the one hand, and professional men recruited at graduate level, on the other. This might represent in all about 125 people a year. At this level the civil service is about equal in size to the local service and the services of the State sponsored bodies taken together. The total intake at this level to

²² P. Drucker: *The Practice of Management*, Heinemann, 1955, ch. 29, argues that there is not enough intelligence to meet the demands of the modern world. On the other hand M. P. Fogarty: *Personality and Group Relations in Industry*, Longmans, 1956 reproduces (p. 38) a striking chart from U.S. sources suggesting that the range of intelligence available goes much beyond the range of effective demand.

the public service is thus something of the order of 250. This compares with the 5,000 who are in the top 10 per cent. Allowing for those who do not get an educational chance, the public service is recruiting something over 5 per cent. of the available brains of the country.

This can be looked at from another angle. About 2 per cent. of the population have the intelligence to be in the genius class, that is to say, about 1,000 18-year-olds each year. If these did not emigrate one might expect, on an average working life of 40 years, something like a national stock of 40,000 of these really brilliant people at any given time. In the top jobs of the public service, that is in the administrative and corresponding professional grades, there are about 1,000 people. If, therefore, the public service were content to recruit nothing but such brilliant people for eventually filling its top jobs it would still be using only about $2\frac{1}{2}$ per cent. of what is available.

A demand of these orders of magnitude is modest in relation to a service that is concerned with spending about half the capital investment of the country and a current expenditure ("transfer" as most of it is) equivalent to one third of the national income, and which so influences, by fiscal, economic and social decisions, so much of the spending of the rest. What this relatively small demand suggests is that so limited a claim on the country's brain power gives little or no margin for mistakes and that great care must be taken to ensure that the public service is in fact getting the share of brains that will enable it to discharge these wide responsibilities. As things are, there is no assurance that this is happening.

Much the same sort of thing can be said about motivation and application. Techniques are available for assessing these, if not so effectively as in the case of intelligence. But it is possible to determine the balance of personality, the level of persistence, the degree of initiative, and so on. That is to say, one can arrive at an idea in young people of the structure of their personality and its potentialities, and get some impression of the chances that these potentialities will be realised.

One can broadly classify personalities, remembering that this is a question of striking a balance "on the whole". The balance of personality traits in one case might—to take one possible classification—suggest that this individual was a conative, or pushful type, that an artistic type, the other a cognitive type, and the fourth an affective, or mainly emotional, type. There is great need to apply some such classification to real success or relative failure in organizations. For this it would be necessary to engage in research to try to relate personality types to real success or relative failure at various levels of organizations. One could do this by tapping the informal, but ruthless and "underground", rating applied from time to time to each individual by his colleagues in the organization. The gap between this informal rating and the formal one is usually startling. The attempt to tap this rating would be quite distinct from considering formal success and advancement where these depend on the relative absence of a system for assessing fitness for promotion. The value of this would be to find out if there are

certain traits, or related groups of traits, such as contribute to an "affective" personality, which make for lack of success in an organization, especially under the heading of social competence. This kind of analysis would make it possible consciously to select from the beginning a reasonable "mix" of personality types to make for the optimum organization. Is this too reminiscent of *The Organization Man*? It depends, does it not, on the quality of the "mix"? Whyte²³ very properly castigated the choice of mediocrity and conformity as the scale of values in settling this "mix". I hope it is explicit from this paper that I believe an entirely different scale of values to be required.

There is a tendency to get concerned with the problems of others, while ignoring our own. What significance precisely is to be attached to the extraordinary preponderance of public service recruits—on average, three-quarters of the men—who, as the Appendix shows, have been educated by the Christian Brothers? The Christian Brothers are a highly characteristic organization who have done heroic work for Irish education. This has led to a popular stereotype of the "Christian Brothers boy". Has it any validity? We are all aware of notable exceptions to this stereotype; but when this is said, does anything remain? Mr. O'Mathuna, in an article five years ago,²⁴ discussed this phenomenon. He suggested that "those who passed through [the Christian Brothers' schools] were liable to acquire a slightly over-academic education and to lack in some degree a fully rounded personality". It has been suggested in other quarters that, perhaps because of the firm framework of discipline, a liberal idealism was not always evoked. Whatever the truth or the falsity of all this, there is something odd about a system of recruitment that does not draw a reasonable "mix" from all the principal schools: for the five years scrutinized many of the best known schools are not represented amongst those appointed. Both in Britain²⁵ and France²⁶ anxiety has been expressed (and in France this led to action in the form of the remarkable *Ecole Nationale d'Administration*) about drawing a high proportion of significant recruits from a limited area.

On the face of it, our situation is remarkable. It may be that examination would show that there is no real problem; but why it is that the public service does not get recruits from a more representative field deserves some inquiry. Many believe that the nature of the recruitment examination is a deterrent. If so, a price is being paid for maintaining this not very efficient instrument.

There are, apart from such general types of problems, a number

²¹ William H. Whyte, Cape, 1957. This (especially Part IV and the Appendix) is compulsory reading for those who might be uncritical in adopting new selection methods, especially without competent professional advice.

²⁴ ADMINISTRATION III, 2-3, pp. 71-72.

²⁵ R. K. Kelsall: *Higher Civil Servants in Britain*, Routledge, 1955.

²⁶ A. Bertand: "The Recruitment and Training of Higher Civil Servants in the United Kingdom and France" in W. A. Robson (ed.) *The Civil Service in Britain and France*, Hogarth, 1956.

of specific problems of personalities in organizations. Sometimes these come from lack of a sufficiently high level of intelligence, sometimes this lack is allied to a very high level of motivation; this combination, where for example it is linked with introversion, can lead to a lot of trouble with colleagues; but without this complication the combination leads to perhaps a devoted addiction to detail, obstinacy, and the other "bureaucratic" vices. The highly intelligent man who lacks stability on the one hand, or "savvy" on the other, or whose sense of motivation disappears at one of the cross-roads of life, is a familiar one. Sometimes a variant of this will take refuge in crankiness or vanity, or seek some external compensation, or even turn to active mischief-making. These and other personality types are familiar to those who work in organizations. He would be foolhardy who would suggest that all of these could be screened out by a better system of assessment on recruitment, or through some stimulus later; but it should be possible to avoid recruiting those whose intelligence, or motivation, does not reach a certain minimum as well as, of course, those whose personality is so disturbed as later to reveal mental instability.

A selection having been made—high intelligence allied to high motivation and the potentiality for social competence—a spirit of growth and development should pervade the organization in which the new recruit comes to work. A focus needs to be given to the natural desire of the ambitious recruit for self-improvement. This is the case for the detailed annual report on each officer detailing his strengths and failings which are made quite explicit to him, in much the same way as he gets a handicap at golf, against which he strives to improve himself. When the day of promotion comes this record, with its detailed account of improvement or failure to improve, is available for making a firm assessment of potentiality for future growth.²⁷

At the higher levels, where social competence, including leadership, becomes the dominant factor, effective assessment calls for some use of the techniques of group selection.²⁸

The existence of some conscious method of assessing quality for promotion will act as a stimulus to further development. It will brace officers against the dangers of an organization where morale is, for one reason or another, low, and by this bracing raise the level of morale. In much the same way as a strong current of cold air is a protection against dry rot in timber, and an airless, emollient condition helps it to develop, so a bracing wind of competition aimed at making the maximum demand, summed up in Dame Evelyn Sharp's admonition of a "tough promotion policy", helps to keep the timber of the organization strong and healthy. Nonetheless, the pressure must be relaxed from time to time so

²⁷ Menzies, I.E.P. and Anstey, E: *Staff Reporting*, Royal Institute of Public Administration, 1951.

²⁸ See, e.g. H. Harris: *The Group Approach to Leadership Testing*, Routledge, 1949.

that thoughts can be related to one another by some means of sabbatical break from the daily round.

This, generally, is a subject on which very little has been said. The point has been well put by George Eliot in *Middlemarch* :

“ For in the multitude of middle-aged men who go about their vocations in a daily course determined for them in much the same way as the tie of their cravats, there is always a good number who once meant to shape their own deeds and alter the world a little. The story of their coming to be shapen after the average and fit to be packed by the gross is hardly ever told. . . .”

One can see, in the official career of the organization man, three main crossroads—at the middle 'twenties, the early 'forties and the middle 'fifties, where a wrong turning leads to this shaping. The loss of talent that occurs by failure to pass safely one or the other of those crossroads—especially the latter two—is striking. (Conversely, some personalities seem to enhance their effectiveness at these stages.) It seems to me that the intellectual, but especially the motivational, collapses that follow failure at these crises are a source of enormous loss to organizations. This becomes a serious problem when those who fail to survive one of these crises are in important jobs in the organization. This is one of the major problems of the personality of the organization man. It calls out for research to assess the incidence of the problem and to provide possible remedies and aids for those who suffer.

V—CONCLUSION

I shall try to draw these threads together. But, first, let me stress, what is implicit in this paper, that these matters are not without difficulty and that I can pretend to no more than a layman's apprehension of the technical issues.

The creative and dynamic role of organizations is, in our circumstances, of great importance. This depends on the “ plus values ” of those who work in the organizations. This, in turn, depends on the efficiency of the means for recruiting high quality personalities and when they are recruited for helping them to develop their full potentialities.

The system by which competition enhances the quality of those recruited is most valuable, but the techniques of assessment, whether written examination or interview, are seriously defective. There is no assurance that they supply the essential proportion of really good people, and some reason to believe that the written examinations may have a deterrent effect on those not specially groomed for passing that kind of test.

Similarly, when people are recruited, there is need to enhance by some form of competition the level to which aspirants for advancement must raise themselves. We also need a systematic means by which the individual can identify his defects so that he may be

encouraged to remedy them. (There is much more to this than appears here, but it is outside the scope of this paper).

Does this suggest a practical programme? A number of organizations, including public bodies here, have begun to tackle these problems, some more comprehensively than others.

The heart of the question is whether, for example, the public service is recruiting its necessary share of the country's brains. A main argument of this paper is that the traditional systems of assessing recruits, the written examination and the interview, cannot guarantee this. There are, in fact, some indications that they fail in this task.

The first step is clearly to test this doubt. It can be done very simply by supplementing the recruitment examinations by a simple intelligence test. If this experiment shows that there is a problem, the logic of the growth over the decades of the secondary education system might be faced and the special recruitment examinations, overtaken by this growth, could be scrapped. (This has, of course, been done by a number of public bodies). The Leaving Certificate could be used as a preliminary screening of candidates. Those who pass this screen could be tested for intelligence and other traits of personality. Lest this be thought of as relying too heavily on the psychologists, the likely candidates could be interviewed, but by trained interviewers who would have before them the results of the test scores. This would enable them to follow up, and satisfy themselves on, the points revealed by these scores. (It is by supplying interviewers with measurements of those aspects of personality that can be measured that meaningful and purposeful interviewing can be achieved. The same applies to interviews later on when the question of fitness for advancement is being considered: here the succession of annual reports, plus test scores, plus the results of group tests, will give the interviewers something solid to work on). Finally, the rusty tool of the probationary period might be taken out, polished, sharpened and used, so that the inevitable mistakes will be reduced in number.

All this is troublesome, and may be expensive. However, running written examinations, in a world where school certificate examinations are now so general, is also troublesome and expensive and the duplication seems to serve little purpose. Apart from this, what is at stake—the efficient selection of personalities that have a creative and dynamic role to play in and through our organizations for the public wellbeing—is something worth both trouble and expense.

It would be foolish to suggest that solutions to our problems are at hand. It would also be foolish to suggest that we know very clearly what all the problems of selection may be. But some tools that may help towards solutions undoubtedly are at hand, and some problems are undoubtedly apparent. This paper has indicated a few tools and a few problems. We urgently need research and experiment, directed to our conditions, into the problems posed by the personality of the organization man.

Appendix

SOME ASPECTS OF RECRUITMENT EXAMINATIONS FOR THE
PUBLIC SERVICE*The Executive Officers' Examination and the Leaving Certificate*

The examination for Executive Officers is also that for Assistant Examiners in the Estate Duty Office of the Revenue Commissioners and (with higher age limits) for Officers of Customs and Excise and for Social Welfare Officers. In what follows, unless the contrary is said, "Executive Officers' examination" covers the written examination for the four classes of posts.

In the examination for Executive Officers, Irish, English and Mathematics are compulsory, and two other subjects may be chosen from a long list. The examination is of the standard of honours Leaving Certificate, current year's texts, etc., being used. A pass paper may be taken in Mathematics. The aggregate of the marks secured, plus extra marks (up to 100) for service in the civil service, determine the placing in the Executive Officers' examination. The choice of subjects in the Leaving Certificate is wider and more than five may be taken. The Leaving Certificate examination begins in early June each year, and the Executive Officers' examination about a month later.

The maximum marks allotted to subjects in the Leaving Certificate and Executive Officers' examination are the same, except for the following :

| | <i>Executive Officers</i> | <i>Leaving Certificate</i> |
|--------------------|---------------------------|----------------------------|
| Irish | 400 | 600 |
| Mathematics (Pass) | 400 | 600 |
| History | 400 | 300 |

To arrive at comparable aggregates, only the five subjects taken in the Executive Officers' examination are reckoned here for the Leaving Certificate aggregate, and the marks secured in Irish, and in Mathematics where a pass paper was taken, are reduced by one-third, and the marks secured in History increased by one-third. In a few cases a candidate did not take one subject in both examinations. When this happened his best other subject was taken for calculating the adjusted Leaving Certificate total.

There are other minor differences in allotting marks, e.g., the preferences for doing papers through Irish are not identical; but it is not possible to make allowances for these differences, which are probably marginal and should in any event be fairly constant from year to year.

Service marks gained in the Executive Officers' examination are ignored.

The rankings taken from the Executive Officers' examination results in Tables 4 and 5 are not the *placings* in the examination : they merely show the relative positions of those in the civil service at the time of the inquiry in respect of each examination. That

is to say, those shown in the official result lists, who did not take up appointment or who subsequently left the service, are ignored. This is because the information to link the two examinations had to be found by personal inquiry, and this in practice had to be limited to serving civil servants. Rankings and placings are reconciled in Table 1 for those who did the Executive Officers and Leaving Certificate examinations in the same year.

The rankings are shown in two classes: (a) those who did the two examinations in the same year, and (b) those who did the Leaving Certificate in different years. (In practice, the Leaving Certificate was one to eight years before the Executive Officers' examinations in respect of which they were appointed.)

For our purpose, the most immediately useful class is (a) and the discussion that follows relates to (a), unless the contrary is stated. The proportions of those at (a) to all those appointed from the examinations are given in Table 2.

So far as those at (a) are concerned, the following simple illustrations, based on the fluctuations of those appointed from year to year, tell their tale. If the number of those appointed had been constant at one or other of the numbers appointed in other years in the sample, and instead of being appointed from the Executive Officers' examination those appointed had been taken from the Leaving Certificate examination adjusted as described, the degree of correspondence shown in Table 3 would emerge in the actual number of people who *would* have been appointed as compared with those who *were* appointed. On the whole, the results of Table 3 are disconcerting. The larger the number appointed the greater the degree of disparity at the upper reaches. Naturally, the further down one goes in the list the less the degree of disparity.

From Table 4 some notable disparities appear. The candidate who ranked first in the 1955 Executive Officers' examination ranked 13th on the Leaving Certificate results. In the same year, the candidate ranking first on the Leaving Certificate results came 12th in the Executive Officer ranking. In 1959, the candidate ranking second on the Executive Officer results ranked 58th on the Leaving Certificate results. In the same year, the candidate ranking 6th on the Leaving Certificate results ranked 59th in the Executive Officers' examination.

The significance of the study in Table 5 of those who did the two examinations in different years is to throw light on the problem, where recruitment from the Leaving Certificate is adopted, of whether there is sufficient comparability between those who did the Leaving Certificate in any year; or whether comparability requires that only the current year's Leaving Certificate results be taken. In the latter case, there is no greater difficulty in requiring those some years left school to do the current year's Leaving Certificate examination than to compete at an *ad hoc* examination, as at present.

In Table 6 the co-efficients of correlation of the two sets of rankings shown in Tables 4 and 5 are compared. They show that for those who did the two examinations in the same year there is one

relatively high correlation of 0.87, but generally the degree of correlation tends to be lower. That is not very good. For those who did the examination in different years the correlation is less in two cases. It is striking that there should not be a bigger gap between the two correlations. The candidate who does the examination in a different year from his Leaving Certificate year is likely to be an existing civil servant, and thus eligible for extra marks, no doubt as a compensation for the period since he left school. These marks are not, of course, reckoned for the present correlations.

Dublin Corporation Examinations and the Leaving Certificate

As a cross check on the results generally, figures were collected from recruitment in the Dublin Corporation Clerical Officer examinations. The standard for this examination is Leaving Certificate pass, but the details of marks suggest that competition raised the standard to the honours level. In 1953 to 1957 actually 94 per cent. of those appointed from this examination had the honours Leaving Certificate. The Dublin Corporation, like a number of other public bodies, have abandoned the special recruitment examination, so that no comparison can be made after 1957. For that and the preceding year the results are in Table 7, so far as those candidates who took the two examinations in the same year are concerned. The maximum marks allotted in the Dublin Corporation examination were the same as in the Executive Officers' examination, except that there was one standard in mathematics, and six subjects could be taken. The examination in the two years was held about a month after the Leaving Certificate. The Leaving Certificate marks were adjusted in the same way as was done for the comparisons with the Executive Officers' examination. The co-efficients shown should be compared with those in Table 6. The degree of correlation in 1956 is less than the civil service standard, and in 1957 it is lamentably low.

Some discrepancies

To revert to the Executive Officers, the figures raise a number of questions. First, the *level* and *range* of marks in the two examinations. One would expect, because the Executive Officers' examination is a competitive one, the spread between first and last to be narrowed and, because candidates are of honours standard, the marking to be more severe than when there are many pass candidates, as in the Leaving Certificate. Against this, for the candidates we are considering, the Leaving Certificate is often a competitive examination for scholarships and for entering other branches of the public service. In addition there is likely to be a natural spirit of emulation amongst such candidates.

Table 8 shows that, on average, the *level* of marking is more severe in the Executive Officer than in the Leaving Certificate examination, but that the average *range* of marks is much the same in both examinations.

Table 8 also shows that there is by no means a consistent *margin* from year to year between the two classes of examination. In the

three years 1957, 1958 and 1959 there was considerable consistency in the margin by which on average the Leaving Certificate marks exceeded the Executive Officer marks, but in 1955 and 1956 the margins fluctuated widely.

Table 9 shows the comparable marks for the Dublin Corporation. (The aggregates shown are not comparable between Tables 8 and 9.) Here, the relationship with the Leaving Certificate is reversed. On the whole, however, there is a fairly close correspondence in the *level* and *range* of markings in the two examinations. This notwithstanding the lower level of correspondence in the rankings, as we have seen.

Perhaps more significant, as a test of the reliability of the examinations, than the fluctuations from year to year, are the fluctuations *within* each year, as Table 10 suggests. Taking from Table 8 the weighted average of +119 of Leaving Certificate marks over Executive Officer marks as a "normal" margin, we find that, of the 181 cases in the sample, the individual markings in the Executive Officer examinations were *higher* than the Leaving Certificate markings in 17 cases, and were *lower* than twice the "normal" in 43 cases. Thus, in 60 cases, or 33 per cent. of the whole, there were really substantial deviations in the individual markings, and in individual years the percentages were much higher: the overall percentage of 33 would have been greater but that the 1959 examination, where the sample was largest, also had the least discrepancies: three of the five years showed discrepancies of the order of 60 per cent.

The Dublin Corporation results were worse on this showing. (Table 11.) The margin was — 83. Of the 23 in the sample, the Leaving Certificate results were *higher* in 6 cases, and lower by more than twice the "normal" in 10 cases, making 16 substantial deviations out of 23, or 70 per cent.

Table 13 shows that there is a lack of *consistency* in marks in relation to ranking in the Executive Officers' examination from year to year. Table 1 gives one reason for this: the gap between the *rankings* of those appointed and their *placings* at the examinations so that, e.g., the candidate ranking 9th in 1957 was actually placed 81st in the examination. One reason for this is the artificiality introduced by ignoring for ranking those who did the Leaving Certificate in previous years. Nonetheless, to take again the example of 1957, the total number *appointed* in that year was only 29 (Table 2). Thus, a main factor is the striking number who refuse appointment.

On the whole, Table 13 suggests that the Leaving Certificate markings may be fractionally more consistent from year to year than the Executive Officer markings. If so this is surprising, in that the task of marking the Leaving Certificate papers in a single subject will have been divided over a number of examiners. There is room for an analysis of the markings subject by subject to see how far a single examiner, or set of examiners, may be contributing to the instability: inspection suggests that the degree of discrepancy may vary from subject to subject as well as in respect of each subject, from candidate to candidate. One would expect this dis-

crepancy to be least in mathematics because the subjectivity of the examiner is less called into play than it is, say, in judging an essay. Table 12 shows for two examinations—the Dublin Corporation examination for 1956 and the Executive Officers' examination for 1958—the rankings in mathematics as compared with the Leaving Certificate in each year, and the co-efficients of correlation. The Dublin Corporation co-efficient of 0.137 (in an examination where the overall co-efficient—Table 7—is 0.591) is remarkable. This reflects the problem of marking a pass level paper where the bulk of the candidates (10 out of 17) had done an honours course. The Executive Officer result of 0.824 (compared with 0.781—Table 6) for the examination as a whole shows that in more comparable conditions there is something, but not a great deal, in the expectation of a higher correlation in the markings for mathematics.

In Table 13 asterisks show where a single candidate got the *same ranking* in the two examinations. Not one of the candidates ranking first is asterisked, and none of the candidates in the instances given for 1958 and 1959 coincide. In all, in only five instances out of the sample of 20 is there coincidence of ranking.

Experience here bears out experience elsewhere that the written examination is not a very discriminating tool of selection, notwithstanding the air of precision its marking system suggests. If the examinations were fully efficient one would, ideally, expect a complete correlation in the rankings given by two of them held within a month, that is a co-efficient of 1. If the examinations were so inefficient as to give results no better than chance, one would expect a co-efficient of 0. In practice, the co-efficients were generally in the range of 0.6 to 0.8. One is left with the conclusion that the examinations are a shifting yardstick.

The more closely one looks at the detailed discrepancies the stronger this impression becomes: the differences in ranking contain within themselves such wide variations, as the Tables show, that the overall impression is of an uncertain and inefficient instrument. This impression is reinforced by the failure of any examination to emerge as the most reliable; but if one had to choose, the Leaving Certificate seems to have a slight (perhaps very slight) edge on the *ad hoc* examinations. Thus, in effect duplicating the examination cannot be shown to make the final selection, based on the second examination, any more reliable. If we are to get increased reliability it seems as if the effort spent on *ad hoc* written examinations as a means of selection could be more effectively devoted to experimenting with other tools or, if that made no improvement, saved.

A comparison of schools attended

There is an interesting by-product from these figures. To relate the Leaving Certificate results to the others it was necessary to find out what school each candidate attended. Out of the 235 civil servants, 41 were women and their schools presented no pattern. Of the 194 men, this information was not available, or was doubtful, for 12. This left 182 men. In the same way, of a

total sample of 28 from the Dublin Corporation, information was available about 18 men. It transpires that 130 and 13 respectively of these men were educated at Christian Brothers' schools, a percentage of 72 in each case. In 1959, 4,098 boys entered for the Leaving Certificate examination, of whom 1,491 came from Christian Brothers' schools, or 36 per cent. From this one can conclude that not only about three-quarters of the men in the Civil Service (and possibly the public service) have been educated by the Christian Brothers, but that boys from Christian Brothers' schools take twice their "normal" proportion of such jobs.

The civil service figure of 72 per cent. is an overall one for the four classes of post covered by the examination. Of the executive officers proper, 76 or 62 per cent. came from Christian Brothers' schools in the years under review. Of the others (assistant examiners, officers of customs and excise and social welfare officers) 54 or 84 per cent. came from Christian Brothers' schools. As the executive officers are taken from those who do best in the examinations and the customs and social welfare officers from those who do less well, the successful Christian Brothers boys tend to get less of the higher places, proportionately, than those successful from other schools. It is not known what proportion of those who *enter* for the examination come from Christian Brothers' schools.

The overall figure of 72 per cent. agrees strikingly with that revealed by a survey made in 1955 of 163 male civil servants of a wide spread of age groups in two Departments and one big sub-office, discussed by Mr. S. Ó Mathuna.* This suggests that the pattern thrown up by the Executive Officer and the Dublin Corporation Clerical Officer examination figures is probably a fairly constant one.

Some support for these two conclusions comes from Table 14. In 1959, presumably because the minimum age for entry for the executive officer proper was reduced from 18 to 17 (which is the age at which the Leaving Certificate now tends to be attempted), the number of candidates was just over three times the average of the two previous years. In 1959 the proportion of male candidates appointed who had been educated by the Christian Brothers was 81 per cent. as against an average of 53 per cent. for the two previous years. In addition to this, the number of men appointed in 1959 and in post (84) was not much short of the total number of men appointed and in post in the four previous years (110). As the proportion of Christian Brothers boys amongst those appointed in 1959 was the highest of the five years one can perhaps conclude that the proportion of *candidates* for the examination who were Christian Brothers boys is probably not much different from the proportion of those appointed. That some such conclusion seems probable notwithstanding the threefold rise in candidates is striking indeed. As the draw on the 1960 candidates is going on at the time of writing, it is not practicable to analyse it here.

A further point arises from Table 14. In 1960 the number of candidates was two thirds greater than the high total of 1959.

*ADMINISTRATION III, 2-3, 69-74.

Apart from the lowering of the minimum age from 18 to 17 for executive officials proper, this increase can perhaps be attributed to the prominent advertising (in English) of the competition, the offer of three valuable University scholarships from its results, and the substantial number appointed from the previous year's examination. That the proportion of failures was about the normal suggests that the increased number of candidates did not reduce quality, and this conclusion is supported by the relative stability of the overall marks in the later years as compared with the Leaving Certificate (Table 8). When more candidates are attracted it seems that they come at all levels of ability, so far as the examinations are a reliable test of this. This conclusion shows how elastic the market for recruits of good quality can be when the civil service chooses to "sell" itself to them and when it presents a worthwhile level of demand. This last proviso is of some significance. The kind of fluctuation in demand shown by Table 2 (12 appointed in 1956 as against 108 appointed in 1959) is likely in the year following a low intake to have a dispiriting effect on potential candidates, as Table 14 shows. It might be good business to try to even out the demand from year to year, even at the expense of too great an intake in one year.

Range of quality

Tables 1 and 8 taken together suggest another general point. From the marks shown in Table 8 it can be seen that the last candidate appointed in each year has secured only about two-thirds the marks secured by the first appointed one, and on average just less than 50 per cent. of the total marks allotted to the examination. This suggests a distinct difference in the quality of the first and the last. One reason for this spread (most strikingly seen from Table 1 where in 1959 the candidate ranking 86th came 209th in the examination as a whole) comes from the omission to reduce the minimum age for officers of Customs and Excise and for Social Welfare officers from 18 to 17 as was done for Executive Officers. That has meant that candidates who did better in the examination as a whole were ineligible for the customs and social welfare jobs because they were too young. No doubt there are good reasons why customs and social welfare officers, who have to do a good deal of work on their own, should not be too young on appointment; but it looks as if the two Departments concerned are paying a stiff price in quality for that extra year (which in some cases may reduce itself to a month or two).

NOTE ON SOURCES

The results of the Leaving Certificate are published each year by the Department of Education, and the results of the Executive Officers' examinations are published each year by the Civil Service Commission. The results of the Leaving Certificate appear in such form that it is not possible, from published sources, to relate individual performances in the two examinations. Thanks to the co-operation of the Civil Service Commission and of the Establish-

TABLE 5.—RANKINGS OF THOSE NOW IN POST IN EXECUTIVE OFFICER AND LEAVING CERTIFICATE (ADJUSTED) WHERE TWO EXAMINATIONS TAKEN IN DIFFERENT YEARS.

| Ranking and aggregate marks in | | | | Ranking and aggregate marks in | | | |
|--------------------------------|-----------|-----------|---------|--------------------------------|-------|---------|---------|
| E.O. 1955 | | L.C. | Year | E.O. 1958 | | L.C. | Year |
| 1 | 1,907 (a) | 1,877 (a) | 1 1953 | 1 | 1,818 | 1,710 | 1 1957 |
| 2 | 1,655 | 1,734 | 2 1952 | 2 | 1,645 | 1,478 | 3 1957 |
| 3 | 1,427 | 1,328 | 10 1949 | 3 | 1,554 | 1,551 | 2 1955 |
| 4 | 1,319 | 1,436 | 6 1953 | 4 | 1,398 | 1,436 | 4 1957 |
| 5 | 1,279 | 1,453 | 5 1950 | 5 | 1,277 | 1,244 | 8 1957 |
| 6 | 1,256 | 1,370 | 9 1950 | 6 | 1,221 | 1,200 | 9 1956 |
| 7 | 1,252 | 1,435 | 7 1952 | 7 | 1,211 | 1,031 | 12 1956 |
| 8 | 12,33 (a) | 1,310 (a) | 12 1950 | 8 | 1,107 | 1,289 | 6 1956 |
| 9 | 1,217 | 1,157 | 17 1952 | 9 | 1,150 | 1,082 | 11 1957 |
| 10 | 1,168 | 1,579 | 4 1952 | 10 | 1,145 | 978 (b) | 13 1954 |
| 11 | 1,158 | 1,372 | 8 1949 | 11 | 1,089 | 1,348 | 5 1956 |
| 12 | 1,151 | 1,257 | 13 1951 | 12 | 1,069 | 1,130 | 10 1955 |
| 13 | 1,064 | 1,254 (a) | 15 1950 | 13 | 944 | 1,263 | 7 1957 |
| 14 | 1,017 | 1,257 | 14 1950 | 14 | 840 | 971 | 14 1950 |
| 15 | 1,003 | 1,595 | 3 1951 | | | | |
| 16 | 990 | 1,314 | 11 1953 | | | | |
| 17 | 910 | 1,206 | 16 1952 | | | | |

| (a) Further adjusted in respect of subjects not taken in E.O. examination. | | | | (b) Further adjusted in respect of subject not taken in L.C. examination. | | | |
|--|-------|-------|--------|---|-------|-------|---------|
| E.O. 1956 | | L.C. | Year | E.O. 1959 | | L.C. | Year |
| 1 | 1,775 | 1,556 | 1 1954 | 1 | 1,343 | 1,275 | 9 1956 |
| 2 | 1,356 | 1,492 | 2 1952 | 2 | 1,335 | 1,335 | 5 1957 |
| | | | | 3 | 1,292 | 1,260 | 11 1955 |
| | | | | 4 | 1,279 | 1,553 | 1 1956 |
| | | | | 5 | 1,244 | 1,421 | 2 1955 |
| | | | | 6 | 1,240 | 1,200 | 13 1957 |
| | | | | 7 | 1,198 | 1,086 | 17 1956 |
| | | | | 8 | 1,180 | 1,297 | 6 1957 |
| | | | | 9 | 1,154 | 1,278 | 8 1955 |
| | | | | 10 | 1,145 | 1,374 | 4 1956 |
| | | | | 11 | 1,139 | 1,047 | 18 1956 |
| | | | | 12 | 1,107 | 1,292 | 7 1956 |
| | | | | 13 | 1,075 | 1,396 | 3 1954 |
| | | | | 14 | 1,072 | 1,205 | 12 1954 |
| | | | | 15 | 1,066 | 1,115 | 15 1954 |
| | | | | 16 | 1,054 | 1,038 | 19 1957 |
| | | | | 17 | 1,032 | 1,189 | 14 1958 |
| | | | | 18 | 1,013 | 1,089 | 16 1957 |
| | | | | 19 | 938 | 1,264 | 10 1953 |

TABLE 6.—CO-EFFICIENTS OF PRODUCT MOMENT CORRELATIONS IN EXECUTIVE OFFICERS AND LEAVING CERTIFICATE EXAMINATIONS.

| Year | Those who did examinations in same year | | | | Those who did examinations in different years | | | |
|------|---|---------------|-----------------------|-------|---|---------------|-----------------------|-------|
| | No | Co-efficients | Significance at level | | No | Co-efficients | Significance at level | |
| | | | of 5% | of 1% | | | of 5% | of 1% |
| 1955 | 34 | 0.686 | S | S | 17 | 0.722 | S | S |
| 1956 | 5 | 0.831 | NS | — | 2 | (a) | | |
| 1957 | 9 | 0.871 | S | S | 10 | 0.646 | S | NS |
| 1958 | 22 | 0.786 | S | S | 14 | 0.812 | S | S |
| 1959 | 86 | 0.721 | S | S | 19 | 0.415 | NS | — |

(a) sample too small. S = significant NS = not significant

TABLE 7.—DUBLIN CORPORATION EXAMINATIONS 1956 AND 1957

| 1956 | | | 1957 | | |
|--------------------------------|--------------------------|--------------|--------------------------------|--------------------------|---------|
| Ranking and aggregate marks in | | | Ranking and aggregate marks in | | |
| Corporation Exam. | Leaving Cert. (adjusted) | | Corporation Exam. | Leaving Cert. (adjusted) | |
| 1 | 2,044 | 2,060 1 | 1 | 1,902 | 1,810 3 |
| 2 | 2,038 | 1,961 3 | 2 | 1,896 | 1,783 4 |
| 3 | 2,003 | 1,744 10 | 3 | 1,869 | 1,705 5 |
| 4 | 1,968 | 1,799 (a) 8 | 4 | 1,835 | 1,897 1 |
| 5 | 1,946 | 1,760 9 | 5 | 1,829 | 1,889 2 |
| 6 | 1,942 | 1,927 4 | 6 | 1,778 | 1,603 6 |
| 7 | 1,939 | 1,840 7 | | | |
| 8 | 1,939 | 1,706 11 | | | |
| 9 | 1,856 | 1,980 2 | | | |
| 10 | 1,838 | 1,668 (a) 13 | | | |
| 11 | 1,834 | 1,643 14 | | | |
| 12 | 1,807 | 1,878 6 | | | |
| 13 | 1,779 | 1,592 16 | | | |
| 14 | 1,741 | 1,610 15 | | | |
| 15 | 1,734 | 1,881 5 | | | |
| 16 | 1,715 | 1,445 17 | | | |
| 17 | 1,706 | 1,696 12 | | | |

(a) Further adjusted for subject not taken in Leaving Certificate.

| | 1956 | 1957 |
|--|-------|-------|
| Co-efficient of product moment correlation : | 0.595 | 0.339 |

Significance at :

5% level

S

NS

1% level

NS

—

S = Significant

NS = Not Significant.

TABLE 8.—DISCREPANCIES IN OVERALL MARKINGS BETWEEN EXECUTIVE OFFICER AND LEAVING CERTIFICATE EXAMINATIONS.

| Year | No in sample | Highest marks awarded in | | Lowest marks awarded in | | Overall average difference |
|-------|--------------|--------------------------|--------------------|-------------------------|--------------------|----------------------------|
| | | E.O. | L.C. | E.O. | L.C. | |
| 1955 | 34 | 1,624 | 1,827 | 1,007 | 1,244 | +226 |
| 1956 | 5 | 1,667 | 1,728 | 1,377 | 1,532 | +34 |
| 1957 | 9 | 1,873 | 2,003 | 1,127 | 1,174 | +105 |
| 1958 | 22 | 1,709 | 1,753 | 920 | 1,082 | +113 |
| 1959 | 86 | 1,690 | 1,837 | 1,031 | 1,077 | +116 |
| Total | 181 | 1,713 (average) | 1,830 (average) | 1,092 (average) | 1,222 (average) | +119 |

TABLE 9.—DISCREPANCIES IN OVERALL MARKINGS BETWEEN DUBLIN CORPORATION AND LEAVING CERTIFICATE EXAMINATIONS.

| Year | No. in sample | Highest marks awarded | | Lowest marks awarded | | Overall average difference |
|-------|---------------|-----------------------|--------------------|----------------------|--------------------|----------------------------|
| | | Dublin Corpn. | Leaving Cert. | Dublin Corpn. | Leaving Cert. | |
| 1956 | 17 | 2,044 | 2,060 | 1,706 | 1,592 | -96 |
| 1957 | 6 | 1,902 | 1,897 | 1,778 | 1,603 | -70 |
| Total | 23 | 1,973 (average) | 1,979 (average) | 1,742 (average) | 1,598 (average) | -83 |

TABLE 10.—DISCREPANCIES IN INDIVIDUAL MARKINGS BETWEEN EXECUTIVE OFFICER AND LEAVING CERTIFICATE EXAMINATIONS.

| Year | No. in sample | Cases where E.O. marks exceeded L.C. marks | Cases where E.O. marks fell short of L.C. marks by more than twice weighted average (+119) | Totals | |
|-------|---------------|--|--|--------|----|
| | | | | No. | % |
| 1955 | 34 | 2 | 19 | 21 | 62 |
| 1956 | 5 | 3 | — | 3 | 60 |
| 1957 | 9 | 1 | 2 | 3 | 33 |
| 1958 | 22 | 1 | 12 | 13 | 59 |
| 1959 | 86 | 10 | 10 | 20 | 23 |
| Total | 181 | 17 | 43 | 60 | 33 |

TABLE 11.—DISCREPANCIES IN INDIVIDUAL MARKINGS BETWEEN DUBLIN CORPORATION AND LEAVING CERTIFICATE EXAMINATIONS.

| Year | No in sample | Cases where L.C. marks exceeded | Cases where L.C. marks were exceeded by more than twice weighted average (-83) | Totals | |
|-------|--------------|---------------------------------|--|--------|----|
| | | | | No. | % |
| 1956 | 17 | 4 | 9 | 13 | 76 |
| 1957 | 6 | 2 | 1 | 3 | 50 |
| Total | 23 | 6 | 10 | 16 | 70 |

TABLE 12.—RANKINGS ON MATHEMATICS MARKS ALONE.

| 1956 | | 1958 | |
|--------------------|---------------|--------------------|---------------|
| Dublin Corporation | Leaving Cert. | Executive Officers | Leaving Cert. |
| 1 | 9 | 1 | 1 |
| 2 | 16 | 2 | 3 |
| 3 | 4 | 3 | 2 |
| 4 | 13 | 4 | 5 |
| 5 | 6 | 5 | 4 |
| 6 | 8 | 6 | 7 |
| 7 | 5 | 7 | 12 |
| 8 | 11 | 8 | 8 |
| 9 | 1 | 9 | 6 |
| 10 | 3 | 10 | 18 |
| 11 | 7 | 11 | 17 |
| 12 | 17 | 12 | 10 |
| 13 | 10 | 13 | 16 |
| 14 | 12 | 14 | 9 |
| 15 | 2 | 15 | 14 |
| 16 | 14 | 16 | 20 |
| 17 | 15 | 17 | 13 |
| | | 18 | 19 |
| | | 19 | 11 |
| | | 20 | 21 |
| | | 21 | 15 |
| | | 22 | 22 |

| Co-efficient of rank correlation : | Dublin Corpn. 1956 | Executive Officer, 1958 |
|------------------------------------|--------------------|-------------------------|
| | | 0.103 |

Significance at :

5% level NS S
 1% level — S
 S=Significant. NS=Not Significant.

TABLE 13.—MARKS SECURED BY CERTAIN CANDIDATES.

| Ranking | 1955 | | 1956 | | 1957 | | 1958 | | 1959 | |
|---------|--------|--------|--------|--------|--------|--------|-------|-------|-------|-------|
| | EO | LC | EO | LC | EO | LC | EO | LC | EO | LC |
| 1 | 1,624 | 1,827 | 1,667 | 1,607 | 1,873 | 2,003 | 1,709 | 1,753 | 1,690 | 1,837 |
| 5 | 1,475 | 1,689 | 1,377* | 1,532* | 1,686* | 1,719* | 1,480 | 1,616 | 1,635 | 1,688 |
| 9 | 1,395* | 1,629* | — | — | 1,127* | 1,174* | 1,387 | 1,461 | 1,598 | 1,652 |
| 22 | 1,246 | 14,83 | — | — | — | — | 920 | 1,082 | 1,426 | 1,576 |
| 34 | 1,007* | 1,244* | — | — | — | — | — | — | 1,371 | 1,517 |
| 86 | — | — | — | — | — | — | — | — | 1,031 | 1,077 |

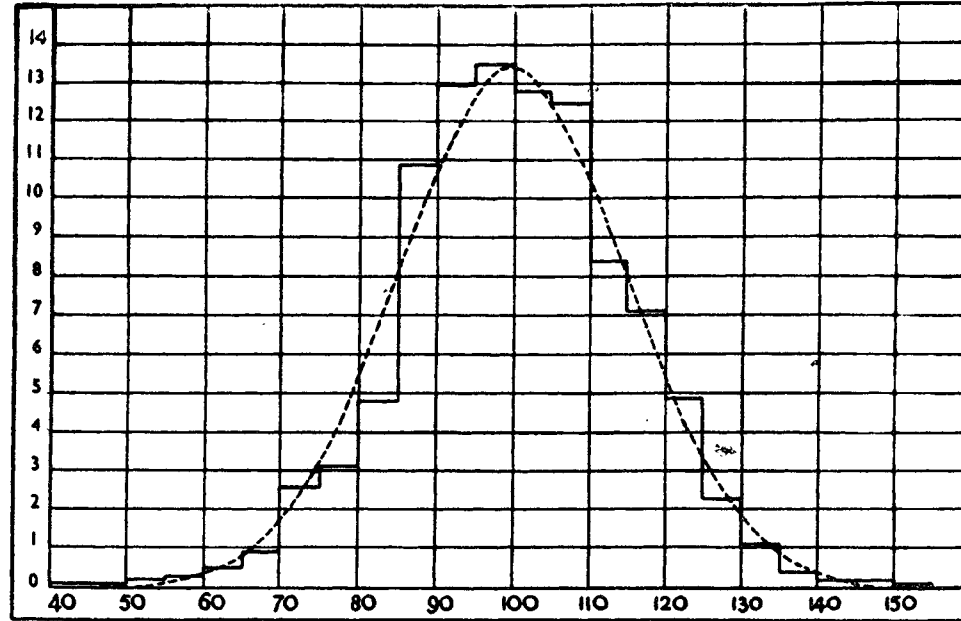
* same person

TABLE 14.—CANDIDATES FOR E.O. EXAMINATION.

| Category | 1955 | | 1956 | | 1957 | | 1958 | | 1959 | | 1960 | |
|----------|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| Pass | 97 | 53 | 138 | 71 | 97 | 73 | 93 | 70 | 254 | 61 | 451 | 65 |
| Fail | 84 | 47 | 51 | 29 | 36 | 27 | 39 | 30 | 159 | 39 | 241 | 35 |
| Total | 181 | 100 | 189 | 100 | 133 | 100 | 132 | 100 | 413 | 100 | 692 | 100 |

DISTRIBUTION OF INTELLIGENCE

(Revised Stanford Binet Scale, 3268 London School Children; from Sir Cyril Burt)



Intelligence Quotient

The histogram shows the distribution of the observed test results. Their mean and standard deviation determine the normal curve which has been superimposed.

SOURCE: Hayer-Cross, Slater & Roth.

CLINICAL PSYCHIATRY: Cassell, 1954.

DISCUSSION

Mr. E. T. Ceannt : The speaker showed great courage and skill in venturing into the highly controversial field of the psychology of personality. I almost lost sight of him at times as he made his way through but eventually he emerged into the more familiar field of personnel selection.

The main theme was that the public services are not getting—or rather, are not taking—their proper share of the twelve-and-a-half thousand which constitutes the annual addition to the best brains in the country. I fully agree that the public services should seek to get their proper share and, indeed, even more than their proper share. Too long has there been the tradition in Ireland that the public services should meekly follow the lead given by private enterprise.

In recent years, the realistic conclusion has been come to that the public services must lead rather than follow and in the special circumstances here in Ireland, must lead with a missionary spirit.

I have some misgivings as to whether, if they got their proper share of the addition to the best brains annually, they have the proper attitude to enable them to utilise these people to the best advantage. Too often, it is felt that very intelligent young men are wasted when put to work in a “line” job and, instead, are engaged on backroom research. This is, of course, a very desirable thing but it is equally desirable that the men in question should be given a sufficient amount of experience in direct responsibility to enable them to take the lead. If they are continually on work of research or of a specialised nature, a point will almost certainly be reached where they will, for want of practice, be unwilling or unable to take responsible positions of leadership.

It would be interesting to hear the speaker's view on the problem of the impact of organisation structure on personality. The common pyramidal form of organisation, of its nature, constitutes a bottleneck to the upward surge of the young talent which comes in at the bottom of all organisations. The problem would not be serious if, as in so many successful business organisations, the pyramid itself were expanding but fortunately or unfortunately, the market for the services rendered by Government Departments is not an expanding market or rather the expansion is too slow to meet this particular problem. It would be an interesting study to consider whether the form of organisation of Government Departments could be so changed as to at least reduce the frustrations and inhibitions which are imposed by the normal structure.

To some extent, this objective is being pursued in business organisation by the development of a responsibility structure coupled with an appropriate form of responsibility accounting. This involves breaking up the general management function into smaller units and sharing it out among a fairly large number of people, and because it is the general management function that is so divided, it helps considerably to the full development of the personality of the people in question. It does, of course, create even more difficult problems of co-ordination.

A further aspect of the problem of personality and the organisation man, which I would hope that at some future date the lecturer

would seek an opportunity to develop, is the question of the impact of personality on the organisation rather than of the organisation on personality. In a way, this is a psychological matter which affects the organisation at all levels above the basic levels. It enters into the problem of supervision, of management and of higher administration. Nevertheless, it is a matter which affects the men at the top level in an organisation to an infinitely greater extent than those at lower levels of management and supervision. It is, I think, generally assumed and expected that the technical competence of the the top men will be a significant factor in the direction of an organisation.

The influence of the personality of the top men can, I think, have an equal impact. In saying that, I am not only thinking of dynamic personalities but also of personalities who are utterly lacking in dynamism and instead of engendering a progressive spirit in the organisations that they lead, transmit to them their own apathy or lack of confidence or, perhaps, obscurantism. It seems to me also that this transmission of personality traits from individuals to organisations occurs and is influenced by a multiplying factor similar to that which operates in the economic sphere. The difficulty is that, because the system of communication up and down an organisation is never perfect and seldom really effective, the resultant effect of personality on low level policy can be extraordinarily distorted.

It seems to me also that the impact of personality operates at different year ratios, depending upon the nature of the personality traits. The dampening impact of a cautious and conservative personality is transmitted with much greater speed than the impact of the reverse type of policy. This, of course, is a fundamental problem which has led to the cult of management development in recent years.

It gives me great pleasure to second the vote of thanks proposed by Fr. McKenna.

Mr. S. Gaffney said he had found Mr. Barrington's paper a very fascinating one. The figures given in relation to the grouping of intelligence were extremely interesting but he would like to see more authoritative support for the assertion that in a given population about 10 per cent. are believed to have the native intelligence really to profit from a university education and that about 2 per cent. of the population have the intelligence to be in the genius class. The idea of 1,000 geniuses emerging in the community each year was one which he found difficult to accept.

It was important to remember, and it had been recognised in many Governmental Commissions in these islands, that the financial rewards of the higher civil service would not and could not match the highest rewards in outside fields. For this reason many of the most gifted members of the community would never be attracted by a career in the public service no matter what might be done to modify the system of recruitment. This was not necessarily a bad thing : there were many highly important sectors of economic, social and intellectual activity outside the public

service and it was in the national interest that there should be an adequate supply of top brains for these.

In relation to suggested modifications in the system of assessing recruits for the civil service it was certainly important to keep this under close scrutiny and to engage in research and experiment as necessary. Mr. Barrington seemed to visualise the abolition of the present written competition for open recruitment to the Executive Officer grade and its replacement by some form of intelligence and personality tests. This posed the practical difficulty of placing some 700 aspirants in relative order of merit by reference to these characteristics. It was to be remembered that the Civil Service Commissioners had the statutory duty of ensuring equity and firmness in recruitment to the Civil Service and the public confidence which had undoubtedly been built up on the basis of the present systems of recruitment was something which could not lightly be placed in jeopardy. He had seen at first hand, in other parts of the world, the lamentable consequences of a lack of confidence in the integrity of civil service recruitment and there was a tendency in these countries to take too much for granted many of the virtues of our administrative systems. While, therefore, it could not be denied that Mr. Barrington had raised very real questions as to the suitability, in their existing forms, of present methods of selection, changes might more prudently be evolutionary rather than revolutionary. It would certainly seem necessary to educate public opinion in the matter.

Mr. Gaffney said he was not quite sure that recruitment in certain civil services to "posts of confidence" as mentioned by Mr. Barrington in Part II of his paper necessarily implied a continuing policy of recruitment, at supra-university-education level, of staff who would subsequently make a permanent career in the civil service. He understood "posts of confidence" to be quasi-political posts whose occupancy—and whose very existence—might vary with different political administrations.

Mr. Gaffney paid tribute to Mr. Barrington for his indefatigable pioneering in the study of administration in this country and said that his keen intelligence and probing mind had done much to stimulate thinking on many important questions in this field.

Mr. C. O'Broin : In recent years there has been a growth in the development of Management techniques and efforts are being made with varying degrees of success to put on a scientific basis many Management functions. Selection is one of the most important functions and there is a growing realisation that care in selection can produce worthwhile results, while hazardous selection can prove costly. There is a wide range of personnel selection aids which a trained interviewer can use to good effect. Personal experience has shown the value of aptitude and intelligence tests in selection for various grades of employment. Such tests should not be confused, as is so frequently the case, with personality tests which encompass a difficult terrain which should only be exploited and developed by trained psychologists. Because of the very highly competitive nature of employment in this country from the applicant's point of view, there was a real danger of a clash between

appointing the most suitable and those who secured the highest marks. Frequently this led to a paradoxical situation where the alternative to appointing over-qualified people who in time became frustrated and restless in the particular occupation, was possibly emigration and the consequent loss of a brain to the country.

The comparisons made by Mr. Barrington between Leaving Certificate and the Junior Executive Examinations results were interesting but were rather academic in their usefulness. It would have been more interesting to compare the Leaving Certificate results with intelligence tests and other test scores, and, if a satisfactory scale could be developed, against a measure of the individuals and the job. Here was a field of fruitful study for the future, although it was necessary to realise the men's problems in setting up a scale based on assessments of individual supervisors using different standards.

A particularly critical need in industry at present was for young men with continental languages. The time had come for a realistic appraisal of the needs of administration and industry to be carried into changes in the curriculum of secondary education.

The President (*Mr. Honohan*) congratulated Mr. Barrington on his paper. Its theme was controversial and it had provoked a most interesting discussion. The statistics which the author had given appeared to be directed towards establishing the point that in the field of recruitment the selection of one candidate rather than another was, in practice, of doubtful equity. No evidence, statistical or otherwise, had, however, been furnished for the general thesis which underlay the paper, namely, that the Civil Service is not obtaining an adequate supply of the best material available for its purpose. Such a thesis is, to say the least, debatable and he did not share the sense of urgency which the author expressed in his concluding observation when advocating research and experiment in the matter. Mr. Honohan also thought it a pity that the author did not present the alternative methods of recruitment in a more precise and constructive manner. He was reminded of a definition of operational research which might be considered apt in relation to the present system of recruitment, namely, that it was the art of giving bad answers to problems to which otherwise worse answers are given.

Mr. Barrington thanked the speakers. For "genius" read "persons of really high intelligence". His aim had been to open a longer-term discussion of selection problems. That could not be usefully conducted until (a) we were prepared to have a hard look at the degree of efficiency of time hallowed procedures, and (b) we had more facts. The assumption that there was a close correlation in all cases between intelligence and examination success was being examined in a couple of public bodies outside the Civil Service. He hoped the results would be published. As to the Civil Service, his immediate net proposal was to have the truth or falsity of this assumption examined by supplementing the Executive Officers' examination by a simple intelligence test. That would permit discussion to rest not on opinion but on fact. The subject was important enough to call for at least the rudiments of scientific method