

METHODS OF CHOOSING A CAREER

A DESCRIPTION OF AN EXPERIMENT IN
VOCATIONAL GUIDANCE CONDUCTED ON
TWELVE HUNDRED LONDON ELEMENTARY
SCHOOL CHILDREN

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TO
THE MEMORY OF
ARTHUR JAMES, EARL OF BALFOUR
K.G., O.M., F.R.S.
FIRST PRESIDENT OF THE INSTITUTE
WHO TOOK THE KEENEST INTEREST IN PROMOTING
ITS VOCATIONAL RESEARCH
AND TO
THE TRUSTEES OF THE
CARNEGIE UNITED KINGDOM TRUST
WHOSE GENEROUS BENEFACTIONS
ENABLED THE EXPERIMENT HEREIN DESCRIBED
TO BE CARRIED OUT
THIS BOOK IS
GRATEFULLY DEDICATED

METHODS OF
CHOOSING A CAREER

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FOREWORD

I HAVE been asked, as President of the National Institute of Industrial Psychology, to write a foreword to this book. This I do gladly, as I can commend it without hesitation to the many who must share my conviction that in more scientific vocational guidance lies one of our brightest hopes for the improved welfare of humanity.

I should like to quote the following extract from a letter, written by a headmaster to one of the Institute's vocational staff, which has recently been brought to my notice: "The number of people nowadays who are at their wits' end to know what to do with their boys is appalling; and, realizing that my knowledge of the boy is imperfect and one-sided, and my knowledge of occupational requirements grossly inadequate, I always feel more or less of a charlatan when called upon to advise. My only consolation is that my advice is so rarely followed that there is no real cause for my distress."

This is unfortunately true; and the result is that a vast number of young people tumble into their occupations by chance, instead of being guided into them on grounds of suitability, and that many of these, year in and year out, are doing work for which they are not naturally fitted. To the community this represents an incalculable loss in efficient service; to the individuals concerned it means needless discontent, irritation, and strain. Indeed, there can be no doubt that a large proportion of the unhappiness in this world must be attributed to individuals being engaged in occupations unsuited to their temperaments and to their capacities.

During the past twenty years, and particularly since the War, many boys and girls and their parents have availed themselves of the assistance freely provided by the Juvenile Employment Committees which are maintained in all the principal centres of industry by the Ministry of Labour and by the Local Education Authorities. It is, however, only recently that scientific methods of vocational guidance have been

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introduced, with results, as shown in this book, which unquestionably demonstrate its superiority to previous, more or less unsystematic procedure.

Like so many others, I have followed with the greatest interest the tireless efforts made by the Institute during the past nine years to develop a suitable technique for giving vocational guidance. This technique is not yet, and probably can never be, perfect, but a large and annually increasing number of students from the public and secondary schools and from the universities now come to the Institute for such advice, and the results prove to be highly satisfactory when their after careers are followed up. The methods employed for such students are naturally somewhat different in detail from those described in this book, which deals with work among elementary school children. But the fundamental principles are identical, and the day cannot be far distant when in every type of school some such scheme as that adumbrated at pp. 295-298, of careers masters and visiting experts, will be established, to the lasting benefit of the individual and of the community.

Those who make use of the Institute's organization for examination should remember that they are not only benefiting the individual examinee and his connexions; they are also assisting in the development of a new science which can become exact only through further experiment. By taking advantage of the facilities now offered they are helping a new advance of science which will surely result in the increase of the efficiency and of the happiness of mankind.

D'ABERNON

PREFACE

THE purpose of this book is to estimate the value of vocational psychology in determining the occupations best suited to adolescents. It describes the most extensive investigation hitherto conducted in the field of vocational guidance, a series of studies rendered possible by the benevolence of the Carnegie United Kingdom Trust, made, in a limited geographical area, by members of the Research Staff of the National Institute of Industrial Psychology.

These studies include, in the first place, a description of the present methods of advising boys and girls leaving the elementary schools in a certain district of London as to the choice of their careers. In the second place, they reveal the average attitude of parents and local employers in this district toward young people during the first years of occupational life. Thirdly, they give an account of the more scientific methods of vocational guidance, devised and experimentally applied by the Institute's investigators to one-half of the group of twelve hundred children here under consideration. And, fourthly, they offer some statistical estimate of the value of the Institute's methods of vocational guidance. This estimate is based (under a variety of different classifications) upon the results ascertained by following up, over a maximum period of four years, the after careers both of the six hundred who received and of the six hundred who did not receive the Institute's advice, and by comparing those who followed the advice given them with those who failed to do so. Finally, in the Appendix (pp. 295-330) a working scheme is tentatively submitted for the establishment in the future of a general scheme of vocational guidance on the lines adopted by the Institute in this experiment. Samples of the series of tests applied by the Institute during the investigation are there reproduced.

This book is likely, therefore, to prove of interest both to the cultured layman and to the psychological expert, and it has been planned accordingly. When technical terms are used the

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general reader will, it is hoped, find them sufficiently explained in the accompanying footnotes; the detailed account, however, of the tests and of their application (pp. 68-97) is inevitably technical. On the other hand, such a reader will be attracted to the evaluation of interests, temperament, and character (pp. 98-121), to the description of visits paid to the homes (pp. 167-169) and to the employers of the boys and girls (pp. 173-175), and to Chapter X, in which the whole experiment is reviewed in non-technical language. The results of comparison (*a*) between those children (the 'experimental' group) who received and those (the 'control' group) who did not receive the Institute's advice, and (*b*) between those who followed and those who neglected the advice given, are contained in Chapters VIII and IX. But whereas the former chapter presents the results in a summarized form for the educated layman, the latter is more suited to the vocational psychologist, being largely composed of the same data more fully elaborated and considered in greater detail than is acceptable to the general public.

It is obviously difficult to determine how far the particular area in which the experiment was carried on may be regarded as typical of London or of any large city. This area is largely industrial, and the workpeople, most of whom live fairly near their places of employment, are engaged in an unusually large variety of occupations. The principal occupations are general engineering, printing, road and rail transport, the distributive trades, watch- and clock-making, scientific instrument making, furniture manufacture, nickel- and electro-plating, building, and employment in hotels, boarding-houses, and similar establishments. Large factories and workshops are relatively few in the area; indeed, it is estimated that more than 60 per cent. of all the firms here employ less than fifty workpeople, and that approximately 25 per cent. of them employ less than ten workpeople each. The large proportion of 'one-man' firms no doubt accounts for certain features of the industrial life of the young people in the neighbourhood which are revealed by the investigation—*e.g.*, the attitude of the employers. Again, overcrowding is not an uncommon feature: the district is somewhat poorer than the average, and several of the better schools in it happened to be excluded from the scope of the experiment. It is not surprising, therefore, that the average intelligence of

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the young people examined falls rather below the general standard for London elementary school children.

During the period covered by the investigation the demand for juvenile labour was somewhat in excess of the supply. Accordingly, an adolescent could frequently choose which post he or she would accept; and very often the determining factor was the wage offered, which would supplement the family income, rather than the suitability of the work or the prospect which the job afforded of employment continuing into adult life.

The reasons for choosing elementary schools for this research are given at pp. 35-36. The mass of school-children in this country have to decide on their first occupation just prior to leaving school shortly after attaining their fourteenth birthday. Their experiences during the first few years of their occupational life may determine their permanent attitude toward work subsequently. It is important, therefore, that even at this early age they receive the best possible vocational advice, however imperfect it be and however desirable be reconsideration at a later stage. If and when effect is given to the Hadow Report of the Consultative Committee of the Board of Education, some kind of guidance may be necessary even at the age of eleven years; for then elementary education will cease, and a decision will become necessary as to what kind of post-primary education will best suit the general intelligence and the special abilities of each child. Through the generosity of the Carnegie Dunfermline Trust a further experiment by the National Institute of Industrial Psychology is in progress at this moment in Fife, where a group of children is being vocationally examined, each child on several occasions, from the age of eleven upward; this may be expected to throw light on the problems and limitations of early educational and vocational differentiation and guidance.

Despite many unexpected difficulties, the experiment here under review does demonstrate the ability to predict vocational success in elementary school children. It is true that comparatively few of the children who received the Institute's advice consciously acted on it; indeed, no pressure was brought to bear that they should do so, and in only 55 per cent. of them did the advice given by the Institute's investigators correspond

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with the wishes, if any, expressed by the children. It is true, too, that, the follow-up being limited to the early years of their occupational career, the ultimate and permanent value of the advice given to the children cannot yet be ascertained. Nevertheless, the results of the present experiment demonstrate a consistent and favourable relation between (a) the occupations adopted that correspond to the advice given and (b) the length of tenure of posts held and the employers' estimates of the services rendered by the children.

Thus, those lads and girls who throughout the follow-up period kept their first post in conformity with the advice given are proportionately more numerous in the 'experimental' group, who had received the Institute's examination and advice, than in the 'control' group, who had received the advice of the school conference without such assistance. And, in the case of such children retaining a single post, the difference in number between those who followed and those who discarded the advice given is greater in the 'experimental' than in the 'control' group (pp. 221-225). Moreover, when the degree of the employers' satisfaction with the young worker is compared with the degree of correspondence (or 'congruity') between the advice given and the work which was actually obtained (pp. 225-226), it is evident that the highest degree of satisfaction is most likely to occur when the post is in close agreement with the advice, and that in this respect the advising of the 'experimental' group is distinctly better than that of the 'control' group.

The conditions, however, are so complex that a difference in *every* part of *every* statistical table in favour of the 'experimental' group is not to be expected. It is therefore hardly surprising that some of the evidence obtained from other criteria is less striking, or, in a few instances, apparently contradictory. The incidence of these disturbing conditions on the children who received the Institute's advice and on those who did not receive it was clearly different. And if to some it may appear that the explanatory reasons advanced by the investigators sometimes take undue account of disturbing factors, they serve at least the useful purpose of indicating the many unforeseen difficulties which beset an experiment of this kind and the necessity of considering every comparison in relation to attendant circumstances

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For, as the experiment proceeded, the 'experimental' and the 'control' groups turned out to be in many respects not truly comparable; and almost always the advantage seemed in favour of the 'control' group. In the first place, there was reason to suspect that, although these two groups were selected purely haphazard, the 'control' group—at all events, of the girls—accidentally contained the larger number of brighter children.¹ In the second place, the vocational advice received by the 'control' group was, in the absence of any very obvious contraindications, influenced largely by the child's wish. Consequently, if at first the young worker did better in an occupation corresponding to the advice given, this might be due to the satisfaction of his wish, not to the suitability of the work or of the advice given. Thus his initial success would not necessarily be continued in later years. The comparison obtained, therefore, was often not the one primarily sought—namely, that of the judgments, made by the advisers of the 'experimental' and of the 'control' groups respectively, of real 'suitability' of occupation. Accordingly, the results afford little evidence of the value of the procedure of school conferences generally. Where the post taken was in accordance with the advice received, but was opposed to the child's wish, as occurred far more often in the 'experimental' than in the 'control' group, the results were adversely weighted in the former as compared with those of the latter group. In the third place, there were many more unclassifiable cases (due to insufficient information) in the 'control' group than in the 'experimental' group. Large numbers of these had unusually frequent changes of work, but they had to be omitted from statistical consideration owing to their unclassifiability, thus once again adversely weighting the comparable data of the 'experimental' group. It was also far more difficult to grade the suitability of the posts chosen in relation to the advice given in the case of the 'control' group, for here the investigators had much less information on which to base their estimate of the children's innate capacities. With these and other complications at work, it is only surprising that the

¹ Thus, only twelve of the girls in the 'experimental' group reached the standard of Ex VII, whereas it was reached by twenty-three of the girls in the 'control' group.

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results should have been as definite as they are; and it is certain that in other circumstances they would have been far more so.

The methods of vocational guidance devised for this experiment and described in this book show a definite advance on those used in the earlier study carried out in 1923 jointly by the National Institute of Industrial Psychology and by the Industrial Health (formerly Fatigue) Research Board. The Institute's investigators have not only improved the technique of arriving at a recommendation of a suitable occupation; they have also added to our knowledge of the requirements of different occupations, and they have thrown fresh light on the interpretation of the results of performance tests and of tests of manual dexterity and mechanical ability.¹ The description of the methods used shows also how many considerations, besides the valuable information afforded by appropriate tests, need to be taken into account in the framing of vocational advice. The importance of an adequate medical examination is indicated by the fact that about 15 per cent. of the children examined by the Institute proved to be aiming at occupations for which they were unsuited on medical grounds. And the reliability of the estimates formed by the Institute's investigators of the temperamental qualities of the children is confirmed by the complete agreement of two observers in over 87 per cent. of the same cases examined by them independently.

The reader of this book will feel, as I do, that Mr F. M. Earle and his band of devoted assistants are to be congratulated on their noteworthy achievement, which marks a distinct advance upon any similar work of scientific vocational guidance hitherto undertaken. Naturally, as head of the Institute to which they belong, I was concerned in planning and making the initial arrangements for their work and in considering general principles and methods. But during the early conferences

¹ Cf. the following: *The Use of Performance Tests of Intelligence in Vocational Guidance*, by F. M. Earle, M. Milner, and other members of the staff of the National Institute of Industrial Psychology (Report No. 53 of the Industrial Fatigue Research Board) (H.M. Stationery Office); *The Measurement of Manual Dexterities*, by F. M. Earle, F. M. Gaw, and other members of the staff of the Institute (National Institute of Industrial Psychology); *Tests of Mechanical Ability*, by F. M. Earle, A. Macrae, and other members of the Institute's staff (National Institute of Industrial Psychology).

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of the investigators, and in the subsequent stages of the actual research, it became abundantly clear to me that I could safely leave the conduct of the experiment in Mr Earle's hands. Until the time came, therefore, for discussing, arranging, and writing up the results, and in passing the book through the press (when I received valuable help at the Institute from Mr C. Scarborough and Miss M. K. Horsey), I did little myself beyond visiting an occasional school conference or school 'party,' or seeing some investigator at work on the examination of the school-children. Thus the real responsibility for the success of this investigation has fallen on Mr Earle's shoulders; and I wish to make this clear. The results attained by him and his collaborators show not only that the application of psychological methods to the problems of vocational guidance is of definite value, but also that the more extended use of these methods is now a matter of practical politics for the benefit of the young people of this and future generations.¹

That the methods of vocational guidance which have been here employed are, with suitable modification, also applicable to those attending secondary and public schools is clearly indicated in the results of a follow-up, recently published,² of cases after they had been examined and advised at the Institute.

C. S. MYERS

¹ I should like here to thank the Secretary and Trustees of the Carnegie United Kingdom Trust, the members of our Advisory Committee, certain high officials of the Board of Education, the Ministry of Labour, and the London County Council, as well as those teachers and those officials of the Juvenile Employment Exchanges with whom we came into contact, for their generous, ungrudging help.

² *The Journal of the National Institute of Industrial Psychology*, 1931, vol. v, pp. 242-247.

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NOTE. *The members of this Committee acted in a personal capacity,
and were not officially representing their departments, etc.*

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