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PENSIONS FOR HOSPITAL OFFICERS AND STAFFS.

REPORT

OF

A SUB-COMMITTEE OF THE EXECUTIVE COMMITTEE

OF

KING EDWARD'S HOSPITAL FUND FOR LONDON

London:

C. & E. LAYTON, 56, FARRINGDON STREET, E.C. 4.

GEO. BARBER, 23, FURNIVAL STREET, HOLBORN, E.C 4.

1919.

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PENSIONS FOR HOSPITAL OFFICERS AND STAFFS.

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KING EDWARD'S HOSPITAL FUND FOR LONDON.

REPORT SIGNED BY MR. W. J. H. WHITTALL, *Chairman*, AND
MR. H. L. HOPKINSON.

PART I.—The existing provision for Pensions at the London Voluntary Hospitals. Recommendations as to Young Nurses. Objects to be aimed at in any General Scheme of Pensions, and recital of fundamental questions to be settled.

PART II.—A survey of various methods of providing pensions, with a discussion of typical schemes already in operation in certain Government, Municipal, Railway, Educational, Hospital and other Services.

PART III.—Discussion of the fundamental questions involved in any general Scheme of Pensions for Hospital Officers and Staffs, as illustrated by the foregoing survey. General conclusions and discussion of the methods of giving effect to them. Rejection of Mutual Schemes and Final Recommendation of Insurance Method with separate provision for Disablement.

DISSENTIENT MEMORANDUM SIGNED BY SIR WILLIAM J. COLLINS.

SUMMARY OF THE REPORT, AND OF THE DISSENTIENT MEMORANDUM.
APPENDICES.
INDEX.

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GEO. BARBER, 23, FURNIVAL STREET, HOLBORN, E.C. 4.

MEMORANDUM.

On April 6th, 1914, the following Members of the Executive Committee of King Edward's Hospital Fund for London were appointed a Sub-Committee to enquire into the question of Pensions for Hospital Officers :—

Mr. W. J. H. Whittall, F.I.A., F.A.S., Chairman.
Sir William J. Collins, K.C.V.O., M.D., F.R.C.S., M.P.
Mr. Henry L. Hopkinson.

with the following terms of reference :—

> "To enquire and report as to the existing provision for Pensions to Officers and Staff employed in the London Voluntary Hospitals, and as to what alteration or extension (if any) of the existing arrangements is desirable and practicable, and generally to make such recommendations as they may consider advisable."

The following Report was presented to the Executive Committee of King Edward's Hospital Fund, who resolved :—

(1) That this Report, with the Dissentient Memorandum and Appendices, be published for the consideration of the parties concerned.

(2) That the Committee cannot recommend to the Governors and General Council that King Edward's Hospital Fund should in respect of its general funds give any guarantee in aid of any Pension Scheme.

October, 1918.

CONTENTS.

* *Provision "in Advance,"* i.e., where the provision for the pension is made during the working life of the officer.
† *Provision "in Arrear,"* i.e., where the provision for the pension is not made until the payments fall due.
‡ *Salary Percentage Scale*, i.e., where the amount of the pension bears a defined ratio to the salary.
§ *Money Purchase principle*, i.e., where the amount of each pension is directly related to the amount of the contributions available to purchase it.

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KING EDWARD'S HOSPITAL FUND FOR LONDON.

REPORT OF SUB-COMMITTEE appointed to consider the question of PENSIONS TO HOSPITAL OFFICERS.

INTRODUCTION.

1. On April 6th, 1914, the Executive Committee of King Edward's Hospital Fund for London, with the approval of the Marquess of Cambridge, Viscount Iveagh, and the Speaker of the House of Commons, Governors of the Fund, appointed us a Sub-Committee to consider and report to the Committee upon the question of Pensions for Hospital Officers, with the following terms of reference :—

> " To enquire and report as to the existing provision for pensions " to Officers and Staff employed in the London Voluntary " Hospitals and as to what alteration or extension (if any) of " the existing arrangements is desirable and practicable, and " generally to make such recommendations as they may consider " advisable."

2. The enquiry arose out of a letter received from the Hospital Officers Association, in which the Association after pointing out the hardships suffered by Hospital officers, especially in the small Hospitals, from the uncertainty attaching to their prospect of an adequate pension, submitted a case for a general scheme of pensions, and asked whether the Fund would appoint a Committee to consider the question.

3. Before appointing the Sub-Committee the Executive Committee addressed a circular letter to the London Hospitals in order to ascertain whether the holding of the enquiry would meet with general approval. The replies to this circular indicated that the enquiry would be very generally welcomed, and there was reason to believe that any practicable suggestion for getting over the difficulties in the way of securing pensions, particularly in the case of the medium-sized Hospitals, would receive the sympathetic consideration of the Hospital Committees.

4. During the course of our enquiry we have held several meetings and have had the benefit of interviews with representatives of the Hospital Officers Association, as well as with chairmen or members of Hospital Committees, both of large Hospitals with pension schemes and of smaller ones without schemes ; also with representatives from

the Royal National Pension Fund for Nurses, and other witnesses with special knowledge of the nursing staffs of Hospitals and of private nursing institutions. Several actuaries have also been good enough to attend as witnesses, including the late Mr. H. W. Manly, F.I.A., and Mr. George King, F.I.A.; while others, though unable to attend as witnesses, have sent us expressions of opinion on definite points. We may add that we had the advantage of hearing personally the views of Mr. P. J. Michelli, C.M.G., who has by his writings pressed on the attention of Hospital Committees and Staffs alike the need of a general pension scheme, and who came before us as one of the representatives of the Hospital Officers Association.

5. It should be mentioned that, while fully recognizing the advantages that might under certain circumstances follow from enlarging the scope of a pension scheme as widely as possible, we have confined our enquiry wholly to the Hospitals of London, in the sense at present adopted by the Distribution Committee of the Fund, namely the area comprised within the County of London or within nine miles of Charing Cross. It seems obvious, however, that, other things being equal, a system capable of extension to, or interchange with, other Hospitals would offer greater advantages.

PART I.

THE EXISTING PROVISION FOR PENSIONS AT THE LONDON VOLUNTARY HOSPITALS. RECOMMENDATION AS TO YOUNG NURSES. OBJECTS TO BE AIMED AT IN ANY GENERAL SCHEME OF PENSIONS, AND RECITAL OF FUNDAMENTAL QUESTIONS TO BE SETTLED.

6. In accordance with our reference we first enquired into the existing provision for pensions to the officers and staffs other than nursing staffs employed in the London Hospitals, leaving the nursing staffs for separate consideration.

We may begin by quoting the following extracts from a document submitted by the Hospital Officers Association,* entitled :

"Case for a General Scheme of Pensions for Hospital Employees.

"1. Under the Uniform System of Accounts, Pensions are recognized as a legitimate part of hospital expenditure, and certain hospitals, *e.g.*, The London, St. Bartbolomew's, Guy's, and the Cancer, have pension schemes of their own. In the majority of Hospitals, however, it rests with the Committee to decide whether pensions shall be given at all, and what their amount shall be.

"2. This condition of things creates great uncertainty in the minds of hospital officers as to their future. Committees may be favourably disposed to the granting of pensions at one time and unfavourably disposed at another. The old servant is dependent on a changing Board, and while one who has served long and faithfully may receive a just reward, another, equally meritorious, whose case is considered when circumstances are less favourable, or who has outlived those who knew him in his best days, will obtain scant recognition of a life of hard work and devotion.

"3. Every officer who is promoted from one hospital to another, at present loses thereby, for pension purposes, the whole of his previous service. . . . It is greatly to the advantage of hospitals that officials should pass freely from one to another, and anything that tends to check this movement, such as the fear of losing a pension altogether, or the natural unwillingness to sacrifice a period of service, is detrimental to the hospitals as a whole.

"4. The want of a general pension scheme must be felt from time to time by the hospitals themselves as well as by the employees. Small hospitals particularly cannot afford to burden themselves with the heavy additional expenditure which the payment of pensions

* *See* Appendix I.

involves. So it might happen that a charity would suffer by the retention of an old servant, whose work could be better and more profitably executed by a younger man, while the old employee would struggle on against failing health and strength, lest he should be deprived of the wherewithal to maintain himself in his old age.

"5. If one of the head officials, such as the Secretary or Chief Dispenser, is granted an adequate pension upon his retirement, the salary of his successor must almost inevitably suffer as long as the pension continues."

7. So far as the existing provision for pensions is concerned the statements contained in this memorandum, as amplified by the oral evidence of the representatives of the Hospital Officers Association, may be summarized under the following heads :—

With regard to the extent of the existing provision :

(i) that the principle of pensions for Hospital officers is generally recognized.

(ii) that at some Hospitals there are regular pension schemes in force.

(iii) that where there are no regular schemes pensions are, as a rule, granted in case of need by the special act of the Managing Committee.

With regard to the limitations of the existing provision :

(iv) that migration from the service of one Hospital to that of another involves the loss of all claim to a pension resulting from the years of service at the first Hospital.

(v) that at most Hospitals the prospect of an adequate pension is uncertain; in no case is it assured, and in any event there is a lack of uniformity.

(vi) that in all except the largest Hospitals the grant of pensions to superior officers deranges the finances.

Our report upon the existing provision may conveniently take the form of a discussion of these points in the same order, and of the further question of

(vii) the extent to which the foregoing causes have in fact operated.

We will then proceed to a separate consideration of the question of the nursing staffs, which presents special features. The position of the weekly wage staffs must also be kept in mind.

The Extent and Limitations of the Existing Provision.

(i) The General Principle.

8. With regard to the general principle of pensions for Hospital officers we are glad to report that so far as we can ascertain the prejudice against making provision, out of the funds of voluntary charity, for the old age of an officer who has rendered long and faithful service has largely if not wholly disappeared. The objection has, no doubt, been taken that money subscribed to a Hospital for the treatment of the sick poor should not be used for the granting of pensions, and we have in one

or two cases come across the old-fashioned idea, based probably on the analogy of domestic service, that a pension is to be regarded as the reward, granted as an act of grace, for the faithful service rendered.

9. We consider that the first of these objections is based on a confusion of ideas. The granting of a pension is not an act of charity, involving a diversion of the funds of a Hospital from the particular charitable purpose for which they were given. The granting of a pension is the method of paying to an officer a certain portion of the remuneration which he has earned and the payment of which is part of the ordinary expenses of carrying on the work. The principle that a pension is of the nature of deferred pay is becoming more and more clearly recognized both in the various branches of the public service and in industry, and it is recognized by the three great Hospital Funds of London in the regulations contained in the Revised Uniform System of Hospital Accounts, which require expenditure on pensions to be charged to Salaries and Wages. In particular it has been recognized in the case of Civil Service pensions, though, as we shall find, the expression "deferred pay" itself is a loose and unscientific one which does not carry an exact meaning. It received further recognition from Parliament when it was decided that, for Income Tax purposes, pensions should be treated as "earned income." Even where a pension is still looked upon as a gift by act of grace rather than as a deferred payment of salary which the employee has a right to claim, the association of the gift with long and faithful service amounts to a virtual recognition of the fact that the employee has fairly earned something over and above his annual salary. In no quarter has there been any suggestion that Hospital officers already receive salaries on such a scale that the addition of a pension is not justifiable, i.e., that they can afford to provide for their old age out of their current remuneration. On the contrary, we were told in evidence that Hospital officers in general are not sufficiently well paid to do this; and it was upon this ground that a scheme submitted to us by the officers, to which detailed reference will be made later, was suggested upon a non-contributory basis.

10. If there has been any reluctance to recognize more fully the right of officers to superannuation it is no doubt due to the uncertainty that attaches in so many cases to the financial prospects of the Hospital at the distant date when the pension will become payable. The newly appointed officer consents, in fact, to share the risks to which an institution dependent on voluntary support is liable. But we have no evidence that he would be asked, when the time comes, to undergo hardship if the Hospital were able to meet the expense, or if, by means of an organized scheme, it were able to make provision in advance for doing so.

(ii) Hospitals with Schemes (6).

(iii) Hospitals without Schemes (99).

11. With regard to the pensions actually paid or payable the existing provision must be considered under two heads: Hospitals with schemes and Hospitals without schemes. It will be convenient, as already

said, to exclude for the moment the question of pensions to the nursing staffs. The latter is so important, and at the same time complicated by such different considerations, that it will be better to treat it separately.

12. The Hospital pension schemes, where they exist, do not purport to be legal agreements binding on the Hospital. They are only statements of the conditions on which the Hospital Committee intend to give pensions. Sometimes they are described merely as standing recommendations for the guidance of the House Committee in considering pensions. It seems doubtful whether they give the employee any legal claim, or if they do, against whom the claim could be pressed in the cases where the Hospitals are not legally constituted bodies: what they do is to give a reasonable assurance beforehand, first, that if circumstances permit a pension will be given, and second, that when given it will bear a specified relation to length of service, amount of salary, and so on. The existence of a scheme implies, moreover, that the Hospital Committee feel sufficient confidence in the future financial position of the institution to justify them in holding out hopes which, if fulfilled, involve a not inconsiderable liability. The degree of security which such schemes offer to the employee increases, naturally, with the extent to which the Hospital is endowed instead of being dependent for its annual upkeep upon the amount received from year to year from subscriptions, donations and legacies. The size of the Hospital is also an important factor facilitating the introduction of a scheme. An institution with a large staff can fairly calculate that the amount paid in pensions at any given period will not bear a conspicuously large proportion to the total salary account, and will not produce violent fluctuations in the annual expenditure or in the cost per bed.

13. For these reasons the Hospitals with general pension schemes do not number more than six out of the one hundred and five from which particulars have been obtained. These are the London, St. Bartholomew's, Guy's, Middlesex, and St. George's, and the Cancer Hospital. They are all large institutions; some of them have very considerable endowments; and the others, though more dependent on annual subscriptions and other current contributions, have large invested funds.

14. In all cases the schemes are of the same type—that of the Civil Service pension scheme under the Superannuation Act of 1859, before the modification introduced in 1909. The pensions are non-contributory; they are calculated at a certain fraction (usually one sixtieth) of the final salary for each year of service up to a maximum of two thirds (forty sixtieths) of the final salary. In one case the fraction is one seventy-fifth but the scale begins with an initial benefit of fifteen seventy-fifths and rises to fifty seventy-fifths. The length of service necessary to qualify for a pension, the age of voluntary retirement and compulsory retirement respectively, the provision for a breakdown in health at an earlier age, and various other details, sometimes differ at different Hospitals, but the general principles are the same. Speaking generally the pension schemes cover all the permanent officers and servants in the Hospital except the

medical staff, though the detailed conditions for women are usually different from those for men. This type of pension scheme—the Superannuation Act of 1859 type—and its relation to the general question, will be discussed later.

15. It follows from what has been said that at nearly 95 per cent. of the Hospitals there are no pensions schemes, and the prospect of a pension depends on the attitude of the Hospital Committee and the financial position of the institution when the time comes. Amongst these we must include one or two Hospitals which, though they have no scheme formulated beforehand, do in practice pay pensions on the basis of the Superannuation Act of 1859. We have it in evidence from the representatives of the Hospital Officers Association that, after enquiries among their members, there appears to be no instance on record of a pension being refused to a deserving person after long service.

16. We thought it would be in accordance with our reference to obtain information as exact as possible regarding existing pensions, and the officials obligingly gave us the particulars for which we asked. One large Hospital included in the totals was unable to furnish all the particulars of their pensions payable, and we were not able to include them in our analysis of the statistics. The total pensions payable in 1913* by Hospitals with schemes we found to be 42 in number, amounting to £3,268 14s. 10d. per annum, a sum representing on the average more than one sixtieth—nearly one fiftieth—of the final salaries for every year of service.

The figures, classified according to cause of retirement, are given in the following Table :—

PENSIONS PAID IN 1913 BY HOSPITALS WITH SCHEMES.
[Total Staffs other than Nursing Staffs.]

Cause of Retirement.	No. of Pensions.	Total years of Service.	Total final Salaries.	Total Pensions.	Average proportion of salary allotted for each year of service (about).†
			£ s. d.	£ s. d.	
Age ...	33	1,111	4,380 16 8	2,672 0 2	One-55th
Ill-health ...	8	218	807 12 0	572 9 8	One-38th
Other causes	1	14	104 0 0	24 5 0	One-59th
All causes ...	42	1,343	5,292 8 8	3,268 14 10	One-52nd

17. In considering these figures, it is necessary at the outset to guard against one possible source of misunderstanding. These statistics throw no light at all on the questions, what minimum number of years

* This enquiry having been commenced before the war broke out, 1913 was the latest available year for detailed investigation. It did not seem necessary or desirable to endeavour to bring these facts up to date.

† This ratio, which we have adopted to facilitate comparison, represents, in any particular case, the proportion of one year's final salary which is granted by way of pension in respect of each completed year of service. Where it is appended, as in the tables, to a group, it represents the average result of that group, and may, of course, mask considerable variations in individual cases.

service was needed to earn pensions, how many employees had left the service of the Hospitals without them, and, generally, whether pensions have been granted in every proper case. To ascertain all this would have required far more information than we could have asked for. The facts stated above refer only to such pensions as have in fact been granted and were in course of payment in 1913.

18. Instead of attempting to draw conclusions from this table, it will be more instructive to see the particulars when the salaried staffs are separated from the weekly wage staffs; and this is done in the next tables :—

PENSIONS PAID IN 1913 BY HOSPITALS WITH SCHEMES.

[Salaried Staffs.]

Cause of Retirement.	No. of Pensions.	Total years of Service.	Total final Salaries.	Total Pensions.	Average proportion of salary allotted for each year of service (about).
			£ s. d.	£ s. d.	
Age ...	7	233	2,230 0 0	1,440 0 0	One-51st
Ill-health ...	2	43	350 0 0	296 9 0	One-25th
Other causes	—	—	—	—	—
All causes ...	9	276	2,580 0 0	1,736 9 0	One-46th

[Weekly wage Staffs.*]

Cause of Retirement.	No. of Pensions.	Total years of Service.	Total final Salaries.	Total Pensions.	Average proportion of salary allotted for each year of service (about).
			£ s. d.	£ s. d.	
Age ...	26	878	2,150 16 8	1,232 0 2	One-59th
Ill-health ...	6	175	457 12 0	276 0 8	One-48th
Other causes	1	14	104 0 0	24 5 0	One-59th
All causes ...	33	1,067	2,712 8 8	1,532 5 10	One-57th

19. It is seen that of the salaried staffs seven officers were awarded pensions on account of age at an average rate representing nearly one fiftieth of the final salary for every year of service, the corresponding feature in the weekly wage class being the grant of 26 pensions at an average rate of rather better than one sixtieth of the final salary for each year of service. The retirements from ill-health have been even more generously dealt with. Individual cases, of course, would differ a good deal from one another, and an average result may quite well mask some particular case of hardship. Taking the pensions, however, as a whole, one with another, we reach the conclusion that the schemes of this group of Hospitals have operated favourably to the beneficiaries as regards the amounts of the pensions in those cases where they actually have been granted.

20. Coming to the Hospitals without schemes, we find they are paying in all 41 pensions, amounting to £3,570 16s. 0d. per annum, which represents, as in the case of the Hospitals with schemes, an average of nearly one fiftieth of the final salaries for every year of service.

* The female servants have been included in this class.

The classified figures are as follows :—

PENSIONS PAID IN 1913 BY HOSPITALS WITHOUT SCHEMES.
[Total Staffs other than Nursing Staffs.]

Cause of Retirement.	No. of Pensions.	Total years of Service.	Total final Salaries.	Total Pensions.	Average proportion of salary allotted for each year of service (about).
			£ s. d.	£ s. d.	
Age ...	15	461	2,355 6 0	1,153 16 0	One-63rd
Ill-health ...	14	366	1,983 0 0	942 12 0	One-55th
Other causes	12	359½	2,241 14 0	1,474 8 0	One-46th
All causes ...	41	1,186½	6,580 0 0	3,570 16 0	One-53rd

21. As in the case of the Hospitals with schemes, we proceed at once to give the same particulars, separating the salaried staffs from the weekly wage class :—

PENSIONS PAID IN 1913 BY HOSPITALS WITHOUT SCHEMES.
[Salaried Staffs.]

Cause of Retirement.	No. of Pensions.	Total years of Service.	Total final Salaries.	Total Pensions.	Average proportion of salary allotted for each year of service (about).
			£ s. d.	£ s. d.	
Age ...	7	242	1,665 0 0	795 0 0	One-72nd
Ill-health ...	8	204	1,470 0 0	685 0 0	One-55th
Other causes	5	149½	1,880 0 0	1,276 0 0	One-44th
All causes ...	20	595½	5,015 0 0	2,756 0 0	One-54th

[Weekly wage Staffs.]

			£ s. d.	£ s. d.	
Age ...	8	219	690 6 0	358 16 0	One-53rd
Ill-health ...	6	162	513 0 0	257 12 0	One-54th
Other causes	7	210	361 14 0	198 8 0	One-55th
All causes ...	21	591	1,565 0 0	814 16 0	One-54th

22. Bearing in mind that these results, as already stated, are merely a record of pensions which actually have been granted, it is to be noted that, whereas in the case of the Hospitals with schemes the retirements on account of age constituted a great majority of the whole, where there are no schemes they appear to constitute a minority. In the 99 Hospitals without schemes there are only seven salaried officers retired from age, and they receive on the average less than one seventieth of the salary for each year of service, as against the proportion of nearly one fiftieth in the Hospitals with schemes. The number of similar pensions in the weekly wage class is small, being only 21 against 33 in the Hospitals with schemes, but the average proportion of the salary allotted is generous, being one fifty-fourth as against the smaller ratio of one fifty-seventh in the Hospitals with schemes.

23. The foregoing remarks are subject to an important qualification, viz., that the statistics take no account of the age at date of retirement. The comparative method we have adopted of calculating the amount of pension, taken as a proportion of the final salary, for each year of service naturally invites comparison with the "sixtieths" of the old Civil Service scale. It must be remembered, however, that in the Civil Service retirement may be claimed after age 60, whereas in the case of most Hospitals without schemes there are no fixed rules or principles. Unless we know the ages at retirement, and the treatment accorded to the advanced ages, it is not useful to pursue the comparison.

24. A further difficulty arises from the fact that, as already pointed out, the retirements from causes other than age in this group form a much greater proportion of the whole than in the Hospitals with schemes. This fact, combined with the other foregoing considerations, suggests further enquiry into the details rather than trying to base conclusions on the figures as furnished by the Hospitals themselves. To this point we will return presently.

(iv) Loss of Pensionable Service through Migration.

25. On the question of the loss of pensionable service in the case of employees leaving the service of one Hospital and entering that of another, the Hospital Officers Association collected particulars from 208 of their members, of whom 121 were London officers and 87 provincial officers. Of the London officers, 54 had served in more than one Hospital; and, making further analysis of these 54, it was found that 445 years of their past time had been spent in previous appointments and 437 years in present appointments. On these figures the Officers Association remark that "50 per cent. of the service of officers who have served in more than "one institution would not be counted towards a pension under existing "conditions." This statement by itself does not show the real position. By the time the officers in question attain a pensionable age, their "previous" service will be much less than 50 per cent. of their whole service.

26. If there has been deficiency of reward in respect of previous service not counted, such service may have been (*a*) outside Hospital work entirely, or (*b*) with other voluntary Hospitals. With the former we are not concerned, and it is only in connection with the latter that the officers submitted their figures. Before analysing them further, we may, however, point out that, just as some officers migrate from the outside into the Hospitals, so some of the officers included in these statistics will themselves migrate back to outside work. Whether service thus terminated should be reckoned in any way for old age provision is a question which raises broad and controversial issues, and to which we shall have an opportunity of referring before we close our Report. According to the principles of pensioning as ordinarily accepted, all service of that kind, in the absence of a scheme specifically recognizing it,

is excluded from view. The average service to date of the officers above referred to is, in the London Hospitals, over 14 years. For our present purpose, therefore, these officers may be regarded as a fairly settled body, among whom the number of men who will sacrifice pension claims by removal to the outside is probably not large.

27. For the sake of clearness we have re-arranged the facts submitted to us in the following form:—

STATISTICS OF PREVIOUS SERVICE IN VOLUNTARY HOSPITALS FURNISHED BY 208 OFFICERS.

	LONDON (121 Officers).		PROVINCES (87 Officers).	
	No. of Years.	Average per Officer.	No. of Years.	Average per Officer.
Present service	1,296	10·7	958	11·0
Previous service	445	3·7	200	2·3
Total ...	1,741	14·4	1,158	13·3

28. From this table it is seen, taking the 121 London officers there was an average service of 14·4 years, of which, on the average of the whole body, 3·7 years, or about one-fourth of the whole, was spent in previous service in other Hospitals. By the time the survivors of this body attain the average pensionable service of 33 or 35 years prevailing in their class (*see* pars. 18 and 21), what proportion of the whole will their previous service represent?

29. As time goes on, the years of previous service will be diminished, as we have said, by those who migrate to the outside, but will be increased by those who continue to migrate from one Hospital to another. It would seem hopeless to make any estimate for 20 years ahead of the action of these divergent forces, and of the action of probable deaths meanwhile. On the whole, something like the existing average of 3·7 (say $3\frac{1}{2}$) years previous service is not unlikely to be maintained to the end. That would represent about 10 per cent. of the pensionable service on which existing pensions have proved to be based, and may perhaps be taken to represent very roughly the extent to which the body as a whole is penalized if previous service be excluded.

30. If the tables of existing pensions given in paragraphs 18 and 21 were to be adjusted by assuming that the average duration of service was in each group increased by 10 per cent., and the proportion of salary allotted for each year correspondingly decreased by 10 per cent., the general conclusions, such as they are, to be drawn from the tables would not be greatly affected.

31. We have supplemented these general considerations by a scrutiny of the individual cases comprised in the tables. In the case of the Hospitals

with schemes previous service is naturally excluded professedly by the rules, but in the pensions arising out of the salaried class in this group we find only one case, with a possible second, where the officer has apparently suffered any marked detriment. In the weekly wage group the rule has possibly been detrimental in many instances. In 17 cases the age at entry was over 30; but it is unknown to what extent there was previous service in other Hospitals.

32. Taking the Hospitals without schemes, there are two (with a possible other two) retired secretaries who would seem to have suffered from the principle in question. In the weekly wage class there is no obvious case, but, as in the former group, there are many entrants over 30 whose previous history is unknown. The total number of pensioners, however, is so extremely small in this group of Hospitals compared with the mass of employees as to raise questions beside which that of previous service is comparatively insignificant.

33. If the outcome of such experience as we have been enabled to gather on this question is to suggest that the loss of pensionable service through migration, measured as a proportion of the whole body of service, may easily be exaggerated, yet it is equally clear that such loss presses with hardship in individual cases. We can hardly say it constitutes a general grievance, because, theoretically, every man, before accepting a new appointment, can raise the question. In practice, however, this is not easy, and the difficulty undoubtedly acts as a discouragement to migration. We certainly consider it an advantage that migration from one Hospital to another should not be discouraged. Cases must and often do occur where an officer has reached the top of some special department and wishes to gain a more general experience of Hospital administration, or has risen fairly high in the general management and desires a post of greater responsibility than he can hope to attain within a reasonable time at his own Hospital. To such a man a vacancy in, say, the secretaryship of some smaller Hospital may offer the chance for which he has been looking. Later on, moreover, the wider experience gained at the smaller Hospital may make him a better all-round candidate for the highest post at his old Hospital than he would have been had he been content to stay in one groove on the chance of succession by seniority. Ambition, enterprise, and readiness to take responsibility are rewarded, he finishes by being a better man and the service at both Hospitals has benefited by increased efficiency.

34. We find that these arguments though admitted to a large extent, at any rate in the abstract, by the representatives of the large Hospitals, appeal more particularly to the smaller institutions. The small Hospitals look to the large Hospitals as a source from which to obtain skilled officers, and the large Hospitals do not directly discourage them from doing so. But undoubtedly the loss of pensionable service acts as a deterrent. The officer in such a case often has to sacrifice security in accepting responsibility, while the smaller Hospital, if it were to offer

full pension rights to a man who has been any length of time at a larger Hospital, would be incurring a greater liability in the way of pension than if it promoted a younger though perhaps less efficient man from its own limited staff. It does not seem easy to find a remedy for this in the absence of any general pension scheme. Some of the larger Hospitals apparently still look upon a pension as a recognition of long and faithful service to the individual institution, and though they are sometimes willing in special cases to give a gratuity to an officer who leaves them, the ordinary tendency is clearly to look upon the migration as a voluntary forfeiture of all claim in this respect. The general view, we gathered, was the insular one that their pension schemes were never intended to relieve from pension liabilities the funds of other Hospitals to which their employees might have migrated.

35. At first sight it may be thought that this limited recognition of pension rights derives support from government practice. We shall find later (*see* par. 139) the principle laid down by Lord Courtney's Commission that state pension rights cannot be dissociated entirely from continuity of state service. But when attention is paid to the manifold varieties of state pensionable service, including all conditions of life in almost every part of the world, it is, we think, more instructive to regard it rather as a vast aggregation of varied services in which ambition can, and by arrangement between departments does, find scope for development without loss of pension rights. The Board of Education, as will be seen in the course of our report, are enforcing the principle that no loss of pension rights shall ensue on migration in analogous sections of the teaching service.

36. One of the larger Hospitals made a suggestion that it might be willing to count, as qualification under its own pension scheme, previous service at any other Hospitals that might care to join and form a reciprocating group for this particular purpose. This would remove the hardship in the case of officers migrating from a smaller Hospital to a larger, but it does little to meet the problem which faces both the man who is going to a smaller and poorer Hospital, and the Hospital which is taking him. In fact, any such suggestion presupposes the existence of homogeneous schemes at all the Hospitals in the proposed group. We may add that it would not be correct to assume the equity, as between large and small Hospitals, of an arrangement of this kind without some further investigation of the law of migration between such Hospitals, and other matters. Nor, of course, would it be a step forward in the way of providing beforehand financially for the pension liabilities of the future. That, however, is as far as we got in the way of eliciting any desire for, or suggestion of, a comprehensive scheme from the representatives of the great Hospitals.

37. Summarizing this part of the question we have come to the conclusion

(a) that the absence of a comprehensive pension scheme does act as a penalty on migration, and therefore discourages migration,

(b) that the principle of migration in analogous service is, on the whole, beneficial alike to the institutions and to the officers concerned, and should be encouraged instead of discouraged, and
(c) that the small Hospitals experience the resultant difficulties much more than the large.

(v) The Element of Uncertainty, and Lack of Uniformity.

38. We think that the complaint of uncertainty applies not so much to the fear of no pension at all as to the uncertainty of the age at which it may be possible to apply for one, and also to the fear that, when granted, it may after all be inadequate to the needs of the retired officer. We could not go so far as to say that there is no fear of the refusal of a pension altogether. We had evidence that at a Hospital which is in the habit of giving pensions, an officer in a subordinate position, though really past work, was afraid to hint at retirement for fear lest his hopes of a pension should prove unfounded. Even at important Hospitals with schemes we hear of individual employees expressing a preference for an alternative form of scheme, by which, even at the cost of making a contribution out of their existing salaries, they should substitute certainty for what seems to them to be uncertainty.

39. We saw that, taking the old Civil Service scale as a standard, the pensions now in existence are, on the whole and on the average, not ungenerous. But viewing the resulting pensions in the aggregate, and not relatively to a fixed scale, there is room to enquire whether the absence of a free option to retire, such as exists in the Civil Service, has not in fact operated to postpone retirements against the wish of the employees, and, if so, whether and to what extent it has affected adversely the officers and the Hospitals. The Hospital officers have assured us that the existing state of uncertainty did so operate; and it is therefore important to see whether the facts before us can throw any light on this question. Any circumstances exercising an undoubted pressure in that direction would, *prima facie*, be a serious obstacle to efficiency.

40. Taking first the retirements returned by the Hospitals as due to age, we find the average age of each group at date of retirement to be as shown in the following table :—

AVERAGE AGE AT RETIREMENT OF EXISTING PENSIONERS.
(Retirements from Age only.)

	Salaried Staffs.		Weekly wage Staffs.	
	No. of Pensions.	Average age at Retirement (where given).	No. of Pensions.	Average age at Retirement (where given).
Hospitals with Schemes ...	7 (*a*)	64	26	66
Hospitals without Schemes	7 (*b*)	72	8	67

(*a*) Detailed ages :—60, 70, ?, ?, 66, 60, 65.
(*b*) ,, ,, 80, 66, 75, 67, 65, 70, 79.

41. Owing to the paucity of the numbers, we have had to forsake further statistical analysis and submit the details to scrutiny, in the manner already suggested as necessary in paragraph 24. Taking first the salaried officers, there are seven retirements from age in the Hospitals with schemes. Of these seven officers, two held special appointments and were well treated. The other five were minor officials whose cases do not present any obvious matter for criticism, except that (as already mentioned) one had previous service which did not count, with the result that he received about one-68th for each year of service, instead of one-60th as he might have had otherwise. In this group the average age of retirement is 64, and there is no obvious case of pressure to defer retirement.

42. The cases of the seven officers in the corresponding group of the 99 Hospitals without schemes are less satisfactory. Two are chaplains who retired at 79 and 80, and although in one case the pension is poor, the sum in question is very small. Of the remaining five officers, one is a dispenser who worked till 75, and was then well treated. Another is a secretary, who was given a salary proportion of one-60th at 65 after 24 years' service. The other three were also secretaries, but of Hospitals with small resources, and were inadequately pensioned. One worked for 25 years, till 66, when he retired from "ill-health and age," and received one-82nd. Another, who also worked 25 years till 67, but who held another appointment, received a single payment, of which the annual equivalent would be about one-100th for each year. The third worked till 70, and was then retired at the ratio of only one-93rd for his 37 years of service and lived only one month to receive the pension.

43. These facts led us to look into the 26 retirements returned by the Hospitals without schemes as due to ill-health and other causes (*see* Table in par. 20); and we found that no less than 18 of them (of which 7 are in the salaried group and 11 among weekly wage earners) took place at age 60 or over. These, being regarded for the present purpose as more properly coming within the category of age retirements, have also been submitted to scrutiny.

44. Of the seven cases in the salaried group, four are secretaries; three of these, so far as the facts show, were well treated. One of them worked till 67. In the fourth case the officer broke down in health at 60 and was given a small pension, representing only one-160th of his salary for each year. The remaining three cases were those of minor officials, of whom two worked till 65 and were well treated. The third worked till 63, and was evidently in bad health when the interests of the Hospital suggested his retirement, and the pension given was not generous.

45. So far we have given special attention only to the salaried officers. Coming to the weekly wage class, there are in Hospitals with schemes 26 retirements on account of age, and each pension shows, as we should expect in this group, a reasonable proportion of pension in respect of each year of service. Previous service in other Hospitals is

professedly ignored. The average age at retirement was 66, and in seven cases was over 70.

46. In the Hospitals without schemes, there are only eight retirements attributed to age, and in all cases the age is well over 60, the average being 66½. In two cases (in two of the larger Hospitals) the amounts are poor, but in the others seem not open to remark. The general impression is that the men had to go on working as long as they could. As regards the 11 retirements over age 60 returned by the Hospitals under other headings (*see* par. 43) four were women servants who received small allowances when they could work no more. Of the seven men, six were retired at ages ranging from 63 to 69, being apparently incapable of further service, the allowances in two cases being small (viz., only one-160th for each year of service in one case, and one-96th in the other).

47. Our general conclusion on this part of the investigation is that, as regards Hospitals without schemes, while the Officers Association appeared to attach more importance to the lack of uniformity, the uncertainty as to the age at which a pension may be applied for is probably the more serious feature of the two. It is true that we have found a lack of uniformity and even certain cases of real hardship, due, no doubt, to financial considerations; and it is not surprising if only one or two such instances, affecting men well known in their profession, should introduce, as we are informed they have done, a feeling of insecurity generally. But the fact remains that the great majority of administrative officers have found their claims fairly recognized, when it has come to the point, as regards amount; whereas the tendency to defer the age of retirement is found, not occurring in a few exceptional cases, but running fairly steadily throughout the experience.

48. It is difficult to resist the contention of the Officers Association that this fact, indicative of the general condition of uncertainty, is not only calculated to diminish efficiency in the case of existing officers, but may even tend to discourage promising men from entering the service at all. It is thus in a double sense a misfortune for the Hospitals themselves as well as the officers.

(vi) Derangement of Finances.

49. We do not think that these elements of inadequacy or uncertainty, so far as they have been found to exist, are due to any failure to appreciate the services of the officers in question. They are due partly to the fortuitous kind of control inseparable from the existence of numerous committees of management with little sense of community or continuity, and partly to the financial uncertainties necessarily attaching to institutions dependent on charitable support received from year to year; and also to the fact that, except in large Hospitals, the grant of any considerable pension involves liabilities which may prove to be

out of all proportion to the total annual income and expenditure, and particularly to the yearly salaries bill. At a small Hospital, for instance, the retirement of a secretary on an adequate pension may cause a sudden and very appreciable increase in the total outgoings and in the apparent cost of working, and may even cause a deficit. It might, of course, be argued, on the ground that the pension is deferred pay, that it was the previous salary charge which was too small and not the new combined charge which is too great. But this argument does not solve the immediate financial difficulty; and there is, no doubt, a strong tendency, the existence of which is largely confirmed by our enquiry, either to defer the retirement of a man really too old for full efficiency, or partially to equalise the salaries account by reducing the remuneration offered to the incoming officer. Either of these courses is injurious to the best interests of the Hospital, and it is evident that what is really needed, in the absence of large endowments, is some method of making the expense of the pensions a continuing charge, free from violent fluctuations. The difficulty of doing this in a single small institution, where the liability cannot be averaged over a large staff, is one of the strongest arguments in favour of some scheme that would, among other things, provide for that need.

(vii) The Influence of the foregoing Limitations.

50. We now come to the important, but very difficult, question, to what extent have the foregoing causes in fact operated in limitation of pensions? As already stated (*see* par. 17) we could not ask for sufficiently exhaustive information to answer this question accurately.

51. Summarizing the published statistical information that is available in regard to this part of the subject, we find that in the year 1913 six large Hospitals with schemes, providing about 27½ per cent. of the occupied beds, and having a salary list of £84,845, paid in actual pensions the sum of £5,362. This represented 6·32 per cent. of the total salaries. On the other hand, 99 smaller Hospitals without schemes, having a salary list of £177,642, provided about 72½ per cent. of the occupied beds, but paid in pensions the absolutely smaller sum of £4,257, which represented only 2·4 per cent. of their total salaries and wages. Putting it another way, and adding together the total salaries and the total pensions of all the Hospitals combined, we find that the Hospitals with schemes pay 32⅓ per cent. of the total salaries and 55¾ per cent. of the total pensions: whereas the Hospitals without schemes, although they provide 67⅔ per cent. of the salaries, or more than two-thirds of the whole, yet of the pensions pay only 44¼ per cent., or considerably less than one-half of the whole.

52. Though it is not possible to draw exact conclusions from such meagre data, the bare facts are so striking that we set them out in tabular form :—

STATISTICS OF PENSIONS PAID IN 1913, BY 105 HOSPITALS

[Total Staffs other than the Nursing Staffs.]

	No. of Hospitals.	No. of Occupied Beds.	Number.			Amount.		
			Officers.	Pensioners.	%	Salaries.	Pensions.	%
						£	£	
Hospitals with schemes	6	2,685	1,564	60	3·85	84,845	5,362	6·32
Hospitals without schemes	99	7,076	3,257	57	1·75	177,642	4,257	2·40
All London Hospitals.	105	9,761	4,821	117	2·43	262,487	9,619	3·66

N B. The large Hospital mentioned in paragraph 16 is included in this table as the totals are available although the details required for the previous tables were not.

53. Thus the pensions actually payable in the case of all the London Hospitals represent 3·66 per cent. of the total salaries. If the pensions themselves be excluded from the latter the ratio is rather more. It will be useful to compare this with the ratio in fully pensioned services. It was stated by Sir William Byrne of the Home Office (*see* par. 160) in giving evidence before the Select Committee on the Asylum Officers' Superannuation Bill, that the superannuation scheme in force in the Civil Service involved a charge "equivalent, according to actuarial calculations, to between 12½ and 16 or even more per cent. of the amount of the actual salaries." Later on in his evidence he increased this estimate to 16 or 18 per cent. It is difficult to determine whether he was here speaking of the actuarial cost of providing for the pensions in advance; or of the mere ratio of the non-effective pensions to the effective salaries voted by Parliament at the time of actual payment. The late Mr. Manly, an actuary to whom we shall have occasion to refer presently, gave it to us in evidence that in his experience the current charge for Civil Service terms worked out at about 15 per cent. of the salaries, and this would agree with the latter interpretation of Sir William Byrne's statement; as would also Sir Francis Mowatt's evidence before Lord Courtney's Commission, to which we shall refer later (*see* par. 143).

54. Reading the whole passage, however, and its reference to the claim made when police are lent for various purposes, it would seem that Sir William Byrne was in his own view speaking of original or present cost, and this view might agree with other estimates. Mr. P. L. Newman, F.I.A., estimating the cost of Civil Service pensions synthetically from standard mortality tables,* put the present cost (*i.e.*, the amount that should be deducted from the salaries in advance) at 12 per cent. in the case of second division clerks, and at 18½ per cent. of the salaries for the more rapidly promoted officials in the first division. The corresponding current charges at time of payment he put 25½ per cent. and 38 per cent. respectively. Other estimates of the latter mode of reckoning the charge that we shall mention in the course of our Report (*see* par. 180 and

* *See* Cd. 1745, p. 210.

Appendix XIII, par. 5) are $21\frac{1}{2}$ per cent. in the case of the Metropolitan Borough Funds, and 22 or 23 per cent. under the conditions of the Railway salaried services. The latter calculations are based on the actual experience of these services in the way of salary progression and resignations, etc.

55. It should be explained that such estimates as these are based on the assumption that the body of officers concerned remains constant in numbers, and that the fund, actual or supposed, has attained equilibrium. In practice this does not happen. Mr. G. King, F.I.A.,* found that in the Civil Service the pensions actually paid were $21\frac{1}{3}$ per cent. of the salaries, and in a large Bank $20\frac{1}{2}$ per cent.; but in both cases the service was growing rapidly, and, the bodies not having attained equilibrium, those percentages must, in his opinion, increase in the future. This is confirmed by Sir Thomas Heath's evidence before Lord Courtney's Commission,† where it is stated that in the case of a rapidly growing department like the Post Office, with many low-paid employees, the non-effective vote was as low as 4·8 per cent. in 1892-3 and had only risen to 6 per cent. in 1902-3. In the more stable Treasury department, with higher paid men, it was 29 per cent. in 1902-3, and in the Customs as much as 30·6 per cent.

56. The total staffs of the whole of the Hospitals have probably formed a steadily increasing body for many years past. When many of the present pensioners entered service the aggregate salary list must have been much smaller than it is at present, and for this reason we should have expected pensions based on the Civil Service scale to have shown a lower percentage than the prevailing estimates mentioned in paragraphs 54 and 55, but not one so extremely small as 3·66 per cent. And bearing in mind (i) that the Hospitals with schemes are the oldest and best established, and have therefore probably not experienced such a large growth in the salary list as the younger and more heterogeneous body, (ii) that the pensions which have been granted work out on the average better than the Civil Service scale, and (iii) that the proportion of lower paid employees cannot be so high as in the Post Office, we should not have expected in their case such a low proportion of pensions as 6·32 per cent.

57. As regards the more numerous Hospitals without schemes the disparity seems to be greater still. Although many of these have developed within comparatively recent years from being much smaller institutions, and others have not been long in existence, this cause seems inadequate to account for so great a difference in the pension proportion as 2·4 per cent. compared with the 22 or 23 per cent. to be expected in a fairly established community, even where the staffs fluctuate as much as they do in the Railway service. Nor is the explanation found in any obvious insufficiency of the pensions actually

* *See* Cd. 5484. Q. 4576. † *See* Cd. 1745, p. 7.

granted, which have been seen to be, speaking generally, on a generous scale in this group as in the other. As we have, however, already pointed out, there is a subtle form of insufficiency which does not appear in the tables, viz., the tendency to defer the age of retirement, and we are driven to the conclusion that in this cause, and in the general "leakage" of service due to migrations and the casual nature of much of the service in such a heterogeneous body of institutions, is to be found the explanation of the low percentage of pensions in this group.

Nursing Staffs.

Special Features affecting Pensions for Nurses.

58. The problem of pensions for the nursing staffs of Hospitals presents certain special features. One of these is that a very large proportion of the nursing staff at any given time usually consists of probationers or of partially trained or newly qualified nurses, who spend only the early years of their professional career in the service of the particular Hospital, and who very frequently pass sooner or later out of Hospital service altogether and into private nursing. Another is the existence of a special fund, the Royal National Pension Fund for Nurses, established for the express purpose of providing by means of mutual insurance for the pension needs of nurses, whether engaged on Hospital work or not.

59. We should perhaps explain that the term "probationer" is used in different senses at different Hospitals. It sometimes covers the whole period of training which must elapse before a nurse is eligible for an appointment as a "staff nurse," and sometimes only part of this period. The training usually lasts either three or four years. But it may be divided into sections: a short preliminary stage before the probationer signs the contract for the three or four years; a second stage during which she is wholly *in statu pupillari* and is giving the Hospital comparatively little in the way of valuable service in return for her training, her pay and her keep; and finally a third stage during which she is capable of more or less responsible work and becomes gradually of more and more positive value to the Hospital, even before she emerges wholly from the *status pupillaris* and either joins the fully qualified staff or leaves the Hospital for some other branch of the profession. The transition from the second stage to the third is naturally gradual; the dividing line is hard to draw and will differ with different individuals. Some witnesses place the beginning of responsible work at the opening of the second year; others towards its close.

Small Proportion of Permanent Employees.

60. From the fact that a large proportion of the nursing staffs usually consists of probationers or young nurses, who only stay in the service of the Hospital three or four years, it follows that the number who

are at any time approaching superannuation is much smaller in comparison with the total employed than is the case with other Hospital officers. Nor is this all. Not many years ago it was a fairly general rule for the fully qualified portion of the nursing staff—staff nurses, sisters and even matrons—to be composed of nurses who had entered as probationers and had remained in the service of the same Hospital ever since. So long as this custom prevailed, the qualified nurses, as distinct from the probationers, whatever their comparative numbers, constituted a more or less permanent staff with continuous records of service with the Hospital.

61. But in recent years it has become more and more the practice at many Hospitals, even for those of the probationers who would formerly have obtained posts on the staff, to leave the Hospital (temporarily at all events) on, or within a year or two after, the completion of their training. There are now many more outside openings available, and by taking advantage of these they gain a wider experience, greater variety, and often higher remuneration. The same tendency to change often continues, moreover, throughout their career, even with those who return later on to Hospital nursing. The result of this is that, at the Hospital, the qualified staff itself, at all events below the rank of matron and sister, now consists largely of nurses who have been only a comparatively short time in the service of the particular institution, and who may not remain in its service long.*

62. The effect of these changes on the question of pensions for Hospital nurses is obvious. When such of the nurses as came on to the qualified staff stayed in the service of the Hospital from their entry as probationers till their ultimate retirement from work, they acquired, as they severally approached the age of superannuation, moral claims upon the consideration of the Hospital which collectively constituted a pension problem similar to that of other Hospital officers. But now that the qualified nursing staff consists largely of short period employees the problem of pensions for Hospital nurses attaining or approaching superannuation is quite altered. In so far, in fact, as the pension problem is looked upon as one of long and faithful service to the individual Hospital it hardly exists apart from the matrons and some of the sisters; for, except at a few Hospitals where the tendency to frequent change has been to some extent counteracted by the existence of a pension scheme, it is more and more the case that the majority of the nurses who approach the age of superannuation do so without any long period of continuous service in the Hospital behind them.

* At some Hospitals there is connected with the Hospital a Trained Nurses Institute which supplies nurses for private patients. Probationers who on completing their training enter such an institute take up private nursing without severing the connection with the Hospital. In some cases such nurses alternate private nursing with service in the wards, and even where this is not done service with the Institute may count, for pension purposes, as service with the Hospital, or at least as no breach of continuous service. Such cases are to this extent exceptions to the general statement made above and to the deductions drawn from it in later paragraphs. The Private Nursing Institute sometimes has a pension scheme of its own. In one case (Westminster) the Institute is wholly responsible for pensions, the nursing staff of the Hospital being provided, under contract, by the Institute, which is their actual employer.

63. There is thus much to be said for the view expressed to us by certain of the Hospital chairmen that, taking any particular Hospital, the pension problem for the qualified nursing staff tends to become a problem for the individual nurse, or for the nursing profession, rather than, directly, a problem facing the Hospital Committee. This has always been so in the case of the probationer who leaves Hospital service for good at the end of her period of training. At many Hospitals it has become almost equally so in recent years for the qualified staff who remain in Hospital service or return to it in after years.

The Royal National Pension Fund for Nurses.

64. The Royal National Pension Fund for Nurses, which we have mentioned as a special feature bearing on the problem of the nurses, was established in the year 1887 and was designed to meet the double problem of pensions for nurses as it existed in those days: the problem of the individual nurse who left to go into private nursing or some outside branch, and had to make provision for her own old age; and the problem of the Hospital which would ultimately have to face the claim of those who stayed on permanently in its service.

65. Accordingly, the primary work of the Royal National Pension Fund for Nurses was to organise a scheme of annuities for nurses, provided for by means of premiums on a basis of mutual insurance. To this original scheme, which dealt with the nurse as an individual and as a member of the nursing profession, was added a system of Hospital affiliation, which dealt with her as a Hospital employee. By this method of affiliation the Hospitals were invited to pay a proportion of the premium for the pension policies of their nurses, thus at once assisting them as individuals to secure greater benefits than they could afford to do unaided, and at the same time making in advance some provision towards the Hospital's own moral liability for those who might stay on in their service until the pension age.

66. The object of the Royal National Pension Fund for Nurses, as originally stated, is "to afford to nurses an absolutely safe means of providing, at the lowest possible cost to themselves, an allowance during incapacity for work caused by sickness or accident, and a certain income for their declining years. This object will be carried out by receiving and investing such fixed periodical sums as those who join the Fund can afford, by adding to the pensions all the profits arising from any source, and by supplementing those sums from a Donation Bonus Fund, created and maintained by those interested in nurses and nursing institutions."

67. We understand that the sickness provision has not been largely resorted to; but some 10,000 pension policies have been effected.

Pensions of various amounts are paid for by monthly premiums; for example, a pension of £30 per annum to commence at 55 would cost 16s. 4d. monthly starting at age 25, or £1 1s. 3d. starting at 30. For a similar pension commencing at 50 the corresponding payments would be £1 3s. 11d. and £1 12s. 5d. monthly. It will be seen that the amounts are large for a young nurse unaided. In the event of death or withdrawal before the pension age, the contributions are all returned, except perhaps in the first two years, and in many cases with 2½ per cent. interest. Lower rates of premium are quoted on a "non-returnable basis," but the Fund does not encourage this system.

68. In the "affiliation" part of its scheme the essential details of each separate contract are exactly similar to those of its general contracts, but the Fund renders very useful service by supplying the Hospitals with "model" rules which may be adapted to the domestic requirements of each institution, by setting forth the monthly premiums payable by the Hospital and the nurse for each respective quota of the ultimate pension as determined by the Committee, and by facilitating the maintenance of the policies in later life as the nurses drift into private practice. In these cases it is frequently a provision of the rules that the whole benefit of the policies shall enure to the nurse provided she maintains them for the first year or two after leaving the Hospital, the Fund taking care that if they are not so maintained the share of the past payments contributed by the Hospital shall be reserved for its account and not paid over to the nurse.

69. A good deal of propaganda work is done with the object of inducing nurses to join the Royal National Fund, and this is encouraged by such of the Hospitals as assist by means of an affiliation scheme. In other cases the matron will perhaps bring the benefits of the Fund to the notice of the younger nurses, or will arrange facilities for the secretary of the Fund to do so himself. These efforts in the way of propaganda, though evidence on the subject was not easy to get, scarcely seem to have met with the sympathy from the management that one would expect; and have not, in fact, had very extended results.

70. All members of the Fund are entitled to have their annuities increased from the profits and otherwise as above stated; and in the past substantial additions have been declared from these sources. We shall later on have an opportunity of referring to the actuarial and other merits of the Royal National Pension Fund. The usual evidence is available upon which a judgment can be formed as to the value of its benefits having regard to the special circumstances and needs of nurses. The scheme of the Royal National Fund can also be compared with the benefits obtainable through ordinary insurance companies, both those which have drawn up special schemes for nurses and those which have not. For the moment our interest in the Fund is limited to the extent to which it enters into the question of the existing provision for nurses' pensions at the London Voluntary Hospitals.

71. Even so the relation of the Royal National Pension Fund to the subject of our enquiry is to some extent indirect. The fund is open to " any attendant upon the sick and suffering," and this definition includes not only Hospital nurses but also the employees of nursing institutions and private nurses working on their own account.* It is not possible to say what proportion of the 10,000 members of this Pension Fund, or of the 1,868 who are (1913) already drawing pensions, are or were employed at London Hospitals or indeed at Hospitals at all; since the distinction is not important from the point of view of the Pension Fund. Nor have we thought it necessary to ascertain what proportion of the nurses engaged in the London Hospitals are insured in this Pension Fund, for our enquiry hardly extends to the private arrangements which Hospital employees may make for themselves. Thus our chief concern with the Royal National Fund, as will presently appear, is through its system of affiliation, for which the statistics are available.

The existing Provision for Nurses' Pensions.

72. The extent to which the pension needs of the Hospital nursing staffs, taking into account the special features already described, are at present met by the Hospitals may be described under three heads: (1) Hospitals with schemes of their own; (2) Hospitals affiliated to the Royal National Pension Fund for Nurses; and (3) Hospitals with no scheme at all.

73. There are eight Hospitals which have schemes of their own for the provision of pensions for the nursing staffs, viz., London, Guy's, St. Bartholomew's, Middlesex, St. George's, Poplar, Cancer, and Cheyne.

74 At most of these the pension schemes for nurses are on the same lines as those for male officers—namely, on a basis resembling that of the Civil Service (1859) with a maximum of two-thirds of the salary and emoluments. In some cases, however, the details, in such matters as the commencing proportion, the annual increments, the minimum length of service, and the age of retirement, are more favourable than those for men, since otherwise a pension adequate to maintenance would not be secured.

75. At the Middlesex, there is the additional provision that, in special cases, pensions up to full pay may be granted after 20 years service. At the London Hospital, there is no sliding scale on Civil Service lines, but any nurse on attaining the age of 45 after 18 years

* The definition also includes all paid officials connected with Hospitals and kindred institutions. Officials other than nurses share in the profit bonuses, though not in the benefits of the Donation Bonus Fund. As a matter of fact the number of male officers joining the Fund has been infinitesimal, and no table of benefits for such officers is published.

service can retire on full pay. This was adopted in 1899 in place of a scheme of affiliation with the Royal National Pension Fund for Nurses. The same system is in force at the Poplar Hospital. At both the London and the Middlesex Hospitals there are special pension funds created, partially at least, out of the profits of the private nursing and available for the payment of pensions to Hospital nurses.

76. At Guy's a scheme on the usual Civil Service lines is combined with affiliation to the Royal National Pension Fund for Nurses, it being one of the conditions of the scheme that both the beneficiary and the Hospital shall take out policies with the Royal National Fund. The annuity (£11 5s. 0d.) in respect of the Hospital policy is received by the Hospital and is included in the pension payable by the Hospital under the scheme, but the pensioner's own annuity (£7 10s. 0d.) is, of course, received by her in addition. Failure to join the Royal National Fund when required by the rules of the Hospital to do so involves the forfeiture of all claim to a pension. Service in the Trained Nurses Institute continuous with service in the Hospital counts for pension purposes as service with the Hospital, and in this case also the profits of the Institute are set aside for the nurses, some part being spent on supplementary pensions.

77. There are seven London Hospitals which are affiliated with the Royal National Pension Fund for Nurses but have no other pension scheme for any members of their staffs. These are the Dreadnought, the Hospital for Consumption (Brompton), King's College Hospital, Paddington Green, Queen Charlotte's, the Royal Free, and St. Mary's. Including Guy's, with its combined scheme of affiliation and direct pensions, the total number at present affiliated is therefore eight.

78. The conditions of the annuities provided under these seven affiliation schemes differ in details, but the typical arrangement is that the Hospital pays the premium for a policy securing an annuity of £11 5s. 0d. per annum at age 50 or 55 on behalf of any nurse who takes out on her own account a policy for not less than the same amount. The offer is usually confined to matrons, sisters and staff or certificated nurses, though in at least one case half the premiums paid by a probationer on a policy of £22 10s. 0d. will be reimbursed to her by the Hospital on her joining the staff; while in another case "nurse" for the purposes of the scheme means any person in the employ of the Hospital eligible to join the National Fund, and this, as we have seen, is in theory a very wide definition. There is usually a condition that the nurse must have been in the continuous service of the Hospital for a certain period: and a provision for the assignment of the Hospital policy to the nurse in the event of her leaving after a certain length of service, usually a short period, but before the pension age. There is often a provision that in the event of the nurse forfeiting her right to the Hospital policy (e.g., through not keeping up her own) the premiums paid by the Hospital are returnable to a trust

fund held for the Hospital by the Royal National Fund for the benefit of the nurses of the Hospital.

79. It does not necessarily follow that the Hospital will in no case make a further grant by way of pension to a member of the nursing staff thus insured. The affiliation scheme, when accepted by a nurse, gives her a legal claim to a certain amount of pension, and, by making provision for this in advance, assures the Hospital against at least part of her moral claim in the future.

80. At the other Hospitals, namely, 85 out of a total of 100, there are no schemes at all for the nurses. At several of these there will be, of course, nurses who have insured themselves with the Royal National Fund, or some other agency, sometimes with the encouragement, though without the assistance, of the Hospital. At others, cases of superannuation are considered on their merits, and pensions are from time to time actually given, as in the case of other officers.

Statistics of Nurses' Pensions.

81. The following tables give the figures for the details of nurses' pensions corresponding to those already given in paragraphs 16 and 20 for the other staffs :—

Pensions Paid in 1913 to Nursing Staffs.

I. Hospitals with Schemes. (7.)

Cause of Retirement.	No. of Pensions.	Total years of Service.	Total final Salaries. Cash.	Total final Salaries. Estimated value of emoluments.	Total Pensions.	Average proportion without emoluments.	Average proportion with emoluments.
			£	£	£ s. d.		
Age ...	29	642	1,635	1,340	1,413 12 4	One-25th	One-46th
Ill-health ...	3	42	288	150	124 2 0	One-32nd	One-49th
Other causes	—	—	—	—	—	—	—
All causes ...	32	684	1,923	1,490	1,537 14 4	One-26th	One-47th

II. Hospitals affiliated to R.N.P.F.N. (7.)

Cause of Retirement.	No. of Pensions.	Total years of Service.	Cash.	Estimated value of emoluments.	Total Pensions.	without emoluments.	with emoluments.
			£	£	£ s. d.		
Age ...	9	224	439	390	343 0 0	One-32nd	One 60th
Ill-health ...	4	87	405	180	137 0 0	One-64th	One-93rd
Other causes	5	98	315	220	212 0 0	One-29th	One-49th
All causes...	18	409	1,159	790	692 0 0	One-39th	One-64th

III. Hospitals without Schemes. (85.)

Cause of Retirement.	No. of Pensions.	Total years of Service.	Total final Salaries. Cash.	Total final Salaries. Estimated value of emoluments.	Total Pensions.	Average proportion without emoluments.	Average proportion with emoluments
			£	£	£ s. d.		
Age ...	6	156	381	300	252 10 0	One-39th	One-70th
Ill-health ...	9	169	835	450	432 0 0	One-36th	One-56th
Other causes	1	20	50	50	30 0 0	One-33rd	One-67th
All causes...	16	345	1,266	800	714 10 0	One-38th	One-62nd

82. The following are the figures of average age at retirement :—

Average Age at Retirement of Existing Pensioners.

	Retirement from Age. No. of Pensions.	Retirement from Age. Average Age at Retirement.	Retirement from Ill-health. No. of Pensions	Retirement from Ill-health. Average Age at Retirement.
Hospitals with Schemes	29	53	3	48
Hospitals affiliated to R.N.P.F.N.	9*	59	3	55
Hospitals without Schemes ...	6	57	9	52

* In one of these cases particulars are not available.

Details of Age Distribution.

		42–44	45–49	50–54	55–59	60–64	65–67
Superannuation	With Schemes ...	4	6	5	8	6	—
	Affiliated	—	—	1	4	2	1
	Without Schemes...	—	—	2	1	3	—
Ill-health ...	With Schemes ...	1	—	2	—	—	
	Affiliated	—	—	1	1	1	
	Without Schemes...	—	2	4	1	2	

83. The following table corresponds to the table in paragraph 52 illustrating the extent to which the causes tending to produce inadequate provision for pensions had in fact operated :—

STATISTICS OF PENSIONS PAID IN 1913 BY 99 HOSPITALS.
[Nursing Staffs.]

	No. of Hospitals. (b)	No. of Occupied Beds.	Number.			Amount.		
			Nurses.	Pensioners.	%	Salaries with estimated value of emoluments	Pensions.	%
						£	£	
I. Hospitals with schemes	7	2,430	1,262	56	4·43	81,690	3,113	3·81
II. Hospitals affiliated to R.N.P.F.N.	7	1,195	491	18	3·67	32,865	692	2·11
III. Hospitals without schemes	85	5,246	2,223	22	·99	146,434	941	·64
Totals ...	99	8,871	3,976	96	2·41	260,989	4,746	1·82

Notes to the foregoing Tables.

(i) The statistics exclude in all cases the following:—

(a) Pensions paid by the Royal National Pension Fund to which Hospitals have contributed under affiliation schemes.

(b) Hospitals where the nursing staff is maintained or their pensions are paid out of funds separate from the funds of the Hospital.

The following are included in paragraph 83, which gives the totals, but not in paragraphs 81 and 82, which are based on details.

(c) Hospitals where the total figures are available, but not the necessary details.

(d) A few cases of pensions where either the method of remuneration or some other peculiarity rendered the details unsuitable for averaging.

(ii) The figures of Hospitals affiliated to the R.N.P.F.N. do not include Guy's, which is placed under Hospitals with schemes.

(iii) The Hospitals affiliated to the R.N.P.F.N. also paid £219 in 1913 in premiums in respect of policies taken out on behalf of Nurses.

84. For various reasons we feel even more hesitation in drawing conclusions from these figures than we did from the tables relating to the pensions of the staffs other than the nursing staffs.

85. In the first place, as is explained in the notes, they do not cover the whole of the provision for nurses' pensions, since in some cases this is provided by the Royal National Pension Fund, while in others the responsibility for the future of the nurse is shared, or even wholly borne, by some agency not forming part of the Hospital. If pensions paid under the latter circumstances are included, the proportion of pensions to salaries at these Hospitals will often be greater than under normal conditions; if the outside pensions are excluded the proportion will be smaller. Where, therefore, the resulting disproportion seemed to be sufficiently substantial the Hospital has been omitted altogether from the statistics. In the second place, where there are schemes, the terms on which the pensions are provided sometimes differ so greatly, not only in detail but also in principle, that figures arrived at by averaging the results

will not bear much weight. In the third place, it follows from what has been said in paragraph 60 *et seq.* that many of the nurses receiving pensions in 1913, whether from the Hospital or from one of the other agencies, earned those pensions under conditions that have passed away; so that even if it was possible to make allowance in the statistical tables for the disturbing factors mentioned above, the result would not throw much light on the pensions problem of the present. Lastly, the numbers involved are so small as to rob a detailed analysis of any great value. Subject, however, to these reservations the following comments may be made.

86. At the Hospitals with schemes it will be noticed that in cases of superannuation the average rate of pension in proportion to salary and years of service given in paragraph 81 comes out rather higher for the nursing staff than for other officers, while at the Hospitals without schemes the average is somewhat lower; Hospitals affiliated to the Royal National Pension Fund coming somewhere between the two.

87. If we compare the nurses' pensions at Hospitals with schemes with the nurses' pensions at other Hospitals we find that the scale of superannuation pensions at the former is much higher than at either the affiliated Hospitals or those without schemes. If the figures thus averaged are analysed we find that this result is due not to a universally higher scale at the Hospitals with schemes, but to differences in the extreme instances. In each case the largest number of pensions are on the scale of about one-fiftieth. But at the Hospitals with schemes there are several pensions of between one-thirtieth and one-fiftieth, the majority of these being given under the London Hospital scheme based on full salary, while the lowest pensions do not fall below one-seventieth except for three that work out at between one-eightieth and one-ninetieth. At the affiliated Hospitals there are no superannuation pensions above one-forty-eighth, while there are three between one-sixtieth and one-one hundred and second. At the Hospitals without schemes they all fall between one-forty-ninth and one-eightieth, except one which is as low as one-one hundred and seventy-second. Such a figure as this illustrates once more the element of uncertainty on which the Hospital Officers Association lay so much stress.

88. The table of ages and age distribution in paragraph 82, like the similar table for the other staffs, gives evidence of the way in which this uncertainty shows itself in postponed retirements. At the Hospitals with schemes, where uncertainty is not present, the average age of superannuation is lower and in more than one-third of the cases analysed took place at under 50. On the other hand, at affiliated Hospitals and Hospitals without schemes the whole of the retirements returned as being due to age occurred at between 50 and 57. Moreover 3 out of the 12 retirements attributed to ill-health took place at over 60, one of these being at an affiliated Hospital. There has thus been apparently the same tendency, on the part of nurses as of other officers,

to postpone the age of retirement until actual ill-health renders further service impossible; and this, as we have seen, may be taken as evidence of hardship resulting from the inadequate provision of pensions.

89. When we turn to the statistics of total pensions as compared with total salaries given in paragraph 83, we find that, low as was the percentage of the total pensions in the case of other officers (*see* par. 52), it is much lower still in the case of nurses. At the Hospitals without schemes the pensions are almost negligible. At Hospitals with schemes the amount paid in pensions bears a lower ratio to total salaries and emoluments than with other officers. On the other hand, at these Hospitals the number of nurse pensioners bears a higher proportion to the total staff than does the number of other pensioners. No doubt these results are the combined effect of several of the causes already mentioned. The tendency of nurses to migrate to other work will of course reduce the percentage both of pensioners and of pensions; while this tendency is doubtless checked to some extent at the Hospitals with schemes. The combination of a higher percentage of pensioners with a lower percentage of pensions may be due to the fact that while emoluments constitute on the average a much greater share of the remuneration of nurses, this element is not always given its full weight in calculating pensions. At some Hospitals in fact it is explicitly ruled out.

90. It will be noticed that at the Hospitals which are affiliated to the Royal National Pension Fund, but have no pension schemes of their own, the percentages both of total pensioners and of total pensions resemble the higher scale at the Hospitals with schemes rather than the lower scale at Hospitals without schemes. A scrutiny shows that, although all but one retired after the introduction of the schemes of affiliation, they all belonged, both by age and by length of service, to an earlier period. Evidently the Hospitals which have cared enough about the future of their nurses to enter into affiliation with the Royal National Pension Fund have also paid, to the older generation of nurses, pensions on a scale approximating to those paid at the Hospitals with schemes of their own. The affiliation schemes have not yet matured sufficiently to show whether the option to join them will have in practice the effect of wholly relieving these Hospitals of a similar sense of responsibility in respect of those of the younger nurses who will stay with them.

91. Some of the affiliated Hospitals have supplied figures showing the way in which the popularity of the Royal National Pension Fund with the nurses in their employment has fluctuated, owing to the various causes already mentioned. Thus at one Hospital with about 120 nurses the scheme was started in 1892 with 25 members, rising in the following year to 48. In ten years the number had fallen to 4. It then rose again to 16, then fell to 3 and finally to none at all. With the advent a few years ago of a new matron interested in the scheme it began to rise again, and very soon most of the sisters had joined. At another Hospital the

scheme never attracted more than 3 or 4, and in 1913 there was only one left.

92. This evidence is borne out by the small total amount of premiums paid by the seven affiliated Hospitals, which averaged in 1913 only 9s. 5d. per member of the staff. As half the minimum premium quoted in the tables of the R.N.P.F.N. for a pension of the usual type (viz., the returnable premium for an annuity of £22 10s. 0d., commencing at age 55 and taken out at age 21) is £3 0s. 6d., it is evident that a very small proportion of the nurses were members in 1913. We should add, however, that at one of the seven Hospitals the total premiums paid averaged £3 2s. 2d. per member of the staff, while none of the others exceeded 11s. 1d. per member—a contrast which affords one more illustration of the varying popularity of the scheme.

93. In the case of the London Hospital there is some conflict of evidence on the question whether the nurses prefer the old affiliation scheme, which ensured them a certain pension provided they kept up the payment of their share of the premium, or the present scheme whereby they can retire on "full pay" provided they stay in the service of the Hospital during the whole of the prescribed period. This is one of the cases (*see* par. 89) in which emoluments are disregarded. Where, as in the case of most nurses, these constitute the major portion of the remuneration, any practice which disregards them gets away from the facts. The stated results cannot be compared with those of ordinary pension systems. At the same time, it is clear that from the point of view of the Hospital the existing scheme contains the possibility of a heavy liability in the future.

94. Before arriving at any general conclusions as to the nursing staffs, we took evidence from three matrons of Hospitals and also a former matron who has at present considerable acquaintance with the circumstances of the nurses who leave the Hospitals for private practice. As regards the more permanent elements of the nursing staffs, the evidence confirmed the insufficiency of the existing provision. Even where schemes exist in the larger Hospitals there is a prevalent apprehension that all may be lost by a premature breakdown of health, while among the smaller Hospitals the constant changes of service, undertaken probably more thoughtlessly of consequences than in the case of the administrative staffs, would seem to reduce to a very small compass the number who could submit claims for pensions with a long record of service.*

95. As to probationers, the evidence was unanimous that they are put on responsible work either at the beginning of their second year, or, in any case, before the end of it, and for this reason have a certain claim for higher remuneration than is usual. There was also a consensus of opinion that

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* Mr. Manly, F.I.A. who investigated 560 cases (*see* Appendix V), found only 9 who had served for 20 years and over. The average service was only 4½ years.

nurses are, as a class, heedless of the future, even when they get good earnings later on in private practice, and that they should be taught and, if possible, induced to save.

96. One of the witnesses, representing an important Hospital, was not hopeful of a good result from forcing the probationers to effect affiliation policies. The other three were strongly of opinion not only that all probationers should be assisted to effect pension policies, and that their work in their second year would justify the extra cost to the Hospitals, but that such action would be an important factor in starting the habit of thrift and that the great majority of such policies would be maintained in after life. As to the duty of Hospitals towards their nurses in this matter one of these ladies summed up her views on the point so clearly that we quote them as far as possible in her own words :—

> " I think it is a thing Hospital Committees ought to be asked to " do ; not that they might do but that they ought to do. I am " speaking from the point of view of matron as well as nurse, " for the probationers are only young women and for that reason " want looking after ; and I think Hospitals should pay something " extra."

97. The witness who knew most of the nurses' circumstances in after life was emphatic that those who had been induced to effect initial policies at their Hospitals were more provident as a class subsequently ; all the witnesses agreed that the probationer's share of the contribution need not be a financial difficulty if her friends understood in advance that it was an obligatory feature of the training.

General Conclusion as to Nursing Staffs.

98. We are led to the general conclusion that the existing provision for pensioning the nursing staffs is very insufficient and unsatisfactory, but that a distinction must be drawn between the case of those matrons, sisters and some staff nurses the nature and duration of whose service is comparable to that of Hospital officers, and the case of those nurses and probationers the nature and duration of whose service is so different from that of other Hospital officers as to call for different treatment in the matter of pensions.

Permanent Nursing Staffs.

99. In regard to the first class, we are of opinion that the principles applicable to pensions in the case of Hospital officers should operate in this case also. The question of emoluments (*see* pars. 89 and 93) does not seem to have received sufficient attention in the past. We are of opinion that they should be reckoned at their proper value for all pension purposes.

Younger Nurses in Training.

100. In regard to the second class, where there is a marked want of any provision for old age, it would seem that the responsibility, in its strictest sense, of facing the pension problem rests rather on the individual nurse or on those who may be able to organize the nursing profession than on any one else. It is possible that the nursing profession may be organized in time, and the organization of the future may conceivably, following the precedents of the great Trade Unions, include sickness and even superannuation within the purview of its benefits. It is not conceivable, however, that any development of the future could entirely supplant the need for individual thrift.

101. Now in our view it is the Hospital, and only the Hospital that, by encouraging and assisting the young nurse while she is under its tutelage, can thus initiate some provision for old age, and hence render her so great a benefit, material and moral, that the desirability—we might perhaps put it so high as the duty—of doing this should be seriously considered by every Hospital Committee. We are of opinion that if and when the nurse passes from the *status pupillaris* to that of responsible work, at the end of the first year or whenever it may be, the governing body should encourage provision for old age. We proceed to consider the best method of giving effect to this conclusion.

102. The method whereby the Hospital which employs the nurse can co-operate in making this provision, as has been done by those Hospitals where the affiliation scheme of the Royal National Pension Fund for Nurses is in operation, marks a great advance upon the *laissez-faire* system and has shown a laudable desire on the part of these Hospitals to face their responsibilities in this matter as far as could reasonably be expected.

103. In the first place, the Hospital thereby provides something in advance for the claims that may arise in the future under any general scheme in respect of nurses who stay on in its service, or return to it later on as sisters or matrons. In the second place, it recognizes the fact that the Hospital has to a very large extent the guidance and control of the future nurse at the outset of her training, *i.e.*, just at the age when she can take out a policy on the most favourable terms and is yet, from inexperience and lack of personal income, least likely to do so. The Hospital, by encouraging and assisting her to make this provision, has therefore done her a double service. This form of extra remuneration, the cost of which in the opinion of some witnesses would be justified by the services rendered, is ultimately of much greater value to the nurse than its cost to the Hospital, and even, since she herself has to pay a contribution from her own salary, than her own estimation of its present worth. She gains a real benefit, material and moral, in the encouragement to thrift, without being in any sense overpaid, while the Hospital itself,

if we may argue from the results of other steps that have been taken from time to time to improve the position of the nurses, will benefit from increased efficiency.

104. Such a method of joint provision is especially suitable in the present case, because, it being the general intention that pension policies thus set up should enure for the absolute benefit of the assured, they could, and in most cases would, be maintained by the nurse herself throughout her career when she leaves Hospital service for private or any other form of nursing. They are also capable of being transferred with facility to any other institution employing her and willing to assume liability for the employer's share of the annual cost. The affiliation system, if universal, would thus tend to abolish the penalty on migration which we have seen to bear so heavily in the case of officers, but which, though we hear less of it, must in the long run involve even greater and more widespread hardship in the case of nurses.

Recommendation as to Young Nurses.

105. We thus arrive at the conclusion that the methods by which the desired objects can be attained are so well defined that further enquiry into this part of the problem can be proceeded with independently of the general pensions question. We RECOMMEND that the Hospitals should be asked to appoint a small committee, including representatives of those already possessing affiliation schemes, representatives of the nurses themselves, and possibly representatives of other bodies, to consider this matter. The committee should be asked to report on the numbers that would be involved, and the effect on the Hospitals' finances, if a comprehensive scheme were to be initiated on the following lines :—

(i) That policies assuring a minimum pension of, perhaps, £25 per annum be effected for the benefit of all young nurses when confirmed in their calling and placed on responsible work—say, at the end of the first year of training.

(ii) That the pension should begin at, say, age 55, with the option of securing an increased allowance by postponing retirement to a later age, to meet the case of nurses capable of further work. On these assumptions the annual cost would be about £6 for each nurse.

(iii) That the original Hospital and every other London Hospital subsequently employing the nurse should pay at least one-half of the premium during service, such contribution to enure for the benefit of the assured except in the event of misconduct, or other good cause.

(iv) That every probationer should enter service on the understanding that the money for her part of the premium must be provided in due course by herself or her friends.

(v) That on cessation of Hospital service, following the principle adopted for Elementary Teachers (*see* par. 254) and proposed for Secondary Teachers (*see* par. 276), the policy should be held, except, perhaps, in the case of marriage or any exceptional circumstances, for the ultimate benefit of the assured, who should be encouraged to continue payment of the full premium on her own account.

106. The proposed committee should be asked further to ascertain the cost of such policies from representative insurance companies as well as from the Royal National Fund; and generally to make any suggestions for improving and completing this outline scheme that may occur to them. The committee would naturally keep in touch with the work of any central committee that may result from the recommendations on the general pension question which we shall make later, and would borrow therefrom any features suitable to the case of the younger nurses. Among other points there may be a question as to the type of policy most suitable. It would also be necessary to consider which would be the most suitable body to exercise the trust involved in carrying out recommendation (v). This might be the Hospital last employing the nurse, or an extraneous body such as the Royal National Fund or the College of Nursing, which we understand is a chartered body. It is obvious that the spirit in which this trust is exercised might influence largely the number of policies that would be maintained in later life.

107. It will be seen before we close our Report that the problem of applying any pension scheme to an existing staff is a complicated and costly matter. The scope of our present recommendation is, however, limited to nurses of early assurable ages, in whose case the premiums to be paid would be moderate. The body of young nurses to be included in the scheme is a short service body, rapidly recruited from year to year, and even if the scheme were applied in the first year only to those probationers reaching in that year the prescribed qualifying stage, it would in the course of about four years include the whole category in question. Thus the annual cost to the Hospitals would soon attain the maximum even if the scheme were introduced gradually.

108. The initiation of such a system as we have outlined need not in any way prejudice the position of matrons, sisters or permanent staff nurses who form the permanent elements of the nursing staffs. These would be included in the benefits of any complete scheme for the general staffs, and, in the case of future promotions, by following the excellent precedent afforded by Guy's Hospital, any provision already assured in the nursing section would count towards the ultimate benefit under the general scheme. It is clear, moreover, that the permanent elements of the nursing staffs have the first claim to consideration, and that no form of financial preference, where resources are limited, could be given to the more fleeting element. Therefore, though the problem of the younger nurses should be regarded as a separate one, calling for early and individual investigation, financial considerations will dictate that the

scheme proposed for them cannot proceed otherwise than in combination with the more important one to be proposed later for the permanent staffs generally.

Summary of Conclusions as to existing provision.

109. Reverting to the main question, the conclusion we have come to as the result of our enquiry into the existing provision for Pensions for Hospital Staffs is that the case submitted by the Hospital Officers Association, as summarized by us in paragraph 7, is, generally speaking, made out.

110. With regard to the extent of the existing provision we arrive at the following general conclusions :—

(i) that the principle of pensions for Hospital employees is generally recognized, not as an act of charity but as part of the remuneration fairly earned by the officers, though often with the idea of rewarding long and faithful service to the particular institution (paragraphs 8 to 10),

(ii) that at six London Hospitals out of 105 from which returns have been received this recognition has taken the form of the establishment of pension schemes which, while perhaps conferring no legal right, do in practice give the officers of these Hospitals reasonable security for a pension on a basis resembling that of the old Civil Service scheme (paragraphs 11 to 19),

and (iii) that at the Hospitals without schemes pensions are, in practice, usually granted in case of need by the special act of the Managing Committee. At these Hospitals taken as a whole both the number of pensioners and the scale of pensions are proportionately lower than at the Hospitals with schemes, and the pension itself may sometimes be very small. Nevertheless the Hospital Officers Association do not know of any instance of a deserving person after long service being left entirely without a pension, nor has any such case been brought to our notice (paragraphs 15, and 20 to 24).

111. But, as regards the limitations of the existing provision, we also find :—

(iv) that, in the absence of any general scheme, migration from one Hospital to another involves the loss of all claim to a pension in respect of previous service. This has the effect either of discouraging migration or of imposing hardship both on the officer who migrates and on the Hospital to which he goes, e.g., when an enterprising man wishes to leave a secure but subordinate position at a large Hospital for a higher post at a small one (paragraphs 25 to 37),

(v) that at most Hospitals, and especially at the smaller, the prospect of pensions is uncertain, not only as to their adequacy and uniformity, but, what is probably more important, as to the age when they may be expected. The uncertainty thus affects the Hospital officer throughout his career—at the outset, when he has to decide whether to enter a service subject to this disadvantage, and towards the close, when retirement tends to be unduly deferred, to the detriment both of the officer and of the institution (paragraphs 38 to 48),

(vi) that in all except the largest Hospitals the grant of pensions to superior officers is apt to derange the finances, since the amount which has to be paid at any small institution, taken by itself, is large in comparison with the annual charge for salaries and wages, and there is no system by which this amount is provided for in advance and thus apportioned evenly over the period of service of the officer (paragraph 49),

and (vii) that the foregoing causes have no doubt operated in serious limitation of the provision of pensions, as evidenced by the fact that the total amount now being paid is much less than could be expected in such a considerable body of employees (paragraphs 50 to 57).

112. We recommend to the Executive Committee that information as to all retirements or withdrawals from service be asked for in the annual returns from the Hospitals applying for grants, together with particulars of pensions, if any, granted in connection therewith.

113. We have considered whether we could advise the Executive Committee to initiate a system by which the Hospitals should furnish the Fund, by the card method, with particulars not only of the withdrawals but of the whole of their staffs, such as would enable the Fund in course of time to supply the information for lack of which we were unable to form any final conclusion based on proper facts under the foregoing heading (vii). Though the annual work involved would not be great if such a plan were once started, its initiation would make a sensible addition to the work of staffs at present fully occupied, and we think it better at the present time to limit ourselves to placing the suggestion on record. It will be seen later on, however, that our task of forming final conclusions on many aspects of the pension question has been greatly hampered by the absence of complete statistical information as to the staffs (*see* pars. 366 *et seq.*; *also* 469) and as soon as possible the Hospitals should be encouraged to begin keeping such a record of all employees. To secure uniformity the cards should be supplied by the King's Fund.

The Alteration or Extension of the Existing System.

114. On the further question as to what alteration or extension (if any) of the existing system is desirable we found no difficulty in arriving at certain preliminary conclusions of a general kind.

Objects to be aimed at in any General Scheme.

115. These general conclusions may be set out conveniently as follows :—

(1) that a greater security for pensions and facilities for earlier retirement would tend not only to satisfy a legitimate desire on the part of Hospital officers but also to improve the status of the service and the efficiency of the Hospitals,

(2) that the object desired cannot be fully attained by any development of the existing system, but must be approached from the point of view of a general scheme in which all the Hospitals should participate,

(3) that any general scheme for the Hospitals of London, in order to be successful, should provide *inter alia*

- (a) for aggregation of service so as to permit of free migration without loss,
- (b) that the pension should be claimable at a stated age, so that there should be no inducement for the officer or the Committee of the Hospital to continue employment when, in the interests of either, it should be terminated; and that at a stated later age retirement should ordinarily be obligatory,
- (c) that the pension should bear an adequate relation to the salary and period of service, and should be well secured,
- (d) that the financial provision for pensions should be continuous, so as not to derange the finances of the Hospitals,
- (e) that permanent members of the nursing staffs should be included in the scheme, subject to the condition mentioned in paragraph 108,
- (f) that the weekly wage staffs, except where the employment is casual, should likewise be included; and also any of the female servant class whose service becomes of a permanent kind.

116. When we came to consider the question whether it would be feasible to initiate a scheme embodying the foregoing principles, we found great differences of opinion between the representative officers and the representative Committees that we consulted, and even among the Hospital Committees themselves. The representative officers, while

welcoming anything that would improve the present position, expressed a decided preference for a non-contributory system, providing for the pensions in advance, and they submitted to us a definite scheme based on these principles which had been prepared for their Association by the late Mr. H. W. Manly, F.I.A. The smaller Hospitals, not unnaturally, expressed apprehension at the prospect of such a definite addition to their expenditure and liabilities; and we ourselves find objections to that scheme, as will appear later (*see* pars. 241 *et seq.*). The Officers Association also submitted an alternative suggestion that, in the absence of a constructive scheme, the existing practice should be systematized and the outlay on pensions spread over the whole body. To that course equally we take various objections (*see* par. 151). Some of the larger Hospitals, as we have indicated, already have more or less adequate schemes of their own, and did not, as it seemed to us, exhibit any desire to merge these in any combined scheme for the common good. We therefore arrived at the conclusion that there was not such a consensus of opinion, either on the general principle or as to the type of scheme suitable, as would justify us in proceeding forthwith to the preparation of any definite scheme of a comprehensive character. It was obviously necessary to arrive first at a general acceptance of the need for a central scheme and at a clear understanding of the fundamental principles on which it should be based.

117. The Hospital officers then expressed the hope that, if we could not recommend a scheme on lines acceptable to them, and if the Hospitals were left to grant pensions without provision in advance, we would at least place on record a general opinion as to the principles upon which Hospital Committees should proceed in determining the age of retirement of officers and the scale of pensions to be granted. They added that an expression of opinion coming from King Edward's Fund on that question would carry great weight with the Hospitals; and for that reason we have had to consider carefully what it means.

118. We think that the comments we have made on the various facts that have come before us are a sufficient index to our general opinions, and that it would be inadvisable to go further. It has emerged pretty clearly from our enquiry that in the matter of pensions the inefficiency and shortcomings of present methods depend at least as much on financial considerations as on variety of administration. If the King's Fund were to attempt to promulgate any rules as to the grant of pensions for which no proper provision had been made in advance the effect would be to perpetuate and crystallize the existing improvident system, and the King's Fund itself might be involved in a certain amount of moral responsibility for the necessary financial provision. Any such responsibility would present the obvious danger of being transformed later into a material liability. The terms of our reference contain no suggestion that the Executive Committee would be prepared for this.

Fundamental Questions to be settled.

119. Though we have adverted with regret to the existing lack of agreement on the desirability of a central scheme, we should add that an attitude of hesitation and enquiry on the part of the larger Hospitals is by no means inexcusable. Our discussions showed room for legitimate differences of opinion not only as to whether previous service at other Hospitals should be reckoned for pension, but also on such other fundamental questions as

(a) whether the pensions should be wholly or partly provided for before they fall due,
(b) whether the scheme should provide death benefits as well as pensions,
(c) whether the officers themselves should contribute,
(d) whether the pensions should be based on the future salaries, which are unknown, or
(e) whether the plan of assuring definite amounts adopted by the Royal National Pension Fund for Nurses would not be more suitable,
(f) whether it would be feasible to include in the scheme existing officers, many of whom are nearing the pension age, or whether it must be limited to future appointments,
(g) whether it would be feasible to give earlier pensions in the event of disablement from loss of health ; and
(h) whether and by what means it would be possible to reconcile the grant of pensions by a central body, and more particularly those coming under heading (g), with the independence and freedom of internal administration to which the Hospitals, and especially the great ones, attach much importance.

120. It appeared to us that we should perform a more useful function if, instead of accepting any responsibility for a system, or rather absence of system, which leaves so many fundamental problems unsolved, we could in any way contribute to the solution of those problems. We therefore proceeded to give some attention to the question of pensions generally and the methods adopted for its settlement in other professions and occupations.

121. To treat such a large subject completely would, of course, be far beyond the scope of this Report; but we thought it might be possible, by selecting examples of the working of different methods, to set forth and illustrate the salient points that have arisen hitherto in actual practice. This plan of procedure would give us material for estimating better in their turn the principles underlying the present methods and the alternative suggestions that have been placed before us; and we were not without hope generally that it might lead us by logical steps towards the proper answers to the various questions we have set out above in paragraph 119.

END OF PART I.

PART II.

A SURVEY OF VARIOUS METHODS OF PROVIDING PENSIONS, WITH A DISCUSSION OF TYPICAL SCHEMES ALREADY IN OPERATION IN CERTAIN GOVERNMENT, MUNICIPAL, RAILWAY, EDUCATIONAL, HOSPITAL AND OTHER SERVICES.

122. In considering the general features of any superannuation scheme, it is well to bear in mind that a most essential point is whether the pensions are treated as current expenditure, or are paid out of funds provided in advance; whether, in fact, a future pension is to be a charge on the period in which it is paid, or on the working time in which it is earned. In this connection we shall speak of pensions of the former class as being provided "in arrear," and those of the latter class as provided "in advance."

123. Another important dividing line separates the non-contributory schemes from those in which the beneficiaries themselves make some contribution towards their future pensions. A further point of distinction is whether the pensions are to be paid on a certain proportionate scale relatively to salary and if so whether final or average salary, or as certain absolute amounts of money, or whether they are to be calculated on the sums available to provide them. Yet another distinction may be drawn between schemes where the benefits are confined to pensions at certain ages and schemes which offer alternative benefits such as payments in the event of sickness, death, or retirement through ill-health, or even of voluntary retirement. All these distinctions appear to us to be less fundamental than the method of finance by which the pensions are provided, and we propose therefore to take the latter as our main principle of classification.

Classification according to Method of financial Provision.

124. Thus the various kinds of schemes may be classified broadly as follows:—

Schemes where the pensions are provided

I. Wholly in arrear, or, as it is sometimes technically expressed, "by assessment"

- (a) on a salary percentage basis or scale (*i.e.*, where the pension bears a defined ratio to the salary), as in the case of the Civil Service and certain of the existing Hospital schemes.
- (b) on a fixed "absolute" scale or "flat rate" (*i.e.*, in definite amounts of pension), as in the case of the State Old Age Pensions.

II. Partly in advance and partly in arrear
- (c) on a salary percentage scale, as in the case of the Police, the Poor Law Officers, and the Asylums Officers Superannuation Acts, and various of the Metropolitan Borough Schemes.
- (d) on an absolute scale or flat rate.
- (e) on the "money purchase" principle (*i.e.*, where each pension is directly related to the contributions available to purchase it).

III. Wholly in advance
- (f) on a salary percentage scale, as in the case of many superannuation schemes of Railways, Banks and other corporations.
- (g) on an absolute scale or flat rate.
- (h) on the money purchase principle, as in the case of the Royal National Pension Fund for Nurses and the Federated System of Superannuation for Universities.

It may be remarked that schemes under heading I are necessarily on a non-contributory basis. Under headings II and III they may be either non-contributory or contributory.

125. It will be noticed that two of these principles are illustrated in schemes already in operation in connection with Hospital service; the principle of the Civil Service pensions, on a salary scale but non-contributory and provided in arrear, having been adopted by most of the Hospitals that have schemes, while the money purchase principle of providing in advance such pensions as are paid for is the basis of the Royal National Pension Fund for Nurses. The scheme submitted by the Hospital Officers Association, as we shall see later on, comes under heading (f) as an example of pensions on a salary scale provided wholly in advance—in this case by means of payments set aside by the employer without any contribution by the employee.

Importance of this Classification.

126. We have placed the issue between pensions paid in arrear and pensions provided in advance in the forefront of our argument and have made it the basis of our classification largely in order to emphasize the importance of facing, at the outset, the fact that a pension has to be, in some way or other, provided for. This may sound too elementary to be worth mentioning, but the failure fully to recognize it is at the root of many proposals to promise pensions without making provision for the cost, or, when provision has been made, to ignore actuarial warnings and to increase pension benefits or reduce the contributions on the strength of the apparent magnitude of the existing assets. The Hospital Officers Association very prudently avoided elementary dangers of this kind by placing the preparation of their suggested scheme in the hands of an eminent actuary.

127. In the case of a typical mutual scheme for pensions provided in advance, a fund is gradually built up by means of the contributions of employers or employees, or both, which fund must be at any given moment adequate, with the addition of the future contributions from or in respect of the existing individual members, and the future interest accruing, to provide the future pensions of those members, without drawing to the slightest degree upon the contributions to be received from future new members. It is obvious that, even if the number of members remains stationary, the fund will gradually but steadily grow until the first pensions begin to be paid, and even for some time after that; while, if the number of members increases, it may continue to grow indefinitely. But, however large the fund, it will, if the benefits and contributions are properly proportionate, be at any given moment no larger than is required for the purpose of meeting the liabilities which, though only to be discharged in the future, have nevertheless already been incurred. That is, the present capital value of the fund represented by the assets and the value of the future contributions of the existing members, will be equal to the present capital value of the liabilities in respect of those members and existing annuitants, if any. The present value of the contributions of the existing members depends on the rate of contribution; on the rate of change of salary on which the contribution is calculated; on the number of years during which contributions will be paid, which depends on the present ages of the members and the age at which contributions cease; and on an estimate of the future rate of interest obtainable. The present capital value of the liabilities depends on the rate of pension (which generally depends on the rate of increase of salary); on the age of retirement; on the number that will reach that age; and, last but not least, upon the probable age at death of those who do reach it. It will be seen that the uncertain elements in a fund of this type are far more numerous than in the case of a life assurance society. The effects of these factors can only be calculated actuarially. Without an actuarial valuation, therefore, the adequacy of the present capital value of the fund to meet the present capital value of the future pensions cannot be ascertained; and in any event many of the factors are so uncertain as to render exact calculations impossible.

128. In the case of pensions provided wholly in arrear there is no capital fund. The pensions as they fall due will be paid out of income then to be received. But this fact by no means relieves the promoters of the necessity of calculating the liability and of considering the question of the provision that will have to be made for meeting it. The future liability can of course be expressed in terms of present capital value in exactly the same way as in the case of a scheme provided for in advance. Or actuarial estimates can be made to show either the incidence of the actual payments from year to year in the future, or the equivalent average amount taken over a series of years. Until this is done the probable adequacy of the future income, to provide the pensions as well as current expenses, cannot be estimated.

129. In discussing the details of the various methods of providing pensions we shall have occasion to refer to this question of the amount of the liability incurred, as compared with the resources, present or future, available to meet it. It will be clear that in the case of pensions provided in arrear, the whole security for the payment of the pensions depends on the certainty of the receipt, when the time comes, of sufficient income to meet these liabilities of the past as well as the current expenses of what will then be the present. The practical difference, in this respect, between a State scheme with the public revenues behind it and a scheme dependent on the maintenance of income from voluntary charity is obvious. It seems evident that where the future income is uncertain the pension fund, if it is to give any sense of security, must be provided in advance.

130. But there is a further point that will emerge as we consider the various existing methods. A scheme may set out to provide pensions in advance by means of contributions from employers or employees or both, but if the scale of contributions is fixed and if the scale of pensions is also fixed beforehand, it may be found, on an actuarial valuation, that the present capital value of the liabilities exceeds that of the assets. This may be due to some original miscalculation or absence of calculation, or to a fall in the rate of interest or to some other change, such as a general improvement in the longevity of the class affected, which has the effect of increasing the net liability. When this happens, there are three possible alternatives. The contributions may be increased, the pensions may be reduced, or the deficit may be allowed to continue (which usually means to increase) with the idea that when the pensions come to be paid the difference will ultimately be made good by the corporation with which the pension fund is usually connected. It must be recognized clearly that to the extent to which this third alternative is adopted the scheme ceases to be provided in advance and becomes a scheme provided in arrear, with all the insecurity that attaches to such a scheme in the absence of external financial resources from which the pension deficit can be met. Moreover, if the cause of the difference between assets and liabilities is such that the deficit is sure to grow, the pensions will not be secure unless the resources of the guaranteeing body are not only well assured but elastic.

131. By either of the other two alternative methods of meeting a deficit, that of increasing the contributions of employers or employees or that of decreasing the pensions, these dangers are avoided and the scheme remains one of pensions provided in advance. But in either case the end is achieved only by departing from the original intention, namely, that the contributions of both parties should be fixed and that a pension of a fixed sum or salary percentage should be assured. The ratio of the contributions and the pensions have in fact to be re-adjusted to meet the circumstances revealed by the valuation. The simple fact is that these three features—a permanently fixed scale of contributions, a permanently fixed scale of pensions, and perfect security—cannot all be obtained in the absence of a margin for contingencies, either in the original scale of contributions,

which would be inequitable if not ultimately wanted, or in the form of some certain and elastic source of future guarantee. If in the absence of this the pension is fixed, the contribution cannot be permanently fixed, unless, as already suggested, very much on the safe side.

132. It is for this reason among others, and in order to minimize generally the incidence of uncertain elements, that, in some of the schemes where provision is made in advance, recourse has been had from the outset to the method known as the money purchase system. Under this system, while the contributions may increase as the salary increases, the pensions promised will increase, not in proportion to the increase of salary, but according to the amount that can be purchased with the increased contribution as estimated by actuarial calculation. By this system, when carried out by means of a mutual fund, a provisional adjustment of pensions to contributions is effected beforehand, and some, but not all, of the elements of risk we have discussed in the last few paragraphs will be eliminated. Greater security for the resulting amount of pension is thus attained. An outstanding distinguishing feature of this money purchase method is the fact that it also adjusts itself to the purchase of definite benefits from external institutions, such as the Royal National Pension Fund or general insurance companies. Where the financial results are thus definitely guaranteed by an approved important company with a large capital they may, from the point of view of security, be regarded as very well assured.

Influence of minor Differences between Schemes.

133. The method by which the liability involved is provided for is thus the fundamental feature in any pension scheme, and it is from the experience of the working of the various schemes in this respect that their bearing on the problem of pensions for Hospital officers is chiefly to be sought. There are, of course, numerous minor differences that will emerge in the course of our descriptions of different schemes—differences in the length of service qualifying for a pension, in the age of retirement, in the proportion of contribution, if any, to salary, in the relation of pension to salary, and in the existence or non-existence of benefits alternative to pensions, such as death benefits or allowances on retirement before the age of superannuation. These differences, and even the great difference between contributory schemes and non-contributory, are found in every case to produce some effect on the balance between assets and liabilities. It will be seen that this effect may not only be direct, as when alternative benefits are offered, or when, by a reduction in the retiring age, the pension liability is increased and the receipts from contributions reduced. They may also be indirect, as when the fact of an employee's contribution gives rise to a claim to some benefit or to the return of his contributions on resignation; or when the provision of a pension, acting as a relief to the fund from which current salaries are paid, encourages early retirements of officers at the

expense of the pension fund; or when there are rapid increases in the final salaries on which the pensions will be calculated. In fact it is obvious that in almost any mutual fund there may be a conflict between the interest of the employees in securing the most favourable terms of benefit; the interest of the employers in settling the rates of salary, the age of retirement and the rate of pension offered in the manner most calculated to promote efficiency; and the interest of both in the financial stability of the pension fund. This being so even in a simple self-contained concern, it is easy to see that difficult questions would arise in the case of any federated scheme involving several separate employing bodies, if pensions were to be provided jointly for employees whose terms of employment were determined by each employer independently.

134. Many of these points, and the way in which they have been dealt with, will be illustrated in the following discussions of existing schemes, and of the bearing of these schemes on the problem of pensions for Hospital officers.

I. PENSIONS PROVIDED WHOLLY IN ARREAR.

135. The outstanding examples of this method are naturally those of the State in the case of Civil Service pensions under the Superannuation Acts of 1859 and 1909; and of the Old Age pensions now paid by the State after age 70. To these have been added, since the commencement of our enquiry, the enormous payments for naval and military pensions for which the State has assumed responsibility and which far transcend its previous pension liabilities.

(a) On a Salary percentage Scale.

The Civil Service System, 1859 and 1909.

136. Under the Act of 1859 the superannuation allowance to be granted to established civil servants "whether their remuneration be computed by day pay, weekly wages, or annual salary" was to be, after a minimum of ten years service, one-sixtieth of the annual salary and emoluments for each year of service with a maximum of forty-sixtieths. No person could be pensioned below age 60, and there were various powers reserved to the Treasury for granting special amounts in special cases and gratuities in cases of premature retirement through injury or infirmity. In practice, the scale pension has been awarded in all cases of ill-health ("inculpable inability" as defined by the Treasury) or reduction of staff; with reduced allowances in exceptional cases of retirement through inefficiency.

137. We find it recorded by Mr. J. J. M'Lauchlan, a Scottish Actuary, that "the Civil Service Superannuation Commission of 1857 "recommended the abolition of the deductions that were formerly made

"from the salaries of many civil servants. They were of opinion that "the remuneration of the civil servant should be described as consisting "partly of salary and partly of superannuation on retirement. They "state that the existence of a fund creates an erroneous impression as to "the real nature of the transaction. The widows of deceased civil "servants had made claims on the Government, on the ground of the "deductions made from their husbands' salaries. It necessarily raised "questions as to the sufficiency or insufficiency of the superannuation "allowance, considered as an equivalent for the deductions paid."*

138. As we shall presently see, the Commission of 1857 has not been justified by experience, for the later tendency has undoubtedly been in the direction of providing for pensions in advance. Nor were they more fortunate in their suggestion that the mere absence of a fund and of contributions made by way of deduction would settle the question of the widows, for it was principally that question which led to the revised scheme of 1909.

139. This scheme, involving the introduction of a death benefit into the other system, was adopted in response to a continuing contention that pensions should be regarded as deferred pay, the whole benefit of which should not lapse in case of death. The questions at issue were investigated by a strong Royal Commission, presided over by Lord Courtney (*see* Cd. 1744 and 1745), the main argument of the civil servants being that the official scale of salaries involved a virtual contribution on their part which was in excess of the amount required for pensions, and which, therefore, entitled them to death allowances in addition, and as of right. This contention apparently confused the difference between the cost of pensions in advance and in arrear and was ruled out as fallacious. The Royal Commission proceeded to lay down the general principle "that a deferred pension is remuneration for services "as much as an immediate money payment; but it is, in part at least, "remuneration for continuity of service contingently payable on the "continuity being maintained during a defined period and not accruing "from year to year as an indefeasible interest."

140. Subject, however, to preserving the principle of continuous service the Royal Commission, while not empowered by their reference to admit any claim involving additional cost, disapproved of a system under which the benefits returnable for the implied contributions should be limited to retired pensioners, whilst no benefit inured to the representatives of those who died in the service. In fact, they considered it would be advantageous for the service that "the contingent "remuneration provided by the State should be so arranged as to "meet as large a number of the ordinary chances of life as possible." A minority report was presented by Sir Ralph Knox and Sir E. Brabrook, who adhered to the more conservative idea of a pension as the reward of long and faithful service and objected to any recognition of the "deferred

* "The Fundamental Principles of Pension Funds," C. & E. Layton, 1909.

" pay " principle. They followed the Commission of 1857 in preferring to leave provision for widows and children to private thrift.

141. Omitting details, the main provisions of the revised scheme as laid down in the Superannuation Act 1909 were as follows:— (i) that the proportion of the annual salary and emoluments to be granted to male civil servants who entered the service after the passing of the Act was to be one-eightieth; (ii) that by way of "additional allowance" on retirement after two years service (which would include cases of disablement through ill-health) a lump sum might be granted equal to one-thirtieth of the annual salary, etc., multiplied by the number of years service; and (iii) that on death after five years service a gratuity of one year's salary might be granted. There were also provisions enabling existing civil servants to change from the old scheme to the new one. We are informed that the new provisions are popular in the service and that they have been very largely accepted by the existing civil servants, with whom it was quite optional to adopt them.

142. We are not aware that any actuarial estimate has been made of the capital liability of the State for Civil Service pensions, and we have already found (*see* par. 53) that the endeavour to find even some measure of its current cost has exhibited confusion of thought and language. The proceedings of Lord Courtney's Commission show that this confusion was largely responsible for the dissatisfaction in the service with which they were called upon to deal.

143. That dissatisfaction, which was widespread and of long standing, appears to have been based on a belief that the State was virtually deducting from the salaries from 16 to 20 per cent., and that a cash contribution on that scale, if separately invested, would provide substantial death benefits and other advantages in addition to the existing scale of superannuation. This belief in turn rested mainly on an answer given by Sir Francis Mowatt, the Permanent Secretary of the Treasury, to the Ridley Commission in 1886, and also on a letter from the Treasury to the Board of Trade in 1891 stating that "the "conversion of temporary into permanent appointments, without any "alteration of salary, involves an addition of 15 to 20 per cent. to the "charge." Sir Francis Mowatt's supposed statement is recited in the following extracts from his examination by Lord Courtney's Commission:—

4057. (*The Chairman.*) The ordinary established Civil Servant has a salary, and he has in addition to that the prospect of an annuity on retirement at the age of sixty or after?—Or if he should retire earlier on account of ill-health or abolition of office.

4058. Now in fixing the scale of pay of your different servants, you necessarily have some regard to the advantage secured by that annuity?—Yes.

4059. Is it done on strict arithmetical calculation?—No.

4060. Have you any rough estimate of what the value is?—I am afraid I can hardly even say that. The circumstances of the particular office, the circumstances even of the particular men, make it very difficult to apply any definite rule. I do not think I can go nearer than this—that of late years when we have moved men from the non-pensionable part of the Service to the pensionable part of the Service we have usually reduced their pay by something under 10 per cent. But I must explain to the Commission that that does not mean a permanent reduction of 10 per cent. throughout their service, but only this—that so long as they are in the particular class to which they are transferred that deduction is continued. When they are promoted, say, from the third class into the second class above them that deduction terminates, so that practically it is very much under the 10 per cent.

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4133. (*Mr. Morton.*) And I think you, on a former occasion, in the year 1885 —or was it 1886?—you stated what your view was with regard to the amount of the deduction that might be presumed to be made from salaries in consideration of the pension that would be arising at the age of 60 or 65 years?—No. I think not.

4134. I cannot affect to regard consistency as the highest virtue in man, and therefore it is not a point that I desire to press too far, but as a matter of fact I think you did say, did you not, that it might fairly be considered that a reduction of from 16 to 18 per cent. was made from salaries in consideration of the prospective advantages of pension?—No. I think not.

4135. Then I have been under a misapprehension?—I think I see what you must be referring to. What I said to the Committee was that I thought the pension charge amounted to from 16 to 18 per cent. in addition to the salary, but I never suggested that that 16 per cent. was a deduction from the salary.

4136. The words which are given as yours were in answer to a question from Lord Lingen. Lord Lingen asked: "If we took as a rough test the proportion of pensions to salaries, is it not the general opinion that about 20 per cent. of the effective represents the non-effective charge?" You replied: "I have made calculations myself, but they have never been complete, and I could not support them absolutely. But I should say, from my experience, that you would find that the non-effective charge was about an addition of between 16 and 20 per cent."?—Yes, but you will observe that there is no reference to deduction there.

4137. No, that was my faulty manner of expressing what I thought you meant?—I beg your pardon.

4138. And you went on to say in answer to the following question by Mr. Harvey: "Do you mean that if a Civil Servant, entering, under the ordinary conditions, has £100 a year salary, the real charge that the State has to undertake for him under the present system is £118 a year?" In answer to which you are reported to have said: "I should say at least"?—That again has no reference to deduction.

4139. No?—No, but I am bound to admit that as that answer stands, I do not think quite as it was given, it is a little misleading.

4140. Yes?—I meant no more than this, that the pension charge of an officer might be taken roughly at 16 to 18 per cent. in addition to his salary.

4141. Quite so, I should be very sorry indeed to press my statements unduly? —I am most anxious to give you every information, because I am bound to say I have not changed my mind since; what I said then I think to-day with my added experience.

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4184-85. (*Mr. Bunn.*) I was under the impression that the answer of Sir Francis was at that time to a question: "Then you consider that the pension is deferred pay?" I think you said "Yes," or something of that kind?—No, my impression is, I think you will find, I explain what I think is deferred pay. My own definition of deferred pay, which perhaps you will allow me to give again with reference to this, is really this, that there is no doubt that a part of a Civil Servant's remuneration is deferred pay in this sense, that it is remuneration which is deferred from his immediate salary, and applied towards granting him a pension. In that sense, and within the conditions of the Service which he joins, that is a deferment from his actual remuneration; if there were no pension he would no doubt get some more pay.

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4196. Now I suppose you adhere to that opinion, or to the result of that calculation, that the cost of the pensions is about 16 or 18 per cent.?—I expressed that, you see, with some modification. * * * * I should say that the pension charge on what I must call a normal establishment, that is on an establishment which has not changed in numbers since the pensioner entered the service, you would find about 16 per cent., from that upwards.

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4201. Well, now, that will bring me to the second argument, which I understand to be, if the 16 to 20 per cent. was paid in wages, and the men were allowed to make their own provision, that they could make a much better provision than you make for them with the money; are you aware of that?—Yes, I am aware of that.

4202. Well, then, what becomes of the argument that the pension that you are now giving, which is the cost of the deferment, is adequate?—Pardon me, I have not made myself clear, I am afraid.

4203. No?—I do not by any means say that we deduct from the market rate of wages 16 or 18 per cent. I say that we deduct from the market rate of wages a very much smaller proportion than 16 per cent., but I say that we give a pension which to the particular man who gets it is 16 per cent. of his salary charge.

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4251. (*Mr. Dickinson.*) Just go back to this question of the 16 per cent. for one moment. I understand you have said to-day that you do adhere to your own opinion that 16 per cent. of a man's salary is what the State requires in order to provide him with this pension?—What I said was that the pension charge of a normal department is fully 16 per cent. of the salary charge.

4252. Yes, I wanted to get it exactly. Then you do not say that 16 per cent. is what the State would require to provide him with the pension?—No.

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4258. Now, does the principle of reducing salaries by a certain amount representing the value of the pension hold good all over the service?—I beg your pardon, I do not quite follow.

4259. When you take a man on the established service, does that principle of reducing his rate of pay by a figure which is supposed to represent proportionately his pension rights which accrue to him, hold good all over the service?—We do not very often take in men from the outside, you know. When we do, a deduction is made, but it is not a deduction which is sufficient to supply the pension.

4260. It has been stated, or at any rate it seems to be the impression of some of those whom we have seen, that the Treasury has a system of deducting at least 15 to 20 per cent. of a man's pay when he goes on to the established capacity?—I never heard of such a case.

4261. You have not; I wanted to put it to you?—No.

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4268. (*Sir Alexander Henderson.*) There is a suggestion—I do not say a distinct allegation, but a suggestion—in the circular of the Deferred Pay Committee that whereas the Government deduct something approaching 16 per cent. in the shape of deferred pay, the railways and other similar institutions manage to give very considerable, if not as great benefits—greater in some cases than the Government do—for a payment of something approaching 5 per cent. Am I right in assuming from what you have just stated in answer to various questions that there is no analogy between the 16 per cent. that you have alluded to and the 5 per cent., or whatever the other amount may be, that is put by in the shape of a fund to accumulate at interest?—No, not in my opinion.

4269. There is no connection between the two?—No.

4270. Therefore when the suggestion is made that the Government is deducting this large sum, and that the beneficiaries are not receiving those benefits that they might be entitled to, that is an incorrect statement?—Yes.

4271. That 16 per cent. is the proportion that the non-effective bears to the effective salary?—Yes.

4272. And has nothing whatever to do with the fund that would have to accumulate at compound interest to produce the benefits?—No, nothing whatever.

4273. No connection whatever between the two?—No, no connection.

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144. These extracts show the grounds on which the Commission ruled out the contentions of the Deferred Pay Committee as based on fallacy. It must be admitted, however, that the vagueness of official facts and opinions on the subject, and the want of precision of language in stating them, very largely justified the agitation headed by that Committee. The final answers of Sir Francis Mowatt make it clear that the official estimates of 16 to 18 per cent. (*see* also Sir W. Byrne's evidence quoted in pars. 53 and 160) are intended to be a rough and average measure of the current charge when paid in arrear, and not, as the Deferred Pay Committee had thought, the value of the pensions calculated by way of a percentage of the salaries deducted in advance. It still remains obscure, however, why the Home Office (*see* pars. 54 and 160) should levy in cash extra charges on this principle when police are lent for special purposes. The recent appointment of a Government Actuary may perhaps lead to further and more precise information being available in time as to the cost of Civil Service pensions. As matters stand it will be seen that we are met, at the outset of our enquiry, not only with an absence of proper State statistics on the question, but with a general sense of confusion in matters easily capable of clear and precise definition. Our own enquiries will be found to show that the real cost, whether reckoned in advance or in arrear, of pensions on the Civil Service scale depends not only on the elementary consideration as to whether the body concerned is increasing or decreasing, but also on the rates of withdrawal, of disable-

ment and of longevity, and other factors which must vary greatly in the vastly different services of the British Government.

145. The Royal Commission examined 17 witnesses representative of different grades in the service, and almost without exception they pleaded strongly for help for widows and orphans. This feeling was no doubt largely responsible for the contention that pensions were deferred pay accruing as of right. As one witness put it, "governments and "companies paid pensions not for charity but to secure good servants; and "the contributions if any from employers were simply a portion of the "man's wages paid year by year for a specific purpose." Women, it was argued, got gratuities on leaving to get married. Some, however, were willing to accept reduced pensions that their dependants might benefit; others would have preferred an additional and compulsory levy for death benefits. There was general agreement among these that life insurance would be better than a widows' pension fund as the latter would be objected to by unmarried men; and the feeling was said to be prevalent that the insurance should cover death during the early days of a pension (*i.e.*, before the beneficiary had time to receive much benefit from it).

146. Mr. A. M. Leveaux, F.I.A., an actuarial witness called before the Commission, estimated that in the case of a typical civil servant in the first division the value of his pension represented from 8 to 10 per cent. of the value of his pay, according to the rate of interest used. In the second division, the pension would represent about 10 to 13 per cent. of the pay. Another synthetic estimate of this kind has been quoted already (*see* par. 54).

147. Another point we may note before leaving the Report of Lord Courtney's Commission is the large number of retirements from ill-health (*see* Cd. 1745, par. 192). In the service generally, including War Office and Admiralty, there were 3,177 cases in 10 years against 5,374 retirements from age; but in the Post Office they actually largely exceeded the retirements from age, being 3,408 against 1,719. It will be necessary for us to discuss the question of retirements from ill-health later on, and these figures appear to be so exceptional that we record here the summary of the numbers retired in the 10 years ended November, 1891, as given in the Report:—

Department.	Age.	Ill-health.	Abolition of Office.	Total.
Civil Service generally, excluding War Office, Admiralty, and Revenue Departments	1,507	1,230	93	2,830
War Office	763	308	346	1,417
Admiralty	1,779	1,104	18	2,901
Customs	721	190	24	935
Inland Revenue	604	345	10	959
General Post Office	1,719	3,408	16	5,143
Total	7,093	6,585	507	14,185

The existing Hospital Schemes.

148. From the particulars already given it will have been seen that most of the pensions hitherto granted by Hospitals, either under a settled scheme or after consideration of individual cases, are based on Civil Service terms, more or less modified. If every Hospital were in a position both legally and financially to give and guarantee such pensions, and were to admit the right of its officials to them, their chief ground for discontent would be removed, subject, perhaps, to the introduction of some mutual provision for reckoning service at other Hospitals as giving an equal claim. But it is obvious that the superannuation liabilities of the State represent an enormous capital sum and that it would be a serious thing for charitable institutions, not only insufficiently endowed but often without legal constitution and with very questionable powers (*see* par. 12) of binding their successors, to assume similar financial responsibilities.

149. It follows from this that even if all the Hospitals felt justified in promising the pensions, the officers would not derive from any such general undertaking that sense of security, both legal and financial, which they particularly desire. The men principally concerned are precisely those who are aware of the constant strain and uncertainty of raising the annual income of the institutions; and it is a not unnatural thing that they should look to see the provision for their own old age secured upon some more solid foundation than the fluctuating income, perhaps thirty or forty years ahead, of a charitable institution probably unendowed. One official who was before us volunteered that he would willingly forgo his purely gratuitous benefit under the scheme of his Hospital (one of the largest and best established though not as fully endowed as some) and would enter a contributory scheme if thereby he could get absolute security.*

150. We have already mentioned (*see* par. 117) a suggestion submitted to us by the Hospital Officers Association that, failing a more definite scheme, a scale of pensions might be agreed upon by the Hospitals; and that when the pensions became payable, instead of being charged on the income of the individual Hospitals concerned, the payments should be pooled as it were and the total charge spread over all the Hospitals in the scheme. The pensions would be paid perhaps by a central committee, which would levy a rate upon each Hospital for whatever sum might be needed from year to year. Subject perhaps to some necessary adjustments for the nearness or remoteness of heavy pensions in individual institutions, there would seem to be nothing financially impossible in such a device, which could also be adapted to cover the principle of aggregated service in different Hospitals.

* This sentiment was found to be prevalent among railway clerks by Lord Southwark's Committee (*see* Cd. 5484, p. 22); also among the Metropolitan Borough officials (*see* Appendix VII).

151. In practice, however, difficulties would occur such as we shall meet with later on in other mutual systems. It is difficult to see how the greater Hospitals could delegate to any central committee the question whether officials should, in the interest of efficiency, be retired for ill-health or other causes, or how the central committee in turn could avoid raising questions concerning salaries with the Hospitals. Unless the committee applied its principles very rigorously there would be frequent temptations for individual institutions to transfer undesirable officials to the common charge, and the absence of separate responsibility would probably end in corporate extravagance involving a high rate of levy for the pensions. In financial principle such a scheme is indistinguishable from the existing Hospital schemes. While it would in practice assist the smaller Hospitals by equalizing a charge which would otherwise weigh heavily at certain times, and would undoubtedly improve the security from the point of view of the officials, it is open to the same serious objection that no provision would be made in advance for the accruing liabilities of the future. It will be seen before the close of our Report that it would be impossible for us, if only on the latter ground, to take it on ourselves to recommend the extension to the Hospitals generally of the principle underlying the existing schemes.

(b) On a Fixed Absolute Scale : Old Age Pensions.

152. An equally simple form of scheme is that by which the State provides in arrear fixed pensions on an absolute scale or flat rate for all old people; but it has no direct bearing on the present enquiry, as the positions and emoluments of Hospital employees vary within very wide limits, and any scheme suitable for them must not only avoid payment in arrear but must provide benefits equally various.

II. PENSIONS PROVIDED PARTLY IN ADVANCE AND PARTLY IN ARREAR.

153. We now approach the consideration of schemes where the benefits are to be provided for partly in advance. In the case of schemes of the Civil Service type which we have had under notice, there is no question of any contribution by the beneficiaries. As regards the schemes we are now coming to, however, they may be constructed upon either a contributory or a non-contributory footing, though in practice it will be found that they are usually on the former basis.

(c) On a Salary Percentage Scale.

154. There is, as we have said, no reason why a scheme for providing pensions partly in advance and partly in arrear should not be financed entirely by the employer. For instance it is a not uncommon thing to see in the accounts of banks and companies that large sums are carried from

time to time to reserve funds for superannuation purposes. This means that the institution, though desirous of keeping the grant of pensions as a matter entirely within its own discretion, yet sees the necessity for making some sort of provision for the liability in advance.

155. Again, some companies will assume no definite liability and make no provision for accruing pensions until they are actually granted, and will then provide a lump sum sufficient to purchase an annuity of the amount of the pension. The practice is not common, and cases coming within it can scarcely be described as "schemes" or be regarded as typical.

156. We proceed to some cases of the more usual type where the beneficiary is called upon to make a contribution, and we will begin with the case where the employer makes no attempt to provide his own portion of the pension in advance. The well-known parliamentary schemes for pensioning the Police, the Poor Law officers and the Public Asylums officers come under the latter heading.

Police Officers.

157. The Police Act 1890, slightly amended by the Acts of 1906 and 1908, prescribes, throughout the scale of pensions, certain maximum and minimum benefits within the limits of which the local authorities may make their own regulations. Thus after 25 years service any police officer in England or Wales can claim an annual sum not less than thirty-sixtieths nor more than thirty-one fiftieths of his annual pay, with increases for further service and a maximum of two-thirds of his pay. The "annual pay" is ordinarily the final rate at the time of retirement; or the average of the last three years where the officer has been promoted in that time. A pension on a similarly generous scale can be claimed for incapacity after 15 years service, and may be granted before that duration: while if the incapacity arose in the execution of duty, the pension can be claimed at any time. In the latter event something depends on whether the disablement is partial or total, but in all cases the scale is more generous than that of the "ordinary pensions" already quoted, and may be as much as full pay. Even the ordinary pension scale is, it will be seen, more liberal than the Civil Service scale notwithstanding the earlier age of retirement. The age at which ordinary pensions are claimable is not later than 55, and may be 50, or even earlier if the authority elect to fix no limit. There are also provisions for giving gratuities to widows and children in certain cases; and for counting continuous service where a constable removes to another force or where a civil servant has also served in the police force. In the latter event, it is interesting to note, three years of police service are to be reckoned as equivalent to four years in civil service.

158. For these benefits the contribution is a uniform deduction of $2\frac{1}{2}$ per cent. from the pay, and this is supplemented by certain court fees and fines, etc., which are to be carried to the pension fund, and by an

Exchequer contribution, though to what extent these help matters we do not know. At any rate there is in the case of this scheme a provision for a "pension fund," such as it is, into which the various sums above specified are to be paid as annual income, and out of which the annual charge for pensions, etc., is to be defrayed. The surplus of any year is then to be invested in trustee securities; but apparently when once invested the capital must never be applied to "paying any sums payable out of that fund"—which is a very curious provision. We fear, however, that these details will have but academic interest for Hospital officers, because if the annual income is insufficient "the deficiency shall be supplied out of the police fund." There is thus a full guarantee of public money to carry out the objects of the Act; and to meet cases where the police fund is limited to a certain rate in the £ there is a special provision that that limit may be exceeded for the purposes of the pension fund.

159. In the event of a constable leaving the police service altogether it is contemplated that he will ordinarily be repaid his own contributions to the fund. There is no provision in the Act for any sort of actuarial valuation which would elucidate the amount of the future liabilities for which the authorities will in due course have to make provision. That amount is likely to be increased by the curious provision already alluded to prohibiting payments out of capital. For example, supposing there were very few or no pensions payable during the early years of the fund, the surplus to be invested would consist of contributions for certain pensions to emerge in the future; and yet when those pensions become payable the contributions themselves may not be used for the purpose. The result is that the charge on the rates must be increased. This charge must in any event, in view of the very liberal scale of the pensions and of the relatively small contributions, be so considerable that we only notice the point on account of its general interest and not of its relative financial importance.

160. It is worth noting that in the proceedings on the Asylums Officers Superannuation Bill 1909 (*see* par. 167 below) evidence was given by Mr. Byrne (now Sir William P. Byrne, K.C.V.O.) of the Home Office to the following effect:—

> "That schemes for superannuation guaranteed by the rates and public funds had a tendency to impose a progressively increasing and surprisingly large charge. The superannuation scheme in force in the Civil Service involved a charge equivalent, according to actuarial calculations, to between 12½ and 16 or even more per cent. of the amount of the actual salaries, and it has been estimated that the Police Superannuation Scheme, sanctioned by Parliament in 1890, would involve an ultimate charge varying from 20 to 33 per cent. . . . . The Civil Service pensions are estimated to be equivalent to, say, 16 or 18 per cent. of the salary. The police pensions are estimated to be equivalent to from 15 per cent. in the lower ranks to 33 per cent. in the higher. These amounts have been determined by actuarial calculation, and they are accepted as correct and are

habitually claimed in respect of police whose services are lent for various purposes. . . . . The deductions that we make from the pay of the police amount only to 2 per cent. in the case of the younger men, and $2\frac{1}{2}$ per cent. in that of the older men, but the extra favourable terms given to the police have led to very serious consequences indeed, conspicuously in London but the same all over the country, namely that the deficit in the income of the Pension Fund has gone up since the grant of these very special pensions to the police, to nearly £250,000 a year in London alone. . . . . I should like to mention some of the ways in which this huge pension deficit may be built up by giving special privileges in the matter of pensions. The lowering of the age at which pensions may be granted tells in two ways. In the first place, it makes more pensioners, because the service is on the whole shorter, but also tends in a most astonishing degree to make longer life pensioners. Men who retire at 44, as they do in the police, will be pensioners for a very long time. In the Metropolitan Police, it has added not merely two or three years to the pensionable life, but several years in addition, owing to the better health and strength which the man possessed when he retired at the early age."

Poor Law Officers.

161. The Poor Law Officers Superannuation Act 1896, which applies to "every officer and servant in the employment of the guardians of a union or parish," as well as to those in district schools and sick asylums and of the Metropolitan Asylums Board, is not quite so complicated as the Police scheme that we have just been considering. Pensions are claimable (a) on incapacity through infirmity at any age, or through old age after 60, (b) on 40 years service after age 60, or (c) after age 65. After 65 the guardians can require resignation. The pension benefit commences after 10 years service, and is one-sixtieth of the salary (in the case of this Act the salary is the average for the last five years) for each year of service up to the usual maximum of forty-sixtieths. The rate of contribution is 2 per cent. in the case of officers with less than five years service and of all subsequent appointments; with higher rates of $2\frac{1}{2}$ per cent. and 3 per cent. for those of greater terms of service already appointed. There are provisions for aggregating the service of officers with different authorities, for adding years of service in certain cases, and paying gratuities in others. The Act also contemplates the repayment of an officer's own contributions where he ceases to hold his office, but, rather curiously, "voluntary resignation" is coupled with misconduct as an actual disqualification for this purpose.

162. The finance of the Act is simple. All pensions and gratuities are to be paid out of the "common fund" of the union, and all contributions are to be "carried to and form part of the common fund." We therefore arrive at the result that in the early years of a scheme of this type, when there are only a few officers receiving pensions, the cost

of poor relief would be reduced actually by reason of the pension contributions being credited to the common fund instead of being reserved towards the ultimate liability. Unfortunately such relief is necessarily temporary and illusive, for all such sums must obviously be repaid with great additions when the pensions emerge later on. We understand that in the later part of the period that has elapsed since 1896, the expenditure under this Act has already risen to a higher level than the contributions in nearly all the Poor Law Unions; so that they are now entering on the long period during which the debt of the past has to be discharged with compound interest.*

163. It is of interest to note that by an amending Act, passed in 1897, female nurses are specially exempted from compulsion to contribute under the scheme, and those already compulsorily included in it were to be allowed to contract out of it. This suggests that the Union authorities found difficulty in applying a general pension scheme to a class whose ordinary service is evanescent and fleeting.

Asylums Officers.

164. The Asylums Officers Superannuation Act 1909 is a little more complicated than the Poor Law Officers Act, owing to the necessity for dividing the officers into two classes, according as to whether they were in charge of the insane or merely engaged in administrative and ordinary work. But in general structure it is very similar. In both classes a pension can be claimed after 20 years service, or, in case of permanent incapacity, after 10 years. The age at which it is claimable is 55 in the first class and 60 in the second: the rate of pension being one-fiftieth of the salary and emoluments for each year of service in the former case and one-sixtieth in the latter. The salary and emoluments are reckoned on the average of the preceding 10 years.

165. The contributions are the same as in the Poor Law scheme: viz., 2 per cent. for less than five years service, ranging up to $2\frac{1}{2}$ and 3 per cent. for the men of longer standing. The 2 per cent. rate applies to all new entrants, whatever may be their ages, and it is obvious that a rate of contribution, which would be very inadequate in any case to provide any significant proportion of the benefit, must be still more so in the case of a body of persons frequently recruited by entrants approaching middle age who will be entitled to pensions after 20 years or sometimes even after 10 years of service. In this Act, also, there is the provision that the return of contributions on loss of office does not apply to the case of voluntary resignation.

* It is this feature of some public schemes that makes it difficult to classify them. The contributions of the beneficiaries suggest that they should be regarded as providing pensions "partly in advance"; but the advance provision does not exist as a positive asset during the working period. It is not only absent; it is, in fact, a negative quantity, masking the real extent of the average drain upon current revenue. On the other hand, some schools of thought might regard a State obligation as a proper substitute for an investment of capital.

166. It is provided that the contributions are to be carried to and form part of the fund from which the pensions are to be paid. That is the fund out of which salaries, wages and expenses of maintenance are paid.

167. We have already quoted (*see* par. 160) the evidence given by Sir William Byrne before the Committee on this Bill. Amongst other points to which he drew the attention of the Committee were that it is desirable to have power to return the officers' own contributions in the case of ordinary resignations, and that in the opinion of the Home Office "a workman who is employed, and spends all his life in an asylum, and confines his work to it, should be pensionable." The Home Office also thought that, in all schemes promoted by local authorities, the contributions should be fixed under actuarial advice so as to represent a real and substantial contribution by the beneficiaries themselves, and that the general position of the pension fund should be reviewed at frequent intervals under the advice of expert actuaries, in order that the local authority might clearly see where their proposal, after it had been sanctioned by Parliament, was leading them.

The Principle of Continuous Service.

168. The Asylums Officers scheme is naturally of great interest in connection with our present enquiry, because of the close analogy between their service and that of the Hospital officers, and because the scheme, following on the Police and Poor Law schemes, accentuates the State recognition of the principle of "aggregation"—*i.e.*, that all continuous periods of service in a particular profession should be regarded as pensionable at the end of the career. This, of course, is the principle which the Hospital officers are anxious to establish in their own case.

Financial Provisions of these and other State Schemes.

169. The principle adopted in all these State schemes, of leaving the employer's share of the pension unprovided for in advance, has one difficulty, or rather inconvenience, in practice, viz., that in cases where an officer has served in the course of his career under more than one authority, it becomes necessary, when retirement occurs, for a retrospective enquiry to take place as to the proportions of the pension for which each employer is liable. Quite apart from questions of financial principle, it seems clear that this part of these schemes would be simplified if all contributions were to be paid at the time when the service is rendered. On the other hand, if this ideal of financial purity were to reign throughout the State service, the result would be the growth of enormous funds. As questions affecting sections of the community do not necessarily apply to the State, it does not come within the scope of our enquiry to pursue this matter. As regards all existing State pensions, including the enormous amount of war pensions, they will be extinguished after the lifetime of the recipients. As regards future pensions, if the Government were rigorously to set aside, and to invest in State loans, the proper

annual provision for them, the effect would be that in course of time a considerable proportion of the National Debt would be held by the State against its own pension liabilities. As compared with the position existing to-day, it would in fact have created an additional Sinking Fund.

170. We proceed to the consideration of some schemes where the employers do not postpone entirely their liabilities to the future.

Metropolitan Borough Schemes.

171. In 1866 the Metropolitan Superannuation Allowances Act (29 Vict. ch. 31) gave power to the old Vestries, since replaced by the present Metropolitan Borough Councils, to grant pensions to their employees. The powers (permissive) extended to the old Metropolitan Board of Works, and the words are "to grant to any officer who shall become incapable of discharging the duties of his office with efficiency by reason of permanent infirmity of mind or body, or of old age, upon his resigning or otherwise ceasing to hold his office, an annual allowance not exceeding two-thirds of his then salary, regard being had to the scale of allowances hereinafter contained." The minimum age was to be 60, and the scale of allowances specified is virtually the old Civil Service scale. It is interesting to note in passing that no similar powers seem to have been conferred up to the present time upon the provincial councils, although many of them, of course, have obtained special Acts enabling them to grant superannuation.

172. In recent years there has been a considerable movement* amongst the Metropolitan Boroughs towards the establishment of pension funds upon a contributory basis, with the result that many special Acts of Parliament have been obtained in this behalf, commencing with Stepney in 1905. Subsequent Acts were obtained by Bethnal Green, Kensington, Camberwell, Hackney, Deptford, St. Marylebone, Wandsworth, Westminster, Paddington, Poplar, and possibly others.

173. Some points of considerable interest arise in connection with these Acts, but their general construction need not detain us. In this respect they are all very similar, and follow the general lines of the Poor Law Officers scheme; that is, the contributions vary from 2 to 3 per cent. of the salaries, and the benefits follow the old Civil Service scale. There is, however, in some of the schemes a second category of servants, who are usually defined as "workmen," earning less than forty-five shillings weekly. In their case the rate of contribution seems to work out at rather less than 2 per cent. of the weekly wages, while the pension scale is more generous than that of the officers, being based on "fifty-fifths" for each year of service instead of sixtieths. In the event of death or resignation, from one half to the whole of the contributions (the schemes

* We are quoting here largely from a valuable paper on the subject by Messrs. H. W. Manly, F.I.A., and T. G. Ackland, F.I.A., published in the "Journal of the Institute of Actuaries" (Vol. XLVI, p. 327).

vary slightly) would be returned out of the Superannuation Fund, and to this would be added, in the case of loss of service from ill-health, etc., a gratuity to be paid out of the general rates. Past service with other public authorities was to be aggregated and reckoned for purposes of the Superannuation Fund, but we conclude, though we have not verified it, that such a provision in a private Act could not create an obligatory liability on the part of such other authorities to contribute towards the cost of the pension. There are provisions in some of the Acts for paying into the Superannuation Fund any lump sums received from other authorities on account of past service.

174. It is the provisions regarding administration and actuarial valuations which make these funds more interesting for our present purpose. In the case of the earlier Acts the authority was to pay into the Fund, in addition to the contributions of the members, the sum of £100 per annum as its contribution. If in any year these items of income were to be insufficient to meet the charges the interest on the fund could be drawn upon and then 10 per cent. of the fund itself. Any deficiency was then to be payable out of the general rate. It needs little perspicacity to see in this crude proposal a very insufficient employer's contribution at the outset and a heavy accruing liability for the rates in the future.

175. Beginning with the Kensington Act the Legislature made an important alteration. The annual contribution of the Borough was to be a "primary annual contribution" with a minimum of £300 or £400, it being further provided that a valuation of the Fund should be made every five years by an actuary, who should report as to the solvency of the fund and certify what should be the amount of the said primary annual contribution for the next quinquennial period in order to keep the fund solvent. The intention was excellent, but unfortunately the words of the section left it doubtful whether the actuary was to settle such a contribution as would make the fund solvent permanently or only such a contribution as would carry it over the next five years; and, in the result, some of the authorities who have been advised by counsel in the latter sense are laying up for themselves a heavy future liability. It was not until the Paddington and Poplar Bills came before Parliament that a more satisfactory principle was laid down. The Local Government Board drew the attention of the Select Committee to the difficulties that had arisen and quoted a report that the District Auditor had made on the Kensington Fund. He estimated that the ultimate total charge on the Fund for the pensions would be about £9,000 per annum, and that if the Council paid into the Fund only the minimum sum of £300 prescribed by their Act, there would ultimately be an annual deficiency of £7,000 and upwards to be met out of the general rate: also that if a great future increase was to be avoided an equalized annual sum of about £3,500 should be paid into the Fund from the present time. The Select Committee accordingly amended, in a manner the wording of which was suggested by the Institute of Actuaries, the section prescribing an actuarial valuation which had been inserted in the

earlier Acts; and now it is provided in these later Acts that the actuary shall report, not what "amount" but what "percentage of the total salaries" shall be paid into the Fund by the Council, and it shall be so calculated that "without further recourse to the general rates" the Fund shall be solvent having regard to all its existing and prospective liabilities.

176. If the matter had been left there the position would have been fairly clear, and the employer would have been making his contributions towards his accruing liabilities in what would seem, *prima facie*, to be the best possible way, viz., by a percentage of the salary paid as and when he profited by the services of the officer; for this would no doubt be the effect of the clause as regards all new officers, though it may possibly have been intended to leave some discretion to spread the cost of existing pensioners and existing staff over a longer period. The Select Committee, however (and we refer to the question here because it raises a point of much general interest which we shall encounter in connection with the London County Council and New Zealand Funds), proceeded to insert in the clause, at the suggestion of the auditor of the Local Government Board, additional words to the effect that the actuary's certificate was to be such as would "cast upon the rates as nearly as may be an even annual charge so long as this Act is in operation in respect of the expenditure both under this Act and under the Superannuation (Metropolis) Act 1866." In a well established fund which had attained a stationary position this special provision would not perhaps make much difference; but these Borough Funds have to meet heavy liabilities to pensioners in the near future, inherited from the earlier pension legislation, for which they are receiving very insufficient contributions, so that the Borough's contributions would in a normal way attain a maximum, and then decrease when those pensioners die and are succeeded by men who have contributed for their pensions throughout their whole career. Therefore an even charge, which according to the strict terms of the Act must be a perpetual charge, is quite unsuitable to the circumstances. On the other hand it might be argued that it is unsuitable to place the whole burden of providing for existing pensioners and existing staffs on the remaining period during which the latter will be earning salaries; and it would seem to be for this reason that the Local Government Board suggested an equalized charge.*

177. The short history of these schemes which we have given shows that it is only by slow degrees, even in such recent legislation as this, that sound principles have come to be recognized. There seems to be no legislative machinery designed to co-ordinate the principles on which sanction should be given to state and municipal pension schemes. In the course of our review we shall find further that pension matters have been

* A speech made by Mr. Carson Roberts of the Local Government Board at the Institute of Actuaries when the paper of Messrs. Manly and Ackland was read was of such general interest in regard to this part of our subject that we quote part of it in Appendix VII. It will be seen that so far as Mr. Carson Roberts represents the Local Government Board view perfection would be reached if all present public liabilities were to be discharged within 60 years. But this, of course, would not be the same thing as providing for the pensions in advance.

dealt with administratively in various and quite independent ways by the Treasury, the Home Office, the Local Government Board, the Board of Trade and the Board of Education. The new Ministry of Pensions has of course been called into being to deal only with the special problem of War pensions; but the existence of such a Ministry and of a Government Actuary (*see* par. 144), whose advice will presumably be available for it, will perhaps lead in time to greater attention being paid to pension problems generally. Among these none seems more important than that the proper method of making the necessary financial provision for the cost of the existing staffs should be authoritatively laid down. Much confusion of thought seems to have been occasioned by the endeavour to include this cost, and even that for existing pensioners, as well as a proper provision in advance for all newly appointed officers, in one uniform percentage, or one "equal charge." For the purposes of our own enquiry it will tend to clearness of perception if the cost of the existing staffs, particularly such part of it as is occasioned by their past service, and the method of providing for it, be regarded as a separate and quite distinct question.

178. Messrs. Manly and Ackland, in the paper from which we are quoting, proceeded to make some calculations as to the real cost of the benefits conferred by the Acts. Disregarding for the time being the special charge inherited from the earlier legislation in respect of the existing staff, and taking only the case of the future entrants entering at a uniform rate of contribution, they assumed a uniform rate of $2\frac{1}{2}$ per cent. of the salaries from officers and $1\frac{1}{2}$ per cent. from workmen. The scale of benefits (*see* par. 173) was for pensions at 60 of "sixtieths" after 10 years service, based on the average salary of the last five years, in the case of officers, and of amounts almost exactly equal to "fiftieths" in the case of workmen. On withdrawal or death, it was assumed, the member's contributions would be returned without interest. An average salary scale was deduced from the experience of some of the Boroughs, which commenced with £67 at age 20 and gradually increased to £250 at age 60, and other assumptions were made by the authors based on their knowledge of other funds. In the result they found that the total contribution required in advance, taken as a percentage on the salaries, to pay for the aforesaid benefits, was 8·1 per cent. for officers. who were assumed to enter at 20, and 5·84 per cent. for workmen entering at 25. Deducting the percentage payable by the members, the employer must provide the balance of about 5·6 per cent. on all salaries paid to officers, and about 4·34 per cent. of the wages paid to workmen.

179. It is easy to calculate from these results the approximate cost to an employer of a scheme to provide in advance pensions on the foregoing assumptions; though they would probably understate the cost in cases where the rate of salary progression was more rapid and final salaries were higher. Mr. Leveaux, F.I.A., estimated in the case of the Civil Service (*see* par. 146) that in the lower division the pensions represented in present value a higher percentage of the salary than in the case of the higher paid and more rapidly promoted men in the higher division. But

his estimates were based on individual calculations with the help of standard mortality tables, and do not appear to be confirmed by the Report of Lord Southwark's Committee on the Railway Funds (*see* par. 225), nor by the calculations of Mr. P. L. Newman, F.I.A. (*see* par. 54).

180. It will be understood that the foregoing results—some of the most exact and authoritative that have hitherto been arrived at—contemplate the proper building up of a pension fund from the outset. Continuing their calculations to throw light on the cost to the local rates of working out the schemes on the "assessment" principle sanctioned for the earlier Acts, Messrs. Manly and Ackland found (we will take first the case of the officers) that if the benefits were payable out of the members' contributions only, the accumulated fund would be exhausted at the end of 53 years; and that from that time onwards the contributions would have to be supplemented by the rates, with the result that the charge would ultimately attain a maximum and stationary percentage of 19·067 of the total salaries, the total cost being thus, with the members' contribution, 21·567 per cent. of the salaries. It will be remembered that all these calculations suppose a stationary staff and not one that is always numerically increasing as is more usual in practice. In other words, we understand the figures to mean that an employer granting salaries on the stated scale, who might provide in advance for pension liabilities by contributing 5·6 per cent. of his salary list, will ultimately have to pay about 19 per cent. of that same list by postponing the question and paying in arrear. Before arriving at that stage, he will have exhausted all past contributions, even those of members still working. In the case of the workmen, the fund resulting from their own contributions would be used up in 45 years and the increasing subsequent charge on the rates would reach a permanent maximum of 14·349 per cent. of the wages, the total cost, with the members' 1·5 per cent., being thus 15·849 per cent. If, however, the employer had scrupulously invested the members' contributions until the proper time, his own contribution in arrear would attain a maximum of about 15 per cent. for the officers, and about 12 per cent. for the workmen.

181. The actuaries quoted also proceeded to make further estimates of the cost, to the employer, of the existing staff. In this respect the facts in regard to each Borough would no doubt differ considerably; but it was necessary to make some general or average estimate of the numbers and ages of the existing staff as a basis for the further calculations. For purposes of the calculations mentioned in paragraph 178, it had been necessary to construct certain tables showing the probable rates of recruitment and retirement in such a fund; and these figures were now used to estimate the condition of the existing staff of a stationary fund at a particular moment of time. It should be added that the method of calculation made it necessary to include the future cost of pensions already granted. It was also assumed that the rate of contribution for the existing members was 2½ per cent. for the youngest class, 3 per cent. for those from 5 to 15 years' service, and 3½ per cent.

for those over 15 years. In this way the conclusion was reached that, including provision for existing pensions, a total charge of 19·154 per cent. of the salaries was necessary to be provided in advance for the average term of the existing officers' future service, or, deducting the average percentage of the staff, 16·118 per cent. to be provided by the employer. In the case of the workmen the corresponding percentages are 17·008 and 15·508. Of course as old officers retired and new ones took their places at the reduced rate of 5·607 per cent. previously found to be necessary, the charge would gradually fall to the latter figure as a minimum. All these calculations are based upon certain data which might not apply to other services.

London County Council Superannuation System.

182. The London County Council on its formation in 1889 passed a resolution that no pensions would be paid in the case of newly appointed officers; and instructed its Standing Committee to report on an "Insurance Scheme." The latter body favoured a provident fund of the type adopted by the Manchester Corporation. This was really a savings bank, into which the employees paid $3\frac{3}{4}$ per cent. of their emoluments, the Corporation adding $1\frac{1}{4}$ per cent., making a 5 per cent. contribution in all. In 1895 the Council initiated such a Provident Fund, the employee's contribution being limited to $2\frac{1}{2}$ per cent. of the salary. The Council contributed an equivalent amount and guaranteed 3 per cent. interest on the accumulations. The pensions provided by this plan were in many cases small, and the Council was in time forced to develop the Fund into a complete pension scheme.

183. The London County Council Superannuation and Provident Fund Scheme, dating from 1907, applied to all future employees of the Council and to such contributors to the earlier Fund as elected to join. It excluded certain sections of officers who were provided for by special Acts, and also the contributors to the London School Board (Officers) Fund, but the latter was amalgamated with the Council's Fund in 1909, though in effect in 1911.

184. The pension benefit is reckoned at one-sixtieth part of the average salary throughout the period of contribution, including the period of contribution to the earlier Fund mentioned above, and it is claimable, subject to a minimum of 10 years service, after age 60 with 40 years service, or after 65 unconditionally, or earlier in the event of incapacity, with a minimum of 20-sixtieths in the event of breakdown before age 65 and a maximum of 40-sixtieths. There are also provisions regulating the return of contributions, with or without interest, in the event of death either before or soon after the grant of the pension, or of withdrawal from the service.

185. The officer contributes a percentage of his pay varying with his age at entry. According to the original scheme the rate was to be 3 per cent. under age 25, $3\frac{1}{2}$ per cent. from 25 to 35, 4 per cent. from 35 to 40, and 5 per cent. over 40. The weekly wage class were to

contribute 1d. for every 2s. 6d. of wages. The Council on its part undertook to pay 3 per cent. of the salary and emoluments, and in the case of the weekly staff a contribution equivalent to that of the member, also to guarantee $3\frac{1}{2}$ per cent. interest on all funds, to bear the expense of management, and finally to guarantee the solvency of the Fund generally.

186. In order to provide for this last liability it was further arranged that the Council should "pay or otherwise make good to the "Fund the sum of £62,500, being the estimated amount required to make "the Fund solvent having regard to the existing and prospective assets "and liabilities of the Fund" at its commencement. This initial deficit was due to the insufficiency of the contributions to the earlier Fund before 1907 to provide pensions on the new scale in respect of service before 1907. It is understood that the scheme as a whole was settled in consultation with the late Mr. H. W. Manly, F.I.A.

187. An actuarial valuation was made in 1913, when the funds amounted to £844,560, with the result that a deficiency was exhibited of no less than £471,448. To the extent of about £70,000 it was estimated that the deficiency was caused by slight variations in the scheme made by the Council itself in the way of concessions. For the rest the deficiency is mainly attributed to the improved rate of mortality in the community generally, and in particular to the superior vitality of the Council's pensioners. So heavy a deficiency, arising so soon after the initiation of a scheme under actuarial advice, affords a forcible illustration of the fluctuations to which a fund of this type is subject. The liability for the deficit, being the sum estimated to be necessary to make the Fund solvent as regarded existing members, was assumed by the Council under its general guarantee.

188. As regards all officers to be appointed in future the Council decided not to increase its contribution of 3 per cent., and that the contributions of future members must be increased to prevent the recurrence of any similar deficiency. On actuarial advice it was accordingly decided to deduct from the salaries in their case the following increased scale of contributions, beside which the original scale is given for comparison :—

Age at Entry.	Salaried Staff.			Wages Staff.	
	New Rate.		Old Rate.	New Rate.	Old Rate.
	Men.	Women.			
Under 25	5 per cent.	3 per cent.	3 per cent.	1d. in 2s. 6d	1d. in 2s. 6d.
25–30	$6\frac{1}{4}$ "	5 "	$3\frac{1}{2}$ "	$1\frac{1}{2}$d. "	Do.
30–35	7 "	7 "	$3\frac{1}{2}$ "	$1\frac{1}{2}$d. "	Do.
35–40	$8\frac{1}{4}$ "	$8\frac{3}{4}$ "	4 "	2d. "	Do.
40–45	$9\frac{1}{4}$ "	$10\frac{1}{4}$ "	5 "	2d. "	Do.
45–50	10 "	$11\frac{1}{2}$ "	5 "	2d. "	Do.
50–55	$10\frac{3}{4}$ "	12 "	5 "	3d. "	Do.

189. It will be instructive to add to these rates the Council contributions, and thus show what, according to one of the latest actuarial enquiries, is the total cost, measured as a percentage of the salary, of such benefits as are provided by this Fund:—

Age at Entry.	Salaried Staff.		Wages Staff.	
	Men.	Women.	Amount.	Per cent.
Under 25	8 per cent.	6 per cent.	2d. in 2s. 6d.	6·66
25–30	9¼ "	8 "	2½d. "	8·33
30–35	10 "	10 "	2½d. "	8·33
35–40	11¼ "	11¾ "	3d. "	10·00
40–45	12¼ "	13¼ "	3d. "	10·00
45–50	13 "	14½ "	3d. "	10·00
50–55	13¾ "	15 "	4d. "	13·33

190. In addition to the actuarial deficiency shown on the valuation of the Superannuation Fund, the Council found itself with other pension liabilities. When the School Board was taken over there was a liability to supplement the pensions payable out of their Officers Fund. Some officers were brought (1909) into the Council's Superannuation Fund at the cost of an "initial deficiency" the outstanding balance of which in 1914 was £65,829; and the obligation to supplement pensions caused a liability now valued at £153,378, the total deficiency for old School Board officers being thus £219,207. There was a further liability for pensions, payable in arrear on Civil Service principles, in respect of 208 pensioners and 256 officials taken over from the old Metropolitan Board of Works, which was now (1914) valued at £395,000.

The total liability to be dealt with was thus as follows:—

	£
Superannuation Fund deficiency £471,448, with interest to 1914	506,950
Balance of initial deficiency of £62,500	60,241
London School Board liabilities	219,207
Metropolitan Board of Works liabilities	395,000
	£1,181,398

The Council decided to consolidate these liabilities, and to make provision for discharging them by means of an equal annual payment of £50,500 per annum, the estimated period within which it would do so being 50 years.

191. Our discussion of the Metropolitan Borough Pension Schemes (*see* par. 176) shows that many of the foregoing liabilities will involve maximum payments, and, indeed, be finally extinguished, long before the expiration of the 50 years over which the cost is to be spread. Even as regards the youngest members of the staff, their pensions will probably all have been entered upon before the expiration of the 50 years. It is,

therefore, clear that, excellent as is the security for the pensions, the Council's method of dealing with the deficiency will not provide the pensions entirely in advance, even so far as regards the present staff, though future entrants will be provided for in advance unless a future deficiency occur and be similarly liquidated by deferred payments.

192. In addition to providing for its officers, the Council initiated in 1911 a scheme for admitting to the Superannuation Fund the teachers in the Council's schools. This provides for similar benefits, and in the case of all elementary or other teachers entitled to statutory pensions is so arranged as to raise the latter to the level of the Council's benefits, Though the benefits of the two schemes are thus correlated, the accounts of the Teachers Fund are kept quite distinct from those of the officers. The number of teachers contributing was 17,004 in 1913 and 17,857 in 1914, by which date the corpus of the Fund had already amounted to £1,160,909. Of this sum £262,478 "was the amount outstanding of the "initial deficiencies for which the Council is liable." No actuarial valuation of this Fund has yet been made; but as the rates of contribution correspond closely with the revised rates of contribution to the Officers Fund, there is no reason to anticipate any such deficiency as existed in the case of the latter, and was seen to be due to the insufficiency of the original rates of contribution.

193. The system of consolidating various capital liabilities, which are essentially different in kind, and liquidating them by a combined sinking fund, is seen to possess one important drawback, viz., that it is has no relation to the actual liabilities falling in particular years. The Council is firmly endeavouring, however, to make provision in advance for all pensions in respect of future service concurrently with the liquidation of those existing liabilities which are mainly in respect of past service. It is, in fact, voluntarily passing from the system of providing in arrear to that of providing in advance, and apparently elects to regard the cost of doing this as a capital charge which may be spread properly over any convenient period. For charitable or other institutions who are not in a position to set up a fully secured charge of that kind the sound principle, already suggested in paragraph 177, would seem to be to present in every case separate accounts, and to make separate provision, for (i) existing pensions; (ii) future pensions for the past service of an existing staff; and (iii) future pensions for future service. These three divisions are essentially different in character, and the periods, whether working lifetime or otherwise, within which financial provision should be made for them, are also different. It will be useful in considering the case of the Hospital existing staffs to bear these distinctions in mind.

New Zealand Government Superannuation Funds.

194. It will be instructive to take the case of the State Superannuation Funds of New Zealand, the Government of which, like some others of the Overseas Dominions, has made a praiseworthy attempt to measure

and provide for the pension liabilities of the future. The Funds were instituted, (i) for the Railway Service in 1903, (ii) for Teachers, including those in Universities and all branches of the public education service, in 1906, and (iii) for all other permanent public servants in 1908. The pensions follow our own Civil Service (1859) scale in being calculated at one-sixtieth for each year of service, with a maximum of forty-sixtieths. In the case of the Railway Fund they are based generally on the final salary, and are claimable at 60 or after 40 years service. In the other Funds, however, they are based on the average salary of the last three years, and are claimable at 65 or after 40 years service (females at 55 or after 30 years service). There are also provisions for pensions on a similar scale in case of disablement, for death benefits in the shape of a return of contributions if unmarried or pensions for widows and children where they exist; also for return of contributions on withdrawal, etc.

195. The scale of contributions under all the schemes is as follows:—

Age on joining,	under 30	...	5 per cent. of pay.
,,	30 and under 35	...	6 ,,
,,	35 ,, 40	...	7 ,,
,,	40 ,, 45	...	8 ,,
,,	45 ,, 50	...	9 ,,
,,	50 and over	...	10 ,,

In the case of the Railway Fund, however, all contributors up to 50 who joined prior to 1908 paid 2 per cent. less than the foregoing rates.

196. Though it was obvious that the enrolment of large numbers of existing officers must rapidly lead to very heavy pensions charges, the Government contented itself, at the initiation of the Railway Fund, with a provision that any deficiency should be met out of the Consolidated Fund. In 1908, however, the formation of the other Funds led to the financial provision being placed on a different footing, and since then the State has allotted to each Fund a certain annual subsidy. It was further provided that triennial actuarial valuations should be made.

197. The result of the latest valuations (made as at 31st March, 1912, 31st December, 1913, and 31st December, 1913, respectively) may be summarized as follows:—

Fund.	Liabilities.	Assets.					
	Value of Benefits.	Funds.	Contributions.	Subsidy.		Further Subsidy required.	
			Value.	Amount.	Value.	Amount.	Value.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	£	£	£	£	£	£	£
Railways ...	2,743,194	233,457	732,886	25,000	625,000	46,074	1,151,851
Teachers	2,202,272	265,136	493,539	17,000	425,000	40,744	1,018,597
Public Service ...	4,246,382	537,914	1,327,002	48,000	1,200,000	47,259	1,181,466
Total ...	9,191,848	1,036,507	2,553,427	90,000	2,250,000	134,077	3,351,914

198. It will be seen from columns 5 and 6 that the actuaries, in making up their Valuation Balance Sheets, valued the Government subsidies at 25 years purchase, viz., as perpetuities valued at 4 per cent. Our discussion of the Metropolitan Borough Schemes and the London County Council system has shown differences of opinion as to the proper period over which subventions should be spread. It is clear, however, that they should not be regarded as perpetuities, but as available, at the most, for no longer than the term of the existing generation. For the purpose of this Table we have followed the example of the valuing actuaries, and alongside column 8, which exhibits for each Fund the amount of deficiency, or present sum to be made good by future subsidies, we have placed in column 7 the further annual subsidy required, even on this basis of irreducible minimum, to make the Funds solvent as regards the existing membership.

199. The Acts had directed that the actuarial reports should show "the probable annual sums required by the Fund to provide the retiring "and other allowances falling due within the ensuing three years without "affecting or having recourse to the actuarial reserve appertaining to the "contributors' contributions." This was interpreted by the actuaries to mean that the pensions thus falling due should be divided into two parts, viz.: (i) that part of them provided by the contributions, and (ii) the remainder, being the portions earned by "back service" and also such parts of the pensions for years of contribution as the contributions were insufficient to provide; and it was assumed that the second part, which could not properly be charged to the Funds, should be met by subsidy, to be increased from time to time as required.

200. The results obtained were as follows, (a) being the estimated pensions payable, (b) the portion provided by the contributions, and (c) the balance, or subsidy required from the State :—

Fund.	1914.			1915.			1916.		
	(a)	(b)	(c)	(a)	(b)	(c)	(a)	(b)	(c)
	£	£	£	£	£	£	£	£	£
Railway...	62,083	13,901	48,182	64,525	15,409	49,116	67,552	17,164	50,388
Teachers	33,309	4,172	29,137	38,111	5,215	32,896	42,958	6,358	36,600
Public Service	66,664	6,501	60,163	74,665	8,379	66,286	83,058	10,542	72,516
Total	162,056	24,574	137,482	177,301	29,003	148,298	193,568	34,064	159,504

201. From this Table it appears that, on the principle defined by the Legislature, the State subsidy of £137,482 needed for 1914 was likely to increase annually at a rate of over £10,000 per annum, and probably for many years to come this must necessarily be so. The State has assumed the heavy liability for all the past service of the staffs who were "existing" at the initiation of the Funds, and for the insufficiency of the rates of contribution to provide entirely the pensions for future service. Towards this liability it gives in advance the insufficient subsidy of £90,000, as shown in column 5 of the Valuations Table (*see* par. 197). The balance of its liability is thus treated as pensions payable in arrear,

and that portion must steadily increase until the burden of the existing staffs gets gradually worked off.

202. For a true view of the existing position we must revert to the foregoing summary of the valuations, where it is seen that, after allowing for the subsidies of £90,000 per annum already paid by the State, there was a capital deficiency of £3,351,914; and that it would need a perpetual charge of £134,077 to liquidate it, making a total State subsidy of £224,077 per annum. This compares with the £137,482 shown in the last Table to be provided for 1914 by the method actually adopted.

203. If the more proper method were adopted of liquidating the deficiency during the term of the existing generation, the above estimated subsidy of £224,077 would, of course, be further increased; and it would probably be greater still if the method suggested by the Institute of Actuaries (*see* par. 175) were acted upon. For by that plan the actuary would report what further percentage of the total salaries should be paid to make the Fund solvent; and so far, at all events, as regards all pensions except those earned by past service, the subsidy would be entirely paid during the working lifetime of the officers, as and when their salaries were being paid.

204. It will now be interesting to see what light the reports throw on the cost of including the existing staffs in the schemes. Some approximation to this may be made by recourse to the Valuation Reports, where the different items of liability are valued separately. Of course, what we are seeking is light on the cost of existing staffs at the initiation of a scheme, whereas these Funds had already, at the dates of valuation, been in existence for an average period of about 7½ years. Pensions already paid would be almost entirely for past service, and these payments would act in diminution of any present estimate of the cost. On the other hand, the initial deficiency in the Funds due to this cause has been mounting rapidly at interest. The latter force would outweigh the former, and would thus tend to exaggerate any estimate of original cost based on present figures.

205. Disregarding some minor items, and taking the present value of the pensions already granted, amounting to £1,133,452, and the value of the prospective pensions for past service, which are likewise separately stated, amounting to £3,738,557, we have a total charge for existing staffs of £4,872,009, or 53 per cent. of the total liability of £9,191,848 shown in column 2 of the above Valuations Table. A very similar percentage is found to apply to each Fund taken separately. If we deduct from the foregoing sum the whole of the accumulated funds of £1,036,507, as representing the past contributions, there remains a net deficiency of £3,835,502, which appears to be mainly attributable to pensions for past service. As the total membership of the Funds at the date of valuation was 24,074, with annual salaries of £3,954,085, it would seem that, according to the experience of the New Zealand Funds, a sum approaching one year's present salaries must now be provided for staffs existing at the outset or subsequently taken on with insufficient

contributions. Of course, nothing like definite conclusions could be drawn from such very general considerations, nor in any case from the experience of Funds working under conditions perhaps wholly different from those existing in London Hospitals. The calculations of Messrs. Manly & Ackland (*see* par. 181), based on a somewhat similar scale of benefits, suggest that the foregoing estimate may be an understatement. They estimated the total cost for an existing staff, including existing pensions, at about 19 per cent. of the salaries, gradually decreasing to about 8 per cent., when the Fund should consist entirely of members who entered young. As we shall find later on (*see* par. 358) this probably represents a capital deficiency in excess of one and a half years salaries.

206. It is thus seen that in the case of these Funds, as in that of the Metropolitan Boroughs and the London County Council, the existence of deficiencies and the problem of liquidating them are closely connected with provision for the existing staffs. In view of the opinion we have expressed (*see* pars. 177 and 193) that the cost of past service and future service should be regarded as separate problems, it is interesting to see that the New Zealand actuaries have in their valuations separately calculated the cost of all "back service." If the same principle could be acted upon at the initiation of a fund, and the estimated cost of past service be separately stated in every application for subsidy submitted to Parliament, much confusion of thought and argument as to the proper period for liquidating it would be avoided, and the whole problem would be presented in a clearer though possibly not an easier aspect.

207. Another question upon which these Funds may throw some light is the extent of the early retirements from disablement. The statistics of these cases are given in the following Table, showing the membership and early retirements for the combined Funds annually since they were started:—

Year.	Combined Funds.		
	No. of Members.	Retired Medically Unfit.	Rate of Retirement per 1,000 Members.
1903	3,400	5	1·5
1904	6,417	28	4·4
1905	6,771	15	2·2
1906	9,910	20	2·0
1907	10,371	20	1·9
1908	18,299	44	2·4
1909	19,422	32	1·6
1910	20,556	25	1·2
1911	21,556	46	2·1
1912	22,916	43	1·9
1913	14,826	27	1·8
Totals and average	154,444	305	2·0

208. It is thus seen that the average annual rate of retirement for the combined Funds and all ages has been 2 per 1,000 of the membership; and that, speaking generally, the results of each year have not varied greatly from that average. Taking the Funds separately, the average rate for the whole period in the Railway Fund was about 1·7 per 1,000, in the Teachers Fund about 2·7, and in the Public Service Fund almost exactly 2 per 1,000.

209. The valuing actuaries calculated graduated rates for these early retirements at each age, and from their Tables we extract the following specimen rates :—

Age.	Rate of Retirement per 1,000 Members (Combined Funds).	
	Males.	Females.
25	1·0	—
30	1·0	—
35	2·0	2·5
40	2·3	5·0
45	2·8	13·8
50	6·8	59·0
55	20·7	—
60	58·1	—

210. At the higher ages here quoted it is possible that some "normal" retirements are included. The chief conclusions to be drawn seem to be: (i) that at the middle ages the disablements among males do not greatly vary from the average of 2 per 1,000, (ii) that they show, as one would expect, a tendency to increase about 50, when the additional cost of providing for them is not so great as at earlier ages, and (iii) that the case of females calls for separate consideration and calculations.

211. It is also instructive to view the disablement pensions as a ratio of the total pensions granted, thus eliminating that element of the membership which disappears by death and withdrawal. How numerous the withdrawals were in the case of these Funds is seen in the following statistics of membership from their initiation up to the dates of the last valuations :—

Fund.	New Members joining	Discontinued.				Existing Members.
		Deaths.	Withdrawals.	Service Pensions.	Disablement Pensions.	
Railways	13,747	338	3,269	760	132	9,248
Teachers	5,432	81	947	317	70	4,017
Public Service ...	13,935	207	2,336	480	103	10,809
Total ...	33,114	626	6,552	1,557	305	24,074

212. It will be understood from this Table that in a Fund where the withdrawals are so numerous, it may make a great difference in the ultimate cost of the pension *per se* whether members withdrawing are entitled to all contributions made by or on behalf of them, or whether, on the other hand, a part or the whole of such contributions is left in the Fund to help the cost of the pensions.

213. Taking the service and disablement pensions actually granted, some further particulars are given in the reports, which may be summarized as follows :—

Fund.	Age of Fund (about).	Service Pensions.		Disablement Pensions.	
		Granted.	Void by Death.	Granted.	Void by Death or Expiry.
Railways	10 years	760	126	132	52
Teachers	8 „	317	33	63*	13
Public Service ...	6 „	518†	80	143†	42
Total ...		1,595	239	338	107

* In the previous Table this number is 70. The difference of 7 probably represents cases where a lump sum was paid.

† These figures, which exceed those given in the last Table, appear to include some pensioners transferred from a Police Fund.

214. It is seen that in all 1,933 pensions were granted, of which those given on disablement were 338, or 17½ per cent. of the whole. The disablement percentage in each Fund separately is 15 per cent. for the Railways, 16½ per cent. for the Teachers, and 21½ per cent. for the Public Service (including Police). These ratios are very much smaller than the proportions found to exist in the Home Civil Service (*see* par. 147).

215. A further point of much interest emerges from this Table, viz., the much higher mortality which occurred amongst the pensioners retired as medically unfit. Taking the totals of all the Funds, which had been in existence for an average period of 7½ or 8 years, it is seen that of the 1,595 ordinary pensions granted 239, or 15 per cent., had already lapsed by death. But in the case of the 338 disablement pensions granted the number already void by death was 107, or over 30 per cent., notwithstanding the much lower average age of this class.

(d) On an Absolute Scale or Flat Rate and (e) On the Money Purchase Principle.

216. For completeness of classification these headings are inserted here, because in the case of either principle benefits might be provided partly in advance and partly in arrear. The disablement allowance under the National Insurance Act may be regarded as a limited pension

of absolute amount so provided. In the same way, pensions calculated on the money purchase principle, as in the case of an earlier subsidised scheme of the London & South Western Railway (see par. 222), might be provided partly in advance and partly in arrear. In practice, however, they are nearly always provided or estimated to be provided in advance, and we therefore reserve the further description and consideration of these principles for their place in the category of schemes provided wholly in advance.

III. PENSIONS PROVIDED WHOLLY IN ADVANCE.

(f) ON A SALARY PERCENTAGE SCALE.

217. Coming to the consideration of the cases where the employer's contribution, like that of the beneficiary, is paid or purports to be paid wholly in advance, we will first take schemes for providing pensions proportionate to the salary. Many of the schemes of the great railways, banks and industrial companies would come under this general heading, but they vary a great deal in detail and not much is known publicly of any of them except the Railway Funds. In many cases the employer's contribution would be set aside regularly according to a prescribed scale; in others large sums would be carried to the credit of the Fund from time to time, according to the prosperity of the company. But of the great majority of such schemes it is safe to say two things; first, that an actuarial valuation would be made from time to time to show the progress of the Fund; and, secondly, that in the event of a deficiency appearing there would be strong financial resources behind the Fund available for putting matters right. We shall find, in fact, cases where, notwithstanding the guarantees for security that exist, deficiencies are so great and persist so long that it might seem more logical to have dealt with them in the previous section, as providing the pensions partly in arrear. On the other hand, we have found cases in the latter category, such as the schemes of the New Zealand Government and the London County Council, where a gradual strengthening of the financial situation suggests that the pensions may be provided ultimately wholly in advance.

Railway Superannuation Schemes in the United Kingdom.

218. The experience of the great Railway Superannuation Funds is very instructive from the point of view of the establishment of such a Fund as that suggested by the Hospital Officers Association. Fortunately exact information on the subject is readily available, as a Departmental Committee was appointed in 1908, under the chairmanship of Lord Southwark, to enquire into the position of these Funds; and its report (Cd. 5349), together with the volume of evidence (Cd. 5484), is deserving of careful study.

219. There being 15 Funds in all, we can here refer only to their general features, but as there is a strong family likeness among them this

course will be sufficient for our immediate purpose. Speaking quite generally they were started on a compulsory footing, at any rate as regards younger men and new entrants, the rate of contribution being $2\frac{1}{2}$ per cent. of the salaries and the companies contributing a similar amount. The retiring age was to be 60, or in some cases 65, as a minimum, or earlier in case of ill-health; and the scale of pensions was generally based on the average salary throughout the whole period of service, the percentage claimable ranging from about 25 per cent. after 10 years service, to 67 per cent. after 45 years.

220. The Funds were to be valued from time to time by actuaries; but about 1896 the members began to be jealous of the growth of the large funds and demanded greater benefits, while the companies saw the desirability of encouraging retirements for the sake of efficiency. Thus the benefits were both increased and antedated without or in spite of the opinion of actuaries; and by the time the Departmental Committee came to enquire into the matter many of the Funds had developed large deficiencies. For instance, in the case of the Great Northern Fund there was a shortage of £560,528, of the Midland Fund one of £843,202, and of the Great Western Fund one of £893,130.

221. The position was regularized partly by decreasing the pension scales but more particularly by falling back on the financial resources of the companies, who in the majority of the cases definitely guaranteed the benefits. They generally made increased annual contributions, but in some cases contented themselves with merely undertaking to make good the benefits as and when these should become payable; and thus the Funds would to this extent cease to provide the pensions wholly in advance.

222. The Departmental Committee gave much attention to the respective methods of calculating the amounts of the pensions, the representative of the Railway Clerks Association, and also other witnesses representative of the general membership, having urged that what we have called the "money purchase" system was the only equitable one for the lower paid men; and that a system in which benefits based on salaries—on final salaries more especially but also on average salaries—was unduly favourable to the officials with high salaries. The objections urged against the money purchase plan were chiefly two, viz., that it provides such poor benefits in the case of what are called "early retirements," where there is a breakdown of health, and that, where different members retired at different retiring ages, the pensions are not so good as in the other plan where retirement takes place at 60 or at earlier ages, though it was admitted that they are better when the retirement age is 65. It was mainly for these reasons that the plan had been discontinued in the case of the London & South Western Railway.

223. Lord Southwark's Committee concluded that in the case of these large superannuation funds, subsidized and to a great extent guaranteed

by the companies, the money purchase plan was less suitable than one based on salary percentages; and this because it was important that the companies should be free to retire their officers at suitable ages where efficiency demanded it, and at rates of pension bearing some relation to the officers' positions. (*See also* Appendix VI.) It is unlikely, however, that this opinion will remove the sense of grievance among the rank and file, which, according to the evidence, is very widespread.

224. In the case of the Great Eastern Railway, which guaranteed the benefits but made virtually no provision annually for its future liabilities, it was estimated by an actuary before the Departmental Committee that by the year 1945 the Company would be paying £90,000 annually; and although any such expense would rank even before the debenture stock interest, and the pensions would thus be absolutely secure, yet the Committee thought it right to refer in their report to the absence of provision for actuarial valuations in the scheme. "We cannot but consider," they remarked, "that a system which allows a large liability to accrue without providing sufficient means for gauging the amount of that liability must be regarded as unsound." And they added, "we consider that periodical valuations should be made even in the case of guaranteed funds."

225. In investigating the question of the contributions of the members, the Departmental Committee found that, in general, higher rates were exacted, as they ought to be, from those who joined at the higher ages; but that, as is of course usual, no increased percentages of contributions were imposed on such members as received advances of salary late in life. It was agreed that, even where the pension is based on the average salary—and this question is of interest as the same basis is proposed in Mr. Manly's scheme for Hospital officers—these members received larger pensions than the contributions on their behalf would justify. The reason for this fact is somewhat technical, but it is stated by the Committee in popular language with such clearness that we quote the passage in full: "All the members," they observe, "other than those admitted at late ages, contribute each year at the same rate per cent. from their salaries, and the total contribution of each member, without interest, is therefore the same percentage of the total salary received. The amount of the pension, being a fixed proportion of the average salary from members with the same period of membership, is also a fixed proportion of the total salary, and it therefore follows that the pension is in direct proportion to the total contributions without interest. In the case, however, of members whose salary is advanced rapidly in the later years, the interest on the contributions in respect of the advances has only a few years to accumulate for the advantage of the fund as compared with that on earlier contributions, and the accumulated contributions of such members, with interest, therefore are less in relation to the amount of the pension received."

226. The general conclusion of Lord Southwark's Committee on this point was that there was not much ground for the complaint of inequity, partly on the actuarial ground that higher paid officers are disposed to

defer the pension age and thus relieve the Fund, but chiefly for the reason before stated, that where the company was contributing such a large portion of the benefit, the average member was not in a position to criticize principles adopted in the interest of the company as a whole.

227. In certain Funds, where the pension is based on the salary of the last seven years only, the conclusion was not so clear. One company found that the retiring age of the higher paid officials under this plan was greater than in average cases; but the experience of the Railway Clearing System Fund was that such officials retired and took their pensions to an extent that imperilled the solvency of the Fund, with the result that the system had been abandoned after being in operation for only 10 years.

228. Two other questions upon which the Departmental Committee expressed opinions may be quoted. They were :—

(i) that where officers are retired before the pension age, for retrenchment or other purposes of the company, any compensation properly payable over and above the return of the members contributions should be a charge on the employer and not on the Fund : and

(ii) that any re-organization of the Funds on a uniform or aggregate basis was impracticable.

There is no doubt that difficulties in connection with such retirements as are specified under the first heading contributed to the decision under the second heading. Mr. King, F.I.A., gave it to us in evidence that it would be very difficult to work any central fund as regards "early retirements," *i.e.*, on the ground of ill-health, this being a question upon which divergent views would be likely to arise between the constituent bodies and the central committee.

Railway Clearing System Superannuation Fund.

229. The Railway Clearing System Fund calls for special notice here, because it provides superannuation benefits not only for the staffs of the Railway Clearing Committees but also for those of the numerous railway companies of the United Kingdom not large enough to have separate Funds. It thus serves a body of diversified units, though not exactly analogous to the Hospitals of London.

230. The history of the Fund, showing the extreme difficulty of conducting a mutual fund with so many divergent interests, is given by its secretary (Cd. 5484, p. 241) and may be stated very briefly here. Initiated in 1873, on the basis of $2\frac{1}{2}$ per cent. contributions, from both employer and employee, applicable to lives of all ages, the scale of pensions was based on the average salary throughout service, with the usual returns in the event of resignation or dismissal, or of death either before or immediately after superannuation. The scale itself was an arbitrary

one, commencing with 25 per cent. of the salary after 10 years' service, rising to 50 per cent. after 31 years and 67 per cent. after 45 years.

231. In 1883 there had been agitation for increased benefits, but the actuaries found a deficiency on valuation, and extra contributions were imposed on entrants over age 28. The actuaries seem to have had no sufficient data in the Fund's own experience to guide them as to the future, and they reported that if all members retired at 60 the estimated deficit was £216,329. If the members retired at 65 the deficit would be £4,528. Their own opinion was that the deficit might be put midway at £110,430, based on estimated retirements at 62½. At the next valuation in 1888 the deficiency on a similar assumption had decreased to £71,285. Members were still pressing for increased benefits, and slight improvements were made in the miscellaneous allowances.

232. In 1893 actuaries found that, on the basis of the Fund's own experience of retirement ages, a surplus of £98,115 existed. Meanwhile continuous pressure was being exercised by the members for increased benefits, and the Committee at the time included Lord Claud Hamilton, the Chairman of the Great Eastern Railway and an avowed advocate of the principle (*see* par. 224) of leaving pensions to be secured by the "guarantee" of the Company; in other words paid in arrear, so far at all events as the employer's share is concerned. The Committee appear to have prepared an increased scale of pension, and the constituent companies of the Railway Clearing System Fund were asked to give their guarantee to make good its cost. This guarantee was not obtained; but notwithstanding this the Committee, with the approval of the well-known actuaries, the late Mr. R. P. Hardy and Mr. G. King, recommended to the members an improved scale of pensions, based upon "fiftieths" of the average salary taken not over the whole service but for the final seven years only. A certain number of the members seem to have appreciated the fact that this generous scale might be unduly favourable to the higher paid officials and prove dangerous to the Fund, but the requisite majorities approved the change, which dated from 1897.

233. In 1903 a new valuation was made, and disclosed the astonishing deficiency of £482,937 on an invested fund of £1,112,092. The actuaries recommended the immediate reduction of pensions, including those already existing, to "sixtieths" instead of "fiftieths," by which means the deficit would be reduced to £265,123. The deficit appears to have been chiefly due to the facts that the increased benefits induced a wholly unexpected flow of retirements among the better paid men over 60, and that the period in question coincided with active developments in railway management, resulting in higher salaries for the superior officials and a general pressure to retire put on men who could now be retired without hardship.

234. Lord Claud Hamilton, the Chairman of the Fund Committee, according to the evidence submitted to Lord Southwark's Committee,

appears to have contested the principle of regarding future liabilities from the point of view of present value, and advised the members to retain the existing scale and be content with the guarantee of the constituent companies, which he forthwith urged the latter to give. Such guarantee was, however, refused by some companies, and the members in turn, on a heavy ballot, refused the actuaries' reductions. Ultimately the Committee, on legal advice, had to impose the actuaries' recommendations, whereupon the Railway Clearing Committee and most, but not all, of the constituent companies came to the rescue and made supplementary grants to the existing annuitants, much to the relief of their old servants.

235. Meanwhile meetings of members had emphasized the general desire to place the Fund on a secure footing, and in order to attain this object a new valuation was made in 1905, when it was found that the reduced deficiency of £265,123 had again increased to £318,268. Following the actuarial advice, the Committee gained the assent of the members to such a revision of benefits as would restore solvency. This involved a return to a pension scale computed upon the average salary for the whole period instead of for the last seven years only, and dated from 1st January, 1907. A special Act of Parliament was obtained by some of the constituent companies enabling them to supplement at their own expense the reduced benefits of all members who had been contributing under the too generous scale of 1897, as well as existing annuitants. Many of the companies, including the more important ones, acted under these powers and agreed to pay the whole difference necessary to raise the Fund's annuities to the level of that scale. The Railway Clearing Committee and some of the constituent companies, however, in the case of their officers, adopted a sliding scale under which the proportion of the difference to be made good will be reduced and finally terminate as the dates of retirement become later. The Great Central and the South Eastern Companies, with 2,700 and 2,500 members respectively, withdrew entirely from the Fund in the years 1906-7, and initiated independent schemes. Thus after three or four years of conflict and costly delay the Fund was again placed, with the financial help of the constituent bodies, on what was expected to be a sound and equitable basis.

236. At the end of five years from the last valuation, viz., 30th September, 1910, another actuarial investigation took place. Owing to the defection of the Great Central and South Eastern Companies, involving a withdrawal of £332,813, the total funds, instead of showing a normal increase, were nearly the same as in 1905, being £1,252,313. On this amount, the actuaries reported another astonishing deficiency of £427,305. As a trial valuation made in 1905, based on the new scale of benefits, had shown that the latter would start with an initial surplus in the Fund of £50,822, it is seen that an adverse movement in the actuarial position had occurred in the five years of no less than £478,127.

237. As bearing on the correctness of the actuarial processes adopted, and their suitability for measuring the numerous minor and almost impalpable forces that enter into the working out of a complicated pension fund, the actuaries reported that, had they been justified in using the same mortality and other tables as in 1905, the valuation would have shown a surplus of £40,000, compared with the hypothetical one of £50,822 in 1905. As a fact, however, the rates of mortality, of withdrawal and of ill-health among the members, and the still more important rate of mortality among actual pensioners, which had all shown signs of being unfavourable to the Fund in the years 1903 to 1905, continued to operate adversely throughout the five years under review. The results of the hypothetical valuations just referred to suggest that these adverse influences had not yet had time to affect the actual outgoings to any great extent. The actuaries, however, had no option but to make this altered experience the basis of their forecast of the future. The large deficiency is thus seen to be due to the necessity of bringing into present account in respect of the whole future an assumed amelioration of life and health conditions newly measured by the experience of to-day. The importance of this result lies in the fact that the improved conditions found to exist in the case of this Fund probably have been or will be found to exist in other Funds, with analogous results on their finances. And it seems clear also that any future experience pointing to further changes in fundamental conditions must have a further and similar effect on the financial position of all Pension Funds.

238. The actuaries further reported that of the adverse forces referred to, the general improvement in longevity, as reflected in the lighter mortality among pensioners, was by far the most important. It accounted for 87 per cent. of the deficiency of £427,305. There was a further deficiency of £126,057 in the market valuation of the assets; but as this could only come into operation when assets were required to be realized, and as the Fund enjoyed a guaranteed interest of 4 per cent., it was considered this depreciation need not be brought into present account.

239. Various alternative schemes were submitted by the actuaries in the way of increasing contributions or reducing benefits in order to restore solvency. For instance, in the former category, it would have been necessary to increase the contributions from employers and employees by over 50 per cent., or from the members alone by over 100 per cent. It was found, however, to be impossible to apportion the surcharge equitably. After much investigation and prolonged negotiations the Railway Clearing Committee and constituent companies agreed to assume the whole responsibility for the deficiency so far as existing members were concerned, new members to come in on amended terms. A fresh valuation was accordingly made as at 30th June, 1913, the date of change, when the deficiency was found to have increased to £476,000, and the depreciation in the market value of assets to over £200,000.

240. The scheme of relief finally agreed upon by the constituent bodies provided that the employers should bear the cost of the pensions of the members of their respective staffs retiring between ages 60 and 68 until such members attain age 68, and pay into the Fund up to that age the full contributions in respect of such members. Age 68, called the "solvent age," was fixed by the actuaries at the point necessary to restore solvency to the Fund; and it is expected that, as the older members pass out of service, this solvent age will gradually fall at future valuations. If a fresh deficiency should occur, the question of raising the solvent age would have to be referred again to the companies. A further special Act of Parliament was accordingly obtained enabling the companies to enter into the proposed arrangements; and in the three years ended 30th September, 1916, sums amounting to nearly £55,000 had already been paid by them into the Fund on this account. Reviewing the history of this Fund it is impossible to resist the conclusion that many, though not all, of its difficulties have arisen from its peculiar constitution as a Fund serving several separate bodies. We make further reference to this question later (*see* par. 245).

The Scheme submitted by the Hospital Officers Association.

241. There is of course no reason why pensions to be given under such salary scales as we have been considering should not be provided in advance wholly by the employer, and it is a scheme of this type that was submitted for our consideration by the Hospital Officers Association. It was formulated by the late Mr. H. W. Manly, F.I.A., an actuary of considerable experience in superannuation matters, who had given his help to the Association in constructing a scheme of a type that would meet its views, and who kindly attended one of our meetings in order to explain his plan personally.

242. Mr. Manly followed the old Civil Service scale in naming age 60 and 10 years membership as minimum qualifications for a pension, and also in allotting, as the measure of the pension, one-60th of the salary for every year of membership not exceeding 40; with, however, this important distinction that the basis is not the final salary but, as in the case of the Railway Funds, the "average salary during the membership." This modification, which naturally reduces the pension considerably, was adopted in order to reduce the cost, Mr. Manly explaining that the cost of old Civil Service terms would be greater than his in the ratio of about 8 to 5. In order still further to reduce the cost, there would be no allowance on death or withdrawal, and all past contributions in respect of such cases would remain in the Fund. Cases of early retirement from disablement would, however, be pensionable. Taking the members of the administrative staffs (males of the servant or working class would cost rather less) the Hospitals would pay into a central fund contributions graduated according to the age of entry. For example, the rate would be $5\frac{1}{2}$ per cent. of the salary in the case of an entrant age 20, and 7 per cent. for one aged 30,

older entrants naturally costing more; in every case in which there was previous service ranking for pension, an additional lump sum was to be provided to make up for the lack of past contributions. Mr. Manly had no sufficient data relating to the service experience and mortality experience of Hospital employees to enable him to present a final scheme, and his plan was thus only sketched in outline; but as his knowledge of these matters was very great, and as, owing to the intervening death of the author, it cannot now be elaborated by him, we have printed the scheme as presented to us in Appendix V of this Report.

243. Mr. Manly was quite unable to estimate, without exact data, the total amount of the lump sums which would have to be set up at the outset, if the whole of the existing staffs were to be included. If we assume an average present age of 35, the lump sum rate is 4 per cent. of the past salaries. Supposing an average past service of 10 years, and an arithmetical progression of salaries, this would mean the immediate provision of a sum equal to about 30 per cent. of the total existing salary list. Mr. Manly himself seems to have had cognizance of 159 male servants with wages of about £12,000 per annum, and 141 officers with salaries of about £22,000. It so happens that his own rough estimate (*see* Appendix V) of £8,000 or £10,000 as the total of the lump sums for this body is very near 30 per cent. of the annual salaries, after allowing a slightly lower rate for the weekly wage class. This sum would need to be supported by an additional annual contribution, over and above the standard rate for young entrants, which may be taken at $2\frac{1}{2}$ or 3 per cent. of the salaries (*see* scale suggested in the scheme). This must also be regarded (*see* par. 357) as part of the cost of providing for the existing staffs. It may be taken as equal to a lump sum of about 40 per cent. of the salary list. This, added to the 30 per cent., represents a total cost for existing staffs of something like 70 per cent. of one year's salaries.

244. This being the only scheme submitted to us in any detail as one likely to meet the views of the Hospital officers, it calls naturally for consideration. We do not lay undue stress upon the great cost of initiating the scheme, as regards either the capital sum to be set up in respect of past service or the high contributions that would be payable in respect of all the older members of the staffs, because these are features that must be faced in regard to any self-supporting scheme which sets out to provide in advance pensions for beneficiaries who are already getting towards the age of retirement. At the same time the initial costs are serious, and even if some means were devised to provide the capital sums required, it would need a considerable effort on the part of the Hospitals to contribute the high percentages needed for the older officers. If, on the other hand, the beneficiaries were to contribute to the cost, it would be necessary to introduce, not only provisions for their representation on the governing body, but provisions for return of their contributions on death and withdrawal. This in turn would increase the scale of contributions and generally dislocate the proposals.

245. The other difficulties inherent in any scheme of this kind are those which most invite criticism. In the first place, the provision of a governing body and the settlement of the powers to be conferred upon it, as to administration and actuarial standards, would not be easy in the case of a heterogeneous body such as the voluntary Hospitals of London. As we have already remarked on an alternative proposal (*see* par. 151), it is difficult to conceive that the Hospital Committees would delegate to any central council the power to decide whether, for instance, an important official should or should not be retired for reasons of health. Yet from the point of view of the solvency of the fund, no question would need to be more jealously watched by the central council than such "early retirements"; and we have already seen (*see* par. 228) that it was difficulties of this kind which led Lord Southwark's Committee to report against the possibility of combining the Railway Superannuation Funds on any uniform basis. Mr. King, an actuary of great experience, informed that Committee that it would be "very dangerous to have one fund for all the Railways, because each "Railway would take advantage of it to dump its officers on it as soon "as possible"; and Mr. King also advised us against a fund of this type for the same reason. In fact, we cannot hear of any case, with the exception of the Railway Clearing System Fund, the history of which we have just investigated, where a mutual fund has existed in similar circumstances; and several witnesses before the Departmental Committee attributed the deficiency in this Fund to its having been "swamped" with retirements over which it had no control. It was this power of the constituent companies at any time to upset the Fund by changes in general policy that led most of the representative witnesses and also the secretary of the Fund, Mr. Crudge, speaking for himself, to advocate a central fund strictly on the money purchase plan, in spite of the admitted fact that this would necessitate a supplementary organization for meeting cases of break-down of health.

246. In the second place, the liabilities of such a body would project into the distant future, and the difficulties of providing against losses on investments and fluctuations in the future rate of interest, are very great. The rates of withdrawal from service and of survival to the pension age are likewise uncertain, but most of all the ultimate rate of longevity of the beneficiaries. Finally, as there is no definite law of increase in the salaries, neither the contributions to be received nor the pensions to be payable ultimately are exactly known. Mr. Manly admitted to us in evidence that all these uncertainties, which we have already mentioned (*see* par. 127) as incidental to all mutual funds of this type, and to which the history of the Railway Clearing System Fund and other Railway Funds bears witness, are inherent in his scheme. It does not, of course, follow that the payment of the ultimate pensions is thereby wholly jeopardized; for the scheme would be based on the experience of other funds, and periodical valuations made by an actuary from time to time would show how the fund was progressing. In the event of a deficiency the contributions could be increased, or the benefits

reduced, in order to effect an equilibrium; but while this would be the position in theory, it may be suspected that in practice the former alternative would prevail and the full brunt of any deficiency fall on the Hospitals. We must, therefore, regard the admitted actuarial uncertainties of schemes of this type as a further disadvantage.

247. So far we have referred only to Mr. Manly's proposals for the salaried staffs and male weekly wage class. The permanent elements of the nursing staffs and female servant class would together represent a salary list equal, perhaps, to each of those male classes (*see* par. 369). Mr. Manly proposed that these large bodies should receive no pension unless they served 20 years or more, and attained age 55; and also, apparently, that the principle of payment in arrear should be relied on in part for the financial provision of the pensions. By these means he reduced the present cost to 5d. or 6d. per head per month. We regard limited proposals of this kind as insufficient.

248. It may be added that Mr. Manly drafted his scheme on a non-contributory basis, and it was put forward by the Hospital Officers Association on that footing in view of their opinion that, on the basis of their present salaries, the officers could not as a class afford to make contributions. It thus raises a general question which we must reserve for discussion later. Mr. Manly informed us that he generally recommended employers to pay all contributions and thus keep questions involving general policy in their own hands. This was a conclusion to which he had been led after a long experience of the contributory system in the case of railway and other mutual funds based on the salary percentage principle. He appears to have assumed that the combined Hospitals would pay all expenses of management, and to have made no provision for these in his calculations. The cost of the scheme is thus under-estimated to that extent.

(g) On an Absolute Scale or Flat Rate.

249. Leaving the consideration of pensions which, while they bear a relation to the salary, are themselves of indeterminate amount, we may now point out that pensions of a fixed absolute amount, such as those provided for old people by the State, may be provided for in advance. For instance, a body of employees might have pensions of £10 or £20 or £30 per annum provided for them, possibly by contributions paid into a separate fund supported by guarantees, or more suitably by effecting definite contracts either with the Post Office or with an insurance company; and we believe that pensions of this type are in fact provided by some large industrial firms for their employees. Mr. King described to us one such scheme, carried out under his advice, where he had been able, owing to the large contributions of the firm, to reduce considerably the original scale of contributions of the employees.

The Proposed General Scheme for Young Nurses.

250. The most obvious illustration, however, of pensions of this type is that afforded by the affiliation schemes of the Royal National Pension Fund (*see* pars. 68 and 69). The amount secured to each nurse may, and probably does, differ somewhat in the different Hospitals, but for each separate scheme the pension would be at a flat rate, and if the general scheme which we have recommended (*see* par. 105) for all young nurses should take effect it would find its place in this category. A general scheme of that type, capable of being extended at any time to provincial Hospitals, might in process of years thus provide for all nurses a certain minimum pension at a flat rate. Such a system could never be a complete solution of the problem of pensions for nurses, but it would provide a useful foundation upon which further sectional or individual provision could be based subsequently.

251. As regards the main problem before us, however, any scheme that would meet the conditions of the permanent Hospital staffs must provide, as we have already pointed out, for pensions varying in amount with the official positions of the beneficiaries: in other words, the pensions must bear some sort of relation to the salaries. As the contributions in practice generally bear some relation to the salary, and are thus more or less prescribed beforehand, the problem of purchasing pensions of definite amount takes the form, for our present purpose, rather of what pension can be granted for a certain contribution than of what the cost will be to provide a certain pension.

(h) On the Money Purchase principle.

252. We will proceed therefore to consider some types of schemes based on the method by which pensions of calculated though varying amounts are secured in return for certain present contributions. Where the amount of a pension depends upon some rule or principle the operation of which leaves us in ignorance of the ultimate liability, we are faced with many difficulties in preserving a balance between the liabilities and the assets, as has been so fully discussed under heading (f) and in connection with Mr. Manly's proposed scheme. In this section we approach the question purely from the point of view of the present cash available, and of the benefit which can be purchased with it. The latter may be either as free from uncertainty as is consistent with the working out of a mutual fund, or it may be made entirely so by purchasing it from an insurance company.

Elementary School Teachers Deferred Annuity Fund.

253. The first illustration of this principle which we take is the Deferred Annuity Fund of the Elementary School Teachers It provides

for each teacher, on the money purchase plan, a deferred annuity; and this is supplemented by a superannuation allowance for which the State, as usual, makes no provision in advance. Differing from the case of the other State funds, or rather schemes, that we have noticed, both these benefits are independent of the salary, and the deferred annuity portion represents the benefit purchased by the teacher's own contribution. This is a fixed amount of £3 12s. annually for a man, and £2 8s. for a woman. The money when collected is paid over to the National Debt Commissioners to be invested in government securities. The mutual fund thus created receives no assistance from the Government, except for the cost of management, and on retiring at or after the age of 65 the teacher receives out of it an annuity for the rest of his or her life.

254. The amount of this is calculated from certain Tables which are subject to revision from time to time, according as a septennial valuation shows whether or not they are justified by the experience. These Tables show, for each fixed contribution made at the various ages, the amount of ultimate annuity secured thereby. Even though a teacher should have made but a single contribution to this Fund in the course of his life, and should then have left the teaching profession, he will yet, on arriving at the age of 65, be able to claim the annuity which that contribution represents. A teacher cannot take out his contributions from the Fund, and if he dies before 65 his estate receives nothing. Similarly his estate receives nothing, except any amount of annuity actually due up to the date of death, if he dies soon after the annuity begins to be payable. According to the present scale the annuities to be received by entrants of 25 after 40 years service are in the case of men £37 15s. 11d. and in the case of women £19 5s. 4d.

255. It will be observed that a scheme of this kind eliminates many of the elements of uncertainty inherent in schemes based on a salary percentage scale. The benefits payable being defined, the main elements the actuary is left to deal with in his valuations are (*a*) financial, such as the future rate of interest and the value of the assets, and (*b*) actuarial, such as the future rates of disablement and mortality prior to age 65 and, even more important, the ultimate rate of longevity of the annuitants. A fund of this type cannot be said to furnish a definitely assured benefit in exchange for the fixed contribution, but one as good as can be granted according to the working out of a mutual fund invested in government securities, after leaving margins for safety in respect of the uncertain elements entering into the calculations. In the case of this particular Fund, however, which has a statutory basis, there seems little doubt that the State virtually guarantees all annuities already effected.

256. In 1913 the second valuation of the Fund fell due, and the results have recently been published. The accounts of the Men's and

Women's Funds are presented separately, but combining the figures it may be stated shortly that the value of the liabilities was £3,346,397, and that of the assets £3,020,596, with the result that there was a deficiency (which was chiefly, as a fact, in the Men's Fund) of £325,801. As the total amount of cash invested had been £3,467,974, it is seen that the deficiency was wholly caused by the fall in the value of the investments, which consisted of $2\frac{1}{2}\%$ Consols and Guaranteed $2\frac{3}{4}\%$ Stock. The reporting actuary pointed out that, at their present market value, the investments yielded $3\frac{1}{2}$ per cent. interest, whereas the Treasury had instructed him to value the liabilities at 3 per cent. Had $3\frac{1}{2}$ per cent. been used throughout, the deficiency would have disappeared. Further, the liability to realize assets, even for annuities purchased by the past contributions, was remote; and with the fresh contributions of the future would be still more remote. The realizable value was therefore a matter of less present importance than the annual interest. For these reasons the actuary was satisfied as to the stability of the Fund, and advised that no special steps were necessary to deal with the deficiency.

257. It was pointed out, however, that the Tables of rates for granting the annuities are out of date. Little was known of the probable mortality among teachers when the Fund was instituted, but now the ascertained experience of the Fund itself is available. This experience, in fact, has exhibited a very considerable longevity among retired teachers, and it will naturally receive the attention of actuaries when the rates of contribution for any similar pension fund in the future are being settled.

The Federated Superannuation System for Universities.

258. This scheme is of interest from the point of view of our present enquiry because it is the latest outstanding example of a system devised (i) to furnish pensions according to the various contributions on the money purchase principle, (ii) to provide that the pensions shall be secured and free from uncertainty without the support of any extraneous guarantee, and (iii) to afford free facilities for migration from one institution to another within the scheme. It is also a less essential, though popular, feature of the scheme to offer the option of a death benefit to such of the beneficiaries as may elect for it, of course at the cost of diminishing the pensions. In the Report of the Departmental Committee on the Superannuation of Teachers (Cd. 7365), the main part of which is concerned with pensions for the teachers in the numerous secondary, technical and training schools and colleges, and other institutions, intermediate between the elementary schools and the universities, we find a full description of the Universities System which it will be convenient for us to repeat here :—

The Scheme is described in the Second and Third Reports of the Board of Education Advisory Committee on the Distribution of Exchequer Grants to

Universities and University Colleges in England (Cd. 6617 and Cd. 6969) and in a pamphlet issued, in June 1913, by a Joint Committee representing the Universities and Colleges, as a result of negotiations with some of the chief insurance companies.

The main features of this system are as follows:—Annual contributions are to be made in respect of all members of the teaching and administrative staffs within certain salary limits employed in the Universities and other institutions concerned, and these contributions are to amount in all to 10 per cent. of the salary. The institution is to contribute at least 5 per cent. of the teacher's salary, but may contribute more: and the teacher himself is to find the balance of the contribution. The contributions are as a general rule to be applied by the Governing Body to the payment of a premium on an insurance policy. The teacher is, within certain limits, free to choose between the kind of benefits to be insured by this policy, and the insurance company from which it is to be obtained. He must choose one of the policies named and described in the pamphlet issued by the Joint Committee referred to above. A common feature of all these policies is that they include an annuity on reaching the age at which the benefit matures, or, so far as the Governing Body think desirable in each case, an equivalent cash payment; and all the policies are to mature at the age of 60.

There are three main types of benefit between which the beneficiary has his choice: (*a*) Endowment assurance policies, with profits. These secure the payment of a stated sum (or equivalent annuity) on the beneficiary arriving at the age of 60, or at his death, if earlier. (*b*) Deferred annuity policies with return of premiums. These secure annuities (or equivalent cash sums) payable from the age of 60, with a return of the premiums (plus interest) in the event of death, or surrender before the age of 60. (*c*) Deferred annuity policies without return of premiums. These secure an annuity from the age of 60, but in the event of death before that age there is no payment whatever. There are different varieties of each of these three main types, giving each beneficiary the choice between thirteen different options. Six insurance companies have been selected by the Joint Committee for the purpose of the system, each being approved by the Joint Committee for one or more of the thirteen options. Under the first type of policy the beneficiary has his choice between four companies; under the second between two; and under the third between two. The rates at which the companies are willing to do the business are set forth in the pamphlet, and appear to be lower than those usually quoted by these companies to ordinary members of the public. The teacher who enters this system begins by having a policy taken out on his behalf on which the premiums will amount to 10 per cent. of his salary; and as his salary rises fresh policies are taken out, a fresh policy being taken for each £25 of increased salary. The Joint Committee have arranged with the companies that these increment policies will be granted without further medical examination, subject to a satisfactory declaration by the member as to his health. The policies do not lapse on non-payment of premium, but remain in force as paid-up policies for such proportion of benefits as the number of premiums paid bears to the number originally payable. If a member on arriving at the age of 60 does not retire and claim the benefits, the companies hold the policy moneys for him until his retirement, and allow interest at the rate of 3 per cent. per annum ($3\frac{1}{2}$ per cent. in the case of one company). The Joint Committee in their pamphlet give a specimen case of a member who enters the system at the age of 25 and remains in employment until he retires at the age of 60, and he is supposed during this period to draw a salary of £200 a year until he is 35 years of age, then of £400 a year until he is 50 years of age, and then of £600 a year from the age of 50 to the age of 60. Such a member, if he chooses an endowment insurance with profits, is shown as likely to receive, if the bonuses of the companies concerned are continued in future at the same rates as in the past, cash at the age of 60 ranging from £2,100 to £2,700 (equivalent pension, £186—£249), according to the company, and the form of policy which he chooses; or a payment at his death, if it takes place at the age of 46, ranging from £1,000 to £1,600. If this same specimen member chooses a deferred annuity policy with a return of premiums, he is shown on similar assumptions as likely to receive a pension ranging from £206 to £287 (equivalent cash, £2,232—£3,128), or, in the event of his death at the age of 46, a payment ranging from £640 to £854. If he chooses a deferred annuity policy without a return of premiums, he is shown as likely to receive a pension ranging from £273 to £296, and the payment in the event of his death before the age of 60 is, under this type of policy, nil. The Governing Body of the University or College at which the member is employed are to hold the policy or other equivalent approved benefit in trust for the beneficiary so long as he remains at the institution; and the beneficiary is to execute some form of legal document which will enable the Governing Body so to do. Upon the transfer of a beneficiary from one institution to another within the federated system, the whole of the accrued benefit will be transferred to the second institution, or, in other words, a teacher on his transfer from one institution to another loses nothing of his pension prospects. In the event of a beneficiary leaving an institution before the age of 60 and not taking up employment in another institution within the system, he is to have the right to the whole of the accrued benefit, but the Governing Body of the institution which he leaves are to have the right to determine how the accrued benefit shall be given.

259. A federated system evolved by a somewhat heterogeneous body of universities and collegiate institutions must naturally claim the attention of a body of diversified units, such as the voluntary Hospitals, when considering the pension question. But notwithstanding many points of analogy between the Universities and the Hospitals a fundamental difference emerges in the matter of finance. The Universities receive liberal subsidies from the Exchequer, and the Board of Education, in making the distribution, had set aside and earmarked a sum of £8,400 per annum to be expended on superannuation, and this was not finally granted until a satisfactory superannuation scheme had been elaborated and accepted by all parties. Ultimately, no doubt, the liabilities of the Universities for their share of the contributions may exceed the £8,400 allotted by the State; but, as the scheme is compulsory only as regards new appointments and there will thus be a margin for many years to come, the Universities no doubt considered that they would run little financial risk by falling in with the Board's policy.

260. We discussed this scheme with the representatives of the Hospital Officers Association and they expressed some objection to it on the following grounds :—(i) that the death benefit could be provided by the officer himself and was no necessary part of a pension scheme, and (ii) that in relying on insurance companies it must necessarily be expensive as it had to contribute towards the profits and expenses of their business. With regard to the first point, we propose to discuss the general question of a death benefit later on (*see* par. 336 *et seq.*). With regard to the second point, the companies selected are old and wealthy, and scarcely dependent on fresh profits in the commercial sense. Their so-called profits when realized are returned largely or wholly to their assured members with, as we shall find later on, somewhat striking results (*see* par. 426, *also* Appendix IX, pars. 6 and 10). They are skilled in finance and quote their terms in keen competition; while the element of expense, which cannot be small if the financial control is to be efficient, would likewise be present in the case of a mutual fund. It is, however, after all largely a question of facts and comparisons to determine whether the benefits offered are as good, having regard to the security offered by the companies, as can be obtained by any other method.

261. The provision of a death benefit no doubt complicates comparisons and makes it difficult to weigh the results of this system against those of a mutual pension fund; but, as stated in the foregoing extracts, this is not an inseparable feature of the Universities scheme, and it may be convenient if, leaving for the moment the question of the death benefit, we proceed here to investigate the terms on which guaranteed pensions may be purchased from insurance companies without any death benefit at all. Specimen quotations will be found in the following Table, extracted from the official pamphlet of the Universities scheme or from published prospectuses :—

ANNUAL PREMIUM FOR A PENSION OF £10 PER ANNUM ON A MALE LIFE

(the premiums being not returnable in the event of death before the pension age).

(a) Pension to commence at 60.

Age at Entry.	Published Rates.	F.S.S.U. Terms.	
	Sun Life Assurance Society.	Legal & General Assurance Society.	North British & Mercantile Insurance Co.
	£ s. d.	£ s. d.	£ s. d.
21	1 0 10	18 6	1 0 3
30	1 13 2	1 10 6	1 13 0
40	3 2 2	3 0 3	3 3 11

(b) Pension to commence at 65.

Age at Entry.	Published Rates.	F.S.S.U. Terms.	
	Sun Life Assurance Society.	Legal & General Assurance Society.	North British & Mercantile Insurance Co.
	£ s. d.	£ s. d.	£ s. d.
21	12 3	11 1	11 11
30	19 2	17 11	18 11
40	1 14 1	1 13 5	1 14 8

262. These figures are interesting, but they are inconclusive from the point of view of comparing the benefits with those which might be obtained from a typical mutual fund, say of the Railway type or that suggested by the Hospital officers. From the nature of the case an exact comparison is impossible between a system where definite benefits are purchased with certain contributions and another where the benefits themselves, and therefore the cost of them, are indeterminate from the outset and are a matter of estimate. Still, something useful may be arrived at by taking certain type cases and seeing how they would work out under the different methods.

263. For this purpose we have constructed, using materials supplied to us by the Hospital Officers Association, some typical careers of Hospital officers as a basis for further calculations. Type Case I begins at age 24 with a salary of £100, which rises gradually to £500 at age 41 and £600 at 46. Case II begins at 20 with £60 and rises more slowly to £250 at 42 and £400 at 53. Case III is a dispenser who starts at 24 with £80, gradually rising to £250 at 43 and £300 at 50. In each case £25 per annum is added as the value of partial board or other advantages.* Selecting from the last Table the most favourable rates quoted in the Universities pamphlet (those of the Legal and

* Exact particulars of these type cases are given in Appendix X.

General Office) for deferred annuities without any return of premiums on death, we have had calculations made showing the pensions that could be purchased with 10 per cent. of the foregoing salaries; and in the following Table the results are set out and compared with the pensions that would be paid under the Hospital officers suggested scheme and under the old Civil Service scale:—

Particulars of Type Cases.			Amount of Pension commencing at 60.			Amount of Pension commencing at 65.		
No.	Final Salary.	Average Salary to age 60.	Old Civil Service Scale.	Hospital Officers proposal.	F.S.S.U. Deferred Annuity (without return).	Old Civil Service Scale.	Hospital Officers proposal. †	F.S.S.U. Deferred Annuity (without return).
	£	£	£	£	£	£	£	£
I	625	447	375	268	336	417	312	582
II	425	257	283	171	230	283	184	400
III	325	238	195	143	185	217	165	320

† The average salary on which these are based is of course rather larger than stated in column 3.

264. The Hospital officers proposed pensions, it will be remembered, were reckoned as one-sixtieth for each year of service, but were based on the average salary, not the final salary. It is so common to reckon pensions in one or other of these ways that it will be interesting to convert the foregoing results into their relative proportions for each year of service; and this is done in the following Table:—

Type Case No.	Pensions commencing at 60 and reckoned on the				Pensions commencing at 65 and reckoned on the			
	Final Salary.		Average Salary.		Final Salary.		Average Salary.	
	Old Civil Service Scale.	F.S.S.U. Deferred Annuity.	Hospital Officers proposal.	F.S.S.U. Deferred Annuity.	Old Civil Service Scale.	F.S.S.U. Deferred Annuity.	Hospital Officers proposal.	F.S.S.U. Deferred Annuity.
I	One 60th	One 67th	One 60th	One 48th	One 60th	One 44th	One 60th	One 33rd
II	One 60th	One 74th	One 60th	One 45th	One 60th	One 48th	One 60th	One 31st
III	One 60th	One 63rd	One 60th	One 46th	One 60th	One 42nd	One 60th	One 32nd

265. It will be seen from these figures that a definite deferred pension can be purchased from an insurance company, with 10 per cent. of the salary, which compares fairly well with the old Civil Service scale, based on final salary, even when retirement takes place at the most favourable point for an early entrant under that scale—viz., age 60; while compared with pensions based on the average salary plan, which is that we have seen to be more usually adopted in superannuation funds, the deferred annuities are considerably better throughout. As the age of retirement is postponed beyond 60, the deferred annuities become rapidly better still, so that at age 65 it is seen they yield pensions of more

than "fiftieths" for each year of service even when reckoned on the final salary. In fact they approximate to the final salary itself, and are, therefore, far in excess of 100 per cent. of the average salary. This feature of the money purchase principle must not be lost sight of. It is important to avoid any positive inducement to an officer to go on working after he has passed his best just as it is to remove any causes that render such a course obligatory.

266. It is, however, necessary to compare, not only the pensions resulting from each system but also their cost. The Universities scheme is based, as we have seen, upon an invariable contribution of 10 per cent. of the salary. According to Mr. Manly's estimates, the contributions under the Hospital Officers scheme would be about $6\frac{1}{4}$ per cent. of the salary for Type Case I, something over $5\frac{1}{2}$ per cent. for Case II and about $6\frac{1}{4}$ per cent. for Case III. Such a difference in the scales of contribution makes any comparison between the schemes inconclusive. As regards the Civil Service scale, Mr. Manly gave us his opinion that its cost is greater than that of his proposed Hospital Officers scheme in the ratio of 8 to 5. On this basis the contributions for such a scheme as his but based on final salary instead of average salary would be about 10 per cent. for Type Cases I and III, and about $8\frac{3}{4}$ per cent. for Case II, as compared with the 10 per cent. throughout levied under the Universities plan. So far, therefore, as the last Table is concerned, the columns headed "final salary" would seem to afford the better basis for comparing the respective benefits. If we take Type Cases I and III, the contribution being 10 per cent. in both cases, it is found that the pensions at age 61 would be about the same under both plans. For all higher ages the Universities annuities would be greater. It must be remembered also that the deferred annuities given in the foregoing Tables are definitely guaranteed, and that on withdrawal a proportionate part of the benefit would permanently enure for the benefit of the member; whereas in the case of the suggested mutual fund, the pensions would depend on the working out of various estimates which might eventuate better or worse than the expectations, and no benefit is provided for those withdrawing. The comparison cannot be said to be conclusive, but we think the facts, so far as they go, do not support the contention of the Hospital Officers Association that resort to insurance companies is necessarily expensive, even though including provision for expenses and possible profits. In the case of Mr. Manly's scheme no provision was made for expenses (*see* par. 248).

267. Objection may be raised to the Federated Universities System on the ground of the absence from the scheme of a provision to meet fully the case of disablement through a break-down of health. This is clearly a great disadvantage. Our review has shown that such cases must and do occur, and under the Universities System the only sum immediately available on disablement is the surrender value of the policies. Thus the officer, if he possessed no independent income such as would enable him to exist and to maintain the policies in full force until maturity, would be faced with the unpleasant alternative of

either surrendering the policies to get some immediate resources or existing in penury until the policies matured for the reduced amount corresponding to the number of premiums actually paid before disablement. The latter alternative is an impossible one but it shows the nature of the hiatus which must be filled in order to remove this disadvantage of the scheme. We propose to discuss the general question of disablement later on (*see* par. 428).

268. On the other hand, the Universities System possesses many advantages. The benefits are assured with a high degree of security. The employer knows that, when once his contributions have been made, he can have no fear of further responsibilities, expressed or implied, such as have faced the Railway Companies and other employers subsidizing mutual pension funds. And, further, while employers and officers alike are free from the anxieties of administration and investment of funds, the system is flexible in working and adapts itself readily to the changes following transfer of service among the institutions which have entered into the federated scheme. Finally, in the event of the officer changing to an institution outside the scheme, the existence of the pension policies, which enure for his benefit, directly raises the question of his provision for old age and of the new employer contributing to it.

269. The reports of the Advisory Committee of the Board of Education indicate that in their opinion this feature of adaptability to change was a very important one, as was the fact that when once the Board had paid over its grants it not only need be under no anxiety on the ground of security but need not further interfere in the administration of the scheme. This was found to be so nearly automatic that all details of its working, and even the settlement of future questions of principle, could safely be left to the Universities themselves—a feature designed to commend it likewise to the latter bodies, most of whom are jealous of State interference.

270. The facility with which the Universities System adapts itself to changes of service is based upon a fundamental principle which might escape notice if not emphasized. This principle is a frank recognition of the view that a pension is, in the strictest sense and not as the phrase is sometimes used, deferred pay. In other words, that every period of service has earned its quota towards the old age provision of the employee; and that the contributions set aside for it, when once made, must enure for his or her future benefit. This appears to represent the considered policy of the Board of Education. Their Advisory Committee, in a preliminary outline of a scheme for Universities, used the following words: "The sums represented by the accumulated contributions would, " subject to regulations to be formulated, be regarded as the property of " the beneficiary, which would be restored to him in the form of a pension " on retirement, or of a lump sum on resignation, or would, in the event " of his death before commencement of a pension, be payable to his

" personal representatives." The fundamental principle thus laid down was subsequently accepted by the institutions concerned and confirmed by the Board. In practice it is necessary to provide for many minor contingencies that arise, such as the case of determination of service through misconduct, and the question as to which institution or employer, if any, should exercise fiduciary control over the policies in the event of migration. But the broad principle is the same as that involved in the Elementary Teachers Fund (*see* par. 254), in the affiliation schemes of the Royal National Pension Fund for Nurses, and in the recommendation we have already made for young nurses (*see* pars. 104 and 105) viz., that any service already rendered has earned for the employee, once for all, the full pension contributions already made; and without the adoption of this principle it is difficult to see how the problem of migration without penalty, to which (*see* par. 37) we attach great importance, can be dealt with adequately.

271. As regards the existing staffs the scheme did not attempt to deal with them in any compulsory way. The money purchase principle necessitates that the cost of every benefit must be counted in advance, and the funds did not exist for any comprehensive inclusion of the whole staffs. Compulsion, therefore, applied only to future appointments, and provision for existing staffs was left to the local bodies. Local funds existed in many cases, and the constituent bodies were encouraged to apply these, as well as the surplus of the public grant (*see* par. 259) after providing for new appointments, in setting up policies for existing officers, unless they saw fit to apply the available funds otherwise.

Pension System recommended for Secondary Teachers.

272. We revert now to the main part of the Report of the Departmental Committee on the Superannuation of Teachers (1914). It deals with the secondary institutions that furnish the problem for which that Committee had to seek a solution (*see* par. 258). It is to be remarked that in most cases the governing bodies of such institutions are local authorities anxious not to burden the rates, or else committees in chronic need of money, and hence the whole enquiry was made subject to the provision by the State of such additional grants as would be necessary to supplement the teachers' own contributions. For this reason the problem before the Departmental Committee was not exactly similar to that which we are considering, but in many respects it was analogous, and we think it will be of interest if we quote some extracts from the report of the Committee giving the conclusions at which they arrived on the chief matter under their consideration.

273. After a broad survey of all the factors of the problem before them, the Departmental Committee formulated in general terms the conditions to which a pension system ought to conform as follows :—

First, it should provide a universal minimum of provision against old age, reasonably adequate in its amount.

Secondly, it should provide for the free passage of teachers from one institution to another without any sacrifice of pension rights.

Thirdly, the pension system should secure that the provision made for old age shall be reserved for that purpose: there should be no cash realization on mere retirement or change of occupation.

Fourthly, the system should provide other alternatives besides the one method of protecting old age by means of a deferred annuity.

274. The Report then proceeds—

Main Recommendation.—We recommend the establishment, in all the schools included in the terms of the second reference to us, of a system of insurance for full-time teachers similar to that which has been established in the Federated Universities, and supported by contributions both from the teachers themselves and from their employers; and we recommend that, separate from and additional to the benefits derived from these insurances, there shall be State assistance in the form of superannuation and disablement allowances; the superannuation allowances to be of the same amounts and under the same conditions as those granted to Elementary School Teachers under the Elementary School Teachers (Superannuation) Acts of 1898 and 1912; and the disablement allowances to be at the rate hereinafter set out (paragraph 55*), but otherwise granted under the conditions applicable to the disablement allowances for elementary school teachers.

Financial Basis of the Proposals.—It has been pointed out above that the adoption of the University superannuation system, which involved contributions by the Universities, synchronised with the payment of considerable additional grants to those institutions by the Board. We base our recommendation of a somewhat similar scheme in the Secondary and other schools on the expectation that additional funds will be placed at their disposal by Government. * * * * What we here endeavour to do is to show, upon the assumption that such assistance will be forthcoming, a suitable manner in which it may be applied in aid of a superannuation system applicable to the schools generally. And we consider, as we have already remarked, that if a system for general application be not adopted, a large number of separate systems will grow up with no relation to one another.

Compulsory adoption of Insurance Policies recommended.—We recommend therefore that when increased grants are available for the maintenance of secondary and technical schools, a system of providing for the superannuation of teachers at those institutions by means of insurance policies should be made compulsory and that the compulsion should be enforced as a condition of grant from the Board of Education. The amount of the contribution should be 10 per cent. of the teacher's salary, subject, however, to a minimum limit of £10 per annum to the premium payable on any teacher's salary, and a maximum limit of £500 to the salary in respect of which the teacher or his employer would be compelled to contribute; and the employer should be entitled to deduct from the salary paid to the teacher a proportion of it not exceeding 5 per cent. An increment policy should be taken out for every step of £20 beyond a starting point of £100. Thus, a teacher engaged at a commencing salary of £100 would have an insurance policy taken out on which the premium would be £10; his employer would contribute £5 of this, and he would contribute the other £5. When the salary rose to £120, a further policy, with a premium of £2 per annum, would be taken out, each party contributing £1 towards it; and so with each successive increment until the salary reached £500 per annum. Upon the salary passing this point it should be open to the teacher to increase his insurances under the scheme further if he wished to do so in respect of the excess over £500, and to the employers to bear a part of the cost according to any arrangement mutually entered into between them; but the compulsion we propose would stop when the salary reached £500. The minimum contribution of £10 per annum which we propose would work thus:—for a teacher engaged on an initial salary of £80 the employer would still have to take out a policy for which the premium would be £10; the maximum which the teacher would be required to contribute towards this would be £4; but as his salary rose so would his contribution, until it amounted to half the premium. The Secondary School Teacher

* See par. 277 below.

should, like the University Teacher, have the choice between several optional policies, and these options should be of the three main types contained in the University system, viz., endowment insurance, deferred annuity with return of premiums, or deferred annuity without return of premiums. It should, as in the University scheme, be a condition that the policies should mature at the age of 60, but should improve in value if not then claimed. The policies should be held by the Governing Bodies of the Schools in trust for the teachers on conditions similar to those adopted in the Universities, and these trusts should contain conditions to defeat any attempt on the part of the beneficiary to anticipate the benefits; and the policies should be transferred from one institution to another in the event of the teacher exchanging his post.

The question naturally arises, whether, given the system of compulsory insurance (supplemented by State assistance) which we have adopted as our main recommendation, the system should, or could with advantage, be administered by the State. This might avoid or minimise various difficulties of administrative detail which must arise under any other system, such as the custody of policies in various circumstances, the prevention of anticipation of benefits by the assured, and the choice of insurance offices; and the objections which can, and no doubt will, be urged against compulsory insurance in profit-earning insurance companies would be obviated. On the other hand, the number of teachers to be insured is small, so that the expenses of administration would be high: investments by a Government Department would have to be restricted within the usual limits, so that the rate of interest would necessarily be low; and the range of options afforded under the State administration is likely to be inelastic. These considerations compel us to the conclusion that we cannot under existing circumstances recommend a system of insurance administered by the State for Secondary, &c., Teachers alone.

275. The last paragraph is somewhat noteworthy. Inasmuch as the teachers concerned are about 15,000 in number with a salary list of £2,500,000, it might have been thought by some that such a body would provide good average results if the State were to guarantee a mutual organization for the purpose. But notwithstanding this and in face of the anticipated objection to the principle of State money being paid to private insurance companies, an objection which was in fact placed on record by two dissentient members, the majority of the Committee made the foregoing recommendation. It would seem to be a matter of general policy with the Board of Education, as we saw in the case of the Universities System, to avoid responsibility as far as possible for anything in the nature of a central fund.

276. The Departmental Committee proceed to make careful recommendations as to the detailed organization of the scheme, which would be of interest were a scheme on such lines being initiated, but which need not detain us here. It will be of interest, however, to see how it was proposed to deal with the question of early retirement and disablement, for which latter contingency, as the Committee point out, a system of the Universities type can make no provision, except such as may be obtained from the surrender value of the policy when the premiums cease to be paid. On the general question of cessation of service the Committee, adopting in the full sense the doctrine that pensions are deferred pay (*see* par. 270), laid down two principles (i) that no part of the benefits obtained either by the contributions of the teacher or by those of the employer should lapse to the employer and (ii) that as a general rule the employer should hold the policy for the reduced amount represented by past payments until the attainment of age 60, it being open to the ex-teacher to continue payment of the premiums on his own account if he so desired. The Committee proceed (and we quote this passage for the bearing that it would seem to have on the case of Hospital nursing staffs)

"While this should, in our opinion, be the general rule, it should "permit of one exception, viz., women who leave the profession "in order to be married. There will always be a considerable "proportion of women teachers who remain in the profession only "until they marry, and this constant flow of fresh blood is by no "means a disadvantage to the schools. Upon the whole it is "justifiable and suitable to make the benefits realisable by such "persons at the time of marriage instead of on arriving at the age "of 60. A woman who claims to receive the benefits might well "consider whether it is her fixed intention to retire finally from the "profession, and, in certain cases, might probably find that even so it "would be more to her advantage to keep up the premiums; but if "at the time of marriage it is her settled intention to retire from the "profession she should, on making a declaration to that effect, be "enabled to receive the surrender value of her policies."

277. In the event of disablement the Departmental Committee recommended that a special allowance should be made, as in the case of elementary teachers, but at the smaller rate of £1 for each complete year of service. The Report also recommends that the direct superannuation allowance of £1 for each year of service at present payable by the State to elementary teachers after attaining age 65 should in future be payable to all secondary teachers in addition to the benefits accruing at age 60 under the proposed insurance policies.

278. It will thus be seen that the suggested disablement allowance is merely an early commencement of the small State superannuation allowance which is payable to all at age 65, and in which it would merge on attainment of that age. It is in this respect analogous to the State disablement allowance under the National Insurance Act; and does not appear to have been in any way designed to fill the hiatus to which we referred in connection with the Universities scheme, and which must exist in any scheme based on insurance policies. We shall return to the consideration of disablement benefits (*see* par. 428). Taking the scheme as a whole it appears to have been accepted by the teachers concerned. According to recent statements in the public press, deputations to the President of the Board expressed approval of the Committee's proposals, but pressed for special consideration of the claims of the existing staffs.

Scheme recommended for Officers of Reformatory and Industrial Schools.

279. Since the foregoing account of recent educational pension schemes was drafted, there has been published the report of a Departmental Committee of the Home Office, settling a scheme for officers of Reformatory and Industrial Schools, in pursuance of section 56 of the Children Act. This section provided that the managers of certified schools might establish a superannuation scheme, but the benefits could not exceed those, whether pension or gratuity, payable under the Superannuation (Metropolis) Act, 1866.

"This Act," the Committee reported, "provides for the payment of pensions "(bearing a fixed proportion to retiring salaries) to the employees of certain public "bodies from public funds; it does not contemplate the creation of a pension fund "or the payment of contributions by the beneficiaries. Such a pension scheme is "only possible for corporate bodies who can depend on a continuous revenue for an "indefinite future. A body of voluntary Managers, whose powers and functions "would come to an end if their school were closed either through the withdrawal of "the Home Office certificate or for any other reason, obviously cannot guarantee to "pay to a young man entering their service a pension after the lapse of twenty "or thirty years, unless they make provision for such pension from year to year.

"Any scheme which will be workable for schools under voluntary management "must provide for setting aside money for pensions year by year, and the amount of "the pensions so provided must depend (*a*) on the amount of accumulated "contributions, which in turn must depend not on the amount of the officer's salary "on retirement but on the amount of his salary during each year of service, and "(*b*) on the methods of investing the annual contributions, the rise or fall of "securities and the interest earned. It is therefore impossible to devise a scheme "by which retiring pensions for officers of Reformatory and Industrial Schools shall "bear a fixed proportion to retiring salaries in the manner contemplated by the "Superannuation (Metropolis) Act.

"Further, under the Superannuation (Metropolis) Act existing officers employed "at the date of the commencement of the Act would receive a retiring pension on "the same scale as other officers. Under any scheme which we can devise, since "the pensions must depend on the accumulation of annual contributions, it is "impracticable to give as good terms to the older existing officers who will be "retiring in a comparatively few years, as can be given to younger men in respect "of whom contributions can be allowed to accumulate over longer periods.

"Finally, the Superannuation (Metropolis) Act does not contemplate any "contributions from the beneficiaries, while under all the schemes suggested for "Reformatory and Industrial Schools it has been expected that contributions shall "be paid by the officers themselves, and the officers—so far as their opinion can be "ascertained—are quite willing to make such contributions."

280. A scheme had been submitted to the Departmental Committee by the Society of School Superintendents, in which it was proposed that the managers and beneficiaries should contribute in certain prescribed proportions, and that the Treasury should pay whatever further sums might be required. On this the Departmental Committee reported that without the Treasury guarantee the scheme would be actuarially unsound; and that, in the absence of special legislation, of which there was no chance, there is no method of securing a State guarantee for pensions. It was impossible to make use for the purpose of the National Debt Office or the Post Office, for, though these departments sell immediate annuities, they provide no machinery for deferred annuities.

"We have considered," the Departmental Committee proceeded, "whether it "would be desirable to dispense with any guarantee and to set up a special fund "controlled by representatives of the Managers and officers, from which fund there "could be purchased for each officer on retirement such an immediate annuity as "would be provided by the accummulated contributions paid on his behalf. One of "the main difficulties of such a scheme would be the investment of the money, and "we inquired of the Public Trustee whether he would be willing to undertake the "management of such a fund if he were asked. He, however, declined to accept "the responsibility, on the ground that if the investments should suffer serious "depreciation, and the officers were accordingly unable to obtain the pensions on "which they were counting, his Office would inevitably be involved in disrepute.

"The responsibility which the Public Trustee declines would, we think, be too "heavy for any private trustees who might be appointed on behalf of the Managers "and officers. However carefully the fund were managed, the risk of depreciation "of investments would always be present; actuarial valuation from time to time "would be necessary, and the pension assigned to a retiring officer would be "greater or less according to the state of the fund at the last valuation.

"Seeing that no State machinery is available and that the risks of a special "and comparatively small fund managed and invested by private trustees are great, "we recommend that use be made of Insurance Companies. An Insurance "Company will receive the annual contributions by way of premiums, will invest "them with the other large funds of the Company and will guarantee an annuity "in accordance with published tables at a fixed minimum rate at any age that "may be prescribed. Under such a system the risks are taken by the Company, "and not by the annuitants, and the Company has the whole of its large fun "to draw upon to meet any loss resulting from particular investments or particular "branches of business. The Certified Schools' Officer will know definitely from "the published tables of the Company what is the minimum annuity which his "annual contributions will produce, and if the Company is a good one, will have "no fear of getting less.

"And this advantage can, we believe, be purchased very cheaply. As far as we "can estimate, it appears that the pensioners would get approximately the same "benefits for the same contributions from an Insurance Company as they would get "from a successful fund of their own. It is true that some part of the premiums "paid to an Insurance Company is absorbed in profit to the Company and expenses "of management, but the profit on deferred annuities is very small and the expenses "of management in a good Company are probably little, if at all, greater than the "expenses that would be involved in the management of a special fund. The cost "of managing a special fund created by contributions from Reformatory and "Industrial Schools would be comparatively large, because the fund would be "comparatively small.

"A scheme by which pensions are purchased from Insurance Companies has "been adopted for the Federated Universities in accordance with a report of the "Advisory Committee of the Board of Education, and another scheme of the "same kind for teachers of Secondary and Technical Schools has been recommended "by the majority of a Departmental Committee appointed by the Board of Education "in 1912."

281. The Departmental Committee accordingly recommended that a small committee of managers and officers should be appointed to make the best terms they could with an insurance company. As death benefits were not contemplated by the Superannuation (Metropolis) Act, 1866, it would not be practicable to offer any option of endowment insurances, as in the case of the Federated Universities System; and as, therefore, only one scheme of insurance (viz., a deferred annuity) was required, the Departmental Committee thought it might prove to be best to give all the business to one company. In order to provide for legal control over the policies and for freedom of change from one school to another, the Committee proposed that all schools should appoint the Public Trustee to act on their behalf, and that all policy contracts should be made by him. Payments of premiums could be made direct to the insurance company, and likewise payments from the company to the beneficiaries.

282. It will be seen that the problem set to the Committee was to devise a scheme which should include the whole of the existing staffs. In considering the scale of pensions and contributions to be adopted, they found it impossible, for the reasons above stated, to base the benefits on the salary at retirement. They took, therefore, by way of compromise, the existing salaries and calculated what percentage of these salaries must be contributed in order to produce at 65 an annuity (with return of premiums to the officer in case of death or retirement) equal to forty-sixtieths of the existing salaries. They considered that a contribution of 8 to 10 per cent. should be looked for, and should be apportioned as follows:—

	Officer's Share.	Managers' Share.	Total.
For officers below 30	3 per cent.	5 per cent.	8 per cent.
" " of 30 and not over 35	3 "	6 "	9 "
" " of 35 and not over 40	3½ "	6 "	9½ "
" " of 40 and over ...	4 "	6 "	10 "

283. The Departmental Committee proceeded to give attention to the case of existing officers between 40 and 60. In the case of those under 40, the above scale of contributions would produce the pensions aimed at; but in the case of officers over 40 they would produce only smaller annuities. The Report says:—

> "It is most important to make the best possible provision for the existing older "officers. Most of them have been in the school service many years and have done "good and strenuous work, often for small remuneration. For their own sakes and "the sake of the efficiency of the schools, many of them should not remain much "longer, but it is not justifiable to terminate their services unless some provision is "made for their maintenance. On the other hand, under a contributory scheme "men who have only contributed for a few years cannot expect pensions on the "same scale as is applicable to the younger men who will contribute throughout "their service."

284. To meet these cases it was recommended that officers over 40 should receive supplementary free pensions according to a certain scale. For example, an officer of 40 with 20 years service at the commencement of the scheme would receive, in addition to the pension provided by the scheme, an annuity equal to 10 per cent. of his existing salary and emoluments; an officer of 48 with 20 years service one of 15 per cent.; an officer of 58 with 30 years service one of 30 per cent., and so on.*

285. It was contemplated that these supplementary free pensions would be purchased by annual payments made by the school managers, the latter being aided in this respect, and also in regard to their contributions to the general scheme, by a State contribution—presumably one-half of the cost to the school—payable out of a grant, called the "Variable Grant," allocated by the Home Office.

286. As regards existing officers of 60 and over, the Departmental Committee suggested that their annuities should be on the same scale as the supplementary free pensions above referred to; and that if a school found itself unable, even with repayment of half the cost from the Variable Grant, to pay these, the Home Office should be asked for additional help.

287. It was recommended that retirement should be compulsory at 65, which age was the basis of the Committee's calculations, officers already over 60 to retire at the end of five years. It would be optional for an officer to retire after 60, but in that event his pension would be reduced to the sum purchasable by past contributions. In the event of voluntary retirement before 60, or of death before the pensionable age, the officer's own contributions were to be returned with interest. If

* The exact description of this scale is as follows:—

"For an officer aged 40 at the commencement of the scheme, a supplementary "free pension at the age of 65 equal to ½ per cent. of his existing salary and "emoluments in respect of each year of service already completed at the "commencement of the scheme, and for officers above the age of 40 at the "commencement of the scheme a supplementary free pension on the same scale "increasing by 1/32 per cent. of his existing salary and emoluments for each "completed year of age above 40 until a maximum of 1 per cent. is reached at the "age of 56."

incapacity were the cause of retirement before 60, the total premiums accumulated were to be applied to purchase an immediate annuity, or, if small, paid as a lump sum.

288. The general object of this scheme was to provide for officers substantially occupied in training the children. Consequently all part-time employees were excluded, as well as secretaries, clerks, domestic servants and labourers. In the case of certificated teachers included in the State provision for elementary teachers, the new scheme was to be regarded as supplementary to the State scheme, and contributions were to be made only in respect of salary in excess of £120 per annum (Women £96).

289. Accepting these principles, it was calculated that the total number of pensionable officers would be 1,668, and the total of the salaries and emoluments computable for pensions £155,153. This total was distributed as follows:—

	£
Officers below 30	27,871
,, of 30 and not over 35	21,059
,, ,, 35 ,, ,, 40	22,689
,, aged 40 and over	83,534

290. On the scheme proposed, the normal annual subscriptions, excluding the cost of supplementary free pensions for existing officers over 40, would be altogether £14,633, of which the officers would contribute £5,603 and the schools £9,030. In addition there would be for some years to come the additional cost of providing supplementary free pensions to existing officers over 40. The annual cost of such pensions on the scale proposed would be approximately:—

	£
Annual premiums to provide supplementary free pensions for officers between 40 and 60 at the commencement of the scheme ...	6,838
Annual payments by way of pension to officers who have attained the age of 60 at the commencement of the scheme	2,648
	£9,486

The charge for supplementary pensions would, of course, gradually decrease and ultimately disappear altogether; but at the outset the total charge falling on the school funds would thus be about £18,500 per annum, of which one-half, and possibly more, would be reimbursed to them by the Home Office.

291. It is interesting to note that the Departmental Committee arrived at their fundamental conclusions by the logical steps: (i) that the pension (*a*) must depend on the contributions and (*b*) cannot be correlated to the salary; (ii) that the money purchase system must therefore be adopted; (iii) that a responsibility for investing a mutual fund declined by

the Public Trustee would be too heavy for private trustees; and (iv) that use should therefore be made of insurance companies. It will be noted further that the problem of pensioning the existing staffs was solved (*a*) by scaling down the pensions aimed at, (*b*) by providing supplementary grants of which at least one-half was to be found from State funds, and (*c*) by limiting the latter to those over age 40. Of the normal annual premiums of £9,030 payable by the employers (*see* last par.), £1,273 would seem to be due to the higher ages of the existing officers, and this added to the £9,486 for supplementary pensions shows an initial, though gradually decreasing, annual charge of £10,759 in respect of the moderate scale of benefits adopted for the existing staffs.

292. As this scheme touches the object of our enquiry at several points, we have noticed it in some detail, and we also reprint in an Appendix (No. XI) some actual specimen pensions which were calculated by the Departmental Committee to illustrate their scheme. Before doing so, it was necessary for them to consider the question of emoluments. These were found to vary so much that it was decided to prepare a schedule of allowances, to be made the basis of contributions, applicable to all cases. As this schedule may be of some general interest we have included it in the Appendix.

The Royal National Pension Fund for Nurses.

293. In the category of schemes based on the money purchase principle also comes the Royal National Pension Fund for Nurses. It was founded in the year 1887 as a mutual society for the grant of annuities, and as such makes returns under the Life Assurance Companies Act. The rates of premium were carefully calculated to provide in each case the exact amount of pension purchased, so that the principal elements of uncertainty in the case are limited to those inherent in all such projects, viz., the future rate of mortality, or rather longevity, of the members, and those of a financial kind affecting the value of the assets, and the future of the rate of interest. The Fund is open to male officers of Hospitals as well as females, but very few men have effected policies.

294. The Fund at its institution had the advantage of some large donations of money, which were invested as capital, the income and even part of the capital to be applied from time to time to supplement the bonuses, if any, allotted to the members out of profits. Such bonuses are applied to increase the amount of the pensions payable and in the past substantial additional benefits have in this way been given to the members. It was, however, stated to us by the actuary of the Fund, Mr. George King, F.I.A., who was good enough to attend as a witness, that the rate of longevity of those nurses who have already entered on their pensions was unexpectedly high, and that it was in consequence very doubtful whether in the future they could count on any divisible profits so far as the working of the Fund itself was concerned.

295. As we have already seen, the Royal National Pension Fund has excellent machinery for federating with any Hospital which will interest itself in providing pensions on the money purchase system for its nurses, and it has also a separate fund out of which assistance can be given in suitable cases to members who are unable to keep up their payments during sickness, etc. We have no evidence that this special fund is large enough to operate to any great extent, but it is an excellent feature in principle. The difficulty of meeting cases of sickness, even when it involves temporary loss of earnings, but more particularly when it necessitates an early retirement, is, as we have seen, a great disadvantage of the method of providing pensions on the money purchase plan. For to secure a fixed benefit it is obviously necessary that the stated contribution be duly paid.

296. It will be seen that the Royal National Pension Fund is not a pension fund in the technical sense, but a society granting annuities in return for properly apportioned premiums; and, as might be supposed from what has been stated, the actual contract terms offered by the Fund are comparable with those of other societies. It may be of interest to show here, for one or two selected ages, the actual contributions for a pension of £10 per annum on a female life, as quoted (i) in the prospectus of the Royal National Pension Fund and (ii) by two insurance companies included in the Federated Universities System.

ANNUAL PREMIUM FOR A PENSION OF £10 PER ANNUM ON A FEMALE LIFE (*the premiums being returnable with interest in the event of death before the Pension age*).

Age at Entry.	Pension to commence at 55.			Pension to commence at 60.		
	Royal National Pension Fund for Nurses.*	Legal & General Assurance Society.†	Commercial Union Assurance Company Limited.†	Royal National Pension Fund for Nurses.*	Legal & General Assurance Society.†	Commercial Union Assurance Company Limited.†
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
21	2 14 0	2 7 0	2 7 0	1 17 0	1 13 0	1 12 0
30	4 5 0	3 14 0	3 14 4	2 17 0	2 9 5	2 8 7
40	8 7 0	7 5 0	7 5 9	5 0 0	4 7 4	4 6 0

* In the case of the Royal National Pension Fund the premiums can be paid monthly and the benefit may be increased out of profits as explained above.

† In the case of the two insurance companies there is the added security of the shareholders' capital.

297. It will be noticed that this Table is based on the plan of returning all the premiums that may have been paid in the event of death before entering on the pension. These are the only rates published in the prospectus of the Royal National Fund, and although the Fund is

willing to quote non-returnable rates on a lower scale it does not encourage the issue of such contracts. We understand this practice to be based partly on *a priori* views as to what is desirable for nurses, and also on what has proved in practice to be the preference of the nurses themselves.

298. Though there may be minor differences between the contracts quoted in the Table in respect of the sums returnable on death or withdrawal, it seems clear that the insurance companies can give at the outset larger benefits for a stated amount of premium than the Royal National Fund. To complete the comparison it is, however, necessary to consider the bonuses allotted by the Fund (*see* par. 294). According to the latest valuation return the contract annuities already payable amounted to £36,338 per annum. To this sum is added £4,224, or 11·6 per cent., representing bonuses already declared, and being about 8·9 per cent. from profits and 2·7 per cent. from extraneous donations. The participating annuities not yet entered upon amounted to £165,946 per annum, to which is added £2,816, or 1·7 per cent. representing bonuses already declared, and being about 1·4 per cent. from profits and ·3 per cent. from extraneous donations. As the result of the last valuation a further profit of £42,616 was allotted by way of bonuses. This resulted in increases averaging about 3½ per cent. in the case of annuities already being paid, and from ½ to 2 per cent. according to age in the case of future annuities. Adding these percentages to those of the previous bonuses, it would seem that existing annuitants now enjoy an addition of something like 15 per cent. to the contract benefits; while the future annuitants have an average addition, varying a good deal with the age, of something like 2 or 3 per cent. extra to look forward to, together with, as we have already seen, a somewhat uncertain prospect of further profits in the future.

299. If we refer back to the Table in paragraph 296 and take the lowest rates quoted by an insurance company as a standard it seems that the premiums paid to the Royal National Fund for annuities at 55 are higher by about 15 per cent. than the others; and the return for this higher percentage of contribution must be sought in the advantages enjoyed by the members of the Royal National Fund as shown by the foregoing particulars of bonuses and in other ways.

300. The Royal National Fund has always had the benefit of expert financial advice on its Council, and of the best actuarial advice. Mr. King, the actuary, informed us that, both in calculating the original tables of premiums and in the successive valuations, he had made security the first consideration. The Fund has further had the benefit of much extraneous support and of large donations of money. If, with all these advantages, the Fund has barely competed with the insurance companies in the past, and seems less likely to do so in the future, the explanation must be sought in one of two directions. Either

insurance companie give too much, or a mutual fund, through the exercise of legitimate caution or for some other reason, cannot give as good value as the companies.

301. The foregoing analysis, like the conclusions arrived at in paragraphs 261 and 266, does not support the contention of the Hospital Officers that the machinery of insurance companies is necessarily expensive. It would be an interesting speculation to enquire what would have been the position of the Royal National Fund to-day if it had carefully nursed its own funds, reserving them to supply the special needs caused by sickness and disablement, and had transferred the actual annuity risks to insurance companies: but it would scarcely come within the proper scope of our enquiry to pursue this question.

302. As regards the future, however, the longevity of the pensioners (*see* par. 294), confirmed as it is by the longevity of the male pensioners in the Railway Clearing Fund (*see* par. 238), and the general considerations and tendencies we shall discuss later on (*see* pars. 393 to 397), cannot be disregarded. The latter point to increasing difficulty in competing with strong insurance companies; and the existing contingency of increasing the rates of premium (*see* par. 394) may quite possibly in the future cause the Fund to reconsider the desirability of continuing to grant annuities at its own risk. Whatever may happen, however, to this side of the Fund's activities, we cannot help thinking that, where there is such a numerous and unorganized body of workers as is found in the trained nurses of the nation, and more particularly those who have gone into private nursing, there will always be scope for the work of such an institution as the Royal National Pension Fund. We ourselves have already indicated (*see* par. 106) a direction in which this Fund and the new College of Nursing, in the event of the recommendations we have made regarding pensions for young nurses assuming practical shape, might render a very valuable service to the body as a whole—the kind of service, in fact, that could only be rendered by organizations approaching the task with sympathy and understanding of the needs of the case.

New South Wales proposed Superannuation Fund.

303. This scheme, though published in 1912, at present remains only a project; but it has been carefully elaborated and calls for brief notice. A Departmental Committee was appointed to consider the whole question of superannuation in the public service, including any existing schemes and extending the principle to include all Municipal and Shire employees. General schemes of social insurance were in the air, and the Committee was to devise a type of superannuation that would lend itself to extension to the other classes of the community.

304. A scheme that had been submitted by the Public Service Association was disapproved, mainly because it proposed a large initial

payment to be made by the State, but also because the Committee objected to the ordinary salary percentage principle. In their view "the contributions should be distinctly related to and depend upon the "amount of pension rights in prospect; and this, in turn, should depend "upon the amount of salary." Thus the Committee departed from the more usual method of adjusting the contribution to the salary, and boldly attacked the problem of adjusting the pension to the salary, leaving the amount of the contribution to be determined by the money purchase principle. This would seem to be a novel application of that principle. In the case of the Reformatory Schools Scheme (*see* par. 282) a similar sort of procedure was adopted, but in that case the benefits aimed at were admittedly reduced to the practical limits of contributive capacity.

305. The family need is the basis of the scheme adopted. Thus a pension roughly related to salary having been provided for the contributor at 60, or on a breakdown of health, after a minimum service of ten years, the widow is to receive one-half of the pension, and each child under 16 is to receive £13 per annum, whether the member's death occur before or after the pension age. On resignation or dismissal before age 60, the employee's own contributions are to be refunded. The contributions are to be shared equally by the State, or other employer, and are to be paid into a fund which is to be managed at the cost of the State by a Board of three members, of whom one must be an actuary. There is no reference in the synopsis of the proposed Bill to any State guarantee of the benefits, nor do the Committee in their report refer to the matter of security. They do not even discuss the possibility of future variation, on the side either of profit or loss, in the estimates of cost made by the actuaries. There can, however, be little doubt that the State would not escape responsibility for the solvency of an elaborate scheme set up by Act of Parliament.

306. The actuarial proposals are interesting. In the Universities Scheme, it will be remembered, the contribution, which was fixed at 10 per cent. of the salary, is the starting point; fresh increments of pension being assured each time the salary increments amount to £25. In the New South Wales proposed scheme, effect being given to its fundamental conception, the cost is first calculated of a complete "unit" of pension of £26 per annum, with half to the widow, etc.; and the scheme then aims at the setting up in each case of as many units as will provide a pension of, roughly, 50 per cent. of the salary. The minimum contribution is to be for two units, or £52 of pension, but there is to be no compulsion as to any increases after age 40. The amount of the necessary contributions is thus arrived at last.

307. In order to assist the actuaries in calculating the cost of the proposed benefits a special investigation was made into the vital statistics of the public service employees. This covered the case of 12,675 men and 3,226 women in active service, as well as 5,368 men and

2,970 women who had left the service. These statistics did not, however, throw the desired light on the question of early retirements due to breakdown of health. For this purpose recourse was had to existing records of the New South Wales Government Railways and Tramways over a period of 16 years. The new statistics were used chiefly to determine the rates of "waste," and the values of the widows and orphans benefits. Combining these with the most suitable Tables available for rates of mortality among officers and among pensioners, the actuaries calculated the rates of contribution for salaried staffs and weekly wage staffs separately; but the different forces affecting the staffs tended to neutralize one another, and in the end similar rates were quoted for all. Females, of course, are separate, and pay smaller contributions, as there are no widows and orphans benefits to be provided.

308. It being interesting to see the cost of each benefit separately, as given by the actuaries, we have extracted the following particulars for certain ages. The rates quoted are for half-monthly payments, and for the contributor's share only. We have added a column showing the whole cost as an annual premium :—

MALES: COST OF EACH DOUBLE UNIT OF £52 PER ANNUM AT AGE 60.

[Excluding Orphans Benefit.*]

Age.	Normal Pension.		Invalid Pension.		Withdrawal Benefit (Refund of Member's Contribution).	Total Half-Cost Half-Monthly.	Equivalent Total Annual Premium.
	Member.	Widow.	Member.	Widow.			
	s. d.	s. d.	s. d.	s. d.	d.	£ s. d.	£ s. d.
20	1 1	0 10	0 6	0 2	3	0 2 10	6 16 0
30	2 1	1 8	1 0	0 3	2	0 5 2	12 8 0
40	4 3	2 7	1 9	0 6	1	0 9 2	22 0 0
50	11 9	4 6	4 0	1 0	...	1 1 3	51 0 0

FEMALES: COST OF EACH DOUBLE UNIT OF £52 PER ANNUM.

(i.) Retirement at Age 60.

Age.	Normal Pension.	Invalid Pension.	Withdrawal Benefit (Refund of Member's Contribution).	Total Half-Cost Half-Monthly.	Equivalent Total Annual Premium.
	s. d.	s. d.	d.	s. d.	£ s. d.
20	0 10	0 5	3	1 6	3 12 0
30	2 1	0 11	2	3 2	7 12 0
40	4 7	1 10	1	6 6	15 12 0
50	12 10	4 0	...	16 10	40 8 0

* The total annual cost of this benefit increases with the age from 16s. 0d. up to £2 8s. It is not included here, as it is payable once only—*i.e.*, in respect of the first £52.

(ii.) Retirement at Age 55.

Age.	Normal Pension.	Invalid Pension.	Withdrawal Benefit (Refund of Member's Contribution).	Total Half-Cost Half-Monthly.	Equivalent Total Annual Premium.
	£ s. d.	s. d.	d.	£ s. d.	£ s. d.
20	0 2 0	0 2	5	0 2 7	6 4 0
30	0 4 10	0 6	4	0 5 8	13 12 0
40	0 11 9	0 11	2	0 12 10	30 16 0
50	2 7 7	2 1	1	2 9 9	119 8 0

309. A good many examples are given showing the percentages of the salary which these scales of contribution would represent in different type cases. For men entering young and progressing slowly the member's share is about 3 per cent. of the salary, rising perhaps later in life to 5 per cent. For men entering rather later and rising more rapidly in the service, the percentage would be more like 5 per cent. rising to 7 or 8 per cent., and in cases to as much as 10 or 11 per cent. It follows necessarily from this method of applying the money purchase principle that as the salaries of the older and higher paid men rise, the growing amount of the pension necessitates heavy contributions, both from the employer and the officer, in respect of the later increments.

310. The Report on the scheme discusses a good many questions of interest, but here we can take further note only of one point, viz., the proposed provision for the existing staffs. The Departmental Committee, forced by their adoption of the money purchase principle to face the great cost of full pensions for existing employees, and after trying many alternative devices, had to be content with the following recommendations as to any officer over 30 now in service or who may in future enter over that age: He *must* contribute for two units, or £52 per annum, but paying only the rate for age 30 irrespective of his real age. He *may* contribute for additional units in accordance with the prescribed scale; these are limited to four and must be paid for on the basis of actual age. The actuaries reported that the numbers of the existing staff between 30 and 60 were 8,758 men and 1,583 women: the cost of the compulsory clause to the State for these would be £109,000 per annum if spread over 40 years, or £99,000 per annum for 50 years. The cost of the optional increases up to £156 per annum they could not forecast, nor could they estimate the cost in respect of future entrants. These estimates presumably include what may be called the normal contributions for future service, and the estimated extra cost for past service is not stated separately. It is lumped with future service, and the cost is apparently to be spread over 40 or 50 years.

311. All existing employees under 30, and all future entrants under that age, are to come under the full provisions of the Bill. The former

consisted of 3,448 men and 1,608 women and the annual cost for these was estimated at £25,000, increasing, of course, in the future with the increase of total salaries.

312. The scheme is an interesting project for a national fund in which family provision plays an important part and in which the full assured pensions become immediately available in the event of breakdown, the cost of this being separately calculated but included in the general contribution. Its other distinguishing feature, that of basing the ultimate pension on a prescribed scale and leaving the percentage of contribution payable to vary in almost every individual case, carries with it obvious inconveniences. Logical as it may be from the point of view of supplying family needs and the endowment of motherhood, objects which are freely discussed and frankly aimed at in our democratic dominions overseas, it opens an additional field of controversy and clearly calls for much further consideration before the principle on which it rests could meet with general acceptance. It will be seen that actuarial assumptions of all sorts enter into the scheme, and the element of security would obviously be lacking in the absence of a State guarantee. Finally, as regards the existing staffs the benefits are strictly limited ; and even then the cost is found to be so great that it is proposed to pay for them by a system of postponed State contributions, which is a good deal removed from the principle of making financial provision in advance.

Scheme submitted by Mr. T. Tinner, F.I.A.

313. Another interesting application of the money purchase principle is found in a proposed scheme submitted to us by Mr. Thomas Tinner, F.I.A., of the London County Council, who was good enough to attend as a witness and explain his proposals personally. His own detailed description of the scheme will be found in Appendix VIII.

314. The foundation of the scheme is column 2 of Mr. Tinner's Table III, which shows, for each age attained, and for each contribution of £1, the amount of pension which can be granted at age 65 or on earlier retirement through incapacitation. It is a distinguishing feature of this proposal that the pensions, like those proposed in the New South Wales scheme, should become payable, though not for the full ultimate amount, in the event of disablement. Mr. Tinner attached great importance to this feature ; and his evidence as to its desirability is valuable, his experience in dealing with staff questions at the London County Council being very considerable.

315. A mutual fund was to be set up, and, assuming that employer and employee would contribute in equal proportions, the method of calculation provided for the return of the member's own contributions in the event of death while in the service. No profit from withdrawals entered into the calculations. Even if the member's own contributions

were returned in every case of withdrawal, there would remain in the fund, therefore, the employer's contributions, and the whole of the interest, to form a margin for contingencies or for increasing the benefits.

316. Mr. Tinner's calculations were based on rates of mortality and superannuation, including early retirement from incapacity, deduced from the experience of existing funds of which he had private knowledge. He assumed a future net rate of interest of $3\frac{1}{2}$ per cent., after deduction of tax, and he made no allowance for expenses. He frankly points out that any Table used at first must be regarded as tentative, because every fund develops its own characteristics, and these can only be ascertained by experience. At the same time, being based on British experience, and being uncomplicated with widows and orphans benefits, we select his scheme in preference to the New South Wales one as a basis for further investigation and comparison.

317. To illustrate the working of such a scheme, Mr. Tinner constructed two scales of hypothetical salaries (they are set out in Appendix VIII, Table II), and arrived at the result that a contribution of 10 per cent. of the salaries would provide pensions at 65 equivalent to sixtieths of the average salary in the case of members entering at age 35 and thereabouts. For earlier entrants his pensions would be better; for later entrants not quite as good. For purposes of comparison it will, however, be more convenient if we apply Mr. Tinner's Table of Premiums to the typical scales of Hospital salaries (*see* Appendix X) which we have already used in other cases.

318. In the comparisons previously attempted between the results of the Universities system and other methods (*see* pars. 263 to 266) we were met with the difficulty that the cost of the respective benefits, *i.e.*, the contributions, did not permit of exact correlation. We can, however, as regards the Universities plan and Mr. Tinner's scheme, both being based on the money purchase principle, compare the benefits obtainable for exactly similar contributions, although the benefits themselves are not strictly comparable.

319. We may here mention that Mr. F. L. Collins, F.I.A., an actuary who has had considerable experience of the Universities scheme, attended as a witness to give us evidence as to the working of that system from the insurance companies' side. Mr. Collins drew our attention to option 9 of the Universities plan, under which the returns of contributions in the event of death or withdrawal are somewhat similar to those proposed by Mr. Tinner.* We therefore selected that scale; and taking the Hospital typical cases, the contribution under each scheme

* Mr. Collins mentioned several features of the working of a pension scheme in connection with insurance companies which appeared to be of general interest. At our request he has developed his views in a written memorandum, which will be found in Appendix IX.

being 10 per cent. of the salaries, the following Table shows the estimated pensions obtainable at ages 60 and 65 under the respective schemes :—

Particulars of Type Cases.			Amount of Pension commencing at 60.		Amount of Pension commencing at 65.	
No.	Final Salary.	Average Salary to age 60.	F.S.S.U. Deferred Annuity (with return).*	Mr. Tinner's Scheme.†	F.S.S.U. Deferred Annuity (with return).*	Mr. Tinner's Scheme.
	£	£	£	£	£	£
I.	625	447	236	250	362	355
II.	425	257	157	169	242	239
III.	325	238	128	136	196	193

320. By way of considering the general adequacy of the scale of pensions thus provided under money purchase plans, it will be instructive to refer to the Table in paragraph 263. It will be seen that, as regards the type cases, which are all based on young ages at entry, these pensions compare very favourably with those suggested in the Hospital Officers scheme, and based on the average salary method, so far as regards pensions maturing at age 65. For retirements at age 60 they are not quite so good ; at 61 they would probably be about the same in amount.

321. Reverting to the more immediate object of the comparison made in the last Table, it is seen that the annuities definitely purchasable under the Universities scheme are in each case very similar to Mr. Tinner's, and being based on the money purchase principle they follow the general characteristics of his. It being, as we have said, a special feature of Mr. Tinner's scheme to provide satisfactory allowances in the event of a breakdown of health, whereas under the more usual applications of the money purchase principle only the actual contributions paid in each case (with or without interest) are available in this event, it is not possible to pursue an exact financial comparison between the systems to cover the various contingencies of withdrawal from the service or death or disablement while in the service. We have, however, in the following Table, set out the respective actual benefits that would be payable in those contingencies under each plan. In this case we deal only with pensions calculated to begin at 65, as first proposed by Mr. Tinner :—

* This option is based on the rates for Deferred Annuities (with return of premiums and 3 per cent. interest in the event of death or discontinuance) of the Commercial Union Assurance Company, already quoted by us in paragraph 296. We might also have included in the Table the amounts of similar pensions which could be secured from the Royal National Fund for Nurses according to the rates likewise quoted in paragraph 296; but this seems unnecessary, as the rates of the Royal National Fund for annuities at 60 are in each case about 1/6th greater than those of the Commercial Union Company, and the resultant pensions would thus be about 1/7th less, disregarding bonuses.

† Mr. Tinner, in an addendum to Appendix VIII, has given the results under his method for age 60.

Type Case No.	F.S.S.U. Deferred Annuity. Death, Withdrawal or Disablement. Lump sum returnable at age			Mr. Tinner's Scheme. Death or Withdrawal. Lump sum returnable at age			Mr. Tinner's Scheme. Disablement. Annual Pension commencing at age		
	40	50	60	40	50	60	40	50	60
	£	£	£	£	£	£	£	£	£
I.	513	1,348	2,550	210	490	802	122	232	320
II.	414	901	1,695	157	306	511	100	158	215
III.	318	742	1,381	127	261	423	76	129	174

322. The general effect of this Table is to show that Mr. Tinner's better disablement benefit is provided to some extent by giving smaller benefits than those under the Deferred Annuity plan in the event of death or withdrawal. He is also assisted in his estimates by assuming a net yield of 3½ per cent. interest and no expenses; whereas the insurance company allows for expenses and guarantees only 3 per cent. Assuming that Mr. Tinner's estimates were to be borne out in practice, the prospect of having such pensions in the event of a breakdown of health is one that must appeal strongly to officials, although there would be many individual cases in which, in the result, the lump sums under the Universities plan would be more advantageous. On the other hand, the complete recognition of the principle of deferred pay which we have seen (par. 270) to run through the Universities system, and which results in the better allowances provided under that system in the case of death or withdrawal from service, makes its own appeal. The general conclusion we draw from the comparison of the two plans is that the benefits differ more in kind than in degree; and, further, that the main feature in which they differ depends on the important underlying general principle as to whether a pension is in the strict sense deferred pay. This point we must reserve for further discussion.

323. The two plans of applying the money purchase principle thus brought into comparison differ not only as regards the prospective benefits and the general principles underlying them, but also in the way of security. Those of the Universities scheme are definitely guaranteed by a powerful company. Those of Mr. Tinner are professedly tentative and subject to the working out free of expense of a mutual fund liable to various incidents of risk. They may prove to be in the result either better or worse than the present estimate. We think it is not possible for anyone to say positively, 50 or 60 years ahead, which of the two, looking at the matter purely from the financial point of view and independently of the suitability of the particular form of the benefits, may prove ultimately to be the better investment.

324. On the important question of providing for the existing staff, Mr. Tinner could only confirm our previous conclusion that it is the greatest difficulty to be confronted in the inauguration of any such scheme.

As he says, "it is clearly impracticable to provide by means of such "a fund for those who are round about the retiring age." We regard it, however, as a recommendation of the money purchase principle, on which the plan is fundamentally based, that this fact should thus be clearly raised at the outset as a distinct problem, and (as we have indicated in pars. 177 and 193) should not be combined with the different question of providing entirely in advance in respect of future service. To the problem of the existing staffs we shall return later on as being a separate question.

325. In general conception Mr. Tinner's scheme ranges itself with the Elementary Teachers Deferred Annuity Fund and the Royal National Pension Fund for Nurses as a mutual fund for annuities based on the money purchase principle. Like those funds it is subject to some, but not all, of the elements of risk we set out in paragraphs 127 and 245 as applicable to mutual funds based on the salary percentage principle. In particular, it eliminates the uncertainties as to the ages at retirement and amounts of pension which, as we have seen, have proved fatal to the solvency of so many of the existing superannuation funds; and the principal difficulties remaining to be guarded against in a fund of this type would be (i) the risk of losses by depreciation of investments, (ii) the possibility of a fall in the future rate of interest below the $3\frac{1}{2}$ per cent. anticipated, (iii) an undue proportion of disablement cases calling for early pensions, and (iv) an improvement in the longevity of the pensioners, beyond that provided for in the Tables.

326 The last two questions are perhaps more important than the first two. As regards that of pensioners' longevity the experience of the Railway Clearing Fund and the evidence of Mr. George King, F.I.A., as to the Royal National Fund for Nurses, have been quoted already (*see* par. 302). We were, indeed, informed by Mr. King that he had been alive to this point from the outset of the Fund, and had in consequence always aimed at providing sufficient money, both in his valuation reserve and in the contributions payable, to enable all risks to be passed off and reassured with strong insurance companies, should such a course at any time seem advisable. Mr. King's caution in this respect, since justified by the event, is seen reflected in the Table in paragraph 296, showing the rates quoted by the Royal National Fund to be less favourable than those quoted by leading insurance companies. To this question of the rate of mortality among pensioners we shall return.

327. As regards the question of early retirements, that is a feature which distinguishes Mr. Tinner's scheme from most other examples of the money purchase plan, though it appears in the proposed New South Wales scheme. In itself an attractive feature of the scheme, it introduces undoubted difficulties, from the administrative point of view, of a kind we have already mentioned in paragraph 245. The experience of the Royal National Fund for Nurses proves that a mutual fund on the money purchase principle is feasible for a loosely aggregated body of persons or institutions

(i) with great caution under the best actuarial advice, (ii) with a certain amount of financial and other help, and (iii) with every benefit strictly defined. But we cannot hear of any similar fund, other than the Railway Clearing System Superannuation Fund (*see* par. 229 *et seq.*), which has attempted to apply the problem of early retirements to a diversified body of institutions like the London Hospitals. It will be seen that Mr. Tinner's scheme raises several important questions of principle and practice calling for further and separate consideration before a final judgment can be passed on it.

END OF PART II.

PART III.

DISCUSSION OF THE FUNDAMENTAL QUESTIONS INVOLVED IN ANY GENERAL SCHEME OF PENSIONS FOR HOSPITAL OFFICERS AND STAFFS AS ILLUSTRATED BY THE FOREGOING SURVEY. GENERAL CONCLUSIONS AND DISCUSSIONS OF THE METHODS OF GIVING EFFECT TO THEM. REJECTION OF MUTUAL SCHEMES AND FINAL RECOMMENDATION OF INSURANCE METHOD, WITH SEPARATE PROVISION FOR DISABLEMENT.

328. In making the foregoing survey of the general field we have, perhaps, travelled somewhat far. The difficulty has been to restrict it. Many schemes have not been referred to, but we think our review has been sufficiently comprehensive to indicate and illustrate the significance of every important point of principle that can arise in the working of a pension scheme. Some such review was necessary to enable us, by the method of comparison, to test the qualities and defects of such particular schemes as have been more specifically under consideration. It will also help us now, by a process of suggestion and elimination, to arrive at some general conclusions as to the proper way of meeting the conditions we have already laid down (*see* par. 115 *et seq.*). We will first take the controversial but fundamental questions of principle which were raised in paragraph 119.

(a) Should the Liability of Hospitals for Pensions be provided for in advance?

329. Our survey has furnished us with many facts bearing on this question. A reference to it (*see, inter alia,* pars. 12, 149, 160, 180, 190, 205, and 224) shows to what serious proportions accruing liabilities for pensions may grow when unprovided for in advance. And if this fact has called for action in the case of governments, municipal bodies and great railway companies, it seems clear that charitable institutions with no assured sources of future income, as are the majority of the Hospitals of London, are specially unsuited, both in legal constitution and in financial position, for the assumption of liabilities of that kind.

330. It is, no doubt, a question of general interest to consider the extent to which any generation may be said to benefit by, and ought to help to pay for, the labours of the past. Considerations of that nature, so far as manual workers are concerned, though imperfectly

recognized, seem to have run through all the ancient Poor Law legislation, and undoubtedly contributed to the recent grant of universal old age pensions without any sort of financial provision beforehand. A rational argument may be advanced that the old age provision of a man who, for instance, has founded a large business which will go on producing considerable profits long after his working time should properly be made a charge on those profits; and no doubt instances of this sort might be multiplied indefinitely. For these reasons we should hesitate to suggest anything like a universal principle in this matter; but we have no hesitation in saying that a system which leaves large accruing liabilities to be met in the future is one which ought not to be followed by the voluntary Hospitals of London. In their case, though many of their officers, male and female, are doing work which will be reflected in great benefits to a future generation, yet it is work which, apart from improvements in life and health, does not produce future profit for the Hospitals in the industrial sense. Indeed, an energetic principal officer may leave his Hospital, and probably generally does, with increased expenditure to be provided for. The work would seem to be work that should be paid for entirely, including the employer's contribution to old age provision, as and when the services are rendered.

331. The question whether this should be effected in practice by contributing a percentage of the salary, as and when paid, or whether an endeavour should be made to estimate the "equivalent annual charge" which should be set aside by the employer, may be regarded as comparatively a detail. But we have seen, in the case of the Metropolitan Borough Schemes and of the New Zealand Funds, that difficulties arise in connection with the latter plan as to the proper period over which the charge should be spread; while the Council of the Institute of Actuaries, when asked to advise Parliament as to the Borough Schemes, said that the employer's contribution should be calculated at such percentage of the salaries payable as would ensure the solvency of the Funds.

332. The London County Council (*see* par. 190) decided to discharge its accumulated pension liabilities by an equal charge spread over 50 years. Much of the Council's liability, due to existing or impending pensions, was inherited from its predecessors, and such pensions would have a first claim on the equal charge. The remainder of the Council's liability had arisen since the foundation of its own Superannuation Funds, chiefly through an insufficient scale of contributions, in respect of members of the existing staff. In regard to this part of the liability, it is not easy to see a logical basis in a principle which postpones its ultimate extinction for 50 years. At the same time it is impossible not to sympathize with the effort as a whole of a body which, without any inspiration from Parliament, is endeavouring to provide in advance for its future liabilities concurrently with the liquidation of such past liabilities. As regards future appointments, we saw that the Council, by increasing the members' contributions, hoped to prevent any further deficiency, and thus, with the assistance of its own contribution, which

is a percentage of the salary paid as and when due, to provide the pensions strictly in advance.

333. In the case of the proposed New South Wales Government Fund, the general conception of which is to provide benefits in advance on the money purchase principle, we saw that the employer's contributions, though in this case not forming a uniform percentage of the salary, are apparently to be paid strictly as and when the member's contributions are paid. Yet even here we found confusion arising through the proposal to spread the cost of the existing staff over a period of 40 or 50 years, for it is impossible to say in such circumstances whether future service is being provided for as and when rendered, or even whether past service will have been finally paid for before the death of many of the pensioners.

334. We have already remarked (*see* pars. 177, 193 and 206) that much confusion as to employer's contributions would be avoided, where existing staffs are concerned, if all liability for past service were kept distinct from provision for future service. Leaving aside, therefore, for separate consideration the manner of making financial provision for the reward of past service, the sound method of procedure appears to us to be (i) to recognize that pensions should be regarded in principle as deferred pay, (ii) from the time of such recognition to set aside proper contributions in respect of all future service, whether in respect of officers already serving or to be appointed in the future, and (iii) to provide that all such contributions shall be made during the working time of the officers concerned, and preferably, as we think, as and when every payment of salary is made.

335. In saying this we must not be considered to be in any way reflecting on the existing schemes that, without any public pressure, have been formulated generously by many of the larger Hospitals. These are as a class well-established institutions, and some of them have considerable resources to fall back upon; they are, perhaps, the best judges of what liabilities they ought to incur. But for a general rule applicable to all, large and small alike, we consider that the principle above laid down is the better one.

(b) Should a Scheme include some Benefit payable on early Death?

336. Probably most people regarding this question afresh, whether from the point of view of the employer or of the beneficiary, would favour a scheme providing some benefit for dependants in the event of death before the pension age. Most of the existing pension funds, however, subordinate this feature to that of superannuation, and the Hospital Officers Association took the view that, while pensions should be secured for the officers on as generous a scale as possible, they themselves should be left to make whatever family provision might be most suitable in each particular case. The answer to the question is thus clearly not an obvious one.

337. Primarily, of course, the object of a pension scheme is to provide for the old age of the worker himself. It is notorious, however, that death often finds the dependants ill-provided for, with the result that appeals are made to the employers. It may be even a distinguished servant of the State who has neglected his private interests while rendering valuable public service, and the result becomes almost a public scandal. Undoubtedly the general tendency is for employers to pay more attention to this aspect of the case. For instance, the State itself, as we have already seen, has by the Superannuation Act 1909 reduced the annual pensions of future Civil Servants in order that they may receive in addition a gratuity of a lump sum on retirement, and also a death benefit of at least one year's salary. As we have already mentioned, this amended scale was introduced to meet the views of existing Civil Servants, who represented (*see* par. 145) that pensions should be regarded as deferred pay, not to be entirely sacrificed in the event of premature death, who pleaded almost with unanimity for some form of death benefit, and the great majority of whom have elected to come under the new scale. In the Civil Services of France, Germany, Holland and Belgium the widows receive pensions, and in the last three the orphans have certain benefits. (Cd. 1745, p. 193.) The New Zealand Funds pay annuities to the widows and children of deceased members. So does the Indian Covenanted Civil Service Pension Fund, with the help of a subvention from the State. The New South Wales Government proposals also included, we saw, half pensions for widows, and children's allowances—in this case frankly put forward as a first instalment of social insurance and endowment of motherhood. In Scotland there are many professional and other widows' funds. Even in typical superannuation funds, such as those of the railway companies, there is almost invariably a return of the member's contributions on death; and frequently this applies after the pension age if the sum exceeds the pension already drawn. We also saw that in the proposed scheme for Secondary School Teachers, the Departmental Committee of the Board of Education laid it down that any scheme to be satisfactory should provide optional alternatives to a deferred annuity (*see* par. 273). The feature of a death benefit runs through the schemes of nearly all Trade Unions and Friendly Societies, as well as many schemes of banks, insurance companies, and other great commercial institutions. Many banks, in particular, effect policies of insurance on the lives of their officers, in addition to granting pensions. (Cd. 1745, q. 1389.) A death benefit was adopted as an ordinary feature in the Federated Universities scheme, although the fundamental conception of that scheme was that it should be sufficiently elastic to permit of this feature being departed from in cases where the beneficiary had no dependants; in practice the form of the benefit rests entirely with the beneficiary, and in this connection it is of interest to note that, according to the latest report of the System, there are at the present time 452 members, of whom 225 chose policies with a considerable death benefit, and 227 deferred annuities either with or without return of premiums.

338. Unfortunately a death benefit costs money, even if it be restricted to a return of contributions as in a typical mutual fund. An additional benefit of this kind cannot be given in theory without either increasing the contribution or decreasing the pension. This may have had a good deal to do with the adverse opinion of the Hospital Officers Association, and not any objection to a death benefit in itself. Evidence, however, that we shall put forward presently (*see* Mr. Collins's Memorandum in Appendix IX, par. 6) shows that a pre-pension death benefit in certain events may cost very little. We shall also submit considerations in connection with the provision of disablement pensions (*see* pars. 441 *et seq.*, *also* 462) which appear to support strongly the desirability of providing a death benefit, and even perhaps making it compulsory in all cases. We arrive at the conclusion that a substantial death benefit should form part of any satisfactory scheme; but as it might prove to be desirable to make it optional, it would be a point in favour of a scheme that it should lend itself to such a variation.

339. We have seen that in the case of mutual funds it is a common provision (*see* pars. 184 and 230) that in the event of death soon after the pension begins a death benefit is paid. It is usually provided that the total return, including pension payments already made, shall never be less than the member's own contributions, with or without interest. This practice has clearly been in response to a desire, which was also given expression to by certain Civil Servants (*see* par. 145). In the case of the Universities scheme, where the death benefit figures prominently, we have seen that, large as the death benefits may be in certain cases, especially where death occurs just prior to the age of retirement, the whole of such benefit disappears when once the sums available at the retirement age have been sunk in the purchase of a superannuation annuity. However soon thereafter the annuitant might die, the dependants would receive nothing. It was no doubt partly for this reason that the administrative conception of the Universities scheme is that of a federation, where elastic powers are left with the constituent colleges. The local governing bodies, who naturally know a good deal of the circumstances and state of health of the older members, have power to pay over the whole or part of the capital sums maturing at 60 to the beneficiary, or to make such other arrangements as may seem to them desirable. This is no doubt a useful provision, which may go far to modify the disadvantage we have referred to; but the system is still too young to show how this feature will work in practice, and we do not think that finality has yet been reached as to the best method of combining a death benefit with superannuation. A perusal of the evidence submitted to Lord Courtney's Commission leaves a strong impression on the mind that the protection of life assurance, or an analogous benefit, is in many cases needed throughout life; and for this reason we think the general arrangement of the benefits under the new Civil Service scale, under which a cash payment replaces on retirement the expiring death insurance, affords a standard which must be borne in mind in the construction of any future scheme. In this connection it may be noted that there already exists in the

Universities scheme an option which closely provides the sort of benefit here contemplated. Options 4 and 6 are "Double Endowment" Assurances, offered by two different Societies, under which the sum payable on maturity is double the amount payable in the event of earlier death. By this means a sum can be set aside on retirement for family provision without entirely impairing the adequacy of the pension; or by some moderate increase in the contribution the same object could be attained without in any way affecting the pension aimed at.

(c) Should the Beneficiaries contribute towards the Cost of the Pensions?

340. It has already appeared in the course of this Report that the Hospital Officers Association have not approached the problem from the point of view of contributing. Their reason, quite frankly stated, was that the scale of existing salaries did not admit of it. At the same time they granted that, given free pensions, they could properly be expected to make provision for their dependants. As we have already indicated (*see* par. 38), we are not satisfied that this view prevails throughout the staffs; and the evidence placed before Lord Southwark's Committee showed that, as regards railway officials, there was a decided disposition to contribute provided the pensions could be quite secure and based upon equitable methods. Mr. Carson Roberts has stated (*see* Appendix VII) that the same sentiment existed in the staffs of the Metropolitan Borough Councils, and that the contributory system had grown up entirely on their own initiative. We therefore think it may be well to discuss the question, as far as we can do so, on its merits.

341. Our brief survey of the general field has been sufficient to show that the prevailing if not the universal tendency of all modern schemes has been to require contributions from the beneficiaries. We saw that the London County Council, when the existing scale of contributions proved to be insufficient, increased the officers contributions in the case of future appointments so as to ensure the solvency of the Fund, limiting its own contribution to the existing rate of 3 per cent. of the salaries. We have also seen that the statutory schemes for the Police, Poor Law and Asylums services were all upon a contributory basis; and likewise the Metropolitan Borough schemes. The same applies to the New Zealand Government Funds and to the more recent proposals in New South Wales as well as to all the Railway Superannuation Funds. This is a long list to place against the Civil Service system of no contributions; and if contributions have been found to be necessary in the case of so many state and municipal schemes where public money was available, they seem to be still more necessary in a scheme for private institutions whose financial resources are less assured.

342. It may be not altogether irrelevant in this connection to consider the case of the teaching profession. When the Universities

scheme was under discussion, although there might have been hesitation on the side of the Universities if it had not been that a State subvention was offered for the purpose, there was little or none as to the propriety of asking the beneficiaries to make a contribution on their side as a condition in the case of all future appointments. We have also seen that the still more recent proposals for pensioning the large body of teachers in Secondary Schools, and the officers of Reformatory and Industrial Schools, are likewise upon a contributory basis (*see* pars. 274 and 279).

343. The only outstanding case to the contrary is the grant of free old age pensions to the poor. In the case of the recent National Health Insurance legislation the assured are made to contribute; and although the benefits in this case consist mainly of sickness and other allowances claimable during the period of contribution, it must not be overlooked that there is a disablement allowance which, commencing with any loss of earning power, will continue until age 70, and is scarcely to be distinguished from the opening period of the old age pension. In fact this precedent, with its concomitant contribution from the employer, seems to us to have a distinct bearing on the question before us.

344. The late Mr. Manly, F.I.A. (*see* par. 248), gave us reasons why, at the end of a long experience of pension funds, he usually recommended employers to pay all contributions and thus keep the matter in their own hands. The reasons, broadly stated, were (i) that the service would be popular and salaries kept correspondingly moderate; (ii) that superannuation after faithful service was the ideal to be aimed at, and contributions led to a demand for supplementary benefits; and (iii) that the salary percentage plan, which he advocated, raised criticisms from contributors as to its equity. We gathered that this advice was more usually tendered to commercial companies or firms with ample financial resources. After considering the foregoing reasons and the ideals on which they are based, we think that, on the whole, they are opposed to the general tendencies of the pension question noted in the course of this Report, and are not applicable to the case of Hospitals. In particular they are opposed to our conclusions (i) that pensions should not be regarded merely as the reward of faithful service but in a full sense of the term as deferred pay (*see* par. 334), and (ii) that supplementary benefits are in themselves desirable.

345. As to the sufficiency or otherwise of the salaries of Hospital staffs, it is very difficult to form a fair opinion without a close knowledge of the facts; but it has usually been tacitly assumed that the officers of charitable institutions are necessarily underpaid as a class. From certain schedules of typical promotions and salaries which have been submitted to us, and to which we referred in par. 263, we are inclined to think that, while there are no doubt exceptions, the staff salaries are usually what one would expect men doing similar work in other walks of life to be receiving. There are, of course, exceptional cases of men of real

administrative gifts to remunerate whom properly would be beyond the power of most Hospitals.

346. And there is a further consideration. If it became recognized that contributions were being regularly deducted from salaries, for the purposes of a scheme calculated not only to improve the spirit and efficiency of the staffs of individual Hospitals but to unify and raise the standard of the profession as a whole, it is not improbable that the general level of the lower salaries would tend to rise. Mr. Carson Roberts (*see* Appendix VII) held strongly that there is no such thing as a non-contributory system, a view confirmed by Mr. Manly's suggestion to employers that non-contributory pensions mean moderate salaries.

347. In many professions, the organization of the members, especially when combined with training and instruction for the younger generation, leading up to examinations and the grant of diplomas, has had a marked effect in this direction. In a calling so many sided as that of Hospital administration there must be much room for such developments; and we think that progress on such lines as would raise the whole status of their profession and make it attractive to men of talent would be more advantageous to the Hospital officers in the long run than might be even the grant of free pensions on the basis of their present salaries.*

348. We regretted that the Officers' representatives who appeared before us were inclined to take up an adverse attitude upon this particular point. Since this Report was drafted a discussion on pensions has taken place at the Midlands Branch of the Hospital Officers Association, in which the view was strongly expressed that any pension scheme should be on a contributory basis, so that the "feeling of " repugnance to a gratuity, after years of hard work, would disappear." This confirms our impression (*see* par. 340) that the views of the parent association, as stated by their representatives, are not held universally in the profession, and we think it necessary for them to give the matter renewed consideration. For the foregoing reasons we ourselves have been led to the conclusion that the proposed scheme, to have any chance of success, must be on a contributory basis.

349. With regard to the form of such contributions we have seen in the course of our review that the system of deducting a prescribed percentage of the salary is the almost invariable rule: it runs throughout the schemes based upon salary percentage pensions, where the percentage deducted varies with the age at entry, and was adopted as the basis of the Universities scheme, where the percentage deducted is constant at all ages. The Elementary Teachers Fund is based on a uniform absolute amount of contribution, but that affords no suitable precedent for Hospitals. The only other outstanding case to the contrary would seem to be the

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* In this connection it is interesting to note that the Hospital Officers Association itself has instituted a scheme for the better training of junior officers by means of lectures, classes and examinations.

proposed new Fund of the New South Wales Government (*see* par. 309). In this case the basis being a certain arbitrary scale of units of pension, the contributions have to be adjusted to provide them. The consequence is that the percentage of the salary payable, both by the State and by the employee, varies not only with the age at entry but also with the progress of the salary. It may be thus less than 3 per cent. in the case of some young men, and may rise to 11 per cent., and possibly even more, in the case of older and highly paid men. A certain proportion of the latter is optional on the part of the officer, but a system under which, by exercising an option, he can oblige the employer to contribute such a high percentage of the salary, appears to us likely to open up fresh fields of controversy, and we think that the more usual plan of making the contribution for each officer a constant proportion of the salary should be followed.

350. The question whether the prescribed percentage of contribution should vary with the age at entry, or be constant for all ages at entry, must depend upon the type of scheme selected. For pensions based on salaries a variation in the rate is absolutely necessary. For pensions based on the money purchase principle we have seen that a uniform total contribution of 10 per cent. at all ages produces satisfactory results, at any rate so far as early entrants are concerned; while Mr. Tinner's illustrations (*see* Appendix VIII) show that this principle can be applied equally well with a rate of contribution ranging from 8 per cent. for young entrants to 12½ per cent. for older entrants, the pension benefits in this case being more in accord with those based on a salary percentage scale. The question of existing staffs calls for separate consideration.

(d) Should a Scheme provide for Existing Officers or be limited to Future Appointments?

351. As a matter of abstract principle one would say that existing officers by their past services should be the first to enjoy that sense of security for pensions which they have hitherto lacked. It is obvious, however, that the nearer an officer attains to the pension age, without any existing provision having been made for his superannuation, the greater will be the future annual cost of providing in advance for his pension. It will be useful to see what light we have been able to throw on the methods generally adopted for superannuating existing staffs, and the financial cost of doing so.

352. In the case of the Police, the Poor Law and the Asylums Services, all existing officers were included, the rates of contribution for the older of them being 2½ per cent. and 3 per cent. of the salaries instead of the 2 per cent. or 2½ per cent. required from juniors and new entrants. Such a rate of contribution would provide but an insignificant portion of the pensions, and thus in these cases the additional cost of providing for the existing staffs falls mainly on the local rates. The same applies to the Metropolitan Borough schemes and probably to most of the local and municipal schemes authorized by Parliament.

353. Coming to the cases where Funds were set up, we saw that all existing staffs were included in the New Zealand Government schemes, 5 per cent. of the salaries being contributed by the younger entrants, and as much as 9 per cent. by the older entrants; but even these increased contributions were seen to be insufficient, as evidenced by the deficits on the valuations which must be made good by public money. The British railway companies likewise included the whole of their staffs, but without exacting contributions in any way corresponding to the increased liabilities, and have made themselves responsible for the resulting deficits.

354. It is not easy to see in any of these cases a solution of the question suitable for Hospitals. Taking all the cases that we have reviewed, whether Funds have been set up or not, where superannuation is given on a salary percentage scale and where actuarial investigations have been made, one point, to which we have already drawn attention, is seen to emerge clearly. It is that the deficiencies which have almost invariably arisen, and the difficulties and differences of practice that have supervened in the effort to liquidate them, have either originated or been aggravated through including the existing staffs without properly reckoning beforehand the full cost of doing so. This is especially high in the case of the salary percentage plan, though it has usually been masked in the methods of framing schemes.* Institutions like the Hospitals must clearly reckon this cost in advance before committing themselves to a scheme of any kind.

355. Considerations such as these led us to the conclusion (*see* pars. 177, 193, 206 and 334) that the problem of the existing staffs would present itself to the lay mind in a much simpler aspect if a clear differentiation be made between past service and future service as reckoned for superannuation. Having then accepted the conclusions we set out in par. 334 as to the proper method of providing in advance the pensions in respect of all future service, a separate and clearly defined problem remains as to the financial cost of providing supplementary pensions in respect of past service.

356. It will have been noticed that less confusion has occurred as to past service in connection with the money purchase principle (*see* pars. 271 and 310). Mr. Tinner in his proposed scheme, based on that system, while able to deal with the difficult problem of disablement, could only include the existing staff in respect of future service, everything beyond that being the subject of separate financial provision. As we have already remarked (*see* par. 324), it is in our opinion a recommendation of the money purchase principle that it obliges one to provide in advance the present cash value of every benefit and thus, in the case of past service, to face the problem of making separate financial provision for such part of the pension as cannot in practice be charged on the future service of the officer.

* A statement on this point by Mr. Carson Roberts will be found in Appendix VII.

The Cost of Pensions in respect of Past Service.

357. Bearing these considerations in mind it will now be instructive to revert to Mr. Manly's scheme, which, though not based on the money purchase principle, did propose a serious effort to provide in advance for the existing staffs. Mr. Manly proposed (*see* pars. 242 and 243) to find the extra cost of providing for the existing staffs by contributions, payable by the Hospitals, of (i) lump sums "to provide for back service" proportionate to the past service of the officers, and (ii) larger annual percentages of the salary for the future than would be paid for younger entrants. We have already pointed out (*see* pars. 349 and 350) that increased percentages at higher ages of entry are normally necessary for the salary percentage method; and Mr. Manly would thus at first sight seem to be providing separately for past and future service in the manner approved in par. 355. For our present purpose, however, of estimating the financial cost of past service an existing staff cannot be regarded as new entrants, and the increased percentages payable by them through not having started when young must be reckoned as part of that cost. For example, taking Type Case No. I (of Appendix X), with a present salary of £600, and supposing the officer were entering the scheme at age 50, the estimated lump sum to be set up would be 9 per cent. of his total past salary, or about £820; and the future annual contribution to be paid was estimated at $11\frac{1}{2}$ per cent. of the salary, or £69. This latter is £33 in excess of the constant ratio of about 6 per cent. that would have been payable had the fund existed throughout his service; and this excess charge should in our view be regarded, like the lump sum of £820, as part of the cost of including the officer in the scheme. We have already made a rough estimate (*see* par. 243) that in the case of this scheme the total cost of the pensions in respect of past service may be put at about 70 per cent. of one year's salaries. The pension age in this scheme is 60.

358. In this connection the calculations of Messrs. Manly and Ackland, based on the statistics of the Metropolitan Borough Funds (*see* pars. 181 and 205), are instructive. We saw that, whereas 8·1 per cent. of the salaries was the standard rate of contribution to provide the pensions if it began at age 20 and continued throughout the service, no less than 19·15 per cent. must on the average be contributed on the whole of the salaries if the existing staffs as they stood were to be brought in. The scale of benefits here provided for approximated to old Civil Service terms, the pension age being 60. This additional charge of about 11 per cent. of the salaries appears to have been calculated for the average of the future working service of an existing staff, which on the data used represented an average age of about 39 with an average future duration of about 25 years. The annual charge might therefore be taken at about 15 years purchase and represents a capital sum of more than one and a-half years' salaries. As we have pointed out (*see* par. 181), these calculations included, for some reason of convenience, the future cost of a normal proportion of pensions

already granted. In the case of the Hospitals, we have seen that the tendency to postpone the age of retirement must have led to the present existence in the service of many officers who under any suitable scheme would be immediately pensionable (*see* par. 233 for the experience of the Railway Clearing System Fund), and for this reason the inclusion of existing pensions in the estimate of Messrs. Manly and Ackland may not exaggerate the cost as much as might at first be thought. Indeed, the probable existence of congestion in the Hospital staffs suggests that all such estimates not taking account of this factor may err on the side of defect.

359. We saw in the case of the New Zealand Funds (*see* par. 205) that the capital cost of including the existing staffs was possibly about one year's salaries, notwithstanding the higher contributions made by the older entrants and the heavy withdrawals. In this case also the scale of pensions approximates to the old Civil Service scale, and there are death and withdrawal benefits in addition. The pension age is 60 for about 30 per cent. of the membership and 65 for the remainder.

360. Mr. E. C. Thomas, F.I.A., an actuary who was closely associated with the late Mr. Manly in his pension work, has been good enough to communicate to us particulars of a typical pension scheme on the salary percentage method which he had himself prepared for a staff of about 400 members with a salary list of £80,000. The pensions were based on sixtieths of the average salary, and were to be claimable normally at 65, or earlier on disablement, with a minimum of £75 per annum and a maximum of £350. On withdrawal the member's own contributions were to be returned, and on death the same plus 50 per cent. Interest was to be guaranteed by the employer at 4 per cent. (free of tax) and no expenses were to be charged. The existing staff were to be included, and Mr. Thomas's estimate of the present cash cost of doing this was £86,000—an amount, it will be seen, equal to more than one year's salaries. These older entrants were to pay only the rate of contribution properly applicable to entrants aged 20–25. As this rate would not suffice to provide the proportion of the pension to be earned under the salary percentage method in respect of future service, it would seem that in this case a sum of one year's salaries was estimated to cover the whole cost of the past service of the existing staff in the sense in which we have used that term (*see* par. 357).

361. In the case of the proposed scheme for officers of Reformatory and Industrial Schools, we found (*see* par. 291) that the provision for the existing staffs would entail an additional though decreasing annual charge of £10,759 on a total salary list of £155,153. As the bulk of this charge is in respect of officers aged from 40 to 60 it should not be capitalized at more than, say, 10 years purchase, and this would represent a sum of about two-thirds of one year's salaries. The relevancy of this result is affected by the fact that the scale of resulting pensions, being largely based on existing salaries, is different from one based on final or average

salaries ; though inspection of the specimen pensions given in Appendix XI suggests that they would be found not to differ greatly from sixtieths of the average salary.

362. Mr. Tinner, like Mr. Manly, was unable when he presented his scheme to give us any trustworthy estimate of the cost of including the existing officers in the absence of fuller statistical data of the Hospital staffs. He has since, however, been good enough to make some further calculations based upon data of his own, after satisfying himself that the rates of salary progression assumed by him produced very similar results to those of the typical cases used by us (*see* Appendix X), based on certain facts. After further assuming a uniform contribution of 10 per cent. of the salaries, as in the case of the Universities System, and that the age distribution and retirements, etc., would agree with his own tables, Mr. Tinner arrived at the conclusion that the initial cost of including the existing Hospital staffs in his scheme would be somewhat more than two years salaries. It is surprising that this estimate should be so large. Mr. Tinner, however, has reckoned only on the uniform contribution of 10 per cent. in all cases, and any application of the money purchase principle on such a basis that aims at levelling up the pensions of older entrants to the results secured by those who begin in early life must necessarily, as is clear from the figures of the New South Wales Government scheme (*see* par. 308), be expensive, and leave a heavy balance to be provided in some supplementary way.

363. Gathering together these estimates, mostly of a very rough and provisional kind, there seems to be room for a general conclusion that where a scheme of pensions is based on the salary percentage method, with 60 as the pension age and graded contributions, the present capital cost of including the existing staff may be reckoned at something like one year's salaries if the benefit is calculated on the average salary throughout service, or something like one and a half years salaries if it is calculated, as in the case of Messrs. Manly and Ackland's results, on the final salary. The estimates we made in the case of Mr. Manly's scheme and in that of the New Zealand Funds were respectively smaller than these, but allowing for the special circumstances of those estimates they appear on the whole to confirm this conclusion. As regards Mr. Thomas's estimate of about one year's salaries for pensions based on the average salary, but commencing at age 65 instead of 60 as in the foregoing cases, it appears at first sight to be high compared with the others. His contributions, however, are not graded for the higher ages, and his capital cost is, therefore, more in accordance with facts as we view them. On the other hand, it is not itself a satisfactory basis for us to proceed upon, as we have no means of determining to what extent it would be increased if 60 were adopted as the pension age instead of 65. As regards the difference between this estimate and Mr. Tinner's estimate of two years' salaries for his own scheme, we are advised by Mr. Tinner (*see* Appendix VIII, Addendum) that it must be ascribed in part to the manner in which the question of withdrawals enters into

the calculations. In the case of Mr. Thomas's proposed fund the estimate of cost is lessened by allowing for withdrawals both in the past and in the future. Mr. Tinner's method ignores withdrawals entirely, and thus, as he explains, probably exaggerates the ages of the existing staff and the cost of providing for them in respect of past service. As regards future withdrawals we shall later on make a formal recommendation to the Executive Committee (*see* par. 485) the full acceptance of which would remove any possibility of profit or saving from this source. Mr. Tinner's disregard of profit from future withdrawals would thus agree with our proposed method of treating them in practice; whereas Mr. Thomas's assumption would understate the cost. Mr. Tinner has obligingly tried to assist us in deciding what deduction should be made from his first estimate on account of past withdrawals, and suggests the adoption of one and a half years' current salaries as a revised estimate of the cost of pensioning the existing staffs in respect of past service. For the rest, Mr. Tinner's supposed scale of contributions is higher. We have already shown (*see* par. 320) that a 10 per cent. contribution under his plan would provide at age 61 pensions similar to the average salary pensions of Mr. Thomas, so that Mr. Tinner's suggestion of one and a half years' salaries allows for suitable pensions at an age four years earlier than Mr. Thomas's pension age of 65. The two estimates are based on essentially different principles, and cannot be reconciled exactly; but the result, on the whole, is to confirm Mr. Tinner's estimate of one and a half years' salaries and to suggest that it does not err on the side of overstatement.

364. We may here point out that we are warned by Mr. F. L. Collins (*see* Appendix IX, par. 21) that in any event the amount of current salaries cannot be regarded as affording in itself a guide to the cost of providing pensions in respect of past service, and that only by the use of proper statistical data, such as he indicates, can accurate actuarial estimates be made. He has been good enough, however, to calculate the cost of providing superannuation in respect of past service in the case of the Hospital type cases individually (*see* Appendix IX, pars. 20 and 21). The assumed scale of benefits is that of the Universities scheme, and the conclusion is reached that the amount necessary in most cases is represented by the prescribed contribution of 10 per cent. of the past salary, accumulated at 3 per cent. interest for the period of the past service. This way of regarding the cost retrospectively cannot be correlated in anyway with Mr. Tinner's result arrived at by a prospective process, but we have formed the opinion that it supports the sufficiency of Mr. Tinner's estimate. It is also a reminder that where contribution and benefit are related, as in the money purchase method, the cost of an existing staff in respect of past service should be largely independent of the form of the ultimate benefit; and it probably indicates the best way of approaching the problem of cost when more exact statistics are available. Mr. Collins has also communicated to us some mass estimates based on applying his accumulation method to certain statistics of existing staffs in the service of the New South Wales Government. Here he found that

the accumulated amounts required represented nearly two years' current salaries in the case of the salaried staffs, and about one and one third years' salaries in the case of lower paid men and workmen. Though the conditions of service may not be analogous, these results appear to confirm the conclusion that for a provisional working estimate the cost should not be placed below the one and a half years' salaries which Mr. Tinner has suggested. At the same time it seems clear that the estimate to be adopted for salaried officers must be modified in the case of the nursing staffs and the weekly wage class.

365. It is obvious from what we have said, that the cost of providing for an existing staff in respect of past service must depend mainly on the scale of contributions to be adopted and that it has no actual relation to the amount of current salaries. It seemed to us to be so desirable, however, in discussing the question of existing officers, to give the Executive Committee some sort of indication of the sums likely to be involved that we have thought it right to make what use we could of the limited data before us. We shall therefore assume, as the net conclusion from the foregoing considerations, that a suitable scale of benefits could be provided in respect of the past service of an existing staff for a capital sum equal to about one and a half years' current salaries; and that it would be unsafe to reckon on reaching any complete solution of the question at a lower cost than this.

366. When we come to consider the pensionable salary list in each class, we are met with the further difficulty that the existing statistics collected by the King's Fund do not subdivide the classes into the categories necessary for our purpose. An additional difficulty arises from the fact that the war has temporarily altered the constitution of the staffs from the point of view of age and duration of service, particularly on the nursing side. We have therefore thought it best to start with the statistics of the King's Fund for 1913. After revising the value of emoluments in view of the increase of prices, the experience of certain typical Hospitals was analysed and used to estimate for the whole body the amount of salaries and emoluments falling into the different classes. It was then assumed that the corresponding figures for 1917 would be such as would result from the general rate of growth in the staffs observed in the interval. We thus disregard any accidental distribution resulting from war conditions.

367. The first result of this investigation was to show the very large amounts paid in salaries and wages to certain classes included in our earlier Tables (*see* pars. 52 and 83) whom it would obviously be impossible to include in any pension scheme. In this category would come a large part of the medical officers' salaries. It is impossible to say what is the small proportion of this class that might prove to be pensionable. Similarly a large annual amount represents the cost, especially the emoluments, of the female servants and scrubbers. Of this class there must clearly be a certain number of permanent servants who should be

provided for. A certain number are pensioned, in fact, under the existing practice. It seems equally obvious, however, that the great bulk of this class give service of a casual and fluctuating kind, and are not pensionable. Probably the best way of dealing with it would be to include such servants in the scheme only after a certain qualifying period of service, whenever the latter might be said to approach permanency; or by some other process of elimination that would commend itself to those familiar with the facts. We have, however, no means of determining what proportion of this class should be estimated for. We can only exclude it, and allow some makeweight elsewhere.

368. As regards the nursing class, we have made some endeavour to divide it into three groups, of which Group I would represent the matrons, sisters and staff nurses (*see* pars. 98 and 99) who are to be regarded as pensionable. Group II would be the younger nurses in training from their second year onwards, to whom our separate recommendation for that class would apply. Group III would be the probationers and others not eligible for either scheme. Here again we have no available statistics to enable us to constitute these groups in any final way. Certain typical Hospitals were, however, good enough to furnish us with special returns of their nursing staffs; and after analysing these we have arrived at the conclusion that, of the total salaries and emoluments estimated for the nursing staffs, about 25 per cent. may be placed in Group I, about 50 per cent. in Group II, and 25 per cent. in Group III.

369. We thus arrive at the following estimated totals in respect of the pensionable classes. The 1917 figures are based on an all-round increase of 20 per cent. in respect of the four years :—

ESTIMATED PENSIONABLE SALARIES AND EMOLUMENTS.

CLASS.	1913.	1917.
	£	£
Salaried officers	97,000	116,400
Weekly wage (males)	98,000	117,600
Nursing (permanent)	80,000	96,000
TOTAL	£275,000	£330,000

370. Our estimate of one and a half years' salaries and emoluments to represent the cost of pensioning an existing staff was based on considerations applicable only to the class of salaried officials. The cost in the case of the weekly wage (males) class would probably be quite different. We have found (*see* par. 189, *also* Appendix V) that the cost of providing pensions for this class is somewhat lower than the other, partly, no doubt, on account of less settled conditions in the service. It is

therefore reasonable to assume that, with a lower average of past service, the cost of an existing staff in respect of past service would likewise be smaller. In reckoning the one and a half years' wages in this class we shall, therefore, make a deduction of 15 per cent. from the wages. This, though little more than guesswork, is based on Mr. Manly's figures in Appendix V. We do not lose sight of the fact that a great many men employed in this class would be casual employees, and not pensionable. On the other hand we understand the Hospitals employ a large number of men whose wages enter the accounts under other headings. We cannot attempt to measure these divergent forces, and we set them off against one another.

371. In the case of the nursing staffs, likewise, the conditions of service are quite different. Owing to the generally accepted necessity for an earlier age of retirement in this class either a similar scale of contribution to that of the general staffs would give smaller benefits, or for similar benefits there must be a higher scale of contribution. This would apply not only to benefits in respect of future service, but also, and possibly with added force, to any benefits in respect of past service. Even if we put the scale of contribution at the same level as that of the officers and assume lower pensions accordingly, it is thus still doubtful whether the cost of past service, when reckoned on the current salaries, would not be on a higher scale than in the salaried officers class. On the other hand (*see* par. 61) there is probably a lower average duration of past service in this class. In fact the evidence as to frequent migration among staff nurses and even sisters is so strong that we think we should have been justified in deducting 50 per cent. of the salaries on this account. It is necessary to include, however, some makeweight for female servants who will be pensionable. Although we are again in the region of guess-work, we propose to deduct 25 per cent. instead of 50 per cent. from the salaries. In these, however, are included a full estimate for emoluments, in accordance with the principle stated in paragraph 99.

372. With these adjustments, obviously of a rough and provisional kind, we arrive at the following

Revised Working Estimate of Pensionable Salaries and Emoluments in 1917.

Class.	Deductions from previous total.	Pensionable salaries and emoluments.
		£
Salaried officers	Nil	116,000
Weekly wage (males)	15 per cent.	100,000
Nursing (permanent)	25 per cent.	72,000
Total	...	£288,000

If we allow for a further increase in salaries, owing to general growth, it may be estimated that the total amount of pensionable salaries and emoluments, thus adjusted so as to permit of the application of standards suitable to the salaried class, will reach something like £300,000 in the course of 1918; and that is the figure we propose to adopt in discussing concrete figures. Applying to it our proposed standard of one and a half years' salaries, we arrive at the sum of £450,000, as the estimated cost of pensioning the existing staffs in respect of past service, without making any allowance for the inevitable increase that must occur owing to the normal growth of staffs if the question be postponed to the future. It is obvious that a conclusion based on assumptions in so many fundamental matters should be received with all reserve pending the collection of exact statistical data; and that as soon as the type of the proposed scheme has been determined, a proper actuarial investigation should be made into the whole question of the existing staffs. The eventual cost may well prove to be less than the sum we are assuming provisionally.

373. While it is clear that no scheme could be considered ideally complete that did not provide for the case of the existing staffs of the Hospitals, it is thus equally clear that the question is one more of finance than of principle. If a scheme were to be initiated, it is obvious that an effort should be made to include the existing staffs.

374. Even if this end were to involve the immediate provision of as much as £450,000, so that the present officers and staffs who have borne the burden and heat of the day might be placed in a position as favourable as if the scheme had covered their whole working time, we do not think it should be ruled out as necessarily unattainable. The King's Fund from the time of its institution has been the recipient of princely benefactions, and it is to be hoped that, upon this need becoming known and realized, the necessary funds would be forthcoming. There are many wealthy persons who cannot fail to recognize that institutions like the Hospitals of London directly depend for their success on the brains and willing service of the officers who administer them, that the efficiency of the officers and of the whole of the staffs must in turn directly depend on the attractiveness of their career, of which a suitable provision for old age has been seen to be an essential part; and that money expended in that direction may, from the strictly business point of view, eventually prove to be a more fruitful factor in relieving sickness and suffering than money which at the moment might seem to be applied more directly to that object. We put forward this argument quite deliberately as one to appeal to men familiar with business and the conditions on which success in business depends.

375. While we thus hope it may be possible to secure whatever sum may be necessary for gaining fully an object likely to have such far-reaching effects in the future, it is to be noted that if only a smaller sum were to be available it would be fairly simple to devise machinery by

which it could be applied, as far as it would go, in such a way as to secure benefits to the existing staffs. Thus even if they could not be assured at once of recompense for the whole period of their past service a part at least of it could be brought into account, and the amount of past service for which a full sense of security does not exist would thus to that extent be diminished.

376. A great part of the pains we have taken to elucidate the problem of providing for the existing staffs will have been lost if we have not made it clear that, whatever plans may thus be possible for the recompense of past service, the question of future service must be kept quite distinct. In the case of the Universities scheme (*see* par. 271) compulsion applies only to future appointments, all existing officers being left to be provided for by the individual institutions. Our own conclusion on the principle governing this point (arrived at in par. 334) was seen to be different. Dating from the inception of the new scheme, provision should be made in advance for pension in respect of all future service. This involves, to some extent, the re-opening of salary contracts with existing officers; but it could be left to each individual Hospital to determine in what proportion its officers must be prepared, in consideration of the general benefits of a pension scheme, to contribute in respect of all future salary. That, from the point of view of the central council, would be probably a domestic matter, provided that the total contribution paid by or in respect of any officer reached the prescribed scale. Such scale, following the principle we have adopted in reckoning the cost of past service (*see* par. 357) would probably be based on the original age at entry; but there is no reason why it should be limited to that if the cost of past service be not wholly provided from extraneous sources and if financial considerations should permit the Hospitals to arrange for a higher scale.

377. The contributions thus levied would in any case purchase only reduced benefits proportionate to the remaining working time of the officer. As time went on, however, even if no special fund existed, such as we have sketched in outline, for the full reinstatement and recompense of past service, the problem to be faced by the Hospitals of dealing in arrear with past service would gradually become less and less extensive; so that when younger officers now in the service came up for pensions in the future, these would be found to have been largely provided in advance. To a limited extent the mere inception of such a scheme would thus begin at once to import an improved sense of security into the service, an effect which would increase as time goes on with every year of strictly pensionable service added to the past record of the staffs.

SUMMARY OF CONCLUSIONS AS TO GENERAL PRINCIPLES.

378. We are now in a position to supplement the preliminary conclusions set out in par. 115, and to answer the question, what are the main principles to which, in the special case of the voluntary Hospitals of London, a satisfactory pension scheme should conform? These would seem, in the light of the information we have gathered, to be as follows:—

(i) That the pension should be claimable by a member of the permanent staffs at 60 or other stated age, so as to facilitate retirement when a man is getting past his best. It is also desirable for the same reason that retirement should in any event take effect at age 65, or some other stated age; and that a pension should be available in the event of permanent loss of health.

(ii) That the pension should be well secured and, in case of long service, adequate in amount. It follows from this that it must represent an adequate proportion of the salary.

(iii) That it should be possible for officers to migrate freely from the service of one Hospital to that of another within the scheme without forfeiting any part of the benefit.

(iv) That the pensions in respect of all future service should be provided for wholly in advance, no liability being left to be met by the Hospitals after the officer's service has terminated.

(v) That, as in the case of the Civil Service Superannuation Act, 1909, there should be some death benefit available for family provision, and also, if possible, some cash endowment on retirement, but that there should be sufficient elasticity in the scheme to meet exceptional cases.

(vi) That inasmuch as such substantial benefits as the foregoing would be a great advantage to the officers they should be prepared to make some sacrifice to secure them, and that the scheme should be on a contributory footing, the contributions dating, as regards the future service of existing staffs, from its inception.

(vii) That such members of the nursing staffs as remain permanently in the service of the Hospitals should be included in the general scheme, any provision assured in the separate scheme for young nurses counting, as far as it will go, towards the ultimate benefit in the general scheme.

(viii) That the weekly wage staffs, as well as female servants and scrubbers, should likewise be included in all cases in which the employment is of a permanent nature. In these classes it might be necessary to prescribe a minimum period of service.

(ix) That in all cases the estimated value of emoluments should be added to salary or wages for the purpose of reckoning contributions and benefits.

(x) That the scheme should also provide pensions for the existing staffs in respect of their past service as far as funds for providing the additional cost may be available.

We submit that on the whole these conclusions follow logically from the facts and considerations that we have brought under review. In the case of the nursing and weekly wage staffs, and servants, the general principles must, of course, be applied *mutatis mutandis.*

Methods of giving effect to these conclusions.

379. It remains to consider whether any, and which, of the various types of schemes we have passed in review comply with the conditions thus laid down. A glance at the original classification of schemes made in par. 124 will show that all systems included under headings (a), (b), (c), (d) and (e) are excluded because the pensions are not provided wholly in advance, and any scheme for the Hospitals embodying the principles above stated must come under either heading (f), *i.e.*, pensions provided wholly in advance on a salary percentage scale, or heading (h), *i.e.*, pensions provided wholly in advance on the money purchase principle. Those under heading (g), *i.e.*, on an absolute scale or flat rate, have been excluded already as unsuitable.

Discussion of Alternatives.

Pensions on a salary percentage scale.

380. If a satisfactory scheme could be devised with a salary percentage scale of pensions provided in advance by annual contributions, after the type of the mutual funds set up by the London County Council, the New Zealand Government and the great British Railway Companies, it would comply with a great many of the conditions enumerated, for the pension would be directly proportioned to the salary, it could be made available in case of disablement, and there is no theoretical or constructive difficulty in providing a death benefit in addition to the pension. On the other hand, we have seen that the salary percentage plan has not provided satisfactorily for the problem of the existing staffs. The endeavour to meet this problem has, in almost every case, resulted in deficiencies owing to the pension being based on the salary instead of the money available to purchase it.

381. The experience of such funds as those we have specified precludes us from recommending the adoption of any scheme of this type. The fact itself that the pension is based on the salary involves the fund from the outset in such uncertainties that the mutual principle fails to provide that security so essential for a pension. Though perhaps the chief, this is far from being the only element of financial uncertainty. The various kinds of risks affecting a fund of this class have been already fully set forth (*see* pars. 127 *et seq.*) in this Report, and discussed further in

paragraph 246 in reference to the particular scheme prepared by Mr. Manly for the Hospital Officers Association. These speculative elements are so numerous and fundamental, and have been seen in the course of our Report to have acted so detrimentally to many existing funds as to render such a scheme unsuitable to the Hospitals of London in the absence of some strong financial support; and for this purpose financial support has been seen to mean not only such assistance, if any, as might be needed to initiate a scheme, but an obligation to assume possible liabilities of very large amounts in the future. We found (*see* par. 220) that very great deficiencies have arisen in the working of the Railway Superannuation Funds; also that in the case of the Railway Clearing System Fund there was in 1903 (*see* par. 233) a deficiency of £482,937 on a fund of £1,112,092, and in 1910 a new and quite independent deficiency of £427,305 on a fund of £1,252,313. In this 1910 valuation the cause was largely the longevity of the pensioners, but in the other cases the deficits were due mainly to disturbing elements, arising out of the salary percentage principle, which actuaries of great authority had been unable to foresee.

382. If financial guarantees of ample amount were to be forthcoming it would then be necessary to consider the feasibility of adopting this principle from the administrative side. In order to adapt it to the special circumstances of the Hospitals of London and to include the principle of aggregated service so as to provide for free migration it would be necessary to have a central fund managed by a representative committee. There is strong evidence to show that, as we have already suggested in paragraph 245, the difficulties of conducting such a scheme by a central body representing so many various institutions, though they cannot be forecast exactly, are likely to be very great. In fact, we think that a careful study of the evidence submitted to Lord Southwark's Committee in regard to the working of the Railway Clearing System Fund shows that they might be insuperable.

383. It must further be borne in mind that there will be diversity of interests not only among the constituent institutions but also in the membership. If the nursing staffs and the weekly wage staffs are to be provided for, it would be found that each of those bodies would present essential differences from the salaried staffs in the matter of emoluments and salary progression, of ages and durations of service, and in particular of rates of disablement and ultimate longevity. These differences would probably necessitate the formation of three separate funds, which would have to be kept distinct in every way, as indeed was contemplated by Mr. Manly (*see* sketch of his proposed scheme in Appendix V). The existence of these separate funds, each probably raising from time to time a good many problems calling for patient elucidation and settlement, would clearly add a good deal to the general difficulty and expense of administration as well as the personal work of the central committee.

384. To these disadvantages must be added the consideration that where beneficiaries are called upon to contribute to a scheme, certain results have been shown by our review to follow almost inevitably. The contributors usually gain a considerable voice in the management, and almost invariably develop differences of opinion as to the greater advantages supposed, probably with reason, to be enjoyed by the superior officers with the highest salaries. On this last question we saw that much dissatisfaction had arisen in the ranks of the great Railway Companies' Funds. It was, in fact, one of the chief points Lord Southwark's Committee was called on to investigate, and in the end the scales of pensions had to be defended, not on the ground of equity, but on the ground that the companies, in view of their considerable financial contributions, were entitled to impose somewhat arbitrary scales of benefits for the sake of general efficiency.

385. When it is remembered that the Railway Funds represent by far the greatest development of mutual pension funds that has occurred in this country, it is a significant fact that it is always the companies, whom one would expect to be governed by a desire to avoid financial liability, who prefer the salary percentage principle, notwithstanding the invariable losses and difficulties. The officers, on the other hand, or rather the great bulk of them excluding the higher officials, whom one would expect to be in favour of pensions related to salary, would much prefer the money purchase principle, notwithstanding the difficulty of providing for disablement under that method. Their representatives, in the evidence submitted to Lord Southwark's Committee, return constantly to this point and attach more importance to the questions of security and equity *inter se* than to that of disablement pensions, which, they add, are often abused by putting on the fund men who have become inefficient through their own vicious habits, or who are superfluous from the point of view of the management. One witness knew cases of favoured men on the funds who were "quite well to-day." These witnesses advocated that invalids should have the additional help they would need under the money purchase principle from a supplementary fund, which could be administered with a certain amount of discrimination.

386. As regards the reasons why the railway companies have deliberately retained the salary percentage principle in face of the huge deficiencies that have developed, we need not pay undue attention to the suggestions of the lower grade men that, the funds being virtually managed by the higher officials, the latter naturally favour a system by which they benefit. The reasons for some such system in the interest of the railways themselves are very fully stated in the evidence of Mr. G. King, F.I.A., which we have reprinted in Appendix VI. Very similar views are expressed by Mr. McLauchlan (Cd. 5484, Q. 3352 and 3378), who regards it as fundamental that the fund should be a good one for the purposes of the company, and who dwells on the importance of the higher officials and of being able to retain them or get rid of them as need may dictate. In the earlier days of the London and South Western

Railway Fund which (*see* par. 222) had been started on the money purchase principle, the following opinion was given by three well-known actuaries, Messrs. Manly, King and R. P. Hardy, after a comparison of the benefits with those of other Railway Funds:—". . . . the "comparisons when intelligently examined are really in favour of your "Fund. To the average man your Fund provides a larger pension than "any other, and it is only in the case of a few highly paid officials, who "form a very small proportion of the whole, that your benefits are less. "We consider that your Fund, under existing conditions, does better in "the aggregate for its members than any of the others referred to, and "that it is only by giving undue prominence to the exceptional cases that "any other view could prevail." (Cd. 5484, Q. 538.) The fact that, notwithstanding this very clear statement as to the respective benefits of the two principles, actuaries generally have supported the companies more recently in maintaining and extending the salary percentage principle is seen to rest more on considerations of general policy than of the individual equitable rights of different members; and it is difficult to see how the principle could have survived at all in the case of these Funds without the enormous subventions for which the companies have made themselves responsible.

387. It would be a great misfortune if such controversial questions as have arisen and persisted in connection with the Railway Funds, in addition to financial difficulties, were to develop in connection with the Hospitals of London. We may add that the advocates of the salary percentage principle have not submitted to us a single case of an existing fund successfully working on that basis. In our opinion the solution of the problem, for the foregoing reasons as well as those set forth in paragraph 245, must be sought in some other direction.

Money purchase principle.

388. We are thus led by a process of elimination to consider how far a scheme based on the money purchase principle, *i.e.*, under heading (h) of par. 124, would meet the conditions we have laid down. Our review of the different methods of applying the money purchase principle showed that the schemes may be divided into three categories, viz., those, like the Elementary School Teachers Deferred Annuity Fund and the Royal National Pension Fund for Nurses, where a mutual fund for deferred annuities only is set up; those, like the New South Wales proposed scheme and Mr. Tinner's proposed scheme, where the mutual fund is charged with disablement pensions or other benefits in addition to the defined superannuation annuities; and those, like the Federated Superannuation System for Universities and the Scheme for Officers of Reformatory and Industrial Schools, where the contributions are applied to purchase definite annuity or death benefits from insurance companies, whose machinery is used, as far as it will go, for the administration of the schemes.

The Elementary School Teachers Deferred Annuity Fund.

389. The Elementary School Teachers Deferred Annuity Fund is an interesting example of a mutual fund built up by the members' own contributions. As will have been seen from our description of it in paragraphs 253 to 257, it is conceived so strictly on the money purchase principle that each contribution of £3 (now increased to £3. 12s.) purchases a small part, varying of course with the present age, of the annuity. The ultimate benefit consists of the sum of these parts, however short the teaching career. The Fund is under the control of the Treasury, which bears the cost of management, and all investments must be made in government securities. The annuities secured form one portion only of the ultimate provision to be made. There is no arrangement to pay any disablement allowances out of the fund. These are made from extraneous sources. Nor is there any death benefit whatever. According to the published scale of benefits (*see* Second Septennial Actuarial Report, 1916, No. 42) an annual contribution of £3 from age 25 would seem to secure £32. 13s. 9d. per annum at age 65. Taking Table (b) of paragraph 261, it is found that under the Universities scheme £3 per annum would purchase a deferred annuity at 65, definitely secured, of £43. 18s. 0d. per annum. In neither case would anything be paid on death. In the event of withdrawal the plan of the Teachers Fund might possibly be more advantageous, as each contribution is held to purchase, once for all, its proper calculated part of the annuity; whereas under the Universities plan each payment secures only an arithmetical proportionate part. For example, in the foregoing case, the £3 per annum would at the end of the first 20 years have purchased £22. 6s. 2d. (out of the total of £32. 13s. 9d.) in the Teachers Fund; and £21. 19s. 0d. (being twenty-fortieths of £43. 18s. 0d.) in the insurance company. In the event of any future recourse to insurance companies, this alternative method of calculating the benefit on withdrawal is a point that should receive consideration. A scale of benefits based on single premiums, like that of the Teachers Fund, might possibly be more advantageous in practice than the equalized annual premiums more usually quoted by insurance companies.

390. It will be seen from the foregoing facts, that the Elementary Teachers Fund, though closely watched by the Government, has not so far been able to apportion annuities as large as could be obtained from good insurance companies. This result is, no doubt, due to the efforts that have been made to place security in the forefront, and to avoid the dangers that have been seen to produce deficiencies in so many cases of mutual funds. The calculations were, indeed, made at $2\frac{1}{2}$ per cent. interest. The general conclusion as regards this Fund is that it is in type too rigid to conform to all of the conditions laid down, and the actual results achieved, whether from excess of caution or otherwise, are not so good as to suggest its being taken as a model.

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The Royal National Pension Fund for Nurses.

391. Our attention was naturally claimed, at an early stage of our enquiry, by the Royal National Pension Fund for Nurses. Its annuities are not built up by a succession of single premium payments, as in the case of the Elementary Teachers Fund, but are paid for by equalized annual or monthly premiums, following the ordinary type of an insurance company's contract. It will be seen from what we have written already (*see* pars. 293 to 302) that the Fund, so far as type is concerned, complies with most of the conditions we have laid down. Its contracts do not, however, provide for the contingency of disablement, and the death benefits are limited to the return of contributions with interest. As male officers are admissible, we put the question to the Fund's witnesses whether its organization could be made available for Hospital officers generally. In Mr. King's opinion, an annuity of as much as £400 or £500 per annum is, however, more than the Fund should undertake. Possibly this opinion might be open to revision if a sufficient number were forthcoming to ensure a good average, but in any case it is an important indication, coming from an experienced actuary, of the need for caution in the management of a mutual annuity fund, even one so large and firmly established as the Royal National Pension Fund.

392. The whole of Mr. King's evidence, in fact, pointed to the need for such caution, and fully accounted for the fact that the benefits for which the Royal Pension Fund has made itself responsible do not compare very well with those guaranteed by strong insurance companies. Among the points to which Mr. King drew our attention is a remarkable and progressive lightness of mortality among the retired nurses. Taking the tables of government annuitants as a standard, the deaths among the retired nurses were in the first quinquennium only 72 per cent. of what he might have expected. In that case the numbers involved were few, but as numbers increased the longevity improved, for in the second quinquennium the actual deaths were only 63 per cent. of the expected, and in the third quinquennium barely 58 per cent. Another method of investigation, under which comparison is made with the standard table strictly according to each year of duration that has elapsed since the commencement of the annuity, gave even more striking results.

393. The financial effect of this light mortality was explained also to us by Mr. King. The actual profit of the last quinquennium, arising from excess of interest over the estimate and from working margins in the premiums, was £56,634. The net surplus, as we saw in paragraph 298, was £42,616, and the difference of £14,018 was caused by an actual loss under the heading of mortality, through its being so much less than is reckoned on in the premiums. Hence, if this actuary had not made at the outset cautious estimates as regards interest, the Fund would have been insolvent through the longevity of the annuitants.

394. We have seen, notably in the case of the London County Council Fund, but also in that of the Railway Clearing System Superannuation Fund as well as others, that this tendency is not limited to nurses, or even to females generally, and that serious deficiencies have arisen in mutual funds through the unexpected longevity of the annuitants. We put this point to Mr. Tinner in connection with his proposed scheme, and he explained that his own rates of premium were based on the most modern experience of one or more pension funds, and that no similar, or at any rate early, deficiency was to be anticipated from their use. Mr. King, however, submitted to us a statement he had put before the Royal National Fund, in which he developed the view that the improved longevity of their annuitants was not a matter for surprise, inasmuch as there was in progress a very marked fall in the rate of mortality of the community generally. Mr. King says :—

"There are several points of time at which we can fix the rates. . . . We have "the old English Life Table No. 6, based on the Censuses of 1891 and 1901; the English "Life Table No. 7, based on the two Censuses of 1901 and 1911; the Insurance "Commissioners' Table of 1909; and the Table based on the Census of 1911 alone. These "four tables show four distinct steps, without any break throughout life, of reduced "mortality; and even comparing the figures for 1909 (the Insurance Commissioners' Table) "and the figures for 1911 (the last National Life Table)—even in those two years there is "a decided improvement. That, I think, is very remarkable, and it covers the whole of "England and Wales. It is not to be surprised at, therefore, that the mortality among "nurses also shows a reduction. When I first investigated the Fund—a great many years "now—I found a very light mortality; but that, I thought, was through the paucity of "numbers. That, however, cannot now be said, and the mortality is even lighter than it "was 20 or 25 years ago. I, therefore, do not think that we are going to have any "improvement from the bonus point of view; on the contrary, it is likely to be rather "worse."

Mr. King further informed us that, for the foregoing reasons, it might become necessary for the Royal National Fund to increase its rates of premium in the future.

395. When we questioned Mr. King as to the possibility of creating a mutual fund for Hospitals, while he was of opinion that a central fund dealing with early retirements through disablement would not be practicable, he did not appear to rule out a fund of the type of the Royal National Pension Fund. He thought it would be very dangerous to start a fund to take nurses on a large scale, and possibly the same would apply to male officers. It would need a large fund to make an average and stand the racket of the annuities. His own custom, exemplified in the case of the Royal National Pension Fund, had "always "been to provide that, at the time the annuity falls into possession, "there may be sufficient cash in hand to enable an annuity to be "actually bought, in case of necessity, from some good company or from "the Government."

396. Reviewing what we have written of the Royal National Fund, it would seem that it has special machinery for dealing with the case of nurses which must be borne in mind, so far at all events as they are concerned, should the scheme finally adopted contemplate a type of benefit which the Fund can provide. As to anything beyond that, however, our conclusion is that, even if its machinery could be adapted to embrace the larger purpose before us, and the Fund could see its way to

accept such large individual risks, the benefits it offers, being smaller than those to be obtained from insurance companies (*see* pars. 296 to 299), and its future prospects of bonuses, are not such as to suggest that the Hospitals could resort to it exclusively for their pensions. This view is strengthened by the increasing difficulty which, in our opinion, the Fund will experience in the future in competing with strong insurance companies.

397. Nor can we see in the general construction of the Fund a type which could be recommended to the Hospitals for the model of a new institution. It is clear from the parliamentary returns under the Assurance Companies Act that, however good may be the profits on some classes of insurance business, the profits on annuity transactions are extremely small. Indeed, not infrequently they result in loss. From the nature of the case, any new institution dealing only in the less profitable class of business would be handicapped from the outset. Assuming such a society to have been successfully started, the difficulties and expenses of organization to have been provided for, and the financial risks to which every mutual fund is subject to be in a fair way to be faced, there would still remain the prospect of improved longevity in the community generally, to which Mr. King has drawn attention so forcibly, and to which it does not seem possible at present to assign any limits. Mr. King may be unduly cautious, but when an actuary of his great experience suggests that, for such an institution, there is no method of attaining perfect security but to accumulate sufficient premiums to re-assure the risks with a good insurance company or the Government, it is equivalent to laying down the principle that the rates of premium must be so safe that they cannot compete with established insurance companies. And inasmuch as the sole inducement to incur the risks of starting such a new institution on the mutual basis would be to obtain more favourable benefits from it, there seems to be no escape from the conclusion, confirmed as it is by the actual results of 25 years working of the Royal National Pension Fund, that it would on the whole be much safer, and in the end probably more profitable, to have direct recourse to insurance companies at the outset.

The New South Wales proposed Scheme and Mr. Tinner's Scheme.

398. Coming to the New South Wales proposed scheme and that put before us by Mr. T. Tinner, F.I.A., we have already seen that they include a feature which distinguishes them from other applications of the money purchase principle which have come before us. This is that the scale of premiums includes the estimated cost of providing, in addition to superannuation, pensions in the event of disablement through a breakdown of health, and in the case of the New South Wales scheme other benefits besides. The actuaries who prepared the New South Wales scheme calculated and stated separately (*see* par. 308) the cost of the disablement benefit, which Mr. Tinner does not, but the fundamental principle is the same, viz., that the pensions granted on early retirement, and any other

supplementary benefits, are all to be charged on a combined mutual fund. The New South Wales scheme, however, presents certain controversial features (*see* pars. 309, 312, 316 and 349) which we have already found to be either inapplicable or unsuitable, and it will probably enjoy a State guarantee. It will be better, therefore, to take Mr. Tinner's scheme as representative of the principle involved.

399. In one main feature Mr. Tinner's scheme conforms to the type of the Elementary Teachers Deferred Annuity Fund, viz., that each contribution is regarded as a single premium which purchases a certain specified amount of annuity on retirement. It would, however, differ from the Teachers Fund in that (i) the amounts of contribution would not be uniform, (ii) the investments would not be limited to government securities, (iii) the retirement may be "early" in the event of incapacitation, and this is provided for by including its estimated cost in the general calculation of premiums, (iv) the benefit does not enure, at any rate wholly, in the event of withdrawal though a certain benefit would enure in the event of death, and (v) provision would have to be made for administration by a central governing body and for the expenses of management. A reference to the conditions we laid down in paragraph 378 shows that a fund of this type, provided it gives proper security for the pensions, complies with all of them, except that the death benefit is limited to the return of one-half of the contributions, viz., the member's own payments. We do not attach undue importance to the latter point, as the principle on which the scheme is constructed would lend itself, as in the case of the New South Wales scheme, to superimposing an increased death benefit by suitably decreasing other benefits or increasing the premiums.

400. Mr. Tinner himself, in the evidence he gave us, attached great importance to the question of disablement (*see* pars. 314 and 321) and it is obviously a recommendation of his scheme, if his premises are sound, that it provides satisfactory allowances for members who break down in health. That this is so is seen by the numerous illustrations of the pensions that would be payable at various ages given in his own description of the scheme (*see* Appendix VIII).

401. A mutual fund of this kind would be subject to the difficulties of central administration on which we have remarked at various points of our review (*see* pars. 150 and 245) and also to the financial and actuarial risks affecting all mutual funds alike. Taking first the former group of problems, we may say that we particularly questioned Mr. Tinner on this point, and he did not think that the administrative difficulties, including the allotment of the disablement pensions, would be insurmountable with goodwill all round. Mr. King, on the other hand (*see* par. 395), thought they would be. We asked Mr. Tinner if he was aware of the existence of any similar fund, serving the needs of a diversified body of institutions, and he knew of none other than the Railway Clearing System Superannuation Fund. The history we have

given of this Fund (*see* pars. 229 *et seq.*) shows that very great administrative difficulties have in fact arisen from time to time in connection with it; and as it is known that many of those difficulties were due to this particular problem of disablement, which apparently was in some degree responsible for the financial insolvency that faced the Fund in 1903, it seems necessary that we should stop here and summarize the views we have formed upon the questions of principle involved in it.

The general Problem of Disablement.

402. As it is one of the objects of a pension scheme that there should no longer be any inducement to postpone retirement when a man ceases to be efficient, it is most desirable that a pension should be available, not only at a specified age, but also in the event of permanent loss of health before that age is reached. We have already made incidental references to the problems involved in the payment of disablement benefit, especially where the scheme includes the officers of many independent institutions (*see* pars. 151, 228, 240 and 245).

403. We have seen, and more particularly in the case of the Railway Clearing System Fund, that there is not only the difficulty arising from the mere cost of the benefit in question, which must be provided at the expense of the normal pension benefit. There is also the difficulty arising from the fact that the date of retirement, and consequently the cost of the benefit, depends in each individual case on a decision involving the exercise of discretion, and the administrative question at once arises whether this discretion is to be exercised by the body responsible for the efficiency of the separate institution, or by the body responsible for the financial stability of the federated scheme.

404. The problem in its first aspect, *i.e.*, as it would affect a single employing unit, uncomplicated by the administrative problem involved in a federated scheme, is sufficiently serious. The promise of a disablement pension may involve a possible liability for an annuity extending over a much greater number of years than a superannuation pension, and payable to an officer the contributions in respect of whom have been accumulated for a correspondingly shorter period. The second part of the problem, namely, that which arises out of the administrative difficulty incidental to a federated pension scheme, is still more serious. It may be illustrated by what has been known to happen even in the case of a pension scheme covering only the separate departments of a single business concern. There is a natural tendency for each department to recommend the early retirement, at the expense of the central pension fund, of officials who are no longer fully efficient at their particular work, but are not actually disabled or incapable of other work. The pension fund is thus burdened not only with the absolutely inevitable percentage of cases of premature disablement, but also with liabilities which could have been avoided, and which probably would have been avoided, had the financial responsibility

for pensions rested on the same shoulders as the administrative responsibility for the engagement and retirement of the officials in question. This tendency is naturally a greater difficulty in a federated scheme including independent institutions than in a scheme merely covering separate departments of one concern. The effect on the stability of the pension fund may be disastrous, unless, indeed, the normal pension benefits are reduced, or the contributions increased, to an extent that defeats the objects of the whole scheme. The history of the Railway Clearing System Fund (*see* pars. 229 *et seq.*) may be taken as throwing much light on the financial results of such forces as are here referred to. In fact, the evidence before us would justify the conclusion that disablement pensions should not be included in a federated scheme in the absence of an extraneous financial guarantee.

405. Therefore in any general scheme of Hospital pensions that includes disablement benefit, there must always arise the administrative question whether the decision as to retirement through ill-health is to rest with the Hospital Committee or with the central body responsible for the stability of the scheme. On the one hand, it may be urged that to decide the degree of disablement that would necessitate retirement requires knowledge of the officer and of the work which only the Hospital Committee can possess; and that the decision will directly affect the future efficiency of the Hospital, for which that Committee is responsible. On the other hand, if a pension fund is to be kept in a state of financial stability its liabilities must be capable of being calculated more or less approximately in advance, and this might prove to be almost impossible with claims that would depend on the exercise of discretion by individual Hospitals. While, therefore, in the case of a mutual fund as proposed by Mr. Tinner the grant of disablement pensions would rest with the central administrative body, we are driven to conclude, as regards the general principle, that the primary responsibility for granting the disablement benefit ought to rest with the individual Hospital.

Mr. Tinner's Scheme resumed.

406. Having arrived at this conclusion as to the proper location of the primary responsibility for disablement benefit, we will defer the further consideration of that problem, and now revert to the general consideration of Mr. Tinner's proposals. With regard to the financial and actuarial risks which affect all such mutual funds, and to which we have referred more particularly in paragraphs 127, 245, 381, and 391 *et seq.*, much has been said already which need not be repeated. Mr. Tinner's scheme, like other mutual schemes based on the money purchase plan, avoids many of the uncertain elements which enter into those based on salary percentage scales. So far as is possible consistently with the attainment of the end in view, every portion of the benefit is allotted strictly in accordance with its estimated cost; but while the uncertain elements are thus reduced, they cannot, by the nature of the case, be entirely eliminated. Assuming

satisfactory arrangements to be made for the costs of management, there would remain the financial risks, never absent and more likely to arise in a distant future than in the coming years, on account of which (*see* par. 280) the Public Trustee declined to undertake the management of a fund for the Reformatory and Industrial Schools; and above all there would remain the actuarial risk of a steadily improving longevity in the general community, which we have just seen to hang over the prospects of all annuity funds (*see* pars. 392 to 397) like a cloud, which may, indeed, be only a menace, but the full import of which cannot be gauged at present.

407. Mr. Tinner (*see* par. 394) did not himself attach so much importance to this question of mortality as Mr. King, though he puts forward his whole scheme, so far as figures are concerned, in a purely tentative way, remarking that future actuarial investigations must decide whether, according to the actual experience and progress of the fund, the initial relation between contributions and benefits is justified or whether some revision in one or other may be necessary. Indeed, we think it a great advantage that Mr. Tinner should have presented his sketch of a mutual scheme frankly pointing out its more or less provisional nature; for it is of the essence of a mutual scheme that the benefits of co-operation cannot be secured without the risks. This fact suggests that the differing degree of importance attached to the question of future mortality by Mr. King and Mr. Tinner may be more apparent than real. Mr. King, in advising the Royal National Pension Fund, which is virtually a mutual insurance society for the grant of annuities, must be necessarily concerned principally for the integrity of its contracts. Mr. Tinner, on the other hand, suggests that the best if not the only way, for a body like the Hospital staffs, to derive the utmost advantage from the mutual system is not to endeavour to make the future perfectly safe, as would a strong insurance company, by abundant caution in the present, but within certain reasonable limits to leave the future benefits to be settled by events.

408. We have seen so much reason for attaching weight to the question of absolute security that if the acceptability of Mr. Tinner's scheme were to depend alone on its provision of the ultimate pensions, we could not consider the possible advantages to be obtained from such a mutual scheme sufficiently great to be weighed against the risks and uncertainties. As regards the latter we found (*see* par. 187) that the deficiency in 1913 of £471,448 in the London County Council Fund and (*see* par. 236) that of £427,305 in 1910 in the Railway Clearing System Fund, were both due mainly to unexpected longevity among the pensioners. This evidence confirms the opinions of Mr. King as to the trend of recent mortality in the community generally, and is in our opinion conclusive as to the risks. There seems to be no way of providing against them other than the provision of ample margins in the premiums and valuation reserves. The reasoning of paragraphs 237 and 397 thus appears to us to be against a mutual annuity scheme of any type. The provision of adequate pensions on disablement is, however, important, and the

inclusion of this feature in Mr. Tinner's scheme so far removes it, notwithstanding the risks which we have seen to be attached to this benefit, from the category of ordinary mutual schemes on the money purchase principle as to suggest that a final conclusion on its merits may perhaps be postponed until we consider the remaining alternatives, and see whether the disablement benefit can be secured in any other or better way.

Method of Insurance Policies.

409. Of the remaining alternatives, consisting of methods of dealing direct with insurance companies, we will not dwell on the scheme for Officers of Reformatory and Industrial Schools, as it is limited entirely to superannuation without any option of a death benefit, and the terms agreed upon with the company or companies have not yet been made public. The proposed scheme for Secondary School Teachers will be an important one, and likely to afford valuable guidance if and when it takes effect, but the Report has not yet been acted upon. We will take the Universities scheme as best illustrating the advantages and disadvantages of recourse to insurance companies, and the most recent terms obtained from high class companies.

410. In regard to any scheme based on insurance policies, it may be mentioned, among other things,

(i) that there is a great saving in administrative labour and expense,

(ii) that as there is no fund, there can be no loss on securities,

(iii) that there is no need for actuarial valuations nor room for financial responsibility on the part of the institutions beyond the prescribed contributions,

and (iv) that subject to acceptance of the deferred pay principle (*see* pars. 270 and 412) the beneficiary on migration to any institution not within the scheme has the option of continuing the policy or policies either at his own expense or by arrangement with his new employers.

The Federated Superannuation System for Universities.

411. From our detailed description of the Universities System (*see* pars. 258 to 271), it would seem that it complies with all the conditions laid down by us, subject to the following reservations :—

(*a*) that the security for the pensions depends mainly on the solvency and partly on the future profits of the selected insurance companies.

(*b*) that while the pensions, pure and simple, have been shown to be adequate, these should also be sufficient when supplemented by the death benefit.

(*c*) that it does not provide a satisfactory pension in the event of disablement from a breakdown of health.

412. Subject to these reservations, which call for consideration, this system is attractive. It is, however, important to remember that, as we have pointed out, it is based on the general fundamental principle that every year of service is strictly pensionable, carrying with it its due salary increment towards the old age provision, and that each such contribution, once set aside, enures for the benefit of the employee. In a scheme of this type the Hospital officer would thus retain the benefit of all past contributions if he changed his service to another Hospital within the scheme or to one outside it or left Hospital service altogether. The system further combines simplicity of local administration with a minimum amount of central control.

(*a*) The general Question of the Security offered by Insurance Companies.

413. It seems scarcely necessary to discuss the question of the mere solvency of the great insurance companies. Though they are not supervised by the State, as in many other countries, they have worked since 1870 in the light of a statutory publicity; and since that date there has been no case of failure of an important company. The security offered for all contracts which are definitely guaranteed may be regarded as of a very high order; and this seems to be the case more especially where the contract takes the form of, or in time becomes one for, payment of an annuity.*

414. As regards the general conditions of prosperity, on which depend the future profits and bonuses, there is room for less certainty. We shall see presently that the profits of even the best selected companies may differ considerably, and the causes which have produced such differences in the past will no doubt operate in future: and there may be yet other influences in the future that may affect all companies alike. All that can be said here on this question is that the companies are unlikely ever to have to meet a greater crisis of adverse influences than the War is now causing them to face. The arming of the manhood of the nation involves the payment of far more claims than were allowed for in the mortality calculations; and on the financial side the increased income tax involves a heavy charge, while the fall in the values of all securities has necessitated the writing off of enormous sums to restore the worth of the depreciated investments. Insurance companies that are able to pass satisfactorily through such a severe ordeal as this will not only have earned the complete confidence of the public from the point of view of mere security, but will be able to afford illustrations and experiences of what profits and bonuses may be obtained under the most adverse conditions. From the point of view of the question we are now discussing, therefore, no time could be more appropriate than the near future for the initiation of an insurance scheme; and it

* In this connection we have printed in Appendix XII some extracts from an article on the subject which appeared in the *Economist* of October 14th, 1916.

may be concluded generally, with some confidence, that any prospects or estimates of future pensions based on the present experiences of the best companies would be likely to be fulfilled, and even improved upon, in years to come.

415. We may perhaps add that there has been in recent years a great extension of the principle of insurance to all kinds of contingencies previously unthought of. This fact has no very direct bearing on our present enquiry except in so far as it seems to indicate a growing tendency in modern life towards specialism, and towards leaving provision against uncertainties in the hands of those who specially study them, and are thus best qualified to exercise foresight and resource in meeting the various unexpected incidences that must operate from time to time where the conditions of the future are unknown.

(*b*) The Adequacy of the Pensions under the Universities System.

416. We took some pains to investigate (*see* pars. 260 to 266) the pensions which can be purchased definitely under this plan for 10 per cent. of the salary, taking certain type cases; and we found that, speaking generally, the resulting benefits compared very favourably with the old Civil Service terms, neither plan including any death benefit. We have also (*see* pars. 319 *et seq.*) given certain illustrations of the working of the system where the premiums for the deferred annuities are returnable in the event of death or withdrawal. We may enquire briefly now what pensions would be secured under similar circumstances where the beneficiary avails himself of the maximum death benefit option.

417. It may be explained here that contracts including death benefits, unlike those securing definite amounts of pension which are granted only upon a non-participating basis, are granted by insurance companies on the profit sharing principle. It is well known that the profits of many of the older companies that have accumulated great financial resources are of a high order, and the Joint Committee which was responsible for framing the Universities scheme decided that their beneficiaries should have the option of effecting profit contracts and thus, if expectations based on past experience should not be falsified, of receiving larger ultimate benefits than could otherwise be secured for the same contributions. It is a disadvantage of this form of applying the money purchase principle that any part of the benefit should be the subject of uncertainty; but as such uncertainty applies only to the amount of the profits that might be available from time to time for division, and not in any way to the "sum assured" or fundamental part of the benefit, it was decided that this consideration was outweighed by the prospective advantages. The Joint Committee, however, took pains, under expert advice, to select four companies with strong financial resources, and it is the figures given in that Committee's pamphlet for these companies, and based upon their past experience, to which we must

have recourse for information as to the expected death benefits and alternative pensions.

418. It is a curious fact that the results of four companies thus carefully selected are found to differ a good deal from one another. It does not follow that the company which has declared the largest profits in the past will always continue to do so, and we have therefore selected two sets of results for our estimates, those of a company we will call "Office A" which on paper are the most attractive, and those of another, "Office B," which, though not quite so favourable, are such as a high-class company might perhaps be expected to maintain through bad times as well as good. We have then taken the same set of type cases of Hospital Officers (*see* Appendix X) that were used for our earlier calculations, and had estimates prepared of the benefits that would be secured in those cases under the conditions of the Universities System on the assumption, as before, that the total contribution would be 10 per cent. of the salaries. For purposes of comparison we will set out the benefits which would be received in respect of similar salaries from the State under the new Civil Service scale of 1909 (*see* par. 139).

419. In the first place we give a Table to show the benefit receivable in the event of death before the pension age. As this varies to some extent with the age at death, owing to the profits or "bonuses," we have selected for illustration the two ages 46 and 56:—

Death Benefits payable under the Universities System.

Particulars of Type Cases.			Amount of Death Benefit if Death occur at					
			Age 46.			Age 56.		
No.	Age at entry.	Final salary.	Office A.	Office B.	Civil Service (New Scale).	Office A.	Office B.	Civil Service (New Scale).
		£	£	£	£	£	£	£
I	24	625	2,033	1,758	625	2,603	2,127	625
II	20	425	1,383	1,169	325	1,741	1,389	425
III	24	325	1,141	983	275	1,420	1,150	325

420. In the next Table will be found for the same type cases the amounts of the ultimate pension benefits; and in the case of the Civil Service scheme the lump sums which would be payable on retirement under the Act of 1909 are also shown. For facility of comparison, the second portion of the Table shows the pensions reduced to the common ratio that we have used previously, viz., the proportion of the final salary that is provided in pension in respect of each year of service:—

PENSIONS PAYABLE UNDER THE UNIVERSITIES SYSTEM.

(In addition to the full Death Benefits above illustrated.)

Particulars of Type Cases.			Amount of Ultimate Benefit							
			At age 60.				At age 65.			
No.	Age at entry.	Final salary.	Office A Pension.	Office B Pension.	Civil Service New Scale. Pension.	Civil Service New Scale. Cash.	Office A Pension.	Office B Pension.	Civil Service New Scale. Pension.	Civil Service New Scale. Cash.
		£	£	£	£	£	£	£	£	£
I	24	625	257	224	281	750	383	342	320	854
II	20	425	174	150	213	567	259	228	239	638
III	24	325	141	121	146	390	208	185	167	444

Type Case No.	Proportion of Final Salary for each year of service					
	At age 60.			At age 65.		
	Office A.	Office B.	Civil Service 1909.*	Office A.	Office B.	Civil Service 1909.*
I	One-88th	One-100th	One-80th	One 67th	One 75th	One-80th
II	One-98th	One-113th	One-80th	One 74th	One-84th	One-80th
III	One-83rd	One-97th	One-80th	One 64th	One-72nd	One-80th

* With a cash payment in addition.

421. It will be seen that if retirement takes place at age 60 the pensions provided by this plan, when supplemented by the death benefit, do not compare favourably with the Civil Service scale, though we could not call them inadequate. In fact a reference to the Table in paragraph 263 shows that they are not far removed from those provided in Mr. Manly's scheme, and put forward by the Hospital Officers Association. Where retirement is deferred until age 65 it is evident that the Universities plan provides benefits which compare very well with those of the new Civil Service scale, and are much better than those of the Hospital Officers' scheme. It must not be overlooked that the new Civil Service plan provides, in addition to the pension, a substantial lump sum at the retiring age. On the other hand, the pensions under the Universities System are somewhat larger than the Civil Service scale at age 65 ; while the pre-pension death benefits have already been seen to be very much larger.

422. In connection with these death benefits we may mention that the foregoing results have been calculated on the assumption that, where retirement is deferred beyond age 60, the insurance company would continue to hold the maturing policy moneys and to allow interest thereon at the agreed rate; and also that the further contributions under the

scheme would likewise be held and accumulated at interest until required for the pension. It follows from this that, in the event of death between the ages of 60 and 65, before retirement actually occurs, the whole of those accumulations would be payable as a death benefit, whereas under the new Civil Service scale no more than one year's salary would be paid in the event of death. At these ages this is an important consideration.

423. The question of adequacy may be regarded from another point of view. We have seen that in any scheme based on the money purchase principle a postponement of the age of retirement, for a period during which the contributions are accumulating at interest, produces a rapid increase in the amount of pension. It may therefore be instructive to regard the problem from the point of view of the question, to what age must a man work in order to secure a certain amount of pension? To answer this question we have taken two standards of the amount of pension to be aimed at, viz.: (a) the scale of pensions based on *average* salary put forward by the officers themselves, with 40 years service, and (b) the old Civil Service scale based on *final* salary, also with 40 years service. The latter, of course, has always been regarded as a maximum. We have then applied the foregoing calculations to ascertain for each of the supposed type cases the number of years' service the officer must complete in order to arrive at an annuity equivalent to the full two-thirds pension contemplated under each of the foregoing scales. The results are given in the following Table :—

AGES TO WHICH RETIREMENT MUST BE DEFERRED TO SECURE CERTAIN PENSIONS UNDER THE UNIVERSITIES SYSTEM.

(After payment of maximum Death Benefits in case of officers previously deceased.)

Type Case No.	Age at entry.	Age at retirement to secure TWO-THIRDS of			
		AVERAGE Salary.		FINAL Salary.	
		Office A.	Office B.	Office A.	Office B.
I	24	62	64	66	68
II	20	60	62	66	68
III	24	62	64	65	67

424. It will be seen that on the figures put forward in the Universities System pamphlet the scale of pensions approved as adequate by the officers themselves, and based on average salary, would be attained after 40 years service, or even less, and at a maximum age of 64, though possibly as early as 60. A further period of something like four or five years service would bring the pension up to the full two-thirds of the

final salary claimable under the old Civil Service scale, a scale which, unlike the new one, was limited to pension alone and conferred no death benefit such as is included in the Universities scheme. While we have stated these results for the sake of illustration, we must not be considered to suggest that an officer should be permitted to go on working until 67 or 68 merely for the sake of the larger pension. As a fact, the rapid improvement, produced by this application of the money purchase principle, in the amount of pension following on a postponement of the age of retirement, needs, as we have already remarked (*see* par. 265), to be closely watched and accentuates the need for prescribing an age for compulsory retirement in connection with that method.

425. The alternative methods of arranging the benefits under the Universities System are so different from those of other pension schemes, that it has been impossible for us to attempt anything like a final evaluation of the respective benefits so as to make the comparisons conclusive. We have had to content ourselves with illustrating the benefits themselves as clearly as possible. The latter being varied the occasions for these illustrations or provisional comparisons have arisen in different parts of this Report (*see* pars. 263, 319, 419 and 420), and thus it may be convenient if we summarize here briefly the figures of the Universities System and one or two other schemes. We do so in the following Table, which is limited to the actual pensions that would be payable in each of the Hospital type cases, other benefits being disregarded :—

SHORT SUMMARY OF PENSIONS UNDER THE UNIVERSITIES SYSTEM AND OTHER PLANS.

Type Case No.	Amount of Pension commencing at									
	Age 60.					Age 65.				
	Universities System.			Hospital Officers Scheme.	Mr. Tinner's Scheme.	Universities System.			Hospital Officers Scheme.	Mr. Tinner's Scheme.
	Deferred Annuity without Return.	Deferred Annuity with Return.	Endowment Assurance with Profits.*			Deferred Annuity without Return.	Deferred Annuity with Return.	Endowment Assurance with Profits.*		
	1	2	3	4	5	6	7	8	9	10
	£	£	£	£	£	£	£	£	£	£
I	336	236	240	268	250	582	362	362	312	355
II	230	157	162	171	169	400	242	244	184	239
III	185	128	131	143	136	320	196	196	165	193

* In summarizing the table in paragraph 420 for purposes of columns 3 and 8 the results shown by Offices A and B have been averaged, so as to give their general effect in a single column for each pension age.

426. If we eliminate the results shown in columns 1 and 6, which are maximum pensions without any return on death and seldom chosen, it is remarkable that the amounts of pension arrived at by such different

methods should exhibit so much similarity. The results of the money purchase principle may be traced in comparing the figures of the Universities System and Mr. Tinner's scheme with those of the Hospital Officers scheme. At 60 the latter scale is rather better; but about 61, as we have already mentioned (*see* pars. 320 and 421), the money purchase plan with a 10 per cent. contribution would be about the same, and at 65 it is seen to be much better. Another notable feature is the marked similarity of the pensions in columns 2 and 7 to those in columns 3 and 8. The former are those purchased by way of deferred annuity, carrying merely the return of contributions actually paid and interest thereon in case of death, whereas the latter are those provided by endowment assurances on the profit-sharing basis, carrying in addition very considerable benefits (*see* par. 419) in the event of death before the pension age. The explanation of this apparent paradox is given by Mr. F. L. Collins in his actuarial memorandum (*see* Appendix IX, pars. 6 and 10). He there gives a Table showing that, with the help of the bonuses allotted out of profits, the best companies have been able, notwithstanding the heavy death benefits for which they have been liable during the currency of the policies, to return all contributions on maturity together with compound interest at from 3 to 4 per cent. As to why the companies are able to do this Mr. Collins can give no actuarial reasons. His explanation is that the best companies to-day represent a "survival of the fittest"; and that, unlike many less fortunate concerns which have disappeared in the past, such societies as those that grant contracts under the Universities System have in the past "accumulated "reserves far in excess of what is required for actual commitments."

427. We arrive at the conclusion that this scheme, even under the options which provide maximum death benefits prior to the pension age, cannot be ruled out on the ground of inadequacy of the pensions received under it so long as the minimum contribution is 10 per cent. of the salary.

(*c*) The insufficient Benefit on Disablement in the Universities System.

428. We have already drawn attention to the fact (*see* par. 267) that the absence of an adequate provision on disablement is a marked disadvantage in the case of the Universities System. Not only does retirement before age 60 leave the officer without income for sustenance until that age, but if and when he attains 60 the pension entered upon must be for a reduced, and in cases of short service very much reduced, amount. The system itself is incapable of being amended to rectify this defect. We have already seen that the difficulty of settling whether and when an officer should be retired before the specified age, with the result of throwing a heavy charge on the pension fund, is one of the principal obstacles to the smooth working of a mutual pension society: obviously it would be still more difficult to make any arrangement with an insurance company whereby the company would definitely accept liability for a contingency as to the happening of which the Hospital or a

superannuation committee were to be the sole authority. On the other hand, if the company were to be the authority to decide whether an early retirement were justified by the officer's state of health, supposing a company would enter into such a contract, such a position would not suit the Hospital Committees. It is therefore necessary to consider whether there is any way of supplementing the scheme as at present organized, so as to cover the case of breakdown of health.

429. It is necessary first to understand clearly the nature of the hiatus to be filled, in order to make up for this defect of the scheme. We will first regard the problem as it presents itself automatically according to the conditions of the Universities System, and without paying attention, at this stage, to the officer's state of health. Under the scheme "if the annual premium for any policy be not paid or credited "by the Institution to the Society on its due date, the assurance shall "cease to be in full force, but will remain in force as a paid-up policy "for such proportion of the benefit as the number of annual premiums "paid bears to the whole number originally payable." Thus the total benefit decided upon as appropriate in any case of disablement may be considered to consist of two parts, first the portion already provided by the scheme, which is by no means negligible, and secondly the supplementary part still to be provided. The former consists of the amount of pension commencing at age 60, say x per annum, which is already paid for by the past contributions. If it were decided that x, which would naturally be related, though not necessarily proportionate, to the years of past service, was a sufficient allowance, then the supplementary part yet to be provided would be x per annum from the age of retirement until age 60. If, on the other hand, it were thought that, in view of the officer's services, the pension should be increased from x to $x+y$ per annum, then the supplement needed would be an annual payment of $x+y$ from the age of retirement until age 60, together with a continuing payment for the same period of such portion of the original insurance premium as would be necessary to provide the pension of y per annum after age 60 as an addition to the x already paid for. The Universities System contemplates that at age 60, when the contracts mature, the sums assured and the pensions guaranteed in respect of them are interchangeable. The sum assured in any individual case at the moment of disablement may thus be represented in symbols by $X+Y+Z$, of which X is the sum already secured by the past payments, Y is the additional sum (if any) to be secured by further payments, and Z is the balance of the original amount assured which will be allowed to lapse.

430. For an example we will take Type Case I (of Appendix X) and assume that a breakdown of health occurred at age 51, that is five years after the officer's salary had been raised from £500 to £600 per annum. If we adopt as a basis the results of Office A quoted in the foregoing Table (*see* par. 420) it would seem that the contributions already made before that age would entitle this officer in any case to an allowance of about £165 per annum, commencing at age 60, a sum of £1,668 being

payable in the event of death prior to that age. If that amount of pension were considered sufficient to meet the case, it would be necessary to provide £165 per annum for the intervening period of 9 years. If, however, it were desired that the officer should receive not less than, say, £200 per annum, then it would first be necessary to provide for 9 years so much of the original insurance premium as would be required to purchase the additional £35 per annum after age 60. This sum would be about £20, and, when added to the £200, would make a total amount of £220 per annum to be provided for the 9 years.

431. If we adopt the less optimistic figures of Office B, the contributions already made would entitle the officer to about £148 per annum on attainment of 60, the sum assured payable in the event of previous death being £1,471. In this case £52 per annum must be provided after 60 to raise the total ultimate pension to £200 per annum. The temporary additional cost of this would be about £40 per annum, which, added to the £200 immediate pension, would make a total of about £240 per annum to be provided for the 9 years prior to attainment of age 60.

432. By the terms of the policies the pension of £200 would be supplemented by a total death benefit, covering the intervening 9 years before age 60, of £1,862 rising to £2,064 in the case of Office A, and £1,826 rising to £1,986 in the case of Office B. In the case of a man suffering from a breakdown of health this would be an important consideration; but the death benefits properly purchasable by the contributions made by or on behalf of the officer during the pensionable years of service are those stated in the preceding paragraphs, and it does not follow that his estate should benefit to this increased extent. The death benefit would expire on the attainment of age 60, and become merged in the annuity thereafter payable. In the event of death ensuing thereupon, before the annuity had been enjoyed for many years, the loss to the estate would be considerable, but this is a feature which runs through the whole scheme and which we have discussed elsewhere (*see* par. 339).

433. The foregoing method of viewing the disablement problem, based on the automatic regulations governing the insurance contracts, disregards the state of health of the disabled officers. In connection with the New Zealand Funds (*see* par. 215) we noted the fact, confirmed by all other published experiences, that pensioners retired through ill-health are subject to a rate of mortality higher than the average. Calculations connected with insurance contracts are usually based on the assumption that the lives are healthy, and it by no means follows that arrangements for the continuance or discontinuance of policies which might be sound and equitable on that assumption are necessarily the best where the lives have deteriorated. Hence there are broader aspects of the question of providing these supplementary pensions under the Universities System which call for further consideration, and which will be discussed presently (*see* pars. 441 *et seq.*)

434. For the moment it is sufficient to point out that it would not be necessary, though we shall show that it might be desirable, for the Hospitals to assume liability for disablement pensions during the whole of life; but that at the worst the problem of financing any case of disablement is capable of being brought within manageable maximum limits. If it were to be decided that a scheme based on insurance policies were the most suitable for the Hospitals in all other respects, it would be unfortunate if it were to prove unacceptable through the existence of this defect. The question we have already discussed in the abstract is thus directly raised in a concrete form. It is whether the liability for supplementing the disablement pensions might not be regarded as a matter apart altogether from the superannuation, and be accepted by the individual Hospitals concerned in their capacity of employers.

The general Problem of Disablement resumed.

435. We have already arrived at the conclusion on the question of general principle (*see* par. 405) that the primary responsibility for granting disablement benefit ought to rest on the individual Hospital concerned. We also saw in Part I of this Report that the Hospitals have already given disablement pensions in many cases (*see* pars. 16 and 20). We were not able to say that the provision already made in this way is adequate, but we may take the fact as evidence that the Hospitals, in addition to providing superannuation pensions to a considerable though insufficient extent, have in fact been able to deal to a certain degree with the difficulty caused by premature disablement. We are, therefore, of opinion that the individual institutions concerned, might, if it were decided to provide ordinary pensions under an insurance companies scheme, continue to deal with disablement. In doing so they would be acting in accordance with the principle which we have found, after a general consideration of all the circumstances, to be the only logical solution of the problem. Having thus settled the question that the primary responsibility for disablement pensions should rest in practice on the Hospitals, it would be a proper subject for further investigation to enquire into the best method of meeting this liability, and the possibility of helping them to do so.

Suggested Central Body to supplement Disablement Pensions.

436. The need for some such help arises because the financial burden might be too heavy for the individual Hospital. There would be the greater risk of this because the Hospitals, by hypothesis, would have assumed already their share of the burden of providing in advance for the superannuation claims of the whole of their staffs in respect of future service. We have pointed out (*see* par. 434) that the liability for disablement is not an unlimited one; and we think that if some help could be given to the Hospitals they would be not unwilling to assume

generally an obligation which has already been accepted by so many, and thus retain the determining voice in a matter so closely affecting their efficiency.

437. For this purpose some central organization would be necessary, but it must be a body possessing the confidence of the Hospitals. We contemplate that it would in effect be an association of the Hospitals themselves, who would be acting in combination for this particular purpose. It would presumably receive extraneous financial support by way of donations or subventions. It would set up the disablement liabilities and itself provide for such part of them as its funds might justify, the balance of the necessary provision in advance being annually discharged by the Hospitals themselves by a uniform or general levy to be made on defined principles. Before we close our Report we shall recommend that, in the event of our proposals for the separate treatment of disablement taking practical shape, the King's Fund should give its support to them; and the Executive Committee might even see its way to advise a money contribution towards the cost of them. We do not, however, contemplate that the King's Fund would assume any responsibility, financial or moral, for the proceedings of the Associated Hospitals in the matter of disablement; and when in future we speak of the proposed "central body" we mean an organization of the Hospitals acting within the limits here outlined.

438. As regards the difficulty, to which we have more than once adverted, as to whether the Hospitals would submit such retirements to the approval of a central body, we do not think it would apply in this case. In the first place, the central body concerned would be fundamentally ancillary to the work of the Hospitals, anxious to promote their efficiency, and composed of men, or men and women, who would be representatives of the Hospitals themselves. Secondly, it would not be responsible for the solvency of the whole scheme as regards ordinary superannuation, and would be thus, financially speaking, more free to consider cases on their merits. Thirdly, the amount involved in any case would not be the whole cost of the pension, and in many cases an amount not in itself of great importance, as to which difference of opinion would be unlikely to occur. Lastly, it would always be within the discretion of the Hospital to deal itself with any individual case, subject to the approval of the central body, if it desired to do so owing to reasons other than a strict breakdown of health being involved in the retirement. It will be remembered (*see* par. 385) that some such solution of the disablement difficulty was strongly advocated on its own merits by representative railway officials, in preference to the existing system of salary percentage pensions of which they had actual experience.

The Cost of Disablement Pensions.

439. Having thus seen that abstract considerations point to the desirability of regarding disablement as a separate question, and that in

the case of a scheme of the Universities type practical considerations render that course a necessity, we thought it might be convenient if, before committing ourselves to any formal recommendation on the subject, we put together such facts illustrating the rates of disablement as have come before us in the course of our enquiry, and as seem to throw any light on the actual magnitude of the financial considerations involved in any separate provision for that contingency. In order not to interrupt the main argument of this Report the results are stated separately in Appendix XIII.

440. It will be seen from a perusal of that Appendix that we have been able to throw a certain amount of light on the cost of disablement, so far at all events as it may be regarded relatively to the cost of pensions as a whole. If, as appears from Sir George Hardy's analysis of the Railway Funds' experiences, pensions on a scale averaging rather better than a sixtieth of the average salary for each year of service can be secured at a cost of 5 per cent. of the salaries provided in advance, then the disablement pensions alone are estimated to represent from 12 to 19 per cent. of the total pensions, according to the different experiences of the Railways. If the cost of disablement provided in advance were to vary with the cost, similarly calculated, of total pensions, an assumption which we have not established and which very possibly results in an under-statement, then the separate cost of disablement in the Railway Funds could be put at from 12 to 19 per cent. of the contribution. As this is £5, or 100 shillings, for every £100 of salary the result may be stated as 12s. to 19s. per cent. of the annual salaries. In other words, the cost of disablement may be reckoned roughly at about one per cent. of the salaries, or one-fifth of the whole cost of pensions; and taking the salary list of the Hospitals at £300,000 (*see* par. 372), and leaving past service to be dealt with as a separate problem, it seems that an annual sum of something like £3,000, starting from the present time, might according to railway experience be sufficient to provide in advance the cost of disablement pensions in respect of future service on a scale much the same as that put forward in the Hospital Officers' own scheme. Sir George Hardy's calculations appear to make no provision, however, for expenses nor for the contingencies, such as losses on investments and variations in the rates of retirement and mortality, which have been seen to falsify predictions frequently in the case of mutual funds. For these a margin would clearly be necessary. Also they assume that much of the profit from withdrawals is pooled for the benefit of the funds.

The Universities System resumed.

441. Having arrived at this very rough method of estimating the total cost of providing disablement pensions on a typical scale we submitted an enquiry to Mr. F. L. Collins, F.I.A. (*see* par. 319), as to whether he could state approximately the percentage of the total cost of

disablement which would be represented by the pensions already secured under the Universities System on a breakdown of health, so as to estimate the cost of the supplementary balance still to be made good for proper disablement allowances. Mr. Collins was asked further to what extent the result would be affected if the insurance policies, where such have been chosen, were to be maintained in force as suggested in paragraph 9 of his Memorandum. In response to this enquiry, Mr. Collins made some calculations and arrived at what seemed to be, at first view, a somewhat surprising result. In the case of a scheme based entirely upon Endowment Assurance policies, provided all are maintained until maturity, such supplementary balance need not cost anything at all. This result appeared to be so interesting that we asked Mr. Collins to state the case in writing, and it will be found as an addendum to his Memorandum (*see* Appendix IX, par. 11).

442. In considering Mr. Collins's conclusion, it is necessary first to understand the conditions of the problem as he approached it. The statistics of early pensioners in existing funds show that the rate of mortality among them is considerably higher than among the whole body of officers, and it follows that insurance policies already in existence on a body of such lives would be more valuable than policies on average lives. Mr. Collins therefore proceeded on the assumption that such policies ought not to be surrendered, nor any portion of them, in the manner contemplated by the Universities scheme (*see* pars. 428 *et seq.*), and that they could then be valued, for the proposed purpose, by a table importing the higher rate of mortality applicable to such lives. He then ascertains what is the cost of providing annuities on such deteriorated lives, and arrives at the conclusion that the values of the policies in hand, so arrived at, would be sufficient, and in most cases more than sufficient, to provide disablement pensions on scales generally accepted. In other words, it is assumed that a central body would take over and "nurse" the policies in all disablement cases, and would pay the pensions contemplated, as well as the premiums for maintaining the policies fully in force; and the conclusion is that it would be able in the end to recoup itself for this outlay, together with accumulated interest, out of the proceeds of the policies as and when they became payable. Mr. Collins's conclusion is based also, it will be noticed, on the further assumptions that the supposed scheme is in full working order and that insurance policies would be existing in all cases.

443. It is necessary to point out that these assumptions do not accord with actual practice. In the first place, it will have been noticed that we ourselves approached the problem by assuming (*see* par. 429) that in the event of a beneficiary becoming disabled he would retain his right to have his policies maintained in force for his own benefit for such a proportionate part of the sum assured as is represented by the past contributions, so that his estate, and his dependants, might benefit thereby in the event of his death, though not, of course, to the full extent that they would have benefited if he had

been able to maintain the policies in their entirety. In the second place we have already noticed (*see* par. 337) that in the case of the Universities scheme only about one half of the contracts effected have been Endowment Assurances. The other half consisted of Deferred Annuities of different kinds, in which cases there would be no death benefit possessing an increased value to assist in providing the disablement benefit. The latter question is taken up at paragraph 461.

444. As regards the first question, it is, as we have already said, a special provision in the prospectus describing the Universities System that in the event of payment of the premium being discontinued the contract shall remain in force but only for such a reduced proportion of the original benefit as is represented by the premiums already paid. The remainder of the sum assured is allowed to lapse. That being the form and extent of the benefit contemplated by the scheme in the event of disablement, we started from that point and showed how a supplementary benefit might be built upon that foundation. Mr. Collins, however, regarding the matter from an actuarial point of view and entirely in the aggregate, shows that when a man breaks down in health he is, as it were, at a half-way house towards death, with the result that a contract payable at his death becomes immediately of a much greater value. If, therefore, all the policies in the Universities System were to be discontinued on a breakdown in health, and all those on healthy lives maintained, the insurance companies would be reaping an unexpected profit. An insurance company reckons that only policies on good lives will be discontinued and is quite alive to the fact that policies on bad lives may and probably will be maintained against it. Quite independently, therefore, of the question whether any and if so what proportion of the original death benefit should be reserved for the benefit of the life assured and his dependants, it seems clear that, looking at the matter in the aggregate and purely as a financial proposition, all such policies should be maintained fully in force until their maturity; and if no means exist for "nursing" them, it seems desirable that some machinery for doing so should be devised.

445. While it thus seems to be established that the procedure outlined by us in paragraphs 429 *et seq.*, and suggested by the provisions of the Universities scheme itself, ought not to be followed in actual practice, we are of opinion, in view of the arguments summarized in paragraph 337, that the particular provision of that scheme which preserves to the beneficiary the full measure of death benefit purchased by the past contributions is a most valuable one. Its value is emphasized from the point of view of the dependants by the state of health of the pensioner. This consideration suggested a further investigation on the lines initiated by Mr. Collins but based on the maintenance of this practice. In this way the application of the proposed principle of maintaining the policies for provision of pensions would be limited to the part not already hypothecated for the death benefit of the assured member himself; that is to the part that would otherwise have been allowed to lapse.

446. At this stage it became necessary to define more clearly what would be a suitable standard of disablement pensions to be grafted on the Universities System. Mr. Tinner (*see* par. 400) has given much attention to the subject of disablement, and it was thus natural that Mr. Collins (*see* Appendix IX, par. 11) should compare his own results with the pensions that would be provided by Mr. Tinner's method when the pension age is 60. These, as calculated by Mr. Tinner himself with special reference to our own Hospital type cases (*see* Appendix VIII, Table VI), are illustrated in the following table, in which are likewise given the corresponding specimens based on the scale proposed by the Hospital Officers Association.

SPECIMEN DISABLEMENT PENSIONS.

Duration of Service.	Type Case I. (Age at entry 24.)		Type Case II. (Age at entry 20.)		Type Case III. (Age at entry 24.)	
	Hospital Officers Scheme.	Proposed Standard scale (Mr. Tinner's method).	Hospital Officers Scheme.	Proposed Standard scale (Mr. Tinner's method).	Hospital Officers Scheme.	Proposed Standard scale (Mr. Tinner's method).
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
10	31 14 0	49 10 0	20 14 0	37 9 0	22 10 0	35 2 0
15	62 10 0	88 0 0	35 8 0	58 10 0	39 12 0	55 17 0
20	104 12 0	132 3 0	53 4 0	79 8 0	60 16 0	77 15 0
25	153 6 0	174 15 0	74 8 0	100 10 0	83 16 0	97 17 0
30	205 8 0	212 18 0	103 4 0	124 15 0	110 0 0	117 1 0

NOTE.—The Hospital Officers proposed pensions were based on sixtieths of the average salary throughout service. The proposed scale arrived at by Mr. Tinner's money purchase method is based on a contribution of 10 per cent. of the salary, with 60 as the superannuation age.

447. As the pensions thus seen to be provided by Mr. Tinner's method, when the contribution is 10 per cent. of the salary, are distinctly better as a whole than those suggested by the Hospital Officers, and appear to be suitable in themselves, we suggested to Mr. Collins that they should be made the standard of his comparisons and be adopted generally as a basis for any calculations of the cost of supplementing the provision under the Universities System. We shall refer hereafter to this scale of disablement pensions as the proposed "standard scale."

448. Using this scale and as the result of further calculations, which have been included in a supplementary addendum to his Memorandum (*see* Appendix IX, pars. 13 and 14), Mr. Collins arrived at the conclusion that, limited in operation as laid down in par. 445, the policies would suffice, by the almost automatic process of maintaining them until maturity, to provide something like two-thirds of the total disablement pensions. Mr. Collins's conclusion, is based, it will be noticed, on the assumption that "the experience will conform to that of the "Elementary School Teachers (males) both as regards the number of "disablements, and also as regards the average duration of life in such

"cases." Thus the proportion of the value of the policies retained for the benefit of the assured is about one-third, and that would be the proportion of the whole amount of the disablement pensions to be made good by the proposed central body.

The Net Cost falling on the proposed Central Body.

449. In making our own endeavour to arrive at the actual present cost of disablement, we first ascertained the proportion that disablement pensions in Railway services, as paid in arrear, form of the total pensions, and then assumed provisionally (*see* par. 440) that a similar proportion would hold good of cost provided in advance when measured as a percentage of the salary. Mr. Collins's methods of calculation did not satisfy him that he could apply any such assumption to the one-third of the disablement pensions that, according to his estimate, would have to be made good by the proposed central body. His methods did not even provide any measure either of the total amounts to be payable ultimately for disablement, or of the total cost of disablement reckoned in advance. As we expressed a wish to have the future expenditure of the proposed central body translated into absolute amounts, and more particularly, if possible, into terms of present cost, Mr. Collins was good enough to undertake a fresh set of calculations in which he started from first principles and essayed to estimate synthetically the present cost of disablement in the case of the Hospital type cases.

450. Starting from the proposed standard scale as showing the pensions to be provided, Mr. Collins again turned for guidance as to the rates of disablement and mortality to the experience of the Elementary School Teachers. In view of the facts we have cited,* it is not certain that the data thus used by Mr. Collins would necessarily measure the maximum likely cost. He arrived at the conclusion (*see* Appendix IX, par. 15) that the cost in advance of disablement, viewed as a percentage of the salaries of a staff entering at young ages, would work out at about 17s. 3d. per cent., which, for working purposes, he called one per cent. of the salaries. On the other hand, Mr. Tinner, who has also helped us in this matter (*see* Appendix VIII, Addendum), has similarly calculated the cost of the proposed standard scale of pensions for our Hospital Type Cases I and II, on the basis of the rates of disablement disclosed in his own Table. His conclusion is that at age 25 the cost must be put at 21 per cent. of the contribution, which is itself 10 per cent. of the salary. Thus for a staff recruited young he estimates the cost at about £2 2s. per cent. of the current salaries, compared with Mr. Collins's 17s. 3d. The marked difference in these results, arrived at by similar processes, would seem to be wholly due to the different experiences on which were based the standard tables respectively used.

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* *See* par. 147 for heavy disablement rates in the Civil Service; also Appendix XII, par. 3, for the heavy rates shown by Mr. Tinner's Table.

451. As regards the relation of these results to the cost of from 12*s*. to 19*s*. per cent. which we ourselves arrived at (*see* par. 440), by a merely approximate process and based on railway experience, we remarked that Sir George Hardy's Railway Tables counted on a certain amount of profit falling back to the fund on the withdrawal of members. As the proposed central body would receive no individual contributions from members, and therefore would return nothing in respect of withdrawing members, the assumptions underlying our estimate of about 1 per cent. are in this particular respect closer to the facts than the estimates of Mr. Collins and Mr. Tinner, who both disregard withdrawals. When allowance is made in their estimates for this element our 1 per cent. based on the Railway Tables, and on a pension scale rather less than our proposed standard scale illustrated in paragraph 446, is found to be about midway between the other two.

452. The two actuaries have been good enough to confer on this question. They agree that the differences between them are due to the differences of the standard tables employed; they agree that, even if the higher cost of disablement according to Mr. Tinner's Table cannot be disregarded, some deduction may properly be made for the withdrawal element; and they agree in thinking that one and a-half per cent. of the current salaries might be adopted, at all events provisionally, as the cost in advance of the standard disablement pensions.

453. The questions involved in this conclusion are briefly discussed in Appendix XIII (*see* pars. 10 *et seq.*), where we have given reasons for thinking that if the central body were to reckon the total cost of the disablement at the rate approved by Messrs. Tinner and Collins it would find itself with a satisfactory margin for contingencies. We shall therefore increase the amounts estimated for in Mr. Collins's memorandum by 50 per cent. wherever necessary. Thus, if a scheme were to start only with future appointments, as in the case of the Universities System, the annual amount to be set aside for disablement would commence with a small sum and grow until it reached a maximum of £4,500 in respect of our supposed salary list of £300,000. To the amount so arrived at Mr. Collins's estimate of one-third (*see* par. 448) would apply, and this would be therefore the estimated net cost to be provided in advance by the proposed central body.

454. This method of stating the provision to be made in advance dating from the initiation of a scheme supposes, however, that the existing staffs are not to be included in any way, whereas we have proposed (*see* par. 378) that they should be included for such benefits as can be purchased with a contribution at the prescribed rate in respect of all future service. It was, therefore, necessary for Mr. Collins to consider the cost of the proposed scale of disablement pensions in respect of the future service of an existing staff. Taking certain ages and calculating the percentage of future salary required to provide the cost of the disablement pensions in respect of future service in the type cases, he

found it possible to ascertain how the varying durations of past service at the date of the inception of a scheme would affect the matter. He arrived at the conclusion (*see* Appendix IX, par. 17) that the cost relatively to the salary would diminish with the age, being still about 17s. per cent. of the salary after 10 years service, but falling to 15s. per cent. after 20 years service. From this it would appear that the existing staffs of the Hospitals could be included in a new scheme in respect of future service without affecting the estimates so far as the total cost of disablement is concerned. In other words, on a salary list of £300,000 the total cost of disablement may be taken at about £4,500 per annum provided in advance whether (a) the scheme has attained equilibrium after being in existence for the whole service of the existing staffs, or whether (b) it be one newly applied to them in respect only of future service.

455. Mr. Collins then proceeds (*see* Appendix IX, par. 18) to consider whether his estimate of one-third of the cost of disablement provided in advance (*see* par. 453), as being the net amount falling on the proposed central body, would apply likewise to the foregoing estimate for an existing staff. Here the two cases (a) and (b) we have just mentioned must be differentiated. We have already said it would so apply to case (a), that is to a new scheme provided it were to begin only with all new appointments. This was the method of initiating the Universities Scheme and was the general basis on which Mr. Collins built his estimate of the results of taking over all policies on disabled lives. Applying the proposed method, however, to case (b), viz., to an existing staff in the manner we ourselves propose for the Hospitals, Mr. Collins shows that the causes which in the case of the Universities method reduce the net cost of disablement by two-thirds would cease in part to operate here, and that an exact estimate of the immediate net cost could not be formed without special calculations based on statistical details of the staffs. He estimates, however, that while the net cost of our proposals to the central body administering the disablement pensions ought not to reach anything like the total cost of £4,500 per annum even at the outset, it would gradually fall to £1,500 as the older members of the existing staffs become eliminated.

456. Though the consequence of adopting our proposals to include the existing staffs in respect of future service would thus be to make more expensive the administration of the disablement pensions, we think it would be unwise not to face this question. In a service where the grant of pensions has been irregular in the past, the introduction of machinery to assist retirements on disablement would probably be followed by a good many applications, not only in cases of real breakdown, but where in border line cases the efficiency of the Hospitals would be improved by the retirements. It is thus difficult to find any suitable basis for actuarial estimates of the cost during the first few years of the scheme.

457. Lastly, we asked Mr. Collins whether, in the event of its being possible to include the existing staffs in respect of past service (*see* par. 378-x.), his calculations could throw any light on the relative cost of disablement pensions in respect of past service. The absence of exact statistics of the existing staffs, which met us (*see* par. 113) in our efforts to test the adequacy of pensions already granted by the Hospitals and more particularly (*see* par. 364) in our endeavours to fix the cost of including the existing staffs for ordinary superannuation, made impossible any calculations of the cost of disablement separately. Mr. Collins has, however (*see* Appendix IX, pars. 20 & 21) pursued the method of induction from type cases on which his other conclusions as to disablement are based, and arrived at the result (already quoted, *see* par. 364), that in the case of the Universities System the cost of setting up full benefits for the existing staffs in respect of past service may be put at the accumulated amount of hypothetical past contributions with compound interest at 3 per cent. For disablement benefits on the proposed standard scale in respect of past service the calculations appeared to furnish no indication of any law that could be made the basis of a separate estimate; but Mr. Collins finds a certain relation between the cost of disablement and that of the ordinary superannuation. He thinks that if the former were included in any general scheme covering past service the capital cost would be about one-tenth of whatever sum might be needed for the superannuation and other benefits of the Universities System.

458. As, however, under such circumstances there would not be in existence the life insurance policies on which the finance of the proposed central body for disablement would be based largely, it seems clear that the proportion of one-third estimated to fall on that body would not apply here. For instance, suppose the whole cost of superannuation in respect of past service (*see* par. 372) were £450,000, one-tenth of this would be £45,000, though the one-tenth relation being only approximate it might be more prudent to speak of £50,000 or £60,000. Now it does not follow that the net cost to the proposed central body would be £15,000 or £20,000 only. The net ultimate cost of the disablement to the central body would probably (*see* Appendix IX, par. 18) be a good deal more than this. If, however, £450,000 were expended in setting up insurance policies, or as much of it as applied to the younger lives eligible for insurance, such cost should fall a good deal short of the whole £50,000 or £60,000. A special actuarial enquiry would clearly be needed to estimate the probable ultimate cost; and it will probably be necessary to reckon such cost as an addition to the expense of the ordinary superannuation.

Other Considerations arising out of the Disablement Proposals.

459. We may point out here that if the proposed central body were to assume liability for disablement pensions on such lines, their choice of option would not be limited to the maintenance of the policies at the onset of disablement. On the maturity of the policies at the

prescribed age the central body would possess the further valuable option of deciding whether to realize the proceeds in cash, making itself responsible for the future pension payments, or to leave the money with the insurance company, the latter being responsible for paying to the central body an annuity of the amount already stipulated for. An insurance company assumes that all lives accepting annuities are of a high standard. Some of these disabled lives would no doubt regain that standard after years of rest, and it would in their case be sound finance to charge the future pensions, after attainment of the age stated in the policies, on the insurance companies; but many would be deteriorated still, and the central body, with access to the facts, would find it profitable in such cases to extend to the future pension the responsibility already assumed for past payments. The method adopted by Mr. Collins assumes that the latter course would be followed in all cases, so that the option referred to here would provide a certain factor of safety or profit in the working out of his scheme.

460. It is only natural to suppose that other questions will arise in practice which it will be difficult to foresee and provide for in advance. The proposed disablement scheme will have an actuarial basis, and would probably be best managed by an actuary. Its success would depend on the working out of averages, and the conception underlying it is that every policy would be taken over on recognized breakdown. One obvious question that may arise is that in certain cases death may seem to be so certain, or so imminent, that a sense of individual hardship might exist if a policy of considerable potential value were taken over by the central body. This might be so even though the assured retained the full benefit of such portion as had been paid for by the past contributions, and though the balance were surrendered to comply with a law of average applicable to a whole body starting with equal chances. A possible solution in this case would be to leave to every officer, on a breakdown of health, the option which, if the deferred pay principle be recognized (*see* par. 485), he would have possessed before it, viz., to vacate his position and carry with him the full benefit of the insurance policy. As the element of self-selection is strong, this might in cases where it is exercised prove more expensive to the central body than payment of the augmentation disablement pensions themselves, and thus upset the average. Though such questions will need care in the solution we cannot see anything which should render the proposed scheme unworkable. On the contrary, such a central body representative of the Hospitals themselves, interesting itself sympathetically in the best way of dealing with all cases of disablement, might become in time a valuable factor in promoting the efficiency of the Hospitals.

461. The second point to which we drew attention in paragraph 443 raises questions of even broader significance. Where an option is given to the beneficiary as to the class of contract to be effected, it is clear that the man who takes out a deferred annuity, even with return of premiums,

but still more so one who selects a non-returnable contract, deems himself likely to live, and expressly shuts out the idea of benefiting by early death. This is now seen to be the same thing in kind though not in degree as electing not to profit by a breakdown in health. The man who effects an endowment assurance, on the other hand, expressly indicates that he wishes to make a provision against early death with, as we have seen, its adventitious increase of value in the event of a breakdown in health, although the effect of his choice is to diminish the amount of his ultimate pension. It is thus clear that while, as we have seen, it would not be right to deprive the latter of his earned share of the death benefit for the sake of making up a disablement pension, it would seem to be equally unfair to make up artificially to the former officer, who has done nothing towards providing it, a disablement pension equivalent in amount to that of the latter.

462. It seems to follow from this that in future insurance schemes where varying options are offered it will be necessary, if disablement benefit be contemplated, to arrange in some way that it shall be inter-dependent with the death benefit. There might, for instance, be a minimum scale of pensions which all would receive, including deferred annuitants, and those insured under endowment assurances should receive, in addition, the actuarial equivalent for what now appears to be, in the event of disablement, the greater value of the contracts which they elected to receive. It is, in fact, a question which would have to be investigated by actuaries. It would start from a recognition of the principle that when a man assures against death he likewise, from the actuarial point of view, assures against disablement to a certain extent. The increased power which thereby arises to meet his disablement is something which he has paid for and should enure as a benefit to him and his particular class. This consideration in turn suggests a reason why a man without dependants, who would in the normal course select an annuity contract, might after all be better advised to effect a contract with a death benefit. In fact, it raises the whole question whether in any future scheme based on insurance policies, where it is desired to include disablement pensions, it might not be better to limit entirely the choice of a contract to those providing a satisfactory death benefit.

463. We thus attach considerable importance to the conclusions arrived at by Mr. Collins. No doubt they must be accepted with some reserve until they have been submitted to professional criticism; but they appear to open out a new field for the use of endowment assurance policies as applied to the solution of pension problems. Indeed his results appear to be of a general kind and capable of wide application. The principle involved could, for example, either be made the basis of a standardized scheme or be applied sectionally to a part of it. It need not be limited to new schemes. Modifying the principle in the manner suggested in paragraph 445, an existing system, such as the Universities, could apparently provide disablement benefits of a satisfactory kind for

the whole of the endowment assurance section with the aid of a moderate subvention; or any individual institution, or local association of institutions, included in an existing scheme could make similar arrangements, subject only to the general principle that where cases are few in number the financial risk involved in variations from the average would be greater.

Summary of Consideration of the Disablement Problem.

464. Summarizing what we have written on disablement, it has been seen that the Universities System makes an insufficient provision for this contingency, but that the primary responsibility for disablement benefits should in any event rest on the employer, and that the separate administration of disablement pensions might be undertaken advantageously by the Hospitals. Pursuing therefore an enquiry into the separate cost of disablement, we first fixed on a suitable standard scale of disablement pensions which might be substituted for the amounts secured under the Universities System. Different lines of enquiry combined to suggest that the cost in advance of such pensions might be reckoned provisionally at about one and a half per cent. of the annual salaries; and this measure of cost may be applied not only to new entrants coming on the scheme in respect of future appointments but also to an existing staff in respect of its future service. On a total salary list of £300,000 (*see* par. 372) the total annual cost would thus be £4,500.

465. We have then adduced actuarial opinion to the effect that if the pensions were to be administered by a central body in the manner we have outlined it would be possible to reduce the net cost to a figure much less than the foregoing. To attain this result insurance policies would be effected as in some of the options of the Universities System, and on disablement would be handed over to the central body to be maintained in full force until maturity instead of being discontinued. By this method it is estimated that the net cost to the Hospitals and central body would be about £1,500 per annum on a salary list of £300,000 for a scheme, when fully established, commencing with future appointments, or, alternatively, an annual sum commencing with something less than the whole cost of £4,500 and gradually falling towards the ultimate £1,500 if the scheme were applied to the existing staffs in respect of their future service. To extend the application of any such scheme to the latter in respect of their past service would involve a large capital cost. The actuarial proposals here referred to are novel and may lead to interesting developments. In any future scheme based on insurance policies it will clearly be necessary to consider carefully the forms of contract to be approved.

466. It is necessary to point out that our discussion of the disablement problem has been based hitherto on the experience of males, and principally of a class corresponding with the salaried officers of the Hospitals. The total salary list of £300,000 includes, however (*see*

par. 372), a male weekly wage class amounting to over one-third of the whole; and a female class, principally on the nursing staffs, representing nearly one-third of the whole. As regards the weekly wage class it is very difficult to say whether the cost of disablement, relatively to that of ordinary superannuation, would be greater or smaller than in the salaried class. The estimates we have quoted involve the assumption that it will be the same.

467. As regards the female class the figures we have quoted involve a similar assumption, but in this case the uncertainty is emphasized by the general principle that results based on male lives must not be reckoned as applicable to females. This class consists chiefly of those permanent members of the nursing staffs who are to be considered eligible for inclusion in a pension scheme. Including those who, following the principle we have laid down as to migration, should be able to change their Hospitals without loss of pension rights, the number of this group arriving at higher positions is necessarily small. As regards the rest the provision of a flat rate of pensions for all nurses in accordance with the scheme outlined and recommended by us in Part I of this Report (*see* par. 105) would have an effect on the cost of extending the grant of disablement benefits to the permanent nursing staffs. If the policies effected under that scheme are merely deferred annuities, it would not assist as much as if they were endowment assurances, carrying a death benefit. It is further clear, even from our own superficial notes on this question (*see* Appendix XIII, par. 2), that the rate of disablement is heavier and follows different laws in the case of women, and among nurses it might not improbably be even heavier than in other classes. For instance, it is seen that in the case of the Elementary School Teachers, whose male experience resulted in the low cost of disablement arrived at by Mr. Collins, the female disablements were exceptionally numerous. On the other hand, Mr. Tinner's Table, which resulted in a high cost for the males, shows a relative number of female disablements far smaller than in the other Tables summarized on the same page. With such factors of uncertainty it would be impossible for us to attempt to assess the probable cost involved, and we doubt whether actuaries could do so satisfactorily. It is fair to the actuaries concerned in our enquiry to say that they disclaim any responsibility for the application of their results to female lives.

468. We think that, for the purposes of preliminary consideration, it might be well to increase the sum of £4,500 per annum mentioned in paragraph 465 to a round sum of about £5,000 per annum as being the sort of financial provision, constituting real cost but only for the initiation of the scheme, that would be involved in the adoption of the scheme for disablement pensions that we have outlined. This estimate, it will be seen, is intended to cover the whole cost of the supplementary disablement pensions falling on the Hospitals, including such help as the proposed central body would be able to give from extraneous sources. It further assumes that the existing staffs will be included

in respect of their future service. As time passes after the initiation of the scheme, and when any unusual flow of retirements consequent thereon has been provided for, it is to be presumed that the annual cost would rapidly fall, and in time approximate to the £1,500, or it might be £2,000, reckoned on by the actuaries for a fully-established scheme. In the concluding portion of Appendix XIII, where the different estimates of the cost of disablement have been discussed briefly, will be found also some remarks on the conjectured operations of the central body, and on the manner in which the finances of the Hospitals are likely to be affected, even if the estimates of cost be exceeded, by the endeavour to provide in advance for this part of their future liabilities.

469. The whole question of the cost of disablement is so complex that the methods we have applied in discussing it must necessarily appear crude and open to criticism, but there seemed to be no other way of supplying to the Hospitals a provisional idea of the actual cost of providing in advance for disablement pensions, except by a costly actuarial investigation, which does not seem to be called for at the present stage. Even skilled actuaries, working on proper statistics of the existing staffs, could not state the future cost of disablement with definite exactitude. Our enquiry (*see* par. 450) has shown one estimate two and a half times as large as another, the difference being entirely due to differences in the standard tables respectively selected for guidance by the actuaries who made the estimates. If to this we add the complications arising from the inclusion of the weekly wage class and female lives it is seen that until a scheme has been actually operating for many years the effective rates of disablement in the various classes of Hospital service cannot be known. We think, however, we have shown that the question is quite capable of being brought within manageable limits, and that when matters have advanced sufficiently to present more definite problems for solution, further actuarial enquiries, starting from the point to which we have carried the investigation, and based on complete statistics of the staffs, would lead to a much closer estimate of the sum which may be said to represent the existing liability of the Hospitals in this matter, and which it would be preferable to provide for on some definite plan.

Conclusion as to Federated Universities System.

470. Having arrived at the conclusion that separate treatment of disablement benefit is desirable, and given reasons which support the view that it would be also practicable, we are thus led to the further conclusion that a scheme of the type adopted by the Federated Universities would be a practicable solution of the question for the Hospitals of London, and that this system either complies or is capable of being adjusted to comply with the various conditions we have laid down.

Final Comparison of Mutual and Insurance Methods.

471. It remains to summarize what we have said of the relative advantages and disadvantages of the mutual and insurance methods as instruments for applying the money purchase principle to the pension question. It will be convenient to deal separately with administrative and actuarial considerations.

472. On the administrative side, it would seem at first sight to be an advantage from the point of view of the members that a mutual fund such as that proposed by Mr. Tinner can have the disablement pensions thrown on it, but we are warned by Mr. King, and by the experience of other funds, that considerable difficulties and dangers ensue in the administration of this particular benefit in such a case. We further found (*see* par. 385) that men with practical experience of its working disapprove of the principle of charging disablement pensions on a superannuation fund, and our discussion of the problem as a whole, starting from first principles, (*see* pars. 402 to 405) has led us to the conclusion that an alternative solution is in itself desirable. In fact the evidence we have adduced might justify the conclusion that in the case of the Hospitals it is necessary.

473. In all other respects facility of administration would seem to be on the side of an insurance scheme. A mutual fund, with contributions of, say, £30,000 per annum, might be estimated to increase rapidly for 60 years or more, and ultimately to amount to £1,500,000, with an annual income of £90,000, of which £60,000 would be from interest.* Such a fund would need much skilful management. The Railway Clearing System Fund (*see* pars. 229 *et seq.*), the only fund brought to our notice which serves several institutions, has evidently been through stormy periods in the sphere of administration as well as failed to pay its pensions unaided. In the case of the Universities System, on the other hand, it is difficult to see room for the emergence of any important questions of controversy in administration. The detailed arrangements and payments of contributions are settled between the constituent bodies and the insurance companies. The central council, though it is the ultimate authority for seeing that the regulations are complied with, for making any modified arrangements involving principles with the insurance companies, and for adding to or changing the companies selected, has little actual work to do beyond keeping records.

474. But perhaps the most important advantage of an insurance scheme on the administrative side is the facility with which it meets a condition laid down at the outset of our enquiry (*see* par. 5). Unlike a mutual fund, such a scheme lends itself readily to extension without in

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* See estimate of Mr. H. W. Manly, F.I.A., based on 4 per cent. interest, in *Journal of the Institute of Actuaries*, Vol. 45, p. 222.

any way affecting the interests of existing members. Except as to arrangements for providing the supplementary disablement benefits, which, as we have seen, could be applied locally or sectionally, the system would lend itself easily to the inclusion of any other Hospitals or analogous institutions that might wish to join. Applying the system as the Universities have done (*see* pars. 268 to 270), such capability of expansion is limited only by approval by the insurance companies of the class of lives involved. In the case of the Universities System many institutions have in fact joined it since it was initiated. Even if an officer were to change to an institution outside the scheme, he would carry with him his policies, and there is nothing to prevent his making a special and individual arrangement with the new institution for their maintenance, which he could not do in the case of a mutual fund. By such a system the principle of migration without loss of pension rights, to which (*see* par. 37) we have attached great importance, is encouraged in the broadest possible way instead of being limited to institutions included in the particular scheme.

475. On the financial and actuarial side the differences may be defined with equal clearness. The insurance scheme provides benefits which are definitely guaranteed, except as to the profit element, and the amounts of which have been seen in our review to compare well with the benefits secured by other methods. This was also the conclusion of the Departmental Committee of the Home Office on Reformatory and Industrial Schools (*see* par. 280). The mutual plan, on the other hand, can guarantee nothing, if unsupported by extraneous guarantee, but it can and does promise that the members shall ultimately enjoy the utmost penny of benefit to be derived from the investment of their own contributions. It was, therefore, important to enquire what this latter benefit is likely to be worth in practice.

476. We have found that when allowance is made for expenses of management, and for the risks connected with investments and with the future rate of mortality, it is not possible to predict the future working of a mutual fund. In the case of Mr. Tinner's scheme, the inclusion of disablement pensions, a possible recommendation from the members' point of view, introduces an additional and, as our own enquiry into the cost of them has shown, a very uncertain element of risk from the actuarial point of view; though we should like to add that our investigations have impressed us with a sense of the cautious and conservative spirit in which Mr. Tinner has framed his estimates. The actuarial evidence, however, proves that the mere existence of a pension scheme, and more especially of disablement pensions, may radically alter some of the elements on which the calculations depend. The history of the Railway Clearing System Fund, and the causes which led to its deficiency of £482,937 in 1903 (*see* pars. 233 and 245), show this very clearly. There are thus uncertainties of the domestic order to combine with those general and public tendencies, influencing the future wealth and longevity of the whole community, which may affect adversely all pension institutions alike.

477. The immediate outlook of a high rate of interest for some years might indicate advantage from a mutual scheme. But conditions may be different 30 or 40 years hence, when the fund would still be rapidly growing and investing fresh money. This consideration, and the almost certain future improvement in the longevity of the community, would indicate advantage from an insurance scheme. It seems impossible in such conditions for anyone to say with certainty on which side the advantage will ultimately lie. The past, while affording examples of the profits of mutual associations for life insurance, gives none such in the field of annuities. On the contrary losses have been frequent, and in cases disastrous. Bearing in mind, therefore, that the proposed fund would deal only in the less profitable class of risks, it seems a matter for the exercise of common sense, based on adequate consideration of such facts as are available, whether it is better to be content with the absolute security of such benefits as can be definitely purchased, or to run the risk of having less in order to enjoy the apparently remote possibility of having more. In other words, the founders of any mutual annuity fund, in present conditions, must first answer the question, Are the prospects of additional gain such as to compensate us for the risks of being worse off, and also for the continuous consciousness that absolute security is lacking? So far as our own enquiry is concerned, the advocates of a mutual fund have put forward no evidence to support an affirmative answer to this question; nor have we ourselves found any. We have, on the contrary, quoted numerous cases of mutual funds where bitter disappointment and hardship would have awaited the pensioners in old age if extraneous funds, running into very large figures, had not been available to restore solvency.

Rejection of Mutual Principle.

478. Our own conclusion on this matter, summarized in paragraph 408, was that adequate security could not be obtained by the mutual principle otherwise than by the provision and maintenance of such ample margins as rob the principle of its attractiveness (*see also* par. 397). It is only fair to Mr. Tinner to say that, as has been made clear in the course of our enquiry (*see* pars. 363 and 450), he has by the adoption of stringent basic Tables and other assumptions on the side of safety avoided as far as possible any exaggeration of the claims of the mutual principle in general or of his own scheme in particular. We postponed a final expression of opinion on Mr. Tinner's scheme until we had enquired into alternative methods of providing disablement pensions. Having now, however, arrived at the opinion that disablement not only can be but had better be regarded as a separate problem, we are led to the conclusion that, from the point of view of a self-supporting scheme, the suggestion of a mutual fund must be rejected.

479. Our review has shown that, frequent as has been the occurrence of deficiencies in mutual funds, the members have not necessarily

suffered ultimate loss, because there has usually been a strong financial guarantee behind the fund to make good the deficiency. We may therefore enquire whether it is feasible to provide a sufficient financial guarantee to secure adequately the supposed benefits of a mutual scheme for the Hospitals of London.

480. It emerged clearly at an early stage of our Report that the Hospitals themselves are not qualified to give a guarantee of this kind. If the governing body of King Edward's Fund had the power under its special Act of Parliament* and were willing to provide such a guarantee, that fact in itself would clearly give us cause for reconsidering the feasibility of initiating a mutual scheme. In view, however, of the very large sums that, as we have seen in the course of our Report, have had to be provided in the past under such guarantees, and of the apprehensions of the future in a sense adverse to such guarantees formed by experienced actuaries, we recommend the Executive Committee not to make itself in any way responsible for approving a type of scheme dependent for its solvency on a financial guarantee to be given by King Edward's Fund.

FINAL CONCLUSION ON MAIN QUESTION AND RECOMMENDATIONS.

481. We thus arrive at the final conclusion that a scheme based upon recourse to insurance companies is the only possible solution of the superannuation problem before us. We accordingly RECOMMEND that a joint conference of Hospital representatives should be invited to consider the whole question on that basis. In addition to the Hospital Committees and officers, care should be taken that the nursing staffs and weekly wage class are separately represented. We may say here that if the latter classes appear to have received little separate consideration in Parts II and III of this Report, it is not that we have overlooked their claims to be provided for. In the aggregate they constitute (*see* par. 369) a considerable proportion of the pensionable class, but essentially we have been discussing principles. If these be settled, the task of adapting them to particular cases, though needing care, should present no real difficulty.

482. Experimental calculations should be based on the assumption that the employer and the beneficiary would each contribute 5 per cent. of the salary, so as to make a total available contribution of not less than 10 per cent. for purchasing the benefits. The system should be made

* King Edward's Hospital Fund for London Act 1907 (7 Edw. 7, Ch. lxx), Section 3, authorizes the Corporation to "execute any special trusts in connection with moneys or "property held or obtained by the Corporation (not being inconsistent with the purposes of "this Act) to apply the capital and the income of the funds and property of the Corporation "or any part thereof subject to any such trusts and to the provisions of this Act in or "towards the support, benefit, or extension of the Hospitals of London, or some or any of "them (whether for the general or any special purposes of such Hospitals) and to do all "such things as may be incidental or conducive to the attainment of the foregoing objects."

obligatory in the case of all new appointments, so that all officers coming into the scheme would be consenting parties to the contribution. We do not suggest that a uniform rate of contribution at the exact rate of 10 per cent. is fundamentally necessary to the success of the scheme. Indeed, Mr. Tinner has shown (*see* Appendix VIII) that under the money purchase principle a rate ranging from 8 per cent. for young ages at entry upwards to 12½ per cent. for older ages, at entry would more closely reproduce the scale of pensions aimed at by the Hospital officers themselves than a uniform rate of 10 per cent. As Hospital officers usually enter at young ages our own illustrations and comparisons were all based on young ages at entry; and we followed the Universities plan of a uniform 10 per cent., which provides better pensions for those ages. The graduated rate would reduce the capital sum that would have to be raised if it be attempted to provide for the existing staffs in respect of past service. On the other hand it would increase the immediate annual charge the Hospitals will be asked to assume for existing staffs in respect of their future service. The balance of advantage would seem to be on the side of the uniform 10 per cent. There is also the further important consideration that it would be very inconvenient in practice to have an officer's initial and subsequent policies provided for at varying rates for different portions of his salary, a difficulty which would be accentuated in case of migration. The fact that a man changing employment would have to be provided for on a higher scale in respect of any increased remuneration is somewhat opposed to the principle of interchangeability, which it would be one of the objects of the scheme to facilitate, whereas a uniform rate of 10 per cent. running throughout would be simple for everyone concerned.

483. The question of including the existing staffs is, as we have pointed out, a question of great cost if full benefits are to be provided in advance for them. In accordance with the principles we laid down in paragraphs 334 and 355, it is important to begin by differentiating strictly between past service and future service. Assuming that it were decided to set up, as if for new entrants, a prescribed contribution in respect of all future service, a scheme of the type we recommend would adapt itself readily to the provision of such proportionate amount of pension as would be properly purchasable by such future contribution. We therefore recommend that in the case of the existing staffs a serious effort should be made to treat each year of future service, dating from the initiation of the scheme, as pensionable, and carrying its contribution as far as it will go towards the pension. It would be necessary for each Hospital Committee to make individual arrangements with its staffs to gain their concurrence in such a scheme (*see* par. 373); and in order to facilitate such arrangements each Hospital Committee should have full discretion to provide such portion of the contribution as it might think fit, so long as the total contribution did not fall below the prescribed percentage of the future salary.

484. This would scarcely constitute the immediate gain of security

to which the existing officers aspire. On the other hand, it would need an effort on the part of the Hospitals to do as much as this, as is clear from the history of the London County Council Superannuation arrangements (*see* pars. 193 and 332). We ourselves should regard it as a distinct gain for the existing staffs if they could be included at once in this way rather than that they should be excluded until a complete solution of all financial difficulties could be arrived at. After the start of a scheme in which they were thus included every year that passed would diminish the proportionate part of their pensions to be made up by the Hospitals by means of supplementary payments in arrear, and would thus begin at once to improve the security of the existing staffs. It would further be one of the first tasks of any general council administering the scheme to direct an actuarial investigation (*see* par. 369) into the cost of including the existing staffs in respect of past service, and generally to consider the question of raising a special fund in the manner we have indicated (*see* par. 371) as the only possible means of basing the pensions on past service as well as future service; or, if funds are insufficient, on as much of the past service as may be possible. We may suggest that a system of local superannuation committees at the larger Hospitals, on which the officials could be represented, might be very useful in raising and administering local funds for assisting special cases as well as watching the interests of the staff in the main scheme and generally advising the Hospital Committee in the proper disposition of such of the benefits as would be administered in the discretion of the individual institutions.

485. Another important question of principle, to which we have drawn attention more than once (*see* pars. 270, 276, 334, 344 and 410), is the feature of the Universities System in accordance with which the whole benefit of an existing assurance enures to the contributor, in the absence of misconduct, not only on migration to another institution within the system but on withdrawal generally. If the proposed conference, or any general council issuing from it, should form an opinion adverse to such a principle, we do not regard it as so fundamental as to be essential to the prosecution of the scheme; and if it were decided that the part of a benefit represented by the Hospital's contributions should be forfeited on withdrawal, it might be arranged that the value of such benefits, instead of reverting to the Hospitals, should be handed over to the proposed central body for disablement, to be applied towards such part of its liabilities as would otherwise fall on the Hospitals. We have noted (*see* par. 139) that the principle of vested rights accruing from year to year was not admitted by Lord Courtney's Commission in the case of the State service, but we have given reasons (*see* par. 35) for regarding Hospital service as very different from that of the State. We have remarked already (*see* par. 474) that the existence of a principle which removes all penalties on migration would afford a basis for extending easily the proposed scheme to any provincial hospitals or analogous institutions that might wish to join it. Taking a still broader view, it seems to us that in the case of charitable institutions, resting on a financial basis necessarily insecure, the

recognition of the principle that pension rights do accrue and vest from year to year, and are not dependent on long service projected into the future, must promote a sense of security that otherwise will be lacking in such a service. The principle exists already in the affiliation schemes of the Royal National Pension Fund, and is involved in our proposed scheme for young nurses (*see* par. 105). For the foregoing reasons, and those mentioned in the earlier paragraphs cited, we regard the recognition of the principle in question as calculated to raise the status of Hospital service as a whole; and we recommend the Executive Committee, if the question should arise, to follow the precedent set by the Board of Education as regards the whole teaching service of the country and to cast their influence on the side of discountenancing the mere parochial view of pension obligations, and in favour of the principle that every year of Hospital service, whenever and wherever given, should be regarded as pensionable with rights vesting accordingly. Our own concrete estimates and illustrations have all been made on the latter basis (*see, for example,* par. 363), though the application of the principle to existing staffs in respect of past service might call for special consideration.

486. The scheme to be formulated should be based generally on the principles we laid down in paragraph 378. The determination of the age of retirement under heading (i) should be considered carefully. Our discussion of the disablement question (*see* par. 462) has shown that it will be necessary also to consider carefully the types of insurance contracts to be approved. We have given reasons (*see* pars. 339, 389 and 432) for the conclusion that, independently of the disablement problem, the best method of arranging the benefits in an insurance scheme has not yet been reached in any existing scheme that has come before us. Subject to the further consideration of these matters, such questions as the general conditions of policies to be granted, the companies that should be selected for the purpose, and all necessary working details, may be regarded as of minor importance and should be left to be arranged in such a way as would best suit the circumstances of the Hospitals and the beneficiaries.

487. The numerical illustrations that we have given had reference only to the male salaried staffs, and, as we have said, most of the arguments we have used apply primarily to that class. The case of the permanent nursing staffs and of the weekly wage staffs would call for special consideration as regards certain details; but there would not be, we are advised, any difficulty in arranging for forms of insurance contracts applicable to these classes when once the main principles have been determined. It is one of the advantages of recourse to insurance companies that any special circumstances or difficulties affecting a particular class or sex must be considered and provided for at the outset instead of being left to produce possible complications in the future. In the case of the nursing staffs there is, as we have already found (*see* pars. 75, 88 and 371), an accepted idea that nursing work is especially arduous, and that pensions must be available at early ages. Mr. King's evidence as to the longevity of nurse pensioners casts some doubt on this

theory. It is possible that in the future, with improving conditions generally, the nursing staffs of the Hospitals may work for normal durations. It would thus be a great advantage in their case to have a flexible arrangement, such as exists in the Universities System, whereby the policies can be made to mature at a fairly early age, with the provision that, if retirement be postponed, the money then available and all future contributions will automatically accumulate to increase the ultimate pension.

Conclusion and Recommendation as to Disablement Benefits.

488. If the Executive Committee should accept our conclusion on the main question, and approve the type of superannuation scheme we have recommended, we think it very desirable that practical steps should be taken to deal with the question of disablement on the lines we have already indicated in paragraphs 435 to 438, and developed further in the succeeding paragraphs treating of the cost of disablement.

489. We have laid down the principle (*see* pars. 405 and 435) that responsibility for a disablement allowance should rest primarily upon the Hospital, and suggested (*see* pars. 436 to 438) that assistance might be given through a central body representative of the Hospitals themselves. We have outlined further possible developments in the practical handling of this problem which would necessitate the taking over by the central body of all insurance policies on disabled lives. By adopting the system here contemplated it is probable (*see* pars. 441 to 458) that the annual amount to be expended or set up by such a central body would be much less than the full calculated cost of the disablement pensions.

490. Subject, therefore, to the formulation of a general scheme by the proposed Hospital conference (*see* par. 481) in accordance with our main recommendation, we further RECOMMEND the Executive Committee to take into consideration the best way of making provision in advance for disablement benefits by means of a central body constituted and exercising functions in the manner we have outlined in paragraphs 437 and 465. In this matter we are of opinion that the King's Fund should offer its help by way of advice, or, if thought fit, of pecuniary assistance. It may happen that the most practical form of assistance in the first instance would be that the Executive Committee should offer to obtain actuarial advice (*see* par. 469) as to the feasibility of meeting the problem in some such way as we have outlined, and as to the probable cost to the central body and Hospitals of doing so. It is desirable in the interests of the Hospitals that the Executive Committee, before committing itself to the principle of recognizing such a central body or considering the question of contributing to its funds, should have closer estimates framed of the income needed for provision in advance than it has been possible for us to make. In this way it should be possible to assign maximum limits to the annual cost sufficiently trustworthy to enable the Executive Committee

to consider our proposals on their merits and, if approved, to commend them to the Hospitals. It must not be forgotten that moral responsibility for disablement benefit already rests on the Hospitals, and that its proposed systematization is designed to act ultimately in mitigation of, and not by way of increase to, the financial liability to which the Hospitals are thus at present subject.

491. It remains to record our acknowledgments to Mr. H. R. Maynard, the Secretary, for his valuable services throughout our prolonged enquiry; and we should also like to express our thanks to the two actuaries we have quoted so often, Mr. T. Tinner, F.I.A., and Mr. F. L. Collins, F.I.A. First invited to submit evidence to us as witnesses, these gentlemen were afterwards good enough to make special calculations at our request and to give us advice without which we could not have arrived at some of the conclusions we have recorded.

W. J. H. WHITTALL, *Chairman*.
HENRY L. HOPKINSON.

July, 1918.

Dissentient Memorandum by SIR WILLIAM J. COLLINS.

1. I regret that I cannot attach my signature to the foregoing report because I am unable to concur with the "final conclusion on the main "question" (par. 481), viz. :—"that a scheme based upon recourse to "insurance companies is the only possible solution of the superannuation "problem before us." I agree with the recommendation that the results of the labours of the Sub-Committee—in which I have endeavoured to bear a part—should be laid before a Joint Conference of Hospital representatives and officers for their consideration, but I cannot agree that such Conference should be exclusively limited in its deliberations to a solution of the problem of adequate pensions for Hospital Officers by "recourse to insurance companies."

2. I desire to pay a tribute of acknowledgment to the Chairman for the valuable and voluminous survey of various methods of providing pensions contained in parts II and III of the Report and elaborated by him, despite the stress of ill-health, with infinite care and patience.

3. As regards the first part of the reference to the Sub-Committee, viz. :—"the existing provision for pensions to Officers and Staff employed "in the London Voluntary Hospitals" there is no difference of opinion. While it appears that in the London Hospitals, with or without pension schemes, it is the practice to make some provision for pension in recognition of long service, such provision is often inadequate in amount, generally uncertain as to age of retirement, etc., and quite unsystematic. The Sub-Committee is unanimous in finding "that the case submitted by "the Hospital Officers Association as summarized by us in paragraph 7, "is, generally speaking, made out" (par. 109); and that "a greater security

"for pensions and facilities for earlier retirement would tend not only to "satisfy a legitimate desire on the part of Hospital Officers but also to "improve the status of the service and the efficiency of the Hospitals" (par. 115). The Association's case was for a General Scheme based on the terms of the Superannuation Act of 1859 or that of the Asylums Officers' Superannuation Act of 1909. The latter Act, which I introduced into the House of Commons, required a contribution from officers and recognized the principle of "aggregation" of service for the purposes of pension (pars. 164-168).

4. The *quæsita* for any such general scheme are well set out in paragraph 115 (3) of the report; the basic considerations involved—upon which there is room for "legitimate differences of opinion"—are stated in paragraph 119 and are considered at length in actual and possible developments in parts II and III of the report. I should have been content with such "endeavour to contribute to the solution of those "problems" (par. 120) without finally "accepting any responsibility for a "system," leaving the rival claims of alternative schemes for acceptance or rejection by the parties immediately concerned.

5. I concur with my colleagues in believing that "the prejudice against "making provision, out of the funds of voluntary charity, for the old age "of an officer who has rendered long and faithful service has largely if "not wholly disappeared" (par. 8) and in regarding such prejudice as "old-fashioned." "The granting of a pension is a method of paying to an "officer a certain portion of the remuneration which he has earned and "the payment of which is part of the ordinary expenses of carrying on the "work" and is recognized by the King's Hospital Fund and the other two great Hospital Funds for London, under the Uniform System of Accounts, as a legitimate part of hospital expenditure (par. 9 and Appendix I, 1).

6. The summary of conclusions contained in paragraph 378—with the possible exception of No. v—appears to follow from the review in part II and to be the legitimate supplement of the preliminary conclusions contained in paragraph 115.

7. The Report after dismissing schemes in which the pensions would be provided "in arrear" or "partly in advance and partly in arrear" or on an absolute scale or flat rate, proceeds to consider only those in which the pensions are provided "wholly in advance." Schemes based on a salary percentage scale are then eliminated and the final choice is narrowed down to those conceived on "the Money purchase principle" either (i) by way of a mutual fund charged with disablement pensions or other benefits in addition to the defined superannuation annuities or (ii) by purchase of definite annuity or death benefits from Insurance Companies.

8. An attractive scheme prepared by Mr. Tinner of the London County Council with "cautious and conservative" estimates and "stringent basic "tables" on the mutual principle and possessing a marked advantage in

providing for disablement benefits, which experience shows are a considerable proportion of the whole, is rejected in favour of "recourse to "Insurance Companies" as the "only possible solution." Mr. Tinner's scheme is dismissed on the ground that without adequate security by way of some financial guarantee of solvency behind the mutual fund it is not considered "feasible," and that under no circumstances should the King's Fund be recommended to provide such guarantee.

9 The Insurance Company method, known as the Federated University System, was opposed by the Hospital Officers Association on the grounds (i) That the death benefit could be provided by the officer himself and was no necessary part of a pension scheme, and (ii) That in relying on Insurance Companies it must necessarily be expensive as it had to contribute towards the profits and expenses of their business (par. 260). Moreover it is admitted in the Report (par. 428) "that the absence of an adequate "provision on disablement is a marked disadvantage in the case of the "Universities System. Not only does retirement before the age of 60 "leave the officer without income for sustenance until that age, but if and "when he attains 60 the pension entered upon must be for a reduced, and "in cases of short service very much reduced amount. The system itself is "incapable of being amended to rectify this defect." This "hiatus" it is proposed to fill by setting up an entirely separate organisation to deal with disablement benefits. A Central Body, possessing the confidence of the Hospitals, to which the King's Fund "should give its support" and to which "the Executive Committee might even see its way to "advise a money contribution" is to be set up (pars. 436-437). A rather speculative scheme is adumbrated whereby this Central Body should "nurse" the Insurance policies of the disabled (par. 442) and thus reduce the "pecuniary assistance" or "liability" which the King's Fund might be invited to undertake (par. 490). The amount of such "subvention" or "liability," if the existing staffs and female classes are to be brought in for purposes of disablement benefit, is difficult to estimate in view of the "factors of uncertainty" involved (pars. 464-469).

10. It is evident that resort to the Insurance Companies as the only possible solution fails to provide for disablement benefit and that in order to make such provision a Central Body has to be invoked upon which an indefinite financial responsibility will be imposed.

11. It would therefore appear that whether the "Mutual principle" or the "Insurance Companies scheme" be resorted to neither can be recommended as complete or adequate unless some financial support be forthcoming from outside sources; and in either case the advantage of the co-operation of some Central Body, in which the Hospitals have confidence, to manage and administer the scheme, in whole or in part, is recognized.

12. As pointed out in the report (par. 480), King Edward's Fund not only possesses large invested funds but its Special Act of Parliament

expressly authorizes it to "execute any special trusts in connection with "moneys or property held or obtained by the Corporation (not being "inconsistent with the purposes of this Act) to apply the capital and the "income of the funds and property of the Corporation or any part thereof "subject to any such trusts and to the provisions of this Act in or towards "the support, benefit or extension of the Hospitals of London, or some or "any of them (whether for the general or any special purposes of such "Hospitals), and to do all such things as may be incidental or conducive "to the attainment of the foregoing objects."

13. My two colleagues would, if the King's Fund were willing to provide such guarantee as they consider the "Mutual principle" scheme requires, be willing to reconsider its "feasibility" (par. 480). In connection with the cost of pensions in respect of past services of the existing staff they remark (par. 374) :—

> "The King's Fund from the time of its institution has been the "recipient of princely benefactions, and it is to be hoped that, upon "this need becoming known and realized, the necessary funds "would be forthcoming. There are many wealthy persons who "cannot fail to recognize that institutions like the Hospitals of "London directly depend for their success on the brains and willing "service of the officers who administer them, that the efficiency of "the officers and of the whole of the staffs must in turn directly "depend on the attractiveness of their career, of which a suitable "provision for old age has been seen to be an essential part; and "that money expended in that direction may, from the strictly "business point of view, eventually prove to be a more fruitful factor "in relieving sickness and suffering than money which at the moment "might seem to be applied more directly to that object. We put "forward this argument quite deliberately as one to appeal to men "familiar with business and the conditions on which success in "business depends."

14. Having regard to the fact that the provision of pensions is regarded by the Fund as legitimate expenditure of ordinary Hospital revenue, towards which latter the King's Fund makes such large subventions, and to the fact that by its statutory powers it is a legitimate use of its general or special funds to render financial support, whether by guarantee or subvention, towards securing adequate pensions for Hospital officers or staffs, there is no insuperable objection to the Fund rendering assistance to the Hospitals in this respect.

15. Seeing then that the adoption alike of the "Mutual principle scheme" and the "Insurance Company scheme" appears to require the administrative and financial aid of a Central Body in which the Hospitals have confidence and seeing that the King Edward's Hospital Fund is a body that, if willing, is able to provide such requirement, I cannot agree with my colleagues that a scheme based upon recourse to Insurance Companies, supplemented as suggested by a subsidized scheme

for disablement benefits, is the only possible solution of the problem before us.

16. If the Joint Conference of Hospital representatives and officers be summoned, as recommended, I trust that they may be in a position to consider the alternatives presented in the report without being restricted in their deliberations and choice to one particular method, admittedly inadequate by itself, of meeting their requirements.

17. I gladly endorse the remarks contained in paragraph 491 of the report.

WILLIAM J. COLLINS.

July, 1918.

SUMMARY OF THE REPORT

Signed by Mr. WHITTALL (*Chairman*) and Mr. HOPKINSON.

(*Prepared by the Secretary to the Sub-Committee.*)

PART I.—THE EXISTING PROVISION FOR PENSIONS AT THE LONDON VOLUNTARY HOSPITALS. RECOMMENDATION AS TO YOUNG NURSES. OBJECTS TO BE AIMED AT IN ANY GENERAL SCHEME OF PENSIONS, AND RECITAL OF FUNDAMENTAL QUESTIONS TO BE SETTLED.

Pars. 6-7 (1) The first part of the Report recites the case submitted by the Hospital Officers Association for a general scheme of Hospital Pensions, and, after summarizing the points raised under certain heads (*see* par. (7) below), discusses the available evidence as to the extent and limitations of the existing provision under each of those heads.

8-10 (2) After dealing briefly with the extent to which the general principle of granting pensions has now been recognized by Hospitals and by the three great Hospital Funds, the Report analyses the particulars furnished by the London Hospitals of pensions paid in 1913 to **Officers other than Nurses.** For the purpose of comparison the figure taken is the proportion of one year's final salary which is granted by way of pension for each completed year of service.

(3) In this connection the Report deals with—

11-24 First, the aggregate statistics of pensions paid at the six Hospitals with schemes and the 99 Hospitals without schemes, subdivided according to cause of retirement (age, ill-health, etc.), and according to class of recipient (salaried or wage-earning).

25-37 Second, statistics of loss of pensionable service by migration from one Hospital to another, with a discussion of the principle involved.

38-48 Third, the question how far the available statistics bear out the complaints of hardship owing to uncertainty and lack of uniformity in the granting of pensions. In this direction evidence is found not so much in the amounts of such pensions as have been granted as in a tendency to postpone the age of retirement.

49 Fourth, the derangement of finances to which Hospitals acting separately are liable, owing to the high proportion which a single pension may bear to a salary list too small for the law of average to operate.

50-57 Fifth, the extent to which the various limitations of the existing provision have in fact caused hardship, by reducing the percentage of total pensioners to total officers and of total pensions to total salaries, as compared with the similar percentages in other services.

58-71 (4) The Report then deals with the special features affecting **Pensions for the Nursing Staffs,** viz., first, the small and decreasing proportion of nurses who stay continuously in Hospital service; and, second, the existence of the Royal National Pension Fund for Nurses, which is designed to benefit nurses as individuals, irrespective of continuity in any one form of employment.

72-97 (5) The existing provision for nurses' pensions at Hospitals is then described under three heads: Hospitals with schemes; Hospitals affiliated to the Royal National Pension Fund for Nurses; and Hospitals without schemes. The statistics of pensions paid by Hospitals in 1913 are analysed in the same way as those of pensions paid to other officers, and the evidence received from witnesses familiar with the needs of nurses is discussed.

for disablement benefits, is the only possible solution of the problem before us.

16. If the Joint Conference of Hospital representatives and officers be summoned, as recommended, I trust that they may be in a position to consider the alternatives presented in the report without being restricted in their deliberations and choice to one particular method, admittedly inadequate by itself, of meeting their requirements.

17. I gladly endorse the remarks contained in paragraph 491 of the report.

WILLIAM J. COLLINS.

July, 1918.

SUMMARY OF THE REPORT

Signed by Mr. Whittall (*Chairman*) and Mr. Hopkinson.

(*Prepared by the Secretary to the Sub-Committee.*)

PART I.—The Existing Provision for Pensions at the London Voluntary Hospitals. Recommendation as to Young Nurses. Objects to be aimed at in any General Scheme of Pensions, and recital of Fundamental Questions to be Settled.

Pars. 6-7 (1) The first part of the Report recites the case submitted by the Hospital Officers Association for a general scheme of Hospital Pensions, and, after summarizing the points raised under certain heads (*see* par. (7) below), discusses the available evidence as to the extent and limitations of the existing provision under each of those heads.

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72-97 (5) The existing provision for nurses' pensions at Hospitals is then described under three heads: Hospitals with schemes; Hospitals affiliated to the Royal National Pension Fund for Nurses; and Hospitals without schemes. The statistics of pensions paid by Hospitals in 1913 are analysed in the same way as those of pensions paid to other officers, and the evidence received from witnesses familiar with the needs of nurses is discussed.

Pars. 98-108 (6) The Committee then give, in advance of their conclusions on the general question, their **Conclusions and Recommendations as to Nursing Staffs,** viz. :—

(a) that the existing provision is very insufficient and unsatisfactory;

(b) that in regard to the permanent nursing staff the same principles would be applicable as in the case of other Hospital officers, emoluments being reckoned at their full value for pension purposes;

(c) that in regard to young nurses, when confirmed in their calling and placed on responsible work, the Hospitals should encourage and assist them to initiate some definite provision for old age;

(d) that the Hospitals should be asked to appoint a small committee, including representatives of those already affiliated to the Royal National Fund, representatives of the nurses themselves, and possibly representatives of other bodies, to consider this matter, and to report on the numbers that would be involved, as well as the effect on Hospital finances, if a comprehensive scheme were to be initiated on the following lines:—

(i) That policies assuring a minimum pension of, perhaps, £25 per annum be effected for the benefit of all young nurses when confirmed in their calling and placed on responsible work—say, at the end of the first year of training.

(ii) That the pension should begin at, say, age 55, with the option of securing an increased allowance by postponing retirement to a later age, to meet the case of nurses capable of further work. On these assumptions the annual cost would be about £6 for each nurse.

(iii) That the original Hospital and every other London Hospital subsequently employing the nurse should pay at least one-half of the premium during service, such contribution to enure for the benefit of the assured except in the event of misconduct, or other sufficient cause.

(iv) That every probationer should enter service on the understanding that the money for her part of the premium must be provided in due course by herself or her friends.

(v) That on cessation of Hospital service, following the principle adopted for Elementary Teachers (*see* par. 254) and proposed for Secondary Teachers (*see* par. 276), the policy should be held, except, perhaps, in the case of marriage or any exceptional circumstances, for the ultimate benefit of the assured, who should be encouraged to continue payment of the full premium on her own account.

The proposed Committee should ascertain the cost of such policies from the Royal National Fund and also from insurance companies. For nurses continuing in Hospital service the provision made under such a scheme would count towards any pension earned under a general scheme for Hospital officers. Such a scheme, however, could not proceed otherwise than in combination with the more important general scheme to be proposed later.

(7) Reverting to the main question, the Report gives the following **Summary of Conclusions as to the Existing Provision**:—

1C9-113 (a) With regard to the extent of the existing provision,

(i) that the principle of pensions for Hospital employees is generally recognized, not as an act of charity but as part of the remuneration fairly earned by the officers, though often with the idea of rewarding long and faithful service to the particular institution (pars. 8 to 10 of the Report).

(ii) that at 6 London Hospitals out of 105 from which returns have been received this recognition has taken the form of the establishment of

Pars. 109–113 (*contd.*) pension schemes which, while perhaps conferring no legal right, do in practice give the officers of these Hospitals reasonable security for a pension on a basis resembling that of the old Civil Service scheme (pars. 11 to 19),

and (iii) that at the Hospitals without schemes pensions are, in practice, usually granted in case of need by the special act of the managing committee. At these Hospitals, taken as a whole, both the number of pensioners and the scale of pensions are proportionately lower than at the Hospitals with schemes, and the pension itself may sometimes be very small. Nevertheless the Hospital Officers Association do not know of any instance of a deserving person after long service being left entirely without a pension, nor has any such case been brought to the notice of the Committee (pars. 15, and 20 to 24).

(b) But, as regards the limitations of the existing provision,

(iv) that, in the absence of any general scheme, migration from one Hospital to another involves loss of all claim to a pension in respect of previous service. This has the effect either of discouraging migration or of imposing hardship both on the officer who migrates and on the Hospital to which he goes, e.g., when an enterprising man wishes to leave a secure but subordinate position at a large Hospital for a higher post at a small one (pars. 25 to 37)

(v) that at most Hospitals, and especially at the smaller, the prospect of pensions is uncertain, not only as to their adequacy and uniformity, but, what is probably more important, as to the age when they may be expected. The uncertainty thus affects the Hospital officer throughout his career—at the outset, when he has to decide whether to enter a service subject to this disadvantage, and towards the close, when retirement tends to be unduly deferred, to the detriment both of the officer and of the institution (pars. 38 to 48)

(vi) that in all except the largest Hospitals the grant of pensions to superior officers is apt to derange the finances, since the amount which has to be paid at any small institution, taken by itself, is large in comparison with the annual charge for salaries and wages, and there is no system by which this amount is provided for in advance and thus apportioned evenly over the period of service of the officer (par. 49)

and (vii) that the foregoing causes have no doubt operated in serious limitation of the provision of pensions, as evidenced by the fact that the total amount now being paid is much less than could be expected in such a considerable body of employees (pars. 50 to 57).

114-121 (8) The Committee then make **Recommendations as to the Alteration or Extension of the Existing System.**

As to the general objects to be aimed at they are of opinion

114 (1) that a greater security for pensions and facilities for earlier retirement would tend not only to satisfy a legitimate desire on the part of Hospital officers but also to improve the status of the service and the efficiency of the Hospitals.

(2) that the object desired cannot be fully attained by any development of the existing system, but must be approached from the point of view of a general scheme in which all the Hospitals should participate.

115 (3) that any general scheme for the Hospitals of London, in order to be successful, should provide *inter alia*

(a) for aggregation of service so as to permit of free migration without loss.

Pars. 115 (*contd.*)

(b) that the pension should be claimable at a stated age, so that there should be no inducement for the officer or the committee of the Hospital to continue employment when, in the interests of either, it should be terminated; and that at a stated later age retirement should ordinarily be obligatory.

(c) that the pension should bear an adequate relation to the salary and period of service, and should be well secured.

(d) that the financial provision for pensions should be continuous, so as not to derange the finances of the Hospitals.

(e) that permanent members of the nursing staffs should be included in the scheme, subject to the condition mentioned in paragraph 108.

(f) that the weekly wage staffs, except where the employment is casual, should likewise be included; and also any of the female servant class whose service becomes of a permanent kind.

116-119 (9) As to the **method of attaining these objects,** the Committee found great differences of opinion between the different parties concerned, and after considering a scheme submitted by the Hospital Officers' Association, and one or two alternative suggestions for removing the uncertainties and inequalities of the existing system, they decided that before any proposals could usefully be formulated it was necessary to settle the following fundamental questions:—

(a) whether the pensions should be wholly or partly provided for before they fall due,

(b) whether the scheme should provide death benefits as well as pensions,

(c) whether the officers themselves should contribute,

(d) whether the pensions should be based on the future salaries, which are unknown, or

(e) whether the plan of assuring definite amounts would not be more suitable,

(f) whether it would be feasible to include in the scheme existing officers, many of whom are nearing the pension age, or whether it must be limited to future appointments,

(g) whether it would be feasible to give earlier pensions in the event of disablement from loss of health; and

(h) whether and by what means it would be possible to reconcile the grant of pensions by a central body, and more particularly those coming under heading (g), with the independence and freedom of internal administration to which the Hospitals, and especially the great ones, attach much importance.

120-121 (10) As the best way of contributing to the solution of these questions, the Committee decided to examine typical pension schemes in other services. The material thus collected could be used for a discussion both of general principles and of the alternative methods suggested to the Committee.

PART II.—A SURVEY OF VARIOUS METHODS OF PROVIDING PENSIONS, WITH A DISCUSSION OF TYPICAL SCHEMES ALREADY IN OPERATION IN CERTAIN GOVERNMENT, RAILWAY, EDUCATIONAL, HOSPITAL AND OTHER SERVICES.

122-124 (11) For the purposes of this survey the Committee classify Pension Schemes according to the **Method of Financial Provision,** viz.: whether the pensions are paid out of current revenue, which may be called provision "in arrear"; or whether they are provided for during the working life of the officer, *i.e.*, "in

Pars. 122-124 (*contd.*) advance"; or whether they are provided partly in advance and partly in arrear. The complete classification adopted is as follows:—

Schemes where the pensions are provided

I. Wholly in arrear, or, as it is sometimes technically expressed, "by assessment"

(a) on a "salary percentage" basis or scale (*i.e.*, where the pension bears a defined ratio to the salary), as in the case of the Civil Service and certain of the existing Hospital schemes.

(b) on a fixed "absolute" scale or "flat rate" (*i.e.*, in definite amounts of pension), as in the case of the State Old Age Pensions.

II. Partly in advance and partly in arrear

(c) on a salary percentage scale, as in the case of the Police, the Poor Law Officers, and the Asylums Officers Superannuation Acts, and various of the Metropolitan Borough Schemes.

(d) on an absolute scale or flat rate.

(e) on the "money purchase" principle (*i.e.*, where each pension is directly related to the contributions available to purchase it).

III. Wholly in advance

(f) on a salary percentage scale, as in the case of many superannuation schemes of Railways, Banks and other Corporations.

(g) on an absolute scale or flat rate.

(h) on the money purchase principle, as in the case of the Royal National Fund for Nurses and the Federated Superannuation System for Universities.

126-134 (12) The Committee draw attention to the importance of the main heads of their classification, as emphasizing the fact that all pensions have to be provided for in one way or another, and that it is just as necessary to calculate the ultimate cost of the pensions, as compared with the resources out of which they are to be paid, when the provision is left to the future as when it is made in advance. They also point out that every difference or change in detail is liable either directly or indirectly to affect the cost, and should therefore form the subject of actuarial calculation beforehand.

(13) Under the heading **Pensions provided wholly in Arrear** the Committee discuss the following schemes on the salary percentage scale and non-contributory:—

135-147 (i) The Civil Service System 1859 and 1909.

The older scheme provided only superannuation, while the newer scheme, introduced as the result of experience and accepted by the great majority of the beneficiaries, substituted lower pensions with the addition of a death benefit and a lump sum on retirement.

148-151 (ii) The existing Hospital Schemes.

These, though not legal contracts, in practice provide pensions on approximately the old Civil Service scale. The Committee also deal under this head with a suggestion that this method should be extended to other Hospitals, the charge being pooled and spread over all the Hospitals joining in the scheme.

152 (iii) State Old Age Pensions.

(14) Under the heading **Pensions provided partly in Advance and partly in Arrear,** the Committee discuss the following schemes, all on the salary percentage basis, and all contributory:—

157-160 (iv) Police Officers' Scheme,

161-163 (v) Poor Law Officers' Scheme,

164-168 (vi) Asylums Officers' Scheme.

Pars.

157-169 In all of these the employees' contributions are paid in advance, while the liability of the employing authorities is left to the future.

171-181 (vii) The Metropolitan Borough Schemes.

These began with employees' contributions paid in advance and a merely nominal employers' contribution, but were successively improved until in the latest schemes the employers' contributions are paid very largely, though still not wholly, in advance.

182-193 (viii) The London County Council Superannuation System.

Here the contributions of both parties were paid into a pension fund at rates which were actuarially estimated to constitute adequate provision in advance. Serious deficits, however, largely due to the improved longevity of pensioners, were soon revealed by subsequent valuation, and made increased contributions necessary from future entrants, the Council itself undertaking the liability in respect of existing members. Its general aim is to make provision in advance, concurrently with the liquidation of earlier obligations.

194-215 (ix) The New Zealand Government Superannuation Funds.

In these schemes an attempt has been made to provide the State contribution in advance by means of annual subsidies, which, however, have proved on actuarial valuation to be wholly inadequate.

(15) Under the heading **Pensions provided wholly in Advance**, the Committee discuss the following salary percentage schemes:—

218-228 (x) The Railway Superannuation Schemes in the United Kingdom.

In these schemes contributions by employers and employees, equal in amount, are paid into a mutual fund. Deficits have from time to time arisen, due partly to absence of actuarial calculation of the total amount of the original liability; partly to increased benefits subsequently introduced without previous valuations; partly to unavoidable changes in the conditions, such as depreciation of assets or increased longevity of pensioners; and partly to voluntary changes, such as alterations in the rates of increase of salary or in the age of retirement. These deficits have been met sometimes by increased contributions from the companies, and sometimes by the company guaranteeing the payment of the pensions as they become due.

229-240 (xi) The Railway Clearing System Superannuation Fund.

This fund, with a history somewhat similar to that of other railway funds, presents the feature, specially instructive from the Hospital point of view, of a mutual fund with a central management for the officers of a number of independent employers, and illustrates the financial effect on the joint fund of differences in policy in the matter of retirements from ill-health, as well as the deficits that may arise from longevity of pensioners and similar causes.

241-248 (xii) The scheme submitted by the Hospital Officers Association.

In this scheme, drawn up on actuarial advice, the pensions would be provided by means of a mutual fund created solely by employers' contributions.

(16) The Committee then consider under the same head the following schemes on the money purchase principle:—

253-257 (xiii) The Elementary School Teachers' Deferred Annuity Fund.

This mutual fund on the money purchase principle is created by contributions of fixed amount from the employees only, each contribution purchasing a portion of a deferred annuity of a definite amount according to tables revised from time to time after periodical valuations.

Pars.
258-271 (xiv) The Federated Superannuation System for Universities.

This scheme provides pensions, not by a mutual fund, but by policies taken out with insurance companies. The premiums are paid partly by the officer and partly by the institution, the latter being aided at the outset by a Government grant. The policy goes with the officer on migration to another institution within the scheme. The scheme does not provide fully for disablement benefit or allow for past services of existing staffs. Whatever is provided is paid for in advance and guaranteed by an insurance company. The Committee give figures comparing the amount of pension that is provided for a given rate of contribution under this system, under the old Civil Service scale, and under the scheme submitted by the Hospital Officers respectively.

272-278 (xv) The System recommended for Secondary Teachers.

This system, drawn up by a Departmental Committee, is on the same lines as the Universities System, supplemented by State assistance direct to the pensioners in the form of superannuation and disablement allowances.

279-292 (xvi) Scheme recommended for Officers of Reformatory and Industrial Schools.

Here again a Departmental Committee has recommended a contributory scheme of deferred annuities by means of policies with insurance companies; with supplementary free pensions for existing officers of over 40, purchased by the local authority with State assistance.

293-302 (xvii) The Royal National Pension Fund for Nurses.

This is a mutual society for the grant of annuities provided by contributions and supplemented by bonuses arising out of profits and capital donations received. There is a federation scheme for Hospitals willing to pay part of their nurses' premiums; and there is also a separate sick benefit fund. The Committee compare the pensions offered by the Fund with those obtainable from insurance companies.

303-312 (xviii) New South Wales proposed Superannuation Fund.

This scheme, prepared by a Departmental Committee, proposes to provide, for State and municipal officers, pensions based on the money purchase principle, but adjusted so as to bear some relation to the salary. The pension scale of benefits is also based on family need, and therefore includes annuities to disabled officers and to widows. The contribution necessary to provide the pension is to be variable, being calculated separately in each case, and is to be shared equally between employer and employee. For officers over 30 the scheme is only partially compulsory. A State guarantee would be necessary.

313-327 (xix) Scheme submitted by Mr. Tinner, F.I.A.

This scheme proposes a mutual fund created by equal annual contributions from employers and employees; the pension is calculated for each officer on the money purchase principle and is payable to him on retirement, whether at the normal pension age or earlier through ill-health. The Report compares this scheme with the method of policies with insurance companies, both as regards the amount of benefits provided and as regards security.

PART III.—Discussion of the Fundamental Questions involved in any General Scheme of Pensions for Hospital Officers and Staffs. General Conclusions. Rejection of Mutual Schemes and Final Recommendation of Insurance Method, with Separate Provision for Disablement.

(17) This part of the Report opens by discussing, in the light of the information collected in Part II, the fundamental questions raised at the end of Part I.

Pars.

329-335 (a) On the question **whether the liability should be provided for in advance,** the Committee arrive at the conclusion that the sound method of procedure is

(i) to recognize that pensions should be regarded in principle as deferred pay;

(ii) from the time of such recognition to set aside proper contributions in respect of all future service, whether in respect of officers already serving or to be appointed in the future; and

(iii) to provide that all such contributions shall be made during the working time of the officers concerned, and preferably as and when every payment of salary is made.

336-339 (b) On the question **whether a scheme should include a death benefit,** the Committee draw attention to the general and increasing adoption of this feature, and to the possibility that in certain circumstances its cost may be less than is usually supposed. They come to the conclusion that it should form a substantial part of any scheme, but should perhaps not be entirely obligatory. They also refer to the difficulty arising from the loss of this benefit in the event of death occurring shortly after, instead of before, the pension age.

340-350 (c) On the question **whether beneficiaries should contribute** toward the cost of the pensions, the Committee point out that the contributory principle is becoming general, except where complete control by the employer is possible and is desired, or where pensions are regarded not as deferred pay but as a reward of long service: and therefore that it tends to accompany the development of efficiency and organization in a profession. They conclude that a Hospital scheme must be on a contributory basis.

351-377 (d) On the question **whether a scheme should provide for existing officers,** the Committee point out the great cost of such provision. It has (together with improved longevity of pensioners) been largely responsible for the deficits in schemes on the salary percentage scale. The money purchase plan, on the other hand, compels the cost to be calculated and faced beforehand. After examining the figures of various schemes, and utilizing the imperfect information available as to the total pensionable salary list of the London Hospitals, the Committee make a provisional estimate of about £450,000 as the cost of providing adequate pensions in respect of the past services of existing staffs. Their future service would be dealt with in the scheme itself, the benefits thereby received being proportionate to the remaining working time of the officer.

378 (18) The Report then gives the following **Summary of Conclusions as to the General Principles** to which, in the special case of the voluntary Hospitals of London, a satisfactory pension scheme should conform :—

(i) That the pension should be claimable by a member of the permanent staffs at 60 or other stated age, so as to facilitate retirement when a man is getting past his best. It is also desirable for the same reason that retirement should in any event take effect at age 65, or some other stated age; and that a pension should be available in the event of permanent loss of health.

(ii) That the pension should be well secured and, in case of long service, adequate in amount. It follows from this that it must represent an adequate proportion of the salary.

(iii) That it should be possible for officers to migrate freely from the service of one Hospital to that of another within the scheme without forfeiting any part of the benefit.

Pars. 378 (*contd.*)

(iv) That the pensions in respect of all future service should be provided for wholly in advance, no liability being left to be met by the Hospitals after the officer's service has terminated.

(v) That, as in the case of the Civil Service Superannuation Act, 1909, there should be some death benefit available for family provision, and also, if possible some cash endowment on retirement, but that there should be sufficient elasticity in the scheme to meet exceptional cases.

(vi) That, inasmuch as such substantial benefits as the foregoing would be a great advantage to the officers, they should be prepared to make some sacrifice to secure them, and that the scheme should be on a contributory footing, the contributions dating, as regards the future service of existing staffs, from its inception.

(vii) That such members of the nursing staffs as remain permanently in the service of the Hospitals should be included in the general scheme, any provision assured in the separate scheme for young nurses (par. 105) counting, as far as it will go, towards their ultimate benefit in the general scheme.

(viii) That the weekly wage staffs, as well as female servants and scrubbers, should likewise be included in all cases in which the employment is of a permanent nature. In these classes it might be necessary to prescribe a minimum period of service.

(ix) That in all cases the estimated value of emoluments should be added to salary or wages for the purpose of reckoning contributions and benefits.

(x) That the scheme should also provide pensions for the existing staffs in respect of their past service as far as funds for providing the additional cost may be available.

379 (19) On the question of the **Method of giving effect to these Conclusions,** the Committee point out that all types of scheme are obviously unsuitable except those provided wholly in advance either on a salary percentage scale or on the money purchase principle.

380-387 (20) With regard to the **Salary Percentage Method** the Committee point out that schemes of the type of the London County Council, the New Zealand Government, and the great British Railways, would fulfil many of the conditions. On the other hand they draw attention to two drawbacks, financial uncertainty and administrative difficulty. The financial uncertainty results partly from the fixing of the pension in relation to salary, and partly from the risk of changes in the rate of interest, the rate of mortality and other speculative elements, which experience shows often to have resulted in actuarial deficits. The method, therefore, requires external financial support capable of assuming liabilities of large amount. The administrative difficulty arises from the necessity for a central committee representing a number of separate institutions. No instance has been submitted of a fund successfully working under such conditions on the salary percentage basis, and the Committee conclude that a solution of the problem must be sought in some other direction.

388 (21) The Committee therefore proceed to consider the **Money Purchase Principle,** under three categories, viz. :—Mutual funds for deferred annuities only ; mutual funds providing disablement and death benefit also ; and schemes based on policies with insurance companies.

389-397 (22) Under the heading **Mutual Funds for Deferred Annuities only** they examine the types represented by the Elementary School Teachers Fund and the Royal National Pension Fund for Nurses, and find that in both cases the necessity of emphasizing security has led to the adoption of a comparatively low rate

Pars. 389-397 (*contd.*) of benefit, and that though the Royal National Fund has in the past supplemented the fixed benefit by bonuses, its prospects in this respect have been seriously affected by the unexpected longevity of the pensioners. Though attaining security, therefore, such funds do not compete with strong insurance companies as regards benefits. For the same reason they do not afford a model for a new institution.

398-408 (23) With regard to **Mutual Funds with Disablement Benefits,** the Committee consider particularly Mr. Tinner's scheme, which provides disablement benefit and generally complies with the conditions, subject to the financial risks inherent in all mutual funds, and to the administrative difficulties of a central fund for different institutions.

402-405 Special difficulties arise in this respect out of disablement benefit, because the questions of early retirement affect on the one hand the efficiency of the particular Hospitals concerned, and on the other hand the financial stability of the central fund; and on the point of principle the Committee conclude that both the administrative and the financial responsibility for disablement, as between the Hospitals and any central pension organization ought to rest primarily with the individual Hospital.

406-408 Mr. Tinner's scheme avoids the uncertainties peculiar to the salary percentage method, but remains liable to the financial risks attaching to the operations of such a fund, and to the actuarial risk of increased longevity. He therefore has no option but to leave the finally adjusted scale of benefits to be determined by events. The Committee defer their conclusion on this scheme until they have examined the alternative methods of securing disablement benefit.

409-412 (24) In regard to **Schemes based on Insurance Policies** the Committee point out:—

(i) that there is a great saving in administrative labour and expense,

(ii) that as there is no fund, there can be no loss on securities,

(iii) that there is no need for actuarial valuations nor room for financial responsibility on the part of the institutions beyond the prescribed contributions,

and (iv) that subject to acceptance of the deferred pay principle (*see* pars. 270 and 412) the beneficiary, on migration to any institution not within the scheme, has the option of continuing the policy or policies either at his own expense or by arrangement with his new employers.

Taking the Federated Universities System as the type, the Committee find that it fulfils the required conditions subject to the following reservations:—

(a) that the security for the pensions depends mainly on the solvency and partly on the future profits of the selected insurance companies.

(b) that while the pensions, pure and simple, have been shown to be adequate, these should also be sufficient when supplemented by the death benefit.

(c) that it does not provide a satisfactory pension in the event of premature disablement from a breakdown of health.

413-414 (25) On the question of the security offered, the Committee point out that no great insurance company has failed since the Act of 1870 was passed, that the war will have tested them under the most adverse circumstances, and that for annuities the security is even better than for insurances.

415-427 (26) On the question of the adequacy of the pensions, the Committee, having already shown that without death benefit they compare favourably with the old Civil Service Scheme (*see* par. 16 (xiv) above and par. 265 of Report), now find that, while a much larger death benefit is provided than under the new Civil Service Scheme, the pensions at age 60 are lower, though not inadequate, and

Pars. 415–427 (*contd.*) at age 65 are higher. Comparisons are also given with the Hospital Officers' scheme and Mr. Tinner's scheme and show on the whole a remarkable similarity. The Committee conclude that the insurance method cannot be ruled out on the ground of inadequacy so long as the joint contributions amount to 10 per cent. of salary.

428-435 (27) On the question of the insufficient disablement benefit, the Committee first refer to their previous conclusion that this benefit ought in any case to be administered by the Hospitals themselves (cf. par. 23 above and pars. 402-5 of the Report) as is already done, though inadequately. They then show that under an insurance scheme, there being a certain amount of pension already purchased with the past contributions, the supplementary liability in any particular case can be limited.

436-438 (28) As to the method of meeting this liability outside the scheme, the Committee suggest that the individual Hospitals should be assisted by a representative central body, which would in effect be the Associated Hospitals acting in combination for this special purpose.

439-469 (29) As to the cost of disablement pensions, the Committee first fix on a suitable standard of disablement pensions which might be substituted for the amounts secured under the Universities system. Different lines of enquiry combine to suggest that the cost in advance of such pensions might be reckoned provisionally at about one and a half per cent. of the annual salaries; and this measure of cost may be applied not only to new entrants coming on the scheme in respect of future appointments but also to an existing staff in respect of its future service. They then adduce actuarial opinion to the effect that if the pensions were to be administered by a central body in the manner outlined it would be possible to reduce the ultimate net cost after allowing for the amount secured under the Universities system to a figure much less than the foregoing. To attain this result the insurance policies which are effected under the Universities plan would, on disablement, be handed over to the central body to be maintained in full force until maturity instead of being discontinued. The increased value of the death benefits, arising from the fact that the disabled have a reduced expectation of life, would thus go to the central body instead of reverting to the insurance companies, and could be used, after satisfying the legitimate claims of dependants, for reducing the cost of disablement pensions. The estimate of cost arrived at is approximately £5,000 per annum at the outset, falling in time to £2,000 or £1,500 per annum in respect of a supposed total salary list of £300,000.

470 (30) The Committee conclude that, the separate treatment of disablement being not only desirable but practicable, a scheme of the type adopted by the Federated Universities would be a practicable solution of the question for the Hospitals of London, and that such a system either complies or is capable of being adjusted to comply with the various conditions laid down.

(31) The Committee then make a **Final Comparison of the Mutual and Insurance Methods** of applying the money purchase principle, dealing separately with administrative and actuarial considerations.

471-474 On the administrative side, they consider that the advantage of including disablement benefit in one mutual fund is outweighed by the special risks involved in the administration of that benefit. In all other respects the advantage rests with the insurance method, which avoids the necessity for managing a large fund, and also facilitates migration from one institution to another or the inclusion of fresh institutions.

N 2

Pars. 475-477 On the financial and actuarial side, they point out that the Insurance method provides benefits which are guaranteed, and which compare well with those provided by other methods, whereas the mutual plan guarantees only what can be provided from the mutual fund, after allowing for cost of management, risks of investment, and changes in the future rate of mortality. Even Mr. Tinner's cautious scheme is liable to these, and as well as to the uncertainties more particularly associated with disablement. The balance of advantage thirty or forty years hence is uncertain. But past experience reveals no cases of mutual funds for annuities making such profits as to compensate for the risks; the advocates of a mutual fund have put forward no evidence in support of a different prospect for the future; and the Committee have quoted numerous cases where disappointment and hardship have only been averted by the help of extraneous financial assistance on a large scale.

478-480 (32) The Committee, therefore, conclude with **Rejection of the Mutual Principle,** unless a sufficient financial guarantee can be provided outside the mutual fund. The Hospitals cannot give this guarantee. If King Edward's Hospital Fund has the legal power and is willing to provide the guarantee, the question might be reconsidered, but in view of the large sums which have been required in past instances the Committee recommend that the Executive Committee should not make itself in any way responsible for approving a type of scheme dependent for its solvency on a financial guarantee to be given by the King's Fund.

481-487 (33) The Committee then arrive at the **Final Conclusion,** that a scheme based upon recourse to insurance companies is the only possible solution of the superannuation problem before them. They accordingly **Recommend** that a joint conference of Hospital representatives should be invited to consider the whole question on that basis. In addition to the Hospital Committees and officers, care should be taken that the nursing staffs and weekly wage class are separately represented. Experimental calculations should be based on a 10 per cent. contribution, each party paying 5 per cent. The scheme should be obligatory on new appointments. In the case of existing staffs, a similar total contribution should be made (apportionable on terms to be mutually agreed) for each year of future service. This would gradually reduce the cost to the Hospitals of providing their pensions "in arrear." The Committee recommend that, in order to raise the status of Hospital service, every year of work should be regarded as pensionable with rights vesting accordingly. Thus the benefits of an existing policy should follow the officer on withdrawal generally, as well as on migration to another Hospital. The age of retirement and the type of insurance contract would require special consideration, as also would the case of the permanent nursing staffs and the weekly wage staffs.

488-490 (34) The Committee also make a **Supplementary Recommendation as to Disablement Pensions,** namely, that the Executive Committee should take into consideration the best way of making provision for disablement benefits by means of a central body constituted and exercising functions in the manner outlined in paragraphs 437 and 465, and that the King's Fund should offer its help by way of advice, or, if thought fit, of pecuniary assistance, possibly in the first instance by offering to obtain actuarial advice as to the feasibility of meeting the problem in the way suggested, and as to the probable cost to the central body and the Hospitals of doing so. It is pointed out that the operations of such a body would be a mitigation of and not an increase to the liability for disablement pensions already resting on the Hospitals.

SUMMARY OF DISSENTIENT MEMORANDUM

Signed by Sir WILLIAM J. COLLINS.

(Prepared by the Secretary to the Sub-Committee.)

Pars.

1 Sir William Collins regrets that he is unable to concur with the final conclusion of the Report (par. 481), viz., that a scheme based on recourse to insurance companies is the only possible solution of the problem before the Committee. He considers that the proposed conference of Hospital representatives and officers should not be limited in its deliberations to this solution.

3 He agrees that the case submitted by the Hospital Officers Association, as to the inadequacy and uncertainty of the existing provision is, generally speaking, made out (par. 109), and that greater security and facilities for pensions would benefit both the officers and the Hospitals (par. 115), and remarks that the scheme put forward by the Hospital Officers Association was for pensions based on the terms of the Civil Service Scheme, 1859, or those of the Asylums Officers Act, 1909, of which the latter required contribution from officers and provided for aggregation of service for the purpose of pension (pars. 164-168).

4-6 He agrees with the summary of general principles [par. 115 (3)] as developed in paragraph 378, except possibly as to the death benefit, but would leave the claims of the alternative methods of solution for acceptance or rejection by the parties immediately concerned.

7-9 He then refers to the rejection in the Report of all schemes except those on the money purchase principle either by way of mutual fund or by the method of purchasing benefits from insurance companies; and to the rejection of Mr. Tinner's scheme for a mutual fund, based on "cautious and conservative" estimates though providing for disablement benefits, on the grounds put forward in the Report that it is not feasible without a financial guarantee and that under no circumstances should the King's Fund be recommended to provide such guarantee. The Universities system of insurance policies was opposed by the Hospital Officers Association on the ground of death benefit and of expense (par. 260); and it does not provide for disablement (par. 428). To remedy the latter defect a central body is to be set up which the King's Fund might support, possibly by money contributions (pars. 436-7), and the Report suggests that the liability might be reduced by a somewhat speculative scheme for the "nursing" of policies, but is subject to "uncertainty" (pars. 464-9).

10-11 Hence both the mutual method and the insurance policy method require in whole or in part the administrative and financial aid of a central body possessing the confidence of the Hospitals.

12-13 King Edward's Hospital Fund has large invested funds and has certain powers under its special Act of Parliament. The Report admits that if the King's Fund were willing to provide the guarantee, the feasibility of the principle of a mutual fund might be reconsidered (par. 480); and, in connection with existing staffs, suggests that special donations might be forthcoming (par. 374).

14 Pensions being already regarded by the King's Fund as a legitimate expenditure of Hospital money, and the King's Fund having statutory power to use its general or special funds in support of this object, there is no insuperable objection to its rendering assistance to the Hospitals in this respect.

15-16 Sir William Collins, therefore, does not regard the final conclusion as established, viz., that recourse to insurance companies supplemented by a subsidized scheme of disablement benefit is the only possible solution. He would prefer that the suggested joint conference of Hospital representatives and officers should be in a position to consider the alternatives presented in the Report without being restricted in their deliberations and choice to one particular method, admittedly inadequate by itself, of meeting their requirements.

APPENDICES.

APPENDIX I.

THE INCORPORATED ASSOCIATION OF HOSPITAL OFFICERS.

Case for a General Scheme of Pensions for Hospital Employees.

1. Under the Uniform System of Accounts, Pensions are recognised as a legitimate part of Hospital expenditure, and certain Hospitals, *e.g.*, The London, St. Bartholomew's, Guy's and the Cancer, have pension schemes of their own. In the majority of Hospitals, however, it rests with the Committee to decide whether pensions shall be given at all, and what their amount shall be.

2. This condition of things creates great uncertainty in the minds of Hospital officers as to their future. Committees may be favourably disposed to the granting of pensions at one time and unfavourably disposed at another. The old servant is dependent on a changing Board, and while one who has served long and faithfully may receive a just reward, another, equally meritorious, whose case is considered when circumstances are less favourable, or who has outlived those who knew him in his best days, will obtain scant recognition of a life of hard work and devotion.

3. Every officer who is promoted from one Hospital to another, at present loses thereby, for pension purposes, the whole of his previous service. This is a very real hardship. It is greatly to the advantage of Hospitals that officials should pass freely from one to another, and anything that tends to check this movement, such as the fear of losing a pension altogether, or the natural unwillingness to sacrifice a period of service, is detrimental to the Hospitals as a whole.

4. The want of a general pension scheme must be felt from time to time by the Hospitals themselves as well as by the employees. Small Hospitals particularly cannot afford to burden themselves with the heavy additional expenditure which the payment of pensions involves. So it might happen that a charity would suffer by the retention of an old servant, whose work could be better and more profitably executed by a younger man, while the old employee would struggle on against failing health and strength, lest he should be deprived of the wherewithal to maintain himself in his old age.

5. If one of the head officials, such as the secretary or chief dispenser, is granted an adequate pension upon his retirement, the salary of his successor must almost inevitably suffer as long as the pension continues.

6. If by some method pensions could be spread over the whole existence of an institution, there would be no question as to the granting of them, and the above-mentioned difficulties and hardships would not arise. It is the fact that pensions are not a continuous or regular expenditure that constitutes the difficulty.

7. It is very desirable from a public point of view that a good class of men should be attracted to the Hospital service, and a general scheme of pensions, ensuring uniformity of treatment, would conduce materially to that end.

8. Pension schemes have been established, not only for Government employees, but also for those who work in important commercial undertakings, such as Banks, Insurance Companies, Railways and Docks. There seems every reason therefore why those who are employed in Hospitals, which do so much for the community, should receive similar treatment. In this connection we would particularly instance Poor Law and Asylum officials whose work is very similar to that of officers of voluntary Hospitals.

9. The schemes already adopted by certain Hospitals are based on the Superannuation Act of 1859. We believe that Hospital officers as a whole would welcome any general scheme based on the terms of that Act, or of the Asylum Officers' Superannuation Act of 1909.

APPENDIX II.

ABSTRACT OF PENSION SCHEMES IN OPERATION AT VARIOUS HOSPITALS.

NOTE.—*Formulated rules or recommendations for the guidance of House Committees, containing detailed conditions, are counted as schemes.*

(*a*) *At Hospitals marked* (*a*) *no officer or servant is entitled to a pension as of right, and no pension is granted or continues payable except during the will and pleasure of the Hospital Authorities.*

(*b*) *At Hospitals marked* (*b*) *the existence of a scheme does not necessarily imply that any officer or servant is entitled to a pension as of right, or that any pension is granted or continues payable except during the will and pleasure of the Hospital Authorities.*

1. CANCER HOSPITAL (*a*):

Pensions may be granted

(a) in case of ill-health, after 10 years' service,

(b) at 60, if unfit, after 25 years' service,

(c) at 65, after 25 years' service,

at the rate of one-sixtieth of average net pay per completed year, not exceeding forty-sixtieths of average pay of last three years in lower ranks, or 10 years' pay in higher.

2. CHEYNE HOSPITAL (*b*) (*Matrons and Sisters only*):

Pensions at ages 55 to 60 (unless extended) for matrons, 50 to 55 for sisters, after 20 years' service, at rate of 50 per cent. of salary and emoluments *plus* a further 2 per cent. for each further completed year up to a maximum of 70 per cent.

3. GUY'S HOSPITAL (*a*):

(a) *Male Staff*:

Pensions at ages 60 to 65 (unless incapacitated earlier or service extended later) after 10 years' service, at rate of fifteen-seventy-fifths of final salary and emoluments, plus a further one-seventy-fifth for each further year up to a maximum of fifty-seventy-fifths after 45 years. Maximum may be granted at 65 after less than 45 years.

(b) *Nursing and Female Administrative Staff*:

Hospital scheme combined with Federation with Royal National Pension Fund for Nurses:

Pensions at ages 50 to 55 (unless incapacitated earlier or service extended later) after 10 years' service, at rate of eleven-forty-fifths of final salary and emoluments plus one-forty-fifth for each further year up to maximum of thirty-forty-fifths. Maximum may be granted at 55 after less than 30 years. Continuous service with Trained Nurses' Institute counts as Hospital service. Beneficiaries (excepting administrative staff, who are recommended, but not required, to do so) must take out policies with Royal National Pension Fund for Nurses for £7 10s. at age 50; staff nurses on appointment, sisters after two years. The Hospital takes out policy for £11 5s., which forms part of Hospital pension.

4. LONDON HOSPITAL (*a*):

(a) *Lay Staff* (under reconsideration 1913):

Pensions at ages 60 to 65 (unless incapacitated earlier or service extended later) after 20 years' service (unless incapacitated earlier), at minimum rate of so many sixtieths of last three years' average remuneration up to forty-sixtieths.

(b) *Nursing Staff*:

Pensions equal to full pay at age 45 after 18 years' service.

5. Middlesex Hospital (*b*):

Pensions may be given to any salaried officer, sister, nurse or servant, after 20 years' service, at rate of two-thirds of pay; or if disabled after 10 years, at rate of one-half of pay; or to sisters and nurses in special cases, after 20 years' service, at full pay.

A pension fund for nurses has been built up out of fees from Lady Probationers and profits of Private Nurses' Institute.

6. Poplar Hospital (*a*) (*Sisters and Nurses only*):

Pensions equal to full pay at age 45 after 20 years' service.

7. St. Bartholomew's Hospital (*a*):

(a) *Male Officers and Servants:*

Pensions payable at ages 60 to 65 (unless incapacitated earlier or service extended later), after 10 years' service, at the rate of one-sixtieth of average salary and emoluments for last three years for each year of service up to maximum of forty-sixtieths, subject to increase or decrease for exceptional merit or demerit.

(b) *Female Officers and Servants:*

Same as above, but at ages 50 to 60 and rate one-fifty-fourth up to thirty-six-fifty-fourths.

8. St. George's Hospital (*a*):

(a) *Officers other than Nurses:*

Pensions at age 60, after 25 years' service, at rate of one-sixtieth of pay per annum at retirement for each year of service, up to maximum of forty-sixtieths.

(b) *Nursing Staff:*

Pensions at age 55, after 18 years' service, at rate of one-sixtieth of pay and value of emoluments (board, etc.) per annum at retirement for each year of service, up to maximum of forty-sixtieths.

APPENDIX III.

SYSTEM OF FEDERATION BETWEEN HOSPITALS AND THE ROYAL NATIONAL PENSION FUND FOR NURSES.

A. TYPICAL SCHEME OF FEDERATION SUGGESTED BY THE ROYAL NATIONAL PENSION FUND.

Extract from the Report of the Committee of the House of Lords on Metropolitan Hospitals.

> "The Committee think it very desirable that, where the funds of the Hospitals permit, Pensions should be provided for Nurses by joining the Royal National Pension Fund for Nurses, or by the Hospital providing a special Pension out of its own Funds."

The Council of the Royal National Pension Fund for Nurses have caused the following scheme to be prepared for the consideration of the Managers of those Hospitals, Convalescent Homes, Asylums, Nursing Homes, and kindred Institutions, who may desire to provide Pensions for their Nursing Staff in accordance with the above recommendation of the Lords' Committee.

Suggested Scheme of Federation.

1. The Managers (Court of Governors, Committee) of the * (hereinafter called the Hospital) have decided to federate with the Royal National Pension Fund for Nurses (hereinafter called the Fund), in order to assist the Matron, Superintendent of Nurses, and all Sisters, Staff Nurses, Nurses, and Private Nurses of the Hospital, under forty years of age, who may desire to join the Fund by paying a proportion of their annual premiums while they remain in the service of the Hospital, subject to the rules and conditions that from time to time govern the Fund.

* Name of Hospital or Institution.

Amount of Pension.

2. The Hospital will take out with the Fund a Policy upon the returnable scale for a Pension of £* per annum on the life of any Matron, Sister or Nurse of this Hospital under forty years of age, who in her own name takes out a Policy with the Fund for a Pension of not less than £* making in all a pension of £ per annum.

* £10 is suggested as a minimum for Sisters and £7 10s. for Nurses.

Participation in Profits.

3. A Pension Policy taken out by or for the Nurse will (subject to the rules) participate in the profits of the Society and in the Donation Bonus Fund.

Premium paid by the Hospital during service only.

4. The Hospital agrees to continue to pay premiums on the Hospital Policy only so long as the Nurse remains in the service of the Hospital.

Mode of Payments.

5. Premiums will be paid monthly or quarterly through the officer appointed for such purpose by the Hospital. A Nurse's acceptance of the Scheme of Federation is regarded as sufficient authority for the deduction from her salary of the premium on her Policy.

Nurses over 40 years of Age.

6. The Hospital is prepared to consider what help shall be given to Members of the Nursing Staff over forty years of age, with the view of making such arrangements as may seem best in each individual case.

Withdrawal.

7. A Nurse withdrawing the premiums paid in under her own Policy while in the service of the Hospital, or within twelve months after leaving the Hospital, will forfeit all right to the Policy taken out by the Hospital on her behalf.

Assignment to Nurses.

8. After a Nurse shall have been in the service of the Hospital for * years, whether as Probationer, Sister, Nurse, or otherwise, the benefit of the Policy affected by the Hospital on her behalf shall, if she has complied with the rules herein laid down, be considered as belonging to her, and will, in accordance with the preceding rule, be formally assigned** to her when her pension falls due, or otherwise twelve months after leaving the Hospital.

* The number of years' service to be fixed by the Committee in each case. Five years has been suggested as a minimum.

** The terms of assignment should be carefully considered by the Managers. The Hospital Policy may be assigned to the Nurse :—

1. Absolutely. In this case the Nurse, if she withdraw from the Fund, can obtain the return of the moneys paid into the Fund by the Hospital on her behalf.
2. For the purposes of Pension only. In this case, if the Hospital Policy is not kept up, the moneys paid into the Fund by the Hospital revert to the Hospital Trust Fund, in accordance with Clause 11.

Discretion of Committee as to Assignment.

9. Nevertheless, should a Nurse leave the service of the Hospital before the expiration of* years, the Hospital may in its absolute discretion assign the Policy to the Nurse, or make her an allowance therefrom.

* The time to be fixed as in Regulation 8.

Mode of Assignment.

10. In order to assign the Policy to the Nominee (*i.e.*, the Nurse) all that is necessary is that the Nominor (*i.e.*, the Hospital's representative) write on the back thereof "All the interest in the within-written Policy is now vested in the Nominee." This endorsement must be signed and dated by the Nominor; and the Nominee must take care to have the Policy delivered to her, and to register the endorsement with the Fund.

Policies surrendered belong to Hospital Committee.

11. One of the conditions endorsed on the Hospital Policy is that in case a Nurse forfeits her right to the Policy it shall be surrendered to the Fund as Trustee, and all premiums which shall have been paid thereunder shall, with interest thereon from the date of deposit, be placed to the credit of the separate Trust Fund of the Hospital or Institution federating with the Fund, to accumulate at interest and to be disposed of by the Hospital or Institution in accordance with the following regulations of the Society governing such Trust Funds :—

(*a*) All moneys paid into the Fund by any Hospital or Institution, together with all interest thereon, are to be devoted for the sole benefit of the members of the paid staff of such Hospital or Institution as the Committee thereof shall by resolution from time to time determine.

(*b*) The benefits referred to in the foregoing rule are to be dispensed through the Fund in accordance with its objects as defined in the Memorandum of Association. These objects include Pensions, Sick Pay, Gratuities, and so forth.

Contributions by Nurse after leaving Hospital and before Assignment.

12. It is agreed that, should a Nurse contribute any premium on behalf of the Hospital Policy during the twelve months following her leaving the Hospital, and still not become entitled to the full benefit of the Hospital Policy, the Fund will hold such premiums at the Nurse's disposal, and will return them to her on demand.

Power to alter Amount of Contribution.

13. The Hospital reserves to itself power to alter the amount of its contributions, if it should be necessary to do so hereafter.

N.B.—It should be understood that not only Nurses but all other officials employed in the work of any Hospital or Institution are eligible to join the Royal National Pension Fund individually or on the principle of proportionate payment, and to share in the profit Bonuses, though not in the benefits of the Donation Bonus Fund.

Nurses may take out additional Policies on their own account for either Pension or Sick Pay at their option.

Probationers can enter on their own account, and when promoted to the staff are eligible to have a Policy taken for them as indicated in the above scheme of Federation.

It is hoped that the Hospital will encourage Probationers to enter; thus encouraging early thrift, and assuring the advantages offered by the Fund at a lower rate of premium.

B. ABSTRACT OF EXISTING SCHEMES OF FEDERATION.

DREADNOUGHT HOSPITAL:
The Hospital pays half the premium for a policy of £15 at age 60 if accepted by the nurse during her first 12 months: after 10 years' service, the Hospital pays the whole premium for £20 at age 60.

KING'S COLLEGE HOSPITAL:
Hospital takes out policy for £11 5s. 0d. at age 55 with R.N.P.F.N., or some Life Assurance office, for any certificated member of the nursing staff who does the same.

PADDINGTON GREEN CHILDREN'S HOSPITAL:
The Hospital pays the premium for a policy of £11 5s. 0d. at age 50, for any sister or nurse, two years in the service of the Hospital, who takes another similar policy.

ROYAL FREE HOSPITAL:
The Hospital pays half the premium for a policy of £22 10s. 0d. at age 50, 55 or 60 for any certificated nurse in the service of the Hospital.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL:
The Hospital takes out a policy for £11 5s. 0d. at age 50 or 55 for any matron, sister or staff nurse doing the same within six months of entering the service of the Hospital.

ST. MARY'S HOSPITAL:
The Hospital takes out a policy for £11 5s. 0d. at age 50 on returnable scale for any sister or staff nurse doing the same. Probationer taking policy of £22 10s. 0d. will, on becoming staff nurse, receive back half the premium she has paid.

See also Guy's Hospital: Combined Hospital and Federation scheme; Appendix II. No. 3 (b).

Withdrawal.

7. A Nurse withdrawing the premiums paid in under her own Policy while in the service of the Hospital, or within twelve months after leaving the Hospital, will forfeit all right to the Policy taken out by the Hospital on her behalf.

Assignment to Nurses.

8. After a Nurse shall have been in the service of the Hospital for * years, whether as Probationer, Sister, Nurse, or otherwise, the benefit of the Policy affected by the Hospital on her behalf shall, if she has complied with the rules herein laid down, be considered as belonging to her, and will, in accordance with the preceding rule, be formally assigned** to her when her pension falls due, or otherwise twelve months after leaving the Hospital.

* The number of years' service to be fixed by the Committee in each case. Five years has been suggested as a minimum.

** The terms of assignment should be carefully considered by the Managers. The Hospital Policy may be assigned to the Nurse :—

1. Absolutely. In this case the Nurse, if she withdraw from the Fund, can obtain the return of the moneys paid into the Fund by the Hospital on her behalf.
2. For the purposes of Pension only. In this case, if the Hospital Policy is not kept up, the moneys paid into the Fund by the Hospital revert to the Hospital Trust Fund, in accordance with Clause 11.

Discretion of Committee as to Assignment.

9. Nevertheless, should a Nurse leave the service of the Hospital before the expiration of* years, the Hospital may in its absolute discretion assign the Policy to the Nurse, or make her an allowance therefrom.

* The time to be fixed as in Regulation 8.

Mode of Assignment.

10. In order to assign the Policy to the Nominee (*i.e.*, the Nurse) all that is necessary is that the Nominor (*i.e.*, the Hospital's representative) write on the back thereof "All the interest in the within-written Policy is now vested in the Nominee." This endorsement must be signed and dated by the Nominor; and the Nominee must take care to have the Policy delivered to her, and to register the endorsement with the Fund.

Policies surrendered belong to Hospital Committee.

11. One of the conditions endorsed on the Hospital Policy is that in case a Nurse forfeits her right to the Policy it shall be surrendered to the Fund as Trustee, and all premiums which shall have been paid thereunder shall, with interest thereon from the date of deposit, be placed to the credit of the separate Trust Fund of the Hospital or Institution federating with the Fund, to accumulate at interest and to be disposed of by the Hospital or Institution in accordance with the following regulations of the Society governing such Trust Funds :—

(*a*) All moneys paid into the Fund by any Hospital or Institution, together with all interest thereon, are to be devoted for the sole benefit of the members of the paid staff of such Hospital or Institution as the Committee thereof shall by resolution from time to time determine.

(*b*) The benefits referred to in the foregoing rule are to be dispensed through the Fund in accordance with its objects as defined in the Memorandum of Association. These objects include Pensions, Sick Pay, Gratuities, and so forth.

Contributions by Nurse after leaving Hospital and before Assignment.

12. It is agreed that, should a Nurse contribute any premium on behalf of the Hospital Policy during the twelve months following her leaving the Hospital, and still not become entitled to the full benefit of the Hospital Policy, the Fund will hold such premiums at the Nurse's disposal, and will return them to her on demand.

Power to alter Amount of Contribution.

13. The Hospital reserves to itself power to alter the amount of its contributions, if it should be necessary to do so hereafter.

N.B.—It should be understood that not only Nurses but all other officials employed in the work of any Hospital or Institution are eligible to join the Royal National Pension Fund individually or on the principle of proportionate payment, and to share in the profit Bonuses, though not in the benefits of the Donation Bonus Fund.

Nurses may take out additional Policies on their own account for either Pension or Sick Pay at their option.

Probationers can enter on their own account, and when promoted to the staff are eligible to have a Policy taken for them as indicated in the above scheme of Federation.

It is hoped that the Hospital will encourage Probationers to enter; thus encouraging early thrift, and assuring the advantages offered by the Fund at a lower rate of premium.

B. ABSTRACT OF EXISTING SCHEMES OF FEDERATION.

Dreadnought Hospital:

The Hospital pays half the premium for a policy of £15 at age 60 if accepted by the nurse during her first 12 months: after 10 years' service, the Hospital pays the whole premium for £20 at age 60.

King's College Hospital:

Hospital takes out policy for £11 5s. 0d. at age 55 with R.N.P.F.N., or some Life Assurance office, for any certificated member of the nursing staff who does the same.

Paddington Green Children's Hospital:

The Hospital pays the premium for a policy of £11 5s. 0d. at age 50, for any sister or nurse, two years in the service of the Hospital, who takes another similar policy.

Royal Free Hospital:

The Hospital pays half the premium for a policy of £22 10s. 0d. at age 50, 55 or 60 for any certificated nurse in the service of the Hospital.

Queen Charlotte's Lying-in Hospital:

The Hospital takes out a policy for £11 5s. 0d. at age 50 or 55 for any matron, sister or staff nurse doing the same within six months of entering the service of the Hospital.

St. Mary's Hospital:

The Hospital takes out a policy for £11 5s. 0d. at age 50 on returnable scale for any sister or staff nurse doing the same. Probationer taking policy of £22 10s. 0d. will, on becoming staff nurse, receive back half the premium she has paid.

See also Guy's Hospital: Combined Hospital and Federation scheme; Appendix II. No. 3 (b).

APPENDIX IV.

SCHEDULE OF PENSIONS PAID AT THE LONDON VOLUNTARY HOSPITALS IN 1913, OF WHICH PARTICULARS HAVE BEEN SUPPLIED TO THE KING'S FUND.

I. Officers other than Nurses.

A. Hospitals with Schemes.

Rank.	Cause of Retirement.	Age at Retirement.	Years of Service.	Final Salary. £	s.	d.	Pension. £	s.	d.
Secretary	Age	65	45	750	0	0	550	0	0
Agent	,,	70	33	500	0	0	300	0	0
Dispenser	,,	60	34	300	0	0	150	0	0
Surgery Beadle	,,	—	30	280	0	0	140	0	0
Dispenser	,,	—	24	250	0	0	52	0	0
Surveyor	,,	66	33	210	0	0	170	0	0
Storekeeper	,,	—	32	169	0	0	104	0	0
Engineer	,,	61	41	152	1	8	92	6	0
Clerk and Enquiry Officer ...	,,	60	34	150	0	0	78	0	0
Museum Keeper	,,	78	56	150	0	0	100	0	0
Instrument Keeper	,,	65	36	150	0	0	82	0	0
Carpenter	,,	63	27	124	16	0	50	17	0
Porter	,,	65	44	121	10	0	67	12	0
Messenger	,,	60	40	119	4	0	81	18	0
Labourer	,,	69	20	119	0	0	39	13	0
Engineer	,,	65	32	118	6	0	59	12	6
,, ...	,,	72	44	114	8	0	75	8	0
Carpenter	,,	73	44	105	0	0	70	4	0
Labourer	,,	70	14	104	0	0	20	16	0
O.P. Porter	,,	57	40	101	0	0	52	0	0
Painter	,,	64	43	96	4	0	61	15	0
Matron Laundry Hostel ...	,,	55	25	95	0	0	43	6	8
Porter	,,	62	23	77	7	0	32	10	0
Head Laundress	,,	55	32	76	0	0	26	0	0
Liftman	,,	82	38	70	4	0	41	12	0
Labourer	,,	73	20	67	12	0	20	16	0
Assistant in Linen Room ...	,,	71	34	36	8	0	21	4	0
Scrubber	,,	65	40	28	12	0	13	0	0
Cleaner	,,	—	30	28	12	0	18	5	0
Scrubber	,,	—	—	28	12	0	18	5	0
,, ...	,,	—	21	26	0	0	7	16	0
,, ...	,,	67	32	26	0	0	13	0	0
Wardmaid	,,	—	40	26	0	0	18	4	0
Radiographer (lay)	Ill-health	40	24	260	0	0	250	0	0
Clerk (female)	,,	49	19	122	10	0	46	9	0
Gatekeeper	,,	62	39	103	12	0	66	14	8
Senior Stoker	,,	—	25	94	18	0	42	18	0
Caretaker, late O.P. Porter ...	,,	—	35	84	10	0	52	0	0
Dispensary Porter	,,	51	26	80	12	0	52	0	0
O.P. Porter	,,	—	28	72	16	0	36	8	0
Porter	,,	60	22	63	14	0	26	0	0
P.M. Porter	Injury	50	14	104	0	0	24	5	0

B. Hospitals without Schemes.

Rank.	Cause of Retirement.	Age at Retirement.	Years of Service.	Final Salary. £	s.	d.	Pension. £	s.	d.
Secretary	Age	66	41	400	0	0	200	0	0
,, ...	,,	65	31	350	0	0	180	0	0
,, ...	,,	67	25	275	0	0*	65	0	0*
,, ...	,,	70	37	250	0	0	100	0	0
Chaplain	,,	79	30	200	0	0	120	0	0
Chief Dispenser	,,	75	33	140	0	0	100	0	0
Chaplain	,,	80	45	50	0	0	30	0	0
Engineer	,,	65	28	156	0	0	52	0	0
House Steward	,,	66	19	130	0	0	40	0	0
Engineer	,,	67	21	105	0	0	52	0	0
Carpenter, &c.	,,	69	24	101	0	0	40	0	0
O.P. Porter	,,	66	36	79	6	0	30	0	0
,, ...	,,	62	29	79	0	0	46	16	0
Carpenter	,,	65	22	78	0	0	26	0	0
Ambulance Porter	,,	73	39	72	0	0	72	0	0

B. Hospitals without Schemes—*continued.*

Rank.	Cause of Retirement.	Age at Retirement.	Years of Service.	Final Salary.			Pension.		
				£	s.	d.	£	s.	d.
Secretary	Ill-health	59	30	600	0	0	300	0	0
„	„	60	30	400	0	0	75	0	0
Engineer	„	68	29	156	0	0	28	6	0
Assistant Dispenser	„	—	31	155	0	0	78	0	0
Engineer	„	65	30	135	0	0	90	0	0
Collector (female)	„	65	16	100	0	0	26	0	0
Curator's Assistant	„	67	20	98	16	0	52	0	0
Head Porter	„	65	40	98	6	0	85	16	0
Linen Keeper	„	60	26	95	0	0	20	0	0
Assistant Dispenser	„	50	27	92	10	0	35	0	0
Porter	„	56	31	90	0	0	39	0	0
Dispenser	„	55	30	78	0	0	55	0	0
Porter	„	69	16	62	8	0	32	10	0
Assistant Secretary	„	54	10	52	0	0	16	0	0
Secretary	Resignation	—	35	600	0	0	450	0	0
„	„	62	23	500	0	0	350	0	0
„	„	67	51	500	0	0	350	0	0
Dispenser	Reorganisation	50	22	180	0	0	100	0	0
Clerk (male)	Loss of memory &c.	63	18	100	0	0	26	0	0
Head Porter	—	63	36	83	4	0	31	4	0
Baths Attendant and Masseur	Reorganisation	66	28	83	4	0	39	0	0
Porter	—	57	43	78	0	0	52	0	0
Housekeeper	Deafness	65	20	75	0	0	15	0	0†
O.P. Attendant	Reorganisation	50	21	35	2	0	30	0	0
Charwoman	Unable to do work effectively	61	22	33	16	0	13	0	0
Bath Attendant (female) ...	Reorganisation	65	40	23	8	0	18	4	0

* Part time appointment. The sum of £65 is the annuity value of a grant in lieu of pension.
† Amount required to qualify for Almshouse.

II. Nursing Staffs.

A. Hospitals with Schemes.

Rank.	Cause of Retirement.	Age at Retirement.	Years of Service.	Final Salary, etc.*			Pension.		
				£	s.	d.	£	s.	d.
Matron	Age	55	25	300	0	0	150	0	0
„	„	64	25	250	0	0	150	0	0
„	„	over 60	20	150	0	0	80	0	0
Sister	„	48	18	120	0	0	70	0	0
Supt. of Night Nurses ...	„	56	17	120	0	0	40	0	0
O.P. Sister	„	46	22	110	0	0	60	0	0
Sister	„	56	20	104	0	0	54	0	0
„	„	55	24	100	0	0	40	0	0
„	„	52	23	100	0	0	41	5	0
„	„	61	37	95	0	0	60	0	0
Private Nurse	„	48	18	95	0	0	55	0	0
„	„	47	22	95	0	0	55	0	0
„	„	48	20	95	0	0	55	0	0
Sister	„	53	21	94	0	0	44	0	0
„	„	50	21	90	0	0	32	13	4
„	„	55	25	90	0	0	55	0	0
„	„	60	18	90	0	0	35	0	0
„	„	44	15	86	0	0	35	0	0
„	„	42	14	86	0	0	30	0	0
„	„	56	25	82	0	0	40	0	0
„	„	42	17	78	0	0	26	0	0
Night Nurse	„	59	25	74	0	0	30	0	0
Nurse	„	50	28	70	0	0	36	0	0
Night Nurse	„	56	19	70	0	0	26	0	0
„	„	60	26	68	0	0	21	4	0
Nurse	„	53	23	67	0	0	30	0	0
„	„	43	23	67	0	0	18	5	0
„	„	49	27	65	0	0	26	0	0
„	„	63	25	64	0	0	18	5	0
Matron	Ill-health	52	10	250	0	0	52	10	0
Sister	„	50	18	102	0	0	41	12	0
„	„	44	14	86	0	0	30	0	0

* Including emoluments taken at £50 for matron or sister, £40 for nurse.

B. Hospitals affiliated to Royal National Pension Fund for Nurses.

Rank.	Cause of Retirement.	Age of Retirement.	Years of Service.	Final Salary, etc.*			Pension.		
				£	s.	d.	£	s.	d.
Matron	Age	60	13	150	0	0	25	0	0
District Midwife	,,	65	24	145	0	0	18	4	0‖
Sister	,,	56	16	90	0	0	£160 grant ‖ †		
,, ...	,,	55	31	90	0	0	52	0	0
,, ...	,,	60	28	90	0	0	52	0	0
,, ...	,,	59	28	90	0	0	52	0	0
,, ...	,,	59	31	90	0	0	52	0	0
,, ...	,,	67	23	89	0	0	20	0	0
,, (Private)	,,	—	22	80	0	0	30	0	0
,, ...	,,	54	18	80	0	0	30	0	0
Nurse	,,	56	30	70	0	0	30	0	0
Matron	Ill-health	56	21	350	0	0	42	0	0‡
Sister	,,	—	24	90	0	0	55	0	0
Nurse	,,	51	20	70	0	0	20	0	0
,, ...	,,	60	22	70	0	0	20	0	0
Matron	Resignation	59	21	225	0	0	100	0	0
Sister	Retired	—	20	95	0	0	40	0	0
Head Sister	Age and re-organisation	54	20	90	0	0	30	0	0
Nurse	Retired	—	20	80	0	0	20	0	0
,, ...	,,	—	17	70	0	0	26	0	0
District Midwife	Re-organisation	60	23	70	0	0	30	0	0‖

† To complete purchase of annuity.
‡ Annuity value of grant of £600.
‖ Not included in averages in paragraph 76.

C. Hospitals without Schemes.

Rank.	Cause of Retirement.	Age of Retirement.	Years of Service.	Final Salary, etc.*			Pension.		
				£	s.	d.	£	s.	d.
Matron	Age	60	18	150	0	0	40	0	0
,, ...	,,	50	27	130	0	0	52	0	0
,, ...	,,	50	25	125	0	0	52	10	0
,, ...	,,	60	13	110	0	0	£50 grant ‖		
Sister	,,	63	31	90	0	0	50	0	0
,, ...	,,	59	29	90	0	0	45	0	0
,, ...	,,	63	26	86	0	0	13	0	0
Matron	Ill-health	52	17	250	0	0	50	0	0
,, ...	,,	51	14	200	0	0	100	0	0
,, ...	,,	45	10	150	0	0	30	0	0
Superintendent	,,	60	19	150	0	0	80	0	0
Matron	,,	52	25	125	0	0	52	0	0
,, ...	,,	55	19	120	0	0	50	0	0
,, ...	,,	52	23	100	0	0	25	0	0
,, ...	,,	62	28	100	0	0	25	0	0
Sister	,,	47	12	90	0	0	20	0	0
District Midwife	,,	56	25	50	0	0	12	0	0‖

* Including emoluments taken at £50 for matron or sister, £40 for nurse.
‖ Not included in averages in paragraph 76.

APPENDIX V.

SCHEME OF PENSIONS FOR HOSPITAL OFFICERS.

PREPARED BY THE LATE MR. H. W. MANLY, F.I.A., FOR THE HOSPITAL OFFICERS' ASSOCIATION.

Proposed Associated Hospitals (Officers') Superannuation Fund.

Some time ago I made a Report on suggestions for the establishment of a Hospitals Superannuation Fund, the features selected being :—

(1) That all the Hospitals should join and form an Associated Hospitals' Superannuation Fund;

(2) That the first members should be those persons now in the service of the Associated Hospitals, and that all persons entering the service of the Hospitals thereafter shall be members;

(3) That the pensions of the Officers shall be 1/60th of their average salary during membership for every year of membership not exceeding 40;

(4) That no superannuation be granted for less than 10 years' membership;

(5) That no superannuation be granted before a member attains the full age of 60, unless incapacitated by accident or bodily or mental infirmity not caused by hi own fault;

(6) That the Hospitals contribute a percentage of the salaries of all their Officers who become members according to scale;

(7) That an Officer transferring his services from one Hospital to another shall be a continuing member;

(8) That separate Funds be created for Nurses and Female Servants.

I designed a card on which information relating to every member of the staff of the contributing Hospitals was to be supplied. When all the cards were returned they were sorted into various classes, of which the following is a summary:—

	FEMALES.		MALES.
Number of cards received ...	961		334
Nurses	560	Medical Staff	57
Female Servants ...	301	Clerical Staff (including females)	84
		Male Servants	159
Pensioners	10	... ...	11
Sundries	17	... ...	29
Deficient information ...	55	... ...	12
	943		352

18 Females included in clerical staff.

The cards in each class were sorted into ages at entrance, present ages and salaries, and also into years of service. Unfortunately, the information in each class, when separated, was not sufficient to form the basis of an actuarial investigation, and scarcely afforded an indication of what the experience might be.

The following remarks will give some idea of the cost of superannuation for the various classes:—

NURSES:

560 cases. About 130 enter every year; average service, 4 1/3 years. Ages at entrance, from 17 to 40; average age at entrance, about 24. Out of 560 cases, only 9 have served for 20 years and over.

To provide a pension of £30 a year to those who attain the age of 55, conditionally on their having served for 20 years and over, would cost about 6d. per Nurse per month.

FEMALE SERVANTS:

301 cases. About 75 enter every year; average length of service, 4 years. Ages at entrance, from 13 to 57; average age at entrance, 21.

To provide a pension of 10s. a week to those who have served 20 years and attained the age of 55, would cost about 5d. per servant per month.

In the cases of Nurses and Female servants, I think the contributions should be carried to separate funds. The annuities to be granted should not exceed the annual income, and the eldest should be retired first. It is estimated that the income of the year will just meet the annuities payable in the year when the Fund settles down to a normal condition. When that time arrives, say, 10 years hence, the contributions can be adjusted to the actual experience.

MALE SERVANTS:

159 cases. Ages at entry range from 13 to 64. Average age at entry, about 28. Average present age, about 37. Wages from £30 to £130 a year. Average wage, £78 a year, or 30/- a week.

These are permanent members of the staff and should come under the general scheme.

SPECIMENS OF RATES OF CONTRIBUTION TO BE PAID ON WAGES OF MALE SERVANTS, ACCORDING TO AGE AT ENTRY TO FUND.

Age at entry to Fund.	Contributions as percentage of wages.	Single payment down to provide for back service.
		One per cent. of total past wages multiplied by
20	$4\frac{1}{4}$	$1\frac{1}{6}$
30	$5\frac{1}{2}$	$2\frac{1}{3}$
40	$7\frac{1}{2}$	$4\frac{3}{4}$
50	10	8

MEDICAL OFFICERS:

23 cases. Present ages, 21 to 51; average age, 30. Salaries, £30 to £400, average, £113.

DISPENSERS, MALE AND FEMALE:

30 cases. Present ages, 22 to 65; average, 37. Average age at entry, about 31, Average salary, £127.

CHAPLAINS:

4 cases. Average age, 55. Salaries, £25 to £200. Average, £100.

CLERICAL STAFF:

84 cases. Ages at entry, 14 to 54; average, 23. Present ages, 16 to 72; average, 37. Salaries, £26 to £525. Average, £182.

All these might be put into one general fund for Officers.

SPECIMENS OF RATES OF CONTRIBUTION TO BE PAID ON SALARIES OF OFFICERS, ACCORDING TO AGE AT ENTRY TO FUND.

Age at entry to Fund.	Contribution as percentage of salary.	Single payment down to provide for back service. One per cent. of total past salary multiplied by
20	5½	1½
30	7	3¼
40	9¼	5⅔
50	11½	9

All the rates have been based on the assumption that the funds can be invested to produce 3½ per cent. interest net, after deduction of income tax.

The above figures will afford a general idea of the contributions required; but if the funds do not earn 3½ per cent. net, the rates will be higher.

I am unable to make any estimate of the amount to be paid to date back the pensions to entry to service. It will be a large amount—probably £8,000 to £10,000.*

(Signed) H. W. MANLY,
Actuary.

157, Highbury New Park,
London, N.
14*th October*, 1913.

*NOTE.—This estimate was evidently based on the 1,295 cases of which particulars had been submitted to Mr. Manly. The cost for the whole staffs of the London Hospitals (8,797 in number including nurses in 1913) would be much larger.

APPENDIX VI.

EXTRACT FROM THE EVIDENCE OF MR. GEORGE KING, F.I.A., SUBMITTED TO LORD SOUTHWARK'S COMMITTEE ON RAILWAY SUPERANNUATION FUNDS, TUESDAY, 29TH JUNE, 1909.

(*Cd.* 5484, *p.* 162.)

4446. (*Chairman.*) I believe you are a Fellow of the Institute of Actuaries, and a Fellow of the Faculty of Actuaries?—I am.

4447. You have filled many official positions, have you not?—I have been twice Vice-President of the Institute of Actuaries, and I have been actuary for two of the great insurance companies.

4448. Would you like to give the names of those companies?—The Atlas and the London Assurance Corporation. I am now a consulting actuary purely. I am consulting actuary also to a great many insurance companies, home and colonial and foreign, and I have a great deal to do especially with railway pension funds as consulting actuary to the railways.

4449. Have you had great experience in connection with pension funds generally?—Yes, of all kinds.

4450. Would you describe to us under different headings the sort of funds with which you have been associated?—I group them broadly into five classes.

4451. Please state what those five classes are?—One is the Provident Fund, which is a kind of savings bank only; then there is the Fixed Pension Fund, where the actual fixed pension is like purchasing an annuity, the annuity deferred; then there is a Definite Pension Fund. That is where the pensions depend more or less upon salary, but it is the salary at the time that it is being drawn that fixes the pension. The deductions from salary are set up to purchase definite annuities. Then there are the two that are more intimately connected—the Superannuation Fund where the pension depends upon the salary at or about the time the member is placed on pension, and the other where it depends on the average salary throughout the whole duration of the service.

4452. I think the Committee would like you now to deal with these Funds under their separate headings at some length?—

A. *Provident Fund.*—Under this plan the contributions, whether paid by the member or the employer, are accumulated at interest to the credit of the individual member, and are available at any time for his benefit. They may be paid out to him in cash, or be applied to the purchase of an annuity, or used in any other way. The plan is merely a savings bank arrangement. This, I believe, is the plan followed in Canada for the Government employees, and the Government does not make any contribution. Under these circumstances the plan is quite stable and there are no fluctuations; and it is equitable, each employee receiving with interest exactly the equivalent of what he has paid in; but it does not operate in any sense of the words as a Superannuation Fund for a mixed staff. The plan was recently recommended by myself in a case which was rather special, where it would work equitably, and possess elasticity. But in that case the salaries vary only very little, and the annual contribution is uniform for each member. The annuity which can be secured at the retiring age of 60 therefore bears practically a direct proportion to the terminal salary, depending only on duration of service, which also is nearly uniform, about 35 years, and on the rate of interest. The number of members was too small to supply the averages which would support annuities; and, therefore, in those cases where pensions would be granted, the accumulated capital would be employed to purchase annuities from a company. This plan is discussed in some detail in the Report of the Commission on the Central South African Railways, of which a copy has been handed to the Committee, and to which special attention is called; and the Commissioners ruled it out as unsuited to a railway staff. In a railway service the employees submit to a percentage deduction from salary, and usually the company pays into the Fund an amount equal to the aggregate of these deductions, and also guarantees a good rate of interest, say 4 per cent., on the accumulations of the Fund. The contributions of the employees are returnable under almost every conceivable circumstance, but the contributions of the company are not returnable, unless perhaps by doubling the return of the members' contributions on death before superannuation, and those corresponding to the contributions of an employee who secedes remain in the Fund to increase the sum available for those members who continue until the normal age of retirement. Thus, in the case of a Provident Fund, a very uncertain bonus element is introduced; and, to maintain uniformity of benefits from period to period, actuarial investigations are necessary, and rates of withdrawal, etc., have to be taken into account. Therefore the various disturbing factors which are found in ordinary Superannuation Funds appear unavoidably in a Provident Fund. As an example of a Fund of this class that of the Great Northern Railway, Class II., Gross Payment Division, may be cited. But the main objection to the Provident Fund plan is that, unless the circumstances be very special, it ignores entirely the objects which induce the company to subsidise the Fund. As actuarial adviser to the Commission on the Central South African Railways, I had correspondence on this point with the Secretary, which is summarised in the Report of the Commission, and which may therefore without impropriety be made use of on the present occasion. The figures are taken from the tables prepared for the Central South African Railways, which are identical in principle with, and similar in actual values to, those of many of the Railway Superannuation Funds of the United Kingdom. An employee of the Railway Administration, who took exception to the scheme of basing pensions on average salaries, and advocated the Provident Fund method, put forward the imaginary case of John Hart, entering at age 20 at a salary of £200, and remaining at the same salary until retirement at age 60, and in doing so he said that "the object of the Railway Administration in paying £ for £ on John Hart's contributions is to provide him with sufficient to maintain himself when he reaches the prescribed age for retirement." The contributions are 3 per cent. by the member, and 3 per cent. by the Administration, and these, without bonus, would amount to £1,174 at age 60, or sufficient to provide a pension of about £113. The objector did not attempt to measure the bonus, but by examining the scales of pension on the terminal and the average salary plans, it has been calculated very roughly that in such a case as that of John Hart the Provident Fund might yield a pension of about £180 including bonus. Now, on the terminal salary basis, the pension would be £133 6s. 8d., or on the average salary basis it would be £160; so that John Hart would be better off with the Provident Fund than with an ordinary Superannuation Fund. But John Hart must have been a very indifferent servant to remain at his minimum salary all his life, and, so long as he has enough, he is not one of those to be encouraged by a large pension. The interests of the service and of the public must be considered. Suppose another case, that of William Smart, who is a man of quite different calibre. Let him, like John Hart, enter at age 20 at a salary of £200 per annum. At age 30 let him receive substantial promotion, and take a salary of £500, and let us suppose that at age 40 he has done so well that he is again promoted to a high post, and receives a salary of £1,000, and that at age 45 he reaches the highest grade in the service and draws a salary of £2,000 per annum for the remaining 15 years of his service, and that at age 60 he retires on pension. Now, when the figures are worked out on the same lines as above, his pension on retiring under the Provident Fund plan would be only £419 without the bonus, or roughly, with the bonus, about £585, and this would be quite inadequate for a man who had attained such high position, and the Railway Administration would be urged from many sides to come to his assistance with a supplementary pension, and could scarcely avoid doing so, because, after all, the salary of £2,000 had not been drawn for a long enough period to enable William Smart to make sufficient savings. Yet the Administration had throughout paid 3 per cent. on the emoluments of all the staff, and guaranteed a high rate of interest on the accumulations of the Fund, in order that each might be secure of an income *adequate to his position* should he be obliged to retire. On the Superannuation Fund plan William Smart's pension would be £1,333 6s. 8d. if based on terminal emoluments, or £840 if based on average emoluments, and a pension of £840 is surely the smallest that such a man should receive. By adopting the average instead of the terminal emoluments scale, it is seen that the most efficient officers are even treated rather shabbily as compared with the others. It is clear that from the point of view of the service, and it may be added of the public, the Provident Fund plan is unworkable. With such a man as William Smart, either the Railway Administration would be constrained to keep him in the service when perhaps his health was such as to unfit him for duty, and they would have to pay someone else to do his work; or they would be obliged to retire him on a small pension and supplement it from other sources; or they would be obliged to retire him on the small pension without supplementing it, and leave a valued officer in comparative penury in his old age. A man of that calibre could do much better for himself in other walks of life, and with such a poor prospect before him he would leave the service in the early years on realising his own powers, and the service and the public would suffer.

The Provident Fund plan also deals very hardly with those officers whose health breaks down in middle life, but that phase of the question need not be illustrated by figures. The supporters of the Provident Fund plan, and also those who advocate the systems included in the Definite Pensions class, base their arguments on the assumption that the company's contributions are to be earmarked for individual officers, and allotted to them in proportion to their own personal payments, and they speak of injustice if any other course be followed. But the assumption involves a fallacy, and, so long as every contributor receives at least full value for his own payments, and receives a pension adequate to the needs of his position in life, no injustice is committed if the company's contributions are pooled and applied in such way as will promote efficiency and comfort in the service as a whole. This point cannot be more forcibly stated than in the Report of the Commission on Central South African Railways, from which a quotation may be permitted. It will be remembered that these railways are national property, and are controlled by a Government Department called the Railway Administration:—

"The critic must take due account of two factors, the interests of the " Administration and the interests of the members of the Fund. These interests are " largely but not wholly identical. For while both Administration and members " desire that the latter should obtain the greatest possible benefits, the Administration " must also see that the Fund is capable of fulfilling its object, and that no further " unforeseen liability will fall upon the Government. No solution can be satisfactory " which, besides enabling the employer to retain able and trustworthy servants, does " not also protect him from appeals for compassionate allowances, and enable him to " get rid of employees who have become unfit to continue in service . . . The " first essential is to gain a clear conception of the Administration's object in " undertaking the heavy expenses which a co-operative Pension or Provident Fund " involves. Its purpose is to keep the whole service in an efficient state, and with " that aim to be free to place on the retired list those officers, high or low, who are " from any cause unfit for duty, without being embarrassed by further claims upon its " purse. If it is to do this it must be able to grant its servants on retirement " (whether owing to ill-health, old age, or any other cause) the pension or gratuity " which seems reasonable in the particular circumstances. Now it may be that " either scheme will fulfil these requirements, and this question will be the next one " to be examined. But the immediate conclusion which the Commission draw is one " of principle. The ultimate object being not to reward the thrift of individual " members, but to provide for the service as a whole, there is no justification for the " popular view that each contributor has an inherent right personally to derive from " the Administration a contribution equal to the amount which he has contributed. " For reasons of tradition and convenience the Administration may agree that its " subvention to the Fund should equal the total amount contributed by the members. " But it intends its subvention not as a present to individuals in proportion to their " payments, but as a general reservoir, to be drawn upon for the purpose of equitably " meeting the varying needs of its servants which arise out of the changes and chances " of life."

B. *Fixed Pensions Fund.*—This class of Funds operates simply by granting a deferred annuity of amount fixed beforehand, in consideration of certain contributions, and it may be arranged either that the annuity shall be entered upon at a fixed pension age, or that it shall be entered upon at that age or at an earlier age in the event of complete breakdown in health. The conditions as regards the annuity may be varied by causing the amount to depend to a certain extent on duration of service, but the actual annuities are fixed. We may thus, for instance, have an annuity of 10s. per week on retirement after 15 years' service, or 15s. per week after 25 years' service and 20s. per week after 35 years' service. The contributions as a rule with this class of Funds are also fixed, being at the rate of so many pence per week, and in some cases where the members contribute and the employers do not, the contributions are returnable on death before pension, or on withdrawal; while in other cases they are not returnable. Mention may be made of two Railway Funds, in which I have been concerned. The North Eastern Railway Servants' Pension Fund is an example of this class, with contributions by the members and by the company, the members' contributions being returnable under some circumstances with interest; while the Great Northern Railway Superannuation Fund, Class II., Pension Division, grants pensions of this kind, the company itself paying penny per penny towards pension in the way of contribution, and the contributions of the member and of the company are paid over without interest in the event of death before pension, while the members' contributions only are returned in the event of withdrawal before pension, and in neither event is interest allowed. Two large private firms, Messrs. Rowntree of York, and Messrs. Heathcoat of Tiverton, have recently with my actuarial assistance inaugurated Pension Funds for their employees, and with their kind permission I submit to the Committee copies of the regulations. Both these firms have exercised exceptional generosity in the amount of the subventions they grant. Messrs. Rowntree's fund is guaranteed by their subventions, which may vary from quinquennium to quinquennium on the certificate of the actuary, and which in certain eventualities, and on actuarial certificate, may be returned to the firm. The contributions of the employee are returnable with 2½ per cent. compound interest on withdrawal or dismissal from the service from any cause or on death before becoming entitled to a pension. In the case of Messrs. Heathcoat, the firm provided "service money" to supplement the pensions of those who were in their employment when the fund was started, and in addition they contribute up to certain limits penny for penny of the contributions of the employees. The contributions of the members with 2½ per cent. compound interest are returnable on withdrawal or on death before attaining pensionable age, but the contributions of the firm are not returnable under any conditions whatever. Now and then it happens with these Fixed Pension Funds that the contributions are calculated as a percentage of salary, but that does not seem to me a good plan, as it introduces uncertainty, and will tend to produce discontent, because if members rise to high position they will be called upon for heavy contributions out of all proportion to the fixed annuity to which they will be entitled. This class of funds seems to be confined, for the most part, to wage-earning employees, and it need not be discussed further here.

C. *Definite Pensions, or "Money Value," Fund.*—This is a kind of Fund which has been strongly supported by previous witnesses who have appeared before the Committee. Under this plan pensions, the amount of which is known in advance, and which are therefore called "definite pensions," are secured by the contributions, and the contributions may be treated either as annual premiums for a deferred annuity, or as a series of single premiums each to purchase a paid-up deferred annuity. The pensions are usually secured by contributions which are a percentage of salary, and the employer frequently contributes £ for £ of the members' payments. When the contributions are treated as annual premiums, a definite pension is set up when a member first joins the Fund for such amount as the deduction from his initial salary will purchase as an annual premium, assuming for the moment that the employer does not contribute. Thus, if the initial salary be £50 per annum, and the entry age be 20, and if the employee's contribution be 2½ per cent., it is at once ascertained from a previously prepared table, possibly based upon the statistics of the Fund, what deferred annuity will be provided by an annual premium of £1 5s. commencing at age 20. Five years later the employee's salary is raised, let us say, to £75 per annum, and the table again shows what additional deferred annuity will be provided by an annual premium of 12s. 6d. commencing at age 25, and similarly for any further increases or, let it be added, diminutions in salary, the diminutions merely providing a deferred annuity of negative amount which is deducted from the annuities previously set up. Thus the exact annuity already provided is known in advance, and the only uncertainty depends on the future increases of salary, so long as the prepared table remains applicable. In some cases the contributions are treated as single premiums, and those arising from each year of service are treated as a single premium at the then age to purchase a paid-up deferred annuity. There is no difference in actuarial principle between the annual and the single premium arrangements, but in practice under the annual premium arrangement the deferred annuities set up are larger to commence with and increase more slowly, the increases arising merely from increments in salary; while under the single premium arrangement each year shows its own small increment to the prospective pension, but anyone, from the prepared table, can calculate in advance, always assuming a certain salary scale, the annuity which will be provided after any given number of years' service. This class of pension fund is held by some to be more stable than those where pensions are calculated upon salary, but that is not necessarily so. In any case, a rate of mortality has to be assumed and involved in the prepared table, and the actual mortality may differ materially from the assumed rate. Also, unless the employer does not contribute, and unless the whole of the members' contributions with compound interest at the rate realised on the funds be returned on death or withdrawal before pension, the element of withdrawal must be included by the actuary in calculating the table, and that is an element which is difficult to forecast, and which may differ much from the estimates. Moreover, if the employers contribute, and if their contributions are not returnable, which is the usual stipulation, then a different prepared table must be used for the employers' contributions, and the effects of the rates of mortality and withdrawal are much accentuated, and the Definite Pensions plan becomes nearly as unstable as any other. Under the Definite Pensions plan the pensions may be merely deferred annuities commencing at a fixed age, and in such case if the health of a member break down, and if it be decided in consequence to pension him, a special actuarial calculation has to be made for this particular case, and, similarly, if his service be prolonged beyond the fixed annuity age, again the amount of the pension that will be payable to him must be specially adjusted by an actuarial calculation. Here, therefore, there is another element of uncertainty. But some Funds of this kind that I have known provide at the outset for early pensions in the case of breakdown in health, and under such an arrangement there are the further disturbing elements of the rate of retirement through ill-health, and of the rate of mortality amongst early pensioners. It will, therefore, be seen that the class of funds included under heading C may be just as uncertain in their operation as those classes wherein the pensions are calculated upon salary, and only where the system is so rigid as to be practically unsuited to the requirements of a general staff is there any approach to certainty. A few words must be said regarding the application of Class C to a railway staff. In this respect it operates in a way very similar to Class A, Provident Fund, and in fact the two classes have much in common. In the Provident Fund the contributions are merely accumulated and dealt with in the way provided for in the rules when the event for which they are paid arises; while in Class C, Definite Pensions Fund, they are also virtually accumulated to the credit of each member, but at the outset the annuities, etc., are determined. If the forecasts of the actuaries in Class C should be exactly realised, then Classes A and C would produce identical results, and the results will differ in practice only in so far as the actual experience differs from the forecasts. Therefore, if we take for the Definite Pensions Fund examples such as John Hart and William Smart, they will work out very nearly as they do in the case of the Provident Fund, and all the objections from the railway administration point of view that exist against the Provident Fund also exist against the Definite Pensions Fund. Formerly the Fund of the London and South Western Railway was of the Definite Pensions Fund class, and it had to be reorganised for the reasons given above, which tell against the Provident Fund. The objections so clearly and forcibly set forth by the Commission on the Central South African Railways were found to exist and to render the Fund unworkable.

D. *Superannuation Fund: Pensions Based on Terminal Emoluments.*—Pensions in this class are based upon the salary being drawn at or about the time of retirement, and thus the employee's income after superannuation bears some direct proportion to the income he was receiving just before he ceased active work. Sometimes the salary actually being drawn at the time of retirement is that taken for the calculation of the amount of pension, but more generally the average salary of the last three, five, or seven years is that assumed. The reason for taking the average over a period is that the amount of pension may not be unduly increased by an increase in the salary made just before retirement, the increase of salary having been granted perhaps with the direct object of increasing the pension. Some directors are possessed of the idea that Pension Funds are wealthy institutions which can well bear such a charge, and they think that it is kind to the official and that they are performing a good act if they give an increase of salary which is to be drawn only for a short time, and which will therefore increase the working expenses only to an inappreciable extent, if by doing so they give greater comfort to him, who through long official intercourse has become, perhaps, their friend in his old age. By taking an average salary of even only three years, this drain on the Fund is avoided, and therefore it is very usual now to take such an average. In some of the departments of the Civil Service the pension is based on the salary actually being drawn at the moment of retirement, while in others a certain average is struck. The technical term "terminal salary" is used in this connection, whether it be the actual salary current at the moment of retirement or an average calculated over a few years.

The pension may be a uniform percentage of the terminal salary for each year of service, or there may be an irregular scale showing what proportion of salary will be taken on retirement after any given number of years' service.

The great advantage of the plan of basing pensions on terminal salaries is that it gives a free hand to the railway administration, and every servant, high or low, receives a pension directly related to his income at the time he is retired.

Theoretically, therefore, from the point of view of the administration, this plan is the best, and if the actuarial estimates be based on statistics that are really applicable to the particular Fund it may work very well. There is, however, the drawback from the practical point of view that those officials who receive substantial promotion comparatively late in life take a large share of the moneys subscribed by the railway administration and leave a comparatively small share to those whose salaries remain constant, or nearly so, during their entire service. For this reason discontent is apt to arise, and the lower grade officials allege that they are unfairly treated. From what has already been said, these have no real ground for such complaint, but it is difficult to convince them of this, and therefore the plan of basing pensions on terminal salaries is falling into disuse.

Also, if the actual experience should vary to any great extent from that on which the estimates were based, the effects of the departure are accentuated, and especially any changes in the relative rates of pay of the officials of different grades may have the effect of causing appreciable disturbances in the finances of the Fund.

Another objection to the terminal salary plan is that any decrease in salary in the later years of service has a serious effect upon the amount of pension. It not infrequently happens that a man may become unfit for the post that he has been occupying, but that he may be quite equal to some other kind of work, which, however, would involve a lower rate of pay; and it may be kind to him to transfer him even at a reduction of salary but the employers are reluctant to take this step on account of the reduction that will thereby take place in the pension, and they are placed in a dilemma. This difficulty, however, can be easily overcome by arranging that the contributions to the Fund shall continue at the old rate and that the pension shall be calculated on the salary enjoyed previous to the reduction. The employers might even be willing themselves to pay the difference in the contributions between the old rate and the new, because thereby the actual reduction in salary would be only a trifle less than the nominal reduction, and the Fund would not be prejudiced in any way.

It is found that, up to a certain point, with increasing age at entry the percentage of contribution on salary necessary to secure pensions of this kind increases. In former days effect was not given to this consideration, and in respect of all entrants the contributions were taken as a uniform percentage of salary. That arrangement, however, was found to work inequitably, and it is usual now to have a scale of contributions calculated as a percentage of salary, that percentage increasing as the age at entry advances. After a certain point the necessity for still further increasing the percentage of contribution ceases, and it is quite safe to admit all of, say, 45 and over at the same percentage.

In preparing the scheme for the Central South African Railways a different method was followed. There it was found convenient to have a uniform percentage of contribution for all entrants, and, therefore, instead of having an increased percentage of contribution, there has been adopted a decreasing percentage of pension. For instance, for officers aged

20 or under the percentage on the terminal salary plan is 1·67 per cent. of salary for each year of service, whereas at age 30 it is 1·39 per cent., and at age 45 and over 1·09 per cent. An officer, however, who enters comparatively late in life at probably a substantial salary may not be content with the small pension that this plan produces and may be prepared to pay a higher percentage of contribution in order to provide for greater comfort after retirement. Therefore a system of supplementary pensions was introduced. so that officers might voluntarily pay a higher percentage on their salaries to secure larger pensions, and thus in a very convenient way it was arranged that there should be compulsory uniform contributions with optional increased contributions.

E. *Superannuation Fund : Pensions based on Average Emoluments.*—In practice this plan partakes more or less of the nature of a compromise between the Definite Pensions Fund and the Superannuation Fund with Pensions based upon terminal emoluments, but theoretically it does not differ much from Class D. In Class D pensions are based upon the average salary of, say, the last seven years of service, whereas in Class E they are based on the average salary during the whole period of service. Were salaries to remain constant throughout life, these two plans would give identical results, and it is only officers whose salaries have been substantially increased in the later years of service who fare appreciably worse under the average salary plan as compared with the terminal. Both plans were submitted to the Central South African Railways Administration with complete tables for each, and although to begin with the terminal salary plan was preferred, yet in the end it was the average salary plan which was adopted. Under the average salary plan the fluctuations caused by changing conditions are less marked than where terminal salaries are assumed in the calculations, and, therefore, more particularly when a fund is being established under conditions which are to a great extent unknown, the average salary plan is the safer.

Here also contributions have to be graduated according to age at entry, the higher ages up to a certain point requiring a higher percentage of salary to secure the same percentage of pension.

It may, however, with the average salary plan be conveniently arranged, just as in Class D, to maintain the percentage of contributions uniform for all ages at entry, and to give reduced percentages of pension as the age at entry increases; and to enable officers to secure sufficient provision for their old age it may also be very convenient to introduce the system of optional additional contributions for supplementary pensions. This plan was adopted for the Central South African Railways.

In establishing a superannuation fund it is well so to plan it that the periodical valuations may be made easily, and, therefore, cheaply. If the percentage of pension varies according to duration of membership, the same scale of percentages being applicable to all ages at entry, in order to insure accuracy in the valuations it is necessary to treat the entrants at each age separately, but even then troublesome and lengthy calculations are unavoidable; whereas, if the progression of the pensions be kept uniform for each age at entry the valuations are very much more simple, although the different entry ages would have to be distinguished. This point was kept in mind in preparing the scheme for the Central South African Railways, and I hope that experience will show that it will work very well.

There have been agitations in this country to introduce into some of the railway superannuation funds a rule under which officers with large salaries should pay a higher percentage of contribution than the others. For instance, if a man were to enter at age 20 at a commencing salary of £50 per annum, and if at age 30 he were to be promoted and his salary were to be increased to £500, the proposal is that, as from age 30, the percentage charged on his salary should be greater, and so on for other increases of salary on further promotion. I cannot myself see any sufficient reason for introducing such a plan, and I think that the agitation arises altogether from the misconceptions which have already been discussed. If the contributions of the company be pooled, and applied for the benefit of the service as a whole, there is no reason why the higher salaries should be surcharged. There is really nothing unfair in calling upon everyone to pay the same percentage according to his original age at entry. To introduce the system of surcharge would cause great complication in the actuarial arrangements, and so far I have not been able to devise any method by which the actuarial valuations could be effected. This is a serious objection, because it is very important that superannuation funds should be kept under strict actuarial supervision.

4453. During this inquiry the fallibility of actuaries has been referred to, and perhaps you would like to say a few words upon that point. One witness quoted a statement as follows:—"We have had experience in several instances in recent years of the liability of actuaries in common with the rest of us to error, and that does not encourage us as regards the future to repose implicit faith in their prophetic valuations. I confess that I do not see for myself how complete solvency, as demanded by the actuaries under their system of valuation, can ever afford to contributing members that peace and security, coupled with adequate prospective pensions, which I desire, except at a cost to the companies so excessive that they will shrink from undertaking such a burden." The name of the witness was Mr. Walkden, and I asked him where the report appeared; he said it was a report of a speech by Lord Claud Hamilton on actuaries. I said that no doubt the actuaries would want to say something upon that. I believe you would like to say something in connection with that criticism?—Frankly, I agree that actuaries cannot possibly predict the future with strict accuracy. There are very many variable elements that have to be taken into account, and there must, therefore, be elasticity to keep the Fund solvent, and frequent actuarial valuations, so that any changes that take place may be dealt with in time in order that there may be no necessity for very violent measures to put matters right. A very striking example, however, can be brought forward to show how even the most cautious forecasts of actuaries may fail to give stability and certainty to a Fund, and that where even extreme rigidity is instituted at the outset there may be fluctuations in the working of such a Fund. Here I would put in the valuation report of the Elementary School Teachers' Deferred Annuity Fund. (*Handing in same.*)* That Fund was established under the Elementary School Teachers' Superannuation Act, 1898, for the benefit of the teachers—male and female—in the elementary schools in England and Scotland. Each male teacher is under compulsion to contribute £3 each year to the Fund, the female teachers contributing less. The figures may be altered from time to time by special orders, according to the salaries being paid to the teachers in the aggregate; still, they are always a fixed and certain amount when they have been settled. These contributions are treated as single premiums to purchase deferred annuities to commence at exact age 65, and the contributions are not returnable under any circumstances, the annuities remaining to the credit of the teachers, even if they withdraw from the service. Thus it appears that the only uncertain elements in these Funds are those of mortality and interest. A table of deferred annuities was prepared under the Act jointly by the late Mr. A. J. Finlaison and the late Mr. W. Sutton, both Government actuaries, and they based their calculations on the Government Annuitants, 1883, experience, at a rate of interest which is not known, but which was very low, being less than 2½ per cent. The table shows at each age what deferred annuity commencing at age 65 will be purchased for these single payments, and a copy is now submitted. It would have been thought that the basis adopted by these eminent actuaries was a thoroughly safe one, and in fact there had been agitation among the teachers, who alleged that the annuities secured were too small, and that the Fund could afford more; that the rate of mortality amongst teachers was higher than that amongst the Government annuitants, and that, therefore, it was not fair to employ that table for the teachers. The Treasury did me the honour to entrust to me the first septennial valuation; the rate of mortality which had prevailed was investigated, and it was found that that rate was so low that the calculations of the actuaries were altogether stultified, and that there was a large deficiency in each of the Funds—that for the males and that for the females. It thus appears that even in the case of a Fund so carefully prepared, and established on what at the outset had every appearance of excessive safety, there may be great surprises, and that the best knowledge and skill may fail to forecast the future.

* This report was published as House of Commons Paper No. 11 of 1908.

APPENDIX VII.

EXTRACTS FROM SPEECH BY MR. CARSON ROBERTS AT THE INSTITUTE OF ACTUARIES ON THE METROPOLITAN BOROUGH SUPERANNUATION SCHEMES.

(29th April, 1912.)

Mr. Carson Roberts said that pension legislation presented a series of four phases. In the first phase the Local Authorities were without statutory power to grant pensions at all and those who voted pensions, even in most deserving cases, were apt to get into trouble.

In the second phase they had voluntary powers—the system being still non-contributory and of course upon an "assessment" basis. A good example was to be found in the Metropolitan Act of 1866. These conditions were still largely extant, but they had not given satisfaction; for they left the officer entirely in the hands of those who happened to be his employers at the date when he had to give up his work—*i.e.*, of men who had probably not known him when he was giving his most useful service.

The third phase was contributory and obligatory, but still on the assessment basis. *Strange to say it had been entirely on the initiative of the officers that this contributory system had grown up.* One reason for this was that men were willing to pay in order to have a claim to that which they would probably obtain in like measure as an act of grace, but subject to the vote of a body corporate, the *personnel* of which was continually changing. Another reason was that there was no such thing as a non-contributory system. This thesis had received strong confirmation from the report of the Royal Commission on Civil Service Pensions, in which it was granted that the statutory pension was deferred pay.

As samples of this third phase they might take the Acts applicable to Poor Law Officers and Asylum employees, and some of the earlier local Acts of the municipalities. The combination of the contributory with the assessment principle, which characterized this phase of legislation, had a striking result which could hardly commend itself to the members of this Institute. Where a pension system was established on this basis, no capitalisation of any sort took place. In the early years, when contributions exceeded claims, these surplus contributions were not carried to a separate fund, but were spent upon other purposes, such as relief of the poor and mending of roads, so that the assumption of a new and heavy liability had in some cases actually resulted in a temporary reduction of rates—a proof, if proof were needed, that the "assessment" system was not the correct principle to follow in the case of any pension fund.

It was in the last decade that they had seen the fourth phase reached and sounder financial principles gaining ground. The history of the introduction of the principle of capitalization was an interesting one. It was with it and with its results that the valuable paper which they had heard that day was concerned.

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He claimed that the Stepney and Bethnal Green Acts marked the first effort at instituting accumulating funds, and that they honestly aimed at capitalization and not at assessment. To his mind, Section 15 of the Kensington Act of 1905 was the real landmark in this legislation. This section required an actuarial investigation at stated periods and a certificate to fix the annual rate contribution in such manner that the fund "shall be solvent." He had no intention of reviving the arguments over the meaning of these words "shall be solvent." It was with the resultant position that they were concerned. In two of the seven cases to which this clause applied it had been taken to require continuous solvency, in the other five it was at present taken to require that the income should meet the outgo for the succeeding five years.

He thought that the mind responsible for introducing this first actuarial clause intended it to apply to permanent solvency and equal charge, whether the words definitely conveyed that meaning or not. They had the opinion of an eminent counsel that they did not; they had the opinion of the Local Government Board, as quoted in the Appendix to the paper, that they did. Fortunately, they now knew that Parliament would take care in future to make its meaning clear by adopting the Kensington clause in the form to which it had been amplified by the Institute of Actuaries—a form under which the great principle of capitalization was established beyond any doubt. He thought the real credit for this good work was due to the gentleman who insisted upon the original introduction of the Actuarial Clause.

As to the clause which required the rate contribution in respect of all pension costs to be made "As nearly as may be an even annual charge," he was afraid that only one interpretation was admissible, viz., that the initial deficiency, together with the remaining pensions under the old voluntary system, were to be spread out as a perpetual rent charge. In the paper strong reasons were given for holding this to be inequitable. It was urged that the initial deficiency should be discharged by a sinking fund of limited duration, and 60 years was shown to be the most reasonable period. He agreed absolutely that these arguments were financially sound and that 60 years was a very right and proper selection.

It gave him great pleasure to find Mr. Ackland and himself in reversed positions in regard to this question of what is the sound financial principle for a municipal pension fund. Mr. Ackland was now out-Heroding Herod in his condemnation of the "Assessment" principle and in pointing out the inequity of allowing any part of the initial deficiency to remain as a charge on future generations. He entirely agreed with Mr. Ackland and Mr. Manly; let them by all means have a 60-year discharge definitely prescribed in the next Act if they could. Then they would have reached perfection in the financial basis of this pension legislation.

The PRESIDENT asked whether Mr. Roberts could state the name of the gentleman to whom credit was due for the introduction of the actuarial idea.

Mr. CARSON ROBERTS said there was no objection to stating it. He took it to have been introduced by the late Chairman of the Local Legislation Committee, Mr. Cornwall.—(*Journal of the Institute of Actuaries*, Vol. XLVI, p. 377.)

ADDENDUM.

The Chairman of the Sub-Committee having informed Mr. Carson Roberts of their views on the subject of past service (*see* pars. 177, 193 and 334) received from him the following expression of opinion:—

"21*st April*, 1917.

"I quite agree that it would have saved much confusion if the liabilities and privileges "connected with 'back service' had been kept distinct from the general schemes in all "Pension legislation. All this legislation (and likewise National Insurance legislation) has "been overburdened and handicapped by too great eagerness to give full participation to "those whose period of contribution is much below the full. It would have been far "better to have dealt with the part contributors in a set of transitory provisions and to "have allowed the full contributors the proper benefits warranted by their contributions, "plus the normal subsidies. Then the special subsidies granted to the members who were "older at the inception of the Scheme would have stood out and would have formed in "themselves a complete answer to any grumblings during the transitory period. As it is, "all the schemes give too much to help this transitory group, and, what is more, the "beneficiaries are quite unaware of how great a part of the subsidy is diverted to them."

APPENDIX VIII.

SCHEME OF PENSIONS FOR HOSPITAL OFFICERS ON THE MONEY PURCHASE PRINCIPLE BY MEANS OF A MUTUAL FUND.

SUGGESTED BY MR. T. TINNER, F.I.A.

As an alternative [both to the salary percentage basis and to the money purchase principle by means of policies with Insurance Companies] and in order to avoid the construction of a salary scale, the adoption of a different form of the "money-purchase" system may be worth consideration. It would, I think, be possible to arrange a scale of pensions purchased by £1 of contributions paid at any age, the pension thus purchased being paid whenever retirement took place, whether on attainment of the normal pension age or earlier through ill-health. Taking for illustration the case of a clerk commencing at £100 per annum at age 21, rising by £10 a year and contributing at the rate of 10 per cent. of his salary, the table would be applied as follows:—

His contribution for the first year would be £10, for the second year £11, third year £12, and so on. The first contribution paid at age 21, £10, would purchase a certain pension, say £X; the second, £11, paid at age 22, would purchase a pension of, say £Y; and each succeeding year's contribution would provide a pension, calculated in the same manner, according to the age at which the contribution was made. On retirement at whatever age, the total pension would be the sum of the separate pensions thus purchased with the contributions at the respective ages. There would be no difficulty in providing for the return of contributions in case of death or withdrawal.

It may be desirable to consider the proposal in some detail, and for purposes of illustration the table in Column 2 of Table III has been prepared. This table is the only actuarial table required, and with it as a basis any person with an elementary knowledge of arithmetic can calculate the percentage of salary required to provide a given proportion of final or average salary on retirement if he knows what the salary year by year will be. The table shows for each year of age from 20 to 65 what pension can be purchased with a contribution of £1 paid at that age, the pension commencing at age 65 or at the date permanent incapacitation if that occur earlier and half of the contribution being returnable in case of death while in the service. If, therefore, employer and employee contribute equally, the table shows the pension which can be granted as above, allowing for the return of the employee's own contribution in case of death in the service.

It may be remarked that although many of the officers contributing to the fund would leave without being entitled to pension and each such withdrawal would result in a profit to the fund, even if the withdrawing officer's contributions were returned to him, no part of this profit is taken credit for in the calculations upon which the table is based; so that if the rates of mortality and superannuation assumed for the purpose of the computation were realised in working, the fund could afford to allow higher benefits than those shown in the table because of the profits accruing from withdrawals. It is not possible to estimate this profit with any exactitude, however, because it may, and doubtless will, vary from time to time according to economic conditions. Ignoring it has the effect of keeping it in reserve so that, when it is realised, it can be used to counteract the effect of an unfavourable experience, or to increase benefits, or for both purposes.

The rates of mortality and superannuation have been deduced from the experience of existing funds, the mortality being much lighter than that shown by standard tables used for life assurance purposes, and, therefore, conducing to form a more stringent basis for pension fund calculations; and the rate of interest assumed to be earned on the funds is 3½ per cent.

Any table used at first must be regarded as tentative because each fund has its own peculiarities which must be ascertained by experience. It is not sufficient to investigate the experience of the body for whose benefit a fund is to be started because the establishment of a pension scheme tends to alter the rates of retirement and mortality. The basic table should be derived from the most suitable experience available and revised from time to time to accord with the results of successive investigations.

To illustrate the application of Table III and to show how the rates of contribution required can be determined, hypothetical cases have been taken of officers receiving salary according to Scale A and Scale B respectively of Table II, and the detailed figures in Columns 3 to 5 and 6 to 8 show the pension purchasable with 1 per cent. of salary, and how it is gradually increased year by year, as the successive contributions of 1 per cent. of salary are received and applied. Thus Column 4 shows that a contribution of 1 per cent. paid between ages 20 and 21 in respect of an officer assumed to enter at age 20, and receive salary according to Scale A would purchase a pension of 5s. 4d. a contribution at the same rate paid between 21 and 22 would purchase a pension of 5s. 8d., and so on; while Column 5 shows against each age the total of the pensions purchased by the contributions paid at that and younger ages. If, therefore, the officer retired at the end of 10 years, the pension purchased with his 1 per cent. contributions would be £3 4s. 10d.; after 20 years, £7 3s. 4d.; after 30 years, £11 2s.: after 40 years, £14 7s. 4d.; and at age 65, *i.e.*, after 45 years, £15 14s. 2d. Assuming it were desired to provide him with a pension equal to two-thirds of his final salary of £240 per annum on retirement at age 65, it will be seen that the amount of the pension would be £160 per annum; and as 1 per cent. of salary would purchase a pension of £15 14s. 2d., the contribution required for a pension of £160 would be very slightly over 10 per cent., which rate would provide £157 1s. 8d. at that age. In Table IV are given other illustrations of officers entering at ages 25, 30, 35, 40, 45 and 50 and receiving salary under Scale A, commencing at the rates appropriate to their ages on joining. Table V gives similar illustrations based on Scale B. The following table shews the approximate rates required to provide a pension of one-sixtieth of final and average salary at age 65 with a maximum of 40 sixtieths :—

Age at entry.	Approximate percentage required if Pension is based on :—			
	Average Salary.		Final Salary.	
	Scale A.	Scale B.	Scale A.	Scale B.
20	8	8	10	11
25	9	9	11	12
30	9½	9½	11	12
35	10	10	11	12
40	11	11	12	12
45	12	12	12	12
50	12½	12½	12½	12½

The object in giving the percentage of salary required according to Scale A and Scale B respectively is to show that although, as is well known, the greater the rate of increase in salary the higher the rate of contribution required, yet even with two scales of salary differing as widely as A and B, the differences in the rates are so small as to shew that there can be no practical objection to adopting a uniform scale of contribution for all officers joining the fund at the same age.

It is interesting to observe that these rates of contribution, while providing approximately for pensions calculated on the sixtieth basis on retirement at age 65, will purchase, on retirement through ill-health at younger ages, a pension in excess of what would be allowed if calculated strictly at the rate of one-sixtieth for each year of service This is illustrated by the following table based on Scale A :—

	Percentage of Final or Average Salary on Retirement after:—							
	10 years.	15 years.	20 years.	25 years.	30 years.	35 years.	40 years.	45 years.
On sixtieth basis	16·7	25	33·3	41·7	50	58·3	66·7	66·7
On money purchase basis.								
Entry age **20**:—								
Percentage calculated on Final Salary (Contribution 10 per cent.)	28·4	35·9	41·2	44·9	47·4	53·6	59·9	65·5
Percentage calculated on Average Salary (Contribution 8 per cent.)	29·4	40·6	49·0	55·5	60·4	64·3	67·6	70·6
Entry age **25**:—								
Percentage calculated on Final Salary (Contribution 11 per cent.)	28·3	36·0	41·5	45·2	52·3	59·1	65·2	—
Percentage calculated on Average Salary (Contribution 9 per cent.)	28·4	38·8	47·1	53·5	58·6	63·1	67·1	—
Entry age **35**:—								
Percentage calculated on Final Salary (Contribution 11 per cent.)	21·6	27·8	35·3	42·1	48·3	—	—	—
Percentage calculated on Average Salary (Contribution 10 per cent.)	22·5	31·0	37·7	43·6	48·8	—	—	—

Similar results would be obtained for other ages at entry and it is worthy of note that the advantage mentioned obtains in greater degree where the officer enters young and has not had the same opportunity of making provision for himself as the officer entering later.

The fact that the pensions allowed on early retirement are greater than those which would be given if they were calculated at the rate of one-sixtieth for every year of service will in all probability not be accounted a disadvantage, because in those cases the pension on the latter basis often seems absurdly small regarded as the means of subsistence of a man who is permanently broken down. For instance, assume the entrant at age 20 to break down at, say, age 35 and to have received salary according to Scale A. He will have served 15 years and a pension of 15-sixtieths of his final salary would be £36, while the pension purchased with a 10 per cent. contribution would be £51 14s. 2d.; the latter amount cannot be considered excessive in itself and only appears large in comparison with the £36. Similarly, the pension if calculated on the average salary for the 15 years would be £25 10s. 0d., whereas the pension on the corresponding money-purchase basis (contribution 8 per cent.) would be £41 7s. 4d. As another example take the case of the entrant at age 30 (under Scale A) in which the comparison is as follows:—

Retirement at the end of:—	Pension. Sixtieths of Final Salary.	Money-purchase basis (Contribution 11 per cent.)	Sixtieths of Average Salary.	Money-purchase basis (Contribution 9½ per cent.)
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
10 years	29 0 0	43 3 6	24 10 0	37 5 9
20 years	78 0 0	86 8 10	59 0 0	74 13 1
30 years	120 0 0	122 7 6	99 0 0	105 13 9
35 years	140 0 0	137 2 8	119 0 0	118 8 8

There is no need to multiply examples. The figures already given suffice to establish the fact that the money purchase basis will provide a reasonable pension, whatever the age at retirement, and that it will afford a more liberal allowance in cases of early retirement than the more usual basis of one-sixtieth of salary for each year of service, whether the pension be calculated on the average or the final salary.

As stated above, the basic table adopted at first must be of a more or less tentative character and would have to be revised from time to time in the light of experience. There would be a periodical actuarial investigation and valuation which would test the suitability of the table and determine whether the pensions already purchased should stand or be increased or diminished. If they were to stand, well and good. If the valuation disclosed a surplus, so much of the surplus as it might be thought advisable to distribute could be allotted by way of a percentage addition to the pensions already purchased. If on the other hand there were a deficiency this could be extinguished by a proportionate reduction of the pensions purchased. There would be no difficulty whatever in substituting a new table if necessary to do so for ascertaining the pensions to be purchased in the future. As it would be extremely undesirable for the benefits promised to be reduced, prudent finance should be the keynote of the scheme and the benefits shown by the table should be lower than those which calculation might show to be possible. If the contributions were at a fairly high rate, sufficiently so to ensure a fair pension, there is no reason why the benefits should be guaranteed and indeed it would tend to ensure sound administration if it were made clear that the fund would receive no contributions from the Hospitals beyond the agreed percentages of salaries. In such a scheme as that now described, it is clear that in the long run the benefits must depend on the income of the pension fund, and, if the income be adequate, the pensions also will be adequate even if those shewn by the table to be purchasable are lower than those which the fund could afford to give. In such a case there would be substantial surpluses disclosed at successive valuations which surpluses could be applied to augment the benefits purchased.

The object of the foregoing remarks is to show that a satisfactory pension scheme on the money purchase basis is practicable, but the figures given by way of illustration are only used to show the nature of the scheme, and are not put forward with the idea that the tables on which they are based are necessarily the best for adoption in connection with a scheme for the superannuation of Hospital officers.

The greatest difficulty in connection with the inauguration of a pension fund consists in making provision for the existing staff. It is clearly impracticable to provide by means of such a fund for those who are round about the retiring age, and special arrangements must be devised for their benefit and for the benefit of those who have but a few years more to serve. Many different plans can be suggested, but all involve considerable expenditure. One plan is as follows: Let all officers whose age is 55 or more contribute to the fund until they reach 65, when the very modest pensions purchased can be supplemented by allowances to be made under the same conditions as at present. Those under 55 might be allowed to contribute at the rate according to age on joining the fund and to pay an additional contribution sufficient to bring the pension purchased up to the amount they would have received if they had commenced to contribute, say, 10 years earlier, or at the date of entry into the service if that be later. If this were done no officers under 55 at joining would receive less than the pension purchasable with 20 years ordinary contributions if he remained in the service until 65, and his pension could be supplemented if necessary by a supplemental pension provided as hitherto. The effect of such a course would be to leave the pensions of the next few years to be paid out of hospital funds except for the comparative small allowances from the pension fund. As time went on, however, the pensions from the pensions fund would grow and the supplemental pensions diminish until at length the necessity for the latter would disappear. This plan would entail a considerable increase in the normal cost of the fund in its early years as it is assumed that the Hospitals would share the extra contributions; but the excess expenditure would diminish year by year as the existing officers pass out of the service and are replaced by others who would contribute throughout the whole period of service and would look to the pension fund alone for their superannuation. The extra cost to the Hospitals of this plan would vary according to the ages of the officers at the commencement of the scheme. Another and simpler plan would be for the contributions to be at rates sufficient to provide the pension which the officers would have received from the Fund if they had commenced to contribute ten years earlier at the normal rates for their then ages, or, if they entered within ten years, at the rates appropriate to their ages at entry, with the proviso that no officer should contribute more than 10 per cent. of his salary, the pension so purchased to be supplemented out of the income of the Hospitals in the manner above suggested.

Table I.—Pension purchased with a contribution of 1% of pay in the case of a man receiving £2 a week throughout service.

Members' contributions to be returned on resignation or death while in the service.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Age at Entry.													
Number of Years' Service.	20		25		30		35		40		45		50	
	Amount.	% of pay.	Amount.	% of pay.	Amount.	% of pay.	Amount.	% of pay.	Amount.	% of pay.	Amount.	% of pay.	Amount.	% of pay.
	£ s. d.		£ s. d.		£ s. d.		£ s. d.		£ s. d.		£ s. d.		£ s. d.	
10	3 19 4	3·80	3 6 9	3·20	2 16 4	2·70	2 7 6	2·28	1 19 11	1·91	1 13 9	1·62	1 8 5	1·36
15	5 9 10	5·27	4 12 7	4·44	3 18 0	3·74	3 5 9	3·15	2 15 5	2·66	2 6 8	2·24	2 0 2	1·93
20	6 15 8	6·50	5 14 3	5·48	4 16 3	4·61	4 1 3	3·90	3 8 4	3·28	2 18 5	2·80		
25	7 17 4	7·54	6 12 6	6·35	5 11 9	5·36	4 14 2	4·51	4 0 1	3·84				
30	8 15 7	8·42	7 8 0	7·10	6 4 8	5·98	5 5 11	5·08						
35	9 11 1	9·16	8 0 11	7·72	6 16 5	6·54								
40	10 4 0	9·78	8 12 8	8·28										
45	10 15 9	10·34												

Example:—

(a) An officer entering at age 20 and superannuated at age 65 would receive an annuity of £10 15s. 9d. (Col. 2) or 10·34 per cent. of salary (Col. 3) for each 1 per cent. of salary contributed on his account. A joint contribution of $6\frac{1}{2}$ per cent. ($3\frac{1}{4}$ by employer, $3\frac{1}{4}$ by officer) would produce a pension of £10 15s. 9d. × $6\frac{1}{2}$ = £70 2s. 4d. which is equal to 10·34 × $6\frac{1}{2}$ = 67·21 per cent. of salary, or approximately two-thirds.

(b) If the same officer were incapacitated at age 40, he would receive an annuity of £6 15s. 8d. × $6\frac{1}{2}$ = £44 1s. 10d. (Col. 2) which would be 6·50 × $6\frac{1}{2}$ = 42·25 per cent. of salary (Col. 3.)

TABLES II to V.—Pensions based on Salary rising in accordance with hypothetical Salary Scales.

TABLE II.—Hypothetical Salary Scales.

1 AGE LAST BIRTHDAY.	2 SCALE A.	3 SCALE B.
	£	£
20	60	60
21	66	74
22	72	88
23	78	102
24	84	116
25	90	130
26	96	144
27	102	158
28	108	172
29	114	186
30	120	200
31	126	214
32	132	228
33	138	242
34	144	256
35	150	270
36	156	284
37	162	298
38	168	312
39	174	326
40	180	340
41	186	354
42	192	368
43	198	382
44	204	396
45	210	410
46	216	424
47	222	438
48	228	452
49	234	466
50	240	480
51	240	480
52	240	480
53	240	480
54	240	480
55	240	480
56	240	480
57	240	480
58	240	480
59	240	480
60	240	480
61	240	480
62	240	480
63	240	480
64	240	480

Table III.—Scale of Pensions purchased with contributions of £1; 1% of salary on Scale **A**; and 1% of salary on Scale **B**; respectively, payable on incapacitation or superannuation at different ages.

1	2	3	4	5	6	7	8
Age last Birthday.	Pension (payable at age 65 or earlier retirement through incapacitation) purchased with contribution of £1.	Pension (payable at age 65 or earlier retirement through incapacitation) purchased with contribution of 1% of salary according to Salary Scale **A**.		Total pension purchased from age 20 (Scale **A**).	Pension (payable at age 65 or earlier retirement through incapacitation) purchased with contribution of 1% of salary according to Salary Scale **B**.		Total pension purchased from age 20 (Scale **B**).
	£	£	s. d.	£ s. d.	£	s. d.	£ s. d.
20	·443	·266	5/4	0 5 4	·266	5/4	0 5 4
1	·428	·282	5/8	0 11 0	·318	6/4	0 11 8
2	·413	·297	5/11	0 16 11	·363	7/3	0 18 11
3	·398	·310	6/2	1 3 1	·406	8/1	1 7 0
4	·383	·322	6/5	1 9 6	·444	8/11	1 15 11
5	·371	·334	6/8	1 16 2	·482	9/8	2 5 7
6	·359	·345	6/11	2 3 1	·517	10/4	2 15 11
7	·347	·354	7/1	2 10 2	·548	11/–	3 6 11
8	·335	·362	7/3	2 17 5	·576	11/6	3 18 5
9	·324	·369	7/5	3 4 10	·603	12/1	4 10 6
30	·313	·376	7/6	3 12 4	·626	12/6	5 3 0
1	·303	·382	7/8	4 0 0	·648	13/0	5 16 0
2	·293	·387	7/9	4 7 9	·668	13/4	6 9 4
3	·283	·391	7/10	4 15 7	·685	13/8	7 3 0
4	·273	·393	7/10	5 3 5	·699	14/0	7 17 0
5	·264	·396	7/11	5 11 4	·713	14/3	8 11 3
6	·255	·398	8/–	5 19 4	·724	14/6	9 5 9
7	·246	·399	8/–	6 7 4	·733	14/8	10 0 5
8	·238	·400	8/–	6 15 4	·743	14/10	10 15 3
9	·230	·400	8/–	7 3 4	·750	15/0	11 10 3
40	·222	·400	8/–	7 11 4	·755	15/1	12 5 4
1	·215	·400	8/–	7 19 4	·761	15/3	13 0 7
2	·208	·400	8/–	8 7 4	·765	15/4	13 15 11
3	·201	·398	8/–	8 15 4	·768	15/4	14 11 3
4	·194	·396	7/11	9 3 3	·768	15/4	15 6 7
5	·187	·393	7/10	9 11 1	·767	15/4	16 1 11
6	·181	·391	7/10	9 18 11	·767	15/4	16 17 3
7	·175	·388	7/9	10 6 8	·766	15/4	17 12 7
8	·169	·385	7/8	10 14 4	·764	15/3	18 7 10
9	·163	·381	7/8	11 2 0	·760	15/2	19 3 0
50	·158	·379	7/7	11 9 7	·758	15/2	19 18 2
1	·153	·367	7/4	11 16 11	·734	14/8	20 12 10
2	·148	·355	7/1	12 4 0	·710	14/2	21 7 0
3	·143	·343	6/10	12 10 10	·686	13/9	22 0 9
4	·138	·331	6/7	12 17 5	·662	13/3	22 14 0
5	·133	·319	6/5	13 3 10	·638	12/9	23 6 9
6	·128	·307	6/2	13 10 0	·614	12/3	23 19 0
7	·124	·298	6/–	13 16 0	·595	11/11	24 10 11
8	·120	·288	5/9	14 1 9	·576	11/6	25 2 5
9	·116	·278	5/7	14 7 4	·557	11/2	25 13 7
60	·123	·295	5/11	14 13 3	·590	11/10	26 5 5
1	·114	·274	5/6	14 18 9	·547	10/11	26 16 4
2	·111	·266	5/4	15 4 1	·533	10/8	27 7 0
3	·108	·259	5/2	15 9 3	·518	10/4	27 17 4
4	·103	·247	4/11	15 14 2	·494	9/11	28 7 3

TABLE IV.—Pension purchased with 1% of pay in the case of an officer receiving salary according to Scale A.
Members' contributions (half total) to be returned on resignation or death while in the service.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
	Age at Entry.																				
Number of Years' Service	20			25			30			35			40			45			50		
	Amount.	% of average salary.	% of final salary.	Amount.	% of average salary.	% of final salary.	Amount.	% of average salary.	% of final salary.	Amount.	% of average salary.	% of final salary.	Amount.	% of average salary.	% of final salary.	Amount.	% of average salary.	% of final salary.	Amount.	% of average salary.	% of final salary.
	£ s. d.			£ s. d.			£ s. d.			£ s. d.			£ s. d.			£ s. d.			£ s. d.		
10	3 4 10	3·68	2·84	3 13 11	3·16	2·57	3 18 6	2·69	2·26	3 19 10	2·25	1·96	3 18 8	1·90	1·68	3 14 2	1·61	1·55	3 5 4	1·36	1·36
15	5 3 5	5·07	3·59	5 13 10	4·31	3·27	5 18 5	3·68	2·90	5 18 7	3·10	2·53	5 14 1	2·61	2·38	5 4 1	2·22	2·17	4 12 2	1·92	1·92
20	7 3 4	6·13	4·12	7 13 9	5·23	3·77	7 17 2	4·45	3·36	7 14 0	3·77	3·21	7 4 0	3·22	3·00	6 10 11	2·77	2·73			
25	9 3 3	6·94	4·49	9 12 6	5·94	4·11	9 12 7	5·10	4·01	9 3 11	4·36	3·83	8 10 10	3·76	3·56						
30	11 2 0	7·55	4·74	11 7 11	6·51	4·75	11 2 6	5·60	4·64	10 10 9	4·88	4·39									
35	12 17 5	8·04	5·36	12 17 10	7·01	5·37	12 9 4	6·11	5·19												
40	14 7 4	8·45	5·99	14 4 8	7·45	5·93															
45	15 14 2	8·82	6·55																		

Example :—

An officer entering at age 20, and superannuated at age 65, would receive an annuity of £15 14s. 2d. for each 1 per cent. of salary contributed on his account (Col. 2), which would be equal to 8·82 per cent. of his average salary (Col. 3), or 6·55 per cent. his final salary (Col. 4).

For the superannuation allowance to be equal to two-thirds of the final salary, the joint contribution would have to be about 10 per cent. (5 per cent. contributed by each) in which case the pension would be £157 1s. 8d., or 65·5 per cent. of final salary.

If the officer was incapacitated at age 40, he would receive an annuity of £7 3s. 4d. $\times$ 10 = £71 13s. 4d. (Col. 2), which would be 4·12 $\times$ 10 = 41·2 per cent. of final salary (Col. 4), or 6·13 $\times$ 10 = 61·3 per cent. of average salary (Col. 3).

TABLE V.—Pension purchased with 1% of pay in the case of an officer receiving salary according to Scale B.

Members' contributions (half total) to be returned on withdrawal or death while in the service.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
	Age at Entry.																				
Number of Years' Service	20			25			30			35			40			45			50		
	Amount.	% of average salary.	% of final salary.	Amount.	% of average salary.	% of final salary.	Amount.	% of average salary.	% of final salary.	Amount.	% of average salary.	% of final salary.	Amount.	% of average salary.	% of final salary.	Amount.	% of average salary.	% of final salary.	Amount.	% of average salary.	% of final salary.
	£ s. d.			£ s. d.			£ s. d.			£ s. d.			£ s. d.			£ s. d.			£ s. d.		
10	4 10 6	3·68	2·43	6 1 1	3·13	2·36	6 19 9	2·66	2·14	7 9 7	2·25	1·89	7 12 9	1·89	1·64	7 7 5	1·61	1·54	6 10 7	1·36	1·36
15	7 17 0	4·97	3·07	9 14 4	4·26	2·98	10 16 1	3·63	2·73	11 6 0	3·07	2·42	11 3 9	2·61	2·33	10 7 0	2·22	2·16	9 4 3	1·92	1·92
20	11 10 3	5·96	3·53	13 10 8	5·15	3·42	14 12 6	4·39	3·14	14 17 0	3·75	3·09	14 3 4	3·21	2·95	13 0 8	2·78	2·72			
25	15 6 7	6·72	3·87	17 7 1	5·82	3·72	18 3 6	5·02	3·79	17 16 7	4·32	3·71	16 17 0	3·75	3·51						
30	19 3 0	7·28	4·11	20 18 1	6·37	4·36	21 3 1	5·54	4·41	20 10 3	4·84	4·27									
35	22 14 0	7·72	4·73	23 17 8	6·82	4·98	23 16 9	6·02	4·97												
40	25 13 7	8·10	5·35	26 11 4	7·26	5·53															
45	28 7 3	8·47	5·91																		

Example:—

An officer entering at age 20 and retiring at age 65 would receive a pension of £28 7s. 3d. (col. 2) for each 1 per cent. of salary contributed to the fund on his behalf.

For the superannuation allowance to amount to about two-thirds of his average salary, the rate of contribution required would be 8 per cent., which would give a pension of £28 7s. 3d. × 8 = £226 18s., or 67·76 per cent. of average salary.

In the event of incapacitation at age 40, the officer would receive a pension of £92 2s., or 47·68 per cent. of average salary.

NOTE ON PENSIONS PAYABLE AT 60 INSTEAD OF 65.

In order to facilitate comparison of this scheme with an insurance policy scheme such as that of the Federated System of Superannuation for Universities, the figures in Table VI have been prepared at Mr. Whittall's request. For this purpose the contributions are assumed to be those which would be made under the scheme of the Federated System, i.e., the contribution commences at exactly 10 per cent. of the salary and emoluments but does not increase until the salary increases to £20 or more in excess of the commencing salary, when a further policy is taken out, and similarly when subsequent advances have amounted to £20 or more. Thus, with contributions calculated according to the plan of the Federated System scheme, there may be, at any time, a part of the salary (not exceeding £20) in respect of which no contribution is made and which, therefore, does not count for pension, whereas under my scheme the whole of the salary is taken into account for both contribution and pension. The progression of salary is assumed to be that of the Hospital type cases used for illustrative purposes in the Committee's report, taking 60 as the normal age for retirement. The calculations are approximately correct to the nearest shilling, as it was felt that this degree of accuracy was sufficient for the purpose in view.

TABLE VI.—Pensions payable on incapacitation or superannuation at age 60, purchased with contributions of 10% of salary in Type Cases Nos. I, II and III (set out in Appendix X) modified as regards the amount of contributions so as to coincide with those under the Federated Superannuation System for Universities.

1	2	3	4	5	6	7	8	9	10	11
		TYPE CASE No. 1.			TYPE CASE No. II.			TYPE CASE No. III.		
AGE LAST BIRTHDAY.	Pension (payable at age 60 or earlier retirement through incapacitation) purchased with contribution of £1.	10% of salary and additional emoluments.*	Pension (payable at age 60 or earlier retirement through incapacitation) purchased with contribution of 10% of salary.	Total Pension purchased from age 23.	10% of salary and additional emoluments.*	Pension (payable at age 60 or earlier retirement through incapacitation) purchased with contribution of 10% of salary.	Total Pension purchased from age 19.	10% of salary and additional emoluments.*	Pension (payable at age 60 or earlier retirement through incapacitation) purchased with contribution of 10% of salary.	Total Pension purchased from age 23.
	£	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.
23	·317	12 10	3 19	3 19	12 10	3 19	17 2	10 10	3 7	3 7
24	·305	12 10	3 16	7 15	12 10	3 16	20 18	10 10	3 4	6 11
25	·295	14 10	4 6	12 1	12 10	3 14	24 12	10 10	3 2	9 13
26	·286	14 10	4 3	16 4	15 10	4 9	29 1	10 10	3 0	12 13
27	·276	16 10	4 11	20 15	15 10	4 6	33 7	13 10	3 14	16 7
28	·267	16 10	4 8	25 3	15 10	4 2	37 9	13 10	3 12	19 19
29	·257	20 0	5 3	30 6	17 10	4 10	41 19	13 10	3 10	23 9
30	·249	25 0	6 5	36 11	17 10	4 8	46 7	15 10	3 17	27 6
31	·241	25 0	6 0	42 11	17 10	4 4	50 11	15 10	3 15	31 1
32	·232	30 0	6 19	49 10	17 10	4 1	54 12	17 10	4 1	35 2
33	·224	30 0	6 15	56 5	17 10	3 18	58 10	17 10	3 18	39 0
34	·216	35 0	7 11	63 16	19 10	4 4	62 14	19 10	4 4	43 4
35	·209	35 0	7 6	71 2	19 10	4 2	66 16	19 10	4 2	47 6
36	·202	42 10	8 12	79 14	21 10	4 7	71 3	21 10	4 7	51 13
37	·195	42 10	8 6	88 0	21 10	4 4	75 7	21 10	4 4	55 17
38	·188	47 10	8 19	96 19	21 10	4 1	79 8	23 10	4 8	60 5
39	·181	47 10	8 12	105 11	21 10	3 18	83 6	23 10	4 5	64 10
40	·175	52 10	9 3	114 14	21 10	3 15	87 1	25 10	4 9	68 19
41	·169	52 10	8 18	123 12	27 10	4 13	91 14	25 10	4 6	73 5
42	·163	52 10	8 11	132 3	27 10	4 10	96 4	27 10	4 10	77 15
43	·157	52 10	8 5	140 8	27 10	4 6	100 10	27 10	4 6	82 1
44	·151	52 10	7 18	148 6	32 10	4 18	105 8	27 10	4 3	86 4
45	·146	62 10	9 3	157 9	32 10	4 15	110 3	27 10	4 1	90 5
46	·141	62 10	8 16	166 5	32 10	4 12	114 15	27 10	3 17	94 2
47	·136	62 10	8 10	174 15	37 10	5 2	119 17	27 10	3 15	97 17
48	·131	62 10	8 4	182 19	37 10	4 18	124 15	27 10	3 12	101 9
49	·126	62 10	7 18	190 17	37 10	4 14	129 9	32 10	4 2	105 11
50	·122	62 10	7 12	198 9	37 10	4 12	134 1	32 10	4 0	109 11
51	·118	62 10	7 8	205 17	37 10	4 9	138 10	32 10	3 16	113 7
52	·113	62 10	7 1	212 18	42 10	4 16	143 6	32 10	3 14	117 1
53	·109	62 10	6 16	219 14	42 10	4 12	147 18	32 10	3 11	120 12
54	·105	62 10	6 11	226 5	42 10	4 9	152 7	32 10	3 8	124 0
55	·101	62 10	6 7	232 12	42 10	4 6	156 13	32 10	3 5	127 5
56	·097	62 10	6 1	238 13	42 10	4 3	160 16	32 10	3 3	130 8
57	·093	62 10	5 16	244 9	42 10	3 19	164 15	32 10	3 1	133 9
58	·089	62 10	5 11	250 0	42 10	3 15	168 10	32 10	2 18	136 7

* See Prefatory note.

ADDENDUM ON THE COST OF PENSIONS FOR AN EXISTING STAFF AND ON THE SEPARATE COST OF DISABLEMENT.

The Cost of Pensions for an Existing Staff.

At the request of the Sub-Committee I have made some endeavour to estimate what would be the initial cost, in terms of the total annual salary list, of applying my scheme to the existing staffs of the Hospitals. In the absence of a census of the staffs, the best method of arriving at such an estimate seems to be to take the Committee's own Hospital type cases and calculate the cost of my scheme in these particular cases. This I have done, assuming that the existing staffs would constitute a body following the statistical laws of my own Table as regards their present age distribution and their future rates of (A) mortality in service, (B) superannuation, and (C) mortality after superannuation. I have made the calculations for pensions maturing at age 60, as in the Universities System, as well as at age 65, as proposed in my own scheme. From the results it would appear that the cost may be regarded as a function of the contribution and almost independent of the Pension age, but this may, of course, be peculiar to the particular figures on which the calculations are based. With contributions of 10 per cent. of the annual salary, and subject to the assumptions I have specified, I arrive at the conclusion that the initial cost of my scheme would be somewhat in excess of two years' purchase of the current salaries, but this estimate is subject to adjustment, as indicated in the following paragraph.

The difference between the initial cost of Pensions for an existing staff brought out by Mr. E. C. Thomas (*see* par. 360) and myself appears to be attributable in part to the fact that Mr. Thomas has taken credit for withdrawals while I have not done so. His calculations allow not only for the withdrawals prior to the commencement of the scheme, but for subsequent withdrawals. The first allowance is not, of course, made by the Actuary, but follows from the fact that the result of past withdrawals is to reduce the average age and average period of past service at any moment, as compared with what these would be if there were no withdrawals. It has not, however, been made in my calculation of two years' salaries, and the result is thus an over-statement of the initial liability. This is unavoidable if withdrawals are to be ignored in the calculations, as, prior to the actual particulars being supplied for the initial valuation, there is no knowledge of the withdrawals. It is no doubt desirable to estimate as closely as possible what the initial deficiency will amount to, and in the absence of any reliable data I can only suggest that the deficiency be assumed to be, say, one and a half times the annual salary bill, as being a mean between the estimates of one year's and two years' purchase. In all probability any deviation of the actual from this suggested figure would not be so great as to be unmanageable, and, without being positive, I think that one and a half times the annual salaries is likely to be in excess of the amount disclosed in any actual valuation. The difference due to ignoring future withdrawals would remain after the initial valuation.

The Cost of Disablement Pensions.

At the request of the Committee I have also worked out the separate cost of the ill-health Pensions under my scheme when calculated as an average percentage of the contributions. It is as follows :—

Age at Entry.	Average Percentage for the period of contribution.
25	21 per cent.
30	20 „ „
35	19 „ „
40	18 „ „
45	16 „ „
50	12 „ „
55	8 „ „

These figures are based on the Committee's Hospital Type Case I, with 60 as the normal age for retirement, and are practically identical with the results of similar calculations relating to Type Case II. It may be useful to give a few words of explanation is to their exact meaning. It will be remembered that under my scheme each contribution purchases a distinct element of pension, and it will be seen easily that the proportions of each contribution required respectively for normal retirement and incapacitation will vary from age to age, *e.g.*, the contribution of a man of 30 for the ill-health Pension must be a greater proportion of the whole contribution than if he were 59, because in the latter case there would only be one year's risk of breakdown before age 60, whereas in the former there is 30 years' risk. As a contributor grows older the probability of breaking down before 60 diminishes, and the chance of receiving the normal pension at 60 increases. What is required is an average proportion of the contributions throughout the period of contribution, and this is what is given in the above table.

(Sgd.) T. TINNER.

15th February, 1918.

APPENDIX IX.

MEMORANDUM ON THE USE OF INSURANCE POLICIES IN PENSION SCHEMES.

BY MR. F. L. COLLINS, F.I.A., ASSISTANT ACTUARY OF THE CLERICAL, MEDICAL AND GENERAL LIFE ASSURANCE SOCIETY.

1. On the 22nd March last the Sub-Committee had under consideration the relative advantages of a system similar to that adopted by the Universities, and a Mutual Fund on lines proposed by Mr. Tinner.* Acting upon the invitation of the Committee, I now submit in writing some figures comparing the results obtained for the same outlay in one of the Offices selected in the Federated System of Superannuation for Universities with those of Mr. Tinner's Fund in the form of Pensions to males at 65:—

Age at Entry.	Annual Premium of £10 provides an Annual Pension		Single Premium of £100 provides an Annual Pension	
	in Mr. Tinner's "Fund" of	in Commercial Union "Scheme" of	in Mr. Tinner's "Fund" of	in Commercial Union "Scheme" of
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
21	102 6 3	100 17 5	44 6 0	40 7 0
30	67 10 10	68 6 3	32 8 0	30 18 0
40	39 12 5	41 5 0	23 0 0	23 0 0
50	19 16 0	21 2 5	16 6 0	17 3 0

The above Table shows that the Deferred Annuities of the "Commercial Union" give results very similar to those afforded by a Mutual Fund; the question of disablement may be for the moment omitted and further reference made to it later.

2. When the Federated System was inaugurated in 1913 the factors which influenced the Board of Education in recommending the Scheme to the Universities were:—

(1) avoiding the responsibility of investment,

(2) giving the widest possible latitude of choice to the individual member,

(3) restricting the offices to those with an unexceptionable financial record and obtaining rather better terms by reducing the number,

(4) allowing for migration from one University to another; and, unlike most other systems,

(5) preserving for the member the full benefit of *all* contributions when once made.

3. Disablement was also considered, and the inclusion of some sort of provision for it was recognised as desirable. The companies, who were primarily interested in their own particular objects, viz., Life Assurance and Annuity business, did not show any inclination to increase the scope by including benefits payable upon an event the happening of which could only be determined by medical examination.

4. During the four years past depreciation of Investments has certainly shown the wisdom of throwing the responsibility of dealing with the matter on to companies thoroughly equipped and experienced. Current events also justify the reluctance of the companies to tread the thorny path of medical classification. At the same time a scheme, such as the one under review, does not leave the member desolate in the event of disability, for

* See Appendix VIII.

the "Commercial Union" Scheme guarantees a return of all contributions with 3 per cent. compound interest on withdrawal. The actuarial value of a disablement pension dependent on an impaired life is not very large, and its present value seldom represents much more than the amount which the accumulations of contributions afford. The question to decide is whether it is better to be content with a clear 3 per cent., or to face the market with all its vicissitudes in the hope of obtaining for years to come the net rate of 3½ per cent. assumed by Mr. Tinner for his illustrations. These illustrations are tentative, and Mr. Tinner frankly stated that he would have preferred 3 per cent. as a basis. Perhaps, therefore, the best comparison is one which contrasts the benefits given by the companies with those afforded by Mutual Funds already in existence. In the next Table, therefore, are given the Deferred Annuities (With Return) obtained for the same outlay from the Royal National Pension Fund for Nurses at 55, and from the "Commercial Union" office for female lives, the terms of the latter being calculated on the same scale as was offered to the Universities :—

Age at Entry.	Annual Premium of £10 provides by		Single Premium of £100 provides by	
	R.N. Pension "Fund" ex Bonus.	Commercial Union "Scheme."	R.N. Pension "Fund" ex Bonus.	Commercial Union "Scheme."
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
21	37 0 9	42 12 3	17 13 0	19 11 7
30	23 10 7	26 18 3	13 10 7	15 0 1
40	11 19 6	13 14 7	10 1 4	11 3 4
50	3 8 8	3 16 5	7 9 10	8 2 0

The pension age of 55 has been taken as being appropriate in the case of Nurses. Bonuses are allowed by the Royal National Pension Fund for Nurses, but, as has been stated publicly by Mr. King, the Consulting Actuary, the longevity of Nurses has absorbed the chance of the pensions being much increased from surplus profits. On the other hand, should the Nurse withdraw from the Fund, she only gets 2½ per cent. compound interest on her savings, while the "Commercial Union" office gives 3 per cent.

5. Another illustration is afforded in the following Table by a comparison of the Elementary School Teachers' Fund with the Legal and General Company's option in the Universities' scheme. This relates to the non-returnable form of Deferred Annuity, and male lives have been taken with 65 as the Pension age :—

Age at Entry.	Annual Premium of £10 provides by		Single Premium of £100 provides by	
	Elementary Teachers' "Fund."	Legal and General "Scheme."	Elementary Teachers' "Fund."	Legal and General "Scheme."
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
21	130 9 2	180 8 0	56 2 3	96 11 7
30	85 10 3	111 12 0	42 12 9	66 0 6
40	48 13 7	59 17 0	30 5 7	42 6 3
50	22 19 6	26 13 0	20 11 1	26 2 0

It will be seen that when it comes to tabulating the pensions which can be guaranteed for the same money, the Insurance Office is not only able to hold its own, but to exceed very largely the anticipations of such a Fund as the Elementary Teachers', in which every penny is held in trust and invested under Government supervision. It is difficult to see where the profit comes in for Insurance Companies, and that is why Annuities, and especially Deferred Annuities, have not been very assiduously cultivated by them. In fact, they are only granted because the Companies prefer not to allow their connections to find their way to rival offices.

6. Deferred Annuities are not only not actively sought by Insurance Companies. They have not proved to be a popular means of providing for old age, especially if there is no cash option, nor return in the event of premature death. For it is cold comfort for a penniless widow to tell her that, if the bread-winner had survived, his pension would have been bigger through adopting that form of saving. True, a Pension Fund is concerned primarily with Superannuation, but when that has been supplied a Fund for widows and orphans is the next demand. During recent years Endowment Assurances have come more and more into vogue, and afford an excellent way of meeting both requirements simultaneously. These often comprise the option of using the capital sum, when payable at a certain age, in buying a Pension on fixed terms. If the member's health is then good, he can accept the offer, unless meantime financial conditions have so changed that better terms are obtainable elsewhere. If, on the other hand, his health is precarious, he can invest the money to better advantage. Hard cases arising on the premature death of pensioners shortly after their retirement undoubtedly led to the passing of the Superannuation Act of 1909, which enabled Civil Servants, by substituting eightieths for sixtieths, to carve a lump sum as well as a measure of death benefit out of their superannuation allowance. Liberal as the "sixtieths" scale undoubtedly was, it failed to meet with the appreciation it deserved, owing to its rigidity in not providing any alternative to an income for life. The dissatisfaction experienced in the case of the original Superannuation Act of 1859 is likely to recur in the case of any Pension Scheme unless some provision for dependants is made. Hence the desirability of a cash option at the Pension Age. By ascertaining the amounts thus available, one can get further a fair indication of the rate of interest at which the contributions are being invested during the years of service, which is the most important element in obtaining the best return on the money. To illustrate this, the yield of compound interest obtainable on the total contributions, by effecting With Profit Endowment Assurances, is shown in the following Table, the figures being taken from page 7 of the Official Pamphlet of the Federated Superannuation System for Universities:—

Office.	System.	Cash at 60.	Compound Interest yielded.	
			Without any Income Tax allowance.	With 2s. 6d. Income Tax allowed.
		£	%	%
Clerical Medical and General	(a) Ordinary Bonus ...	2,244	3	$3\frac{1}{2}$
	(b) Tontine Bonus ...	2,452	$3\frac{1}{2}$	4
Equitable	(a) Ordinary	2,110	$2\frac{3}{4}$	3
	(b) Double Endowment	2,438	$3\frac{1}{2}$	4
Legal and General	(a) Ordinary	2,456	$3\frac{1}{2}$	4
	(b) Double Endowment	2,712	$4\frac{1}{8}$	$4\frac{1}{2}$
United Kingdom Provident	(a) General Section ...	2,344	$3\frac{1}{4}$	$3\frac{3}{4}$
	(b) Temperance Section	2,404	$3\frac{1}{2}$	$3\frac{3}{4}$

NOTE.—There are supposed to be three Endowment Assurances taken out at 25, 35 and 50 respectively, each at an annual premium of £20, half of which is paid by the Professor and half by the University. The compound interest which the amount receivable at maturity at 60 represents on the £1,400 paid in premiums is partly dependent upon the Income Tax allowance which the Professor enjoys on his moiety. This reduces the outlay, and the return of interest on this form of investment is proportionately higher.

7. The War has been a very severe test of the Bonus-giving power of Life Offices, but it is a remarkable fact, testifying to the sound judgment of the late Sir G. F. Hardy and the late Mr. Ackland, under whose advice the selection was made, that three of these four Offices, all of which have made a Valuation and paid a Bonus since August, 1914, have succeeded in maintaining the full rate of Bonus on which these results are based. In any case the

Bonuses of the future should tend to improve. As more normal conditions return, and especially if Income Tax be eventually reduced, the high rates of interest at which Life Office funds are now invested must bring about a higher rate of Bonus distribution than has ever been known in the past. The bulk of the profit available for Endowment Assurance Bonuses is derived from the margin of interest earned over and above that assumed in making the Valuation reserves. The Valuation reserves are relatively heavy, as the rates of premium after providing for the current risk of death leave a substantial margin for accumulation to meet the ultimate liability. Therefore, any improvement in Bonus results is likely to be emphasized in the case of Endowment Assurances. Apart from this, however, the gradual building up of the total amount receivable at maturity, by successive additions to the sum assured, is in itself an advantage, as it reduces the cost by limiting the death benefit in the early years when it is least needed to a smaller sum than if a non-profit guaranteed contract were effected. Service Tables of various Pension Funds show quite clearly that the Death Benefit will be required in far more cases than the Disablement Benefit, but the main cause of members dropping out year by year is " Withdrawal." For it is an inevitable fact that the large proportion of those who enter a given service do not remain to the pension age, and many of them leave in the early years following entry. The majority of those whose circumstances oblige them to provide from their earnings for their old age, deliberately choose an Endowment Assurance of their own accord. This suggests that it is regarded as a far greater benefit for a member after he has relinquished his membership and withdrawn from the service to be in possession of an existing policy with every inducement to maintain it, than to be presented with a lump sum as a return of contributions or surrender value of a Deferred Annuity. Further it is only while Deferred Annuities are connected with a Superannuation Scheme that the foregoing Income Tax allowance can be claimed, whereas the annual premiums paid under an Endowment Assurance continue to rank in any case. As is well known, these Income Tax privileges were revised recently in the Finance Acts of 1915 and 1916. They may thus be assumed now to have been placed upon a fairly permanent basis. Three shillings in the £ represents the maximum, and the allowance can be claimed upon annual premiums for Endowment Assurances not exceeding one-sixth of the total income nor 7 per cent. on the sum payable at death. Under the Federated Superannuation System for Universities, the member on leaving the service would be able to enjoy the Income Tax allowance upon the whole of the premiums should he elect to maintain the Policies to maturity, so that the yield would be even better than those given in the last table where only half the premiums have been taken into account for this purpose.

8. Another feature in connection with Income Tax, which I put before the Committee on March 22nd, is the fact that Life Offices are able practically to invest the premiums on Deferred Annuities as part of their Annuity Funds free of Income Tax. This may account to some extent for the favourable rates already shown. Of course a Mutual Fund would be able to do the same when it had been in existence for a sufficient time for its incumbent Pensions to equal its Interest Income, but that is a condition of affairs which could not arise for many years in the case of a newly established fund.

9. Objections are sometimes raised with regard to medical examination, which is a necessary preliminary to effecting an Endowment Assurance, and as regards the existing staff there will probably be cases in which the only way of surmounting the difficulty would be by retaining Deferred Annuity Policies (with return) as an alternative in case of need. As regards future entrants the medical examination is almost an advantage from the employers' point of view, as it has the effect of throwing upon the insurance offices trouble and expense which might well be incurred in any case. Naturally, the influx of any number of weakly members will have the double effect of reducing efficiency and producing claims for disablement. Hence, Mr. Tinner contemplates the medical examination of entrants to his proposed Mutual Fund. Whatever precautions may be taken, however, a certain number of cases of disablement are bound to arise for which a scheme of Endowment Assurances makes no direct provision. On the contrary, when a member's health breaks down he may find it hard to maintain his Policy owing to impecuniosity.

The Elementary Teachers' Deferred Annuity Fund supplies valuable information as to the rates of mortality of grantees of disablement allowances. In the case of males, almost one in every five dies in the first year following the commencement of the allowance. In the following year, of the remainder, one in seven or eight dies, and as the weakest fail the survivors gradually tend to become normal lives, though the mortality is always excessive. Under such circumstances, to surrender a policy comprising death benefits is obviously wrong, a point much reducing the handicap against the Insurance plan. Probably borrowing on the policy to pay the premiums would be wiser, seeing that premiums in many cases will not run for very long, while in some cases the whole benefit will fall due immediately. From the point of view of the Offices, they have no wish or need to profit from the misfortune of their policyholders. The difficulty is that while broadly speaking it must pay to maintain policies as a whole, it does not necessarily follow that it will pay in any individual case. Sufficient cases must be maintained to give an average, and a common fund of some sort would be required at the outset which could be drawn upon for such cash payments of pensions and premiums as had to be made. If, however, some financial backing of that kind could be afforded to the Hospitals, there is no reason why the disablement difficulty could not be solved by simply carrying on all policies to maturity.

10. It may well be asked how the Offices can afford to give such results as are shown in these Tables, and more particularly how they can, as shown in the last Table, return all contributions with a substantial rate of Interest after paying expenses and after paying heavy death benefits in the case of all members who have died before the pension age. The explanation is that during the past century they have accumulated reserves far in excess of what is required for actual commitments. These reserves enable them to trade on a very small margin of profit, while large accumulated funds attract the best investments. Offices of to-day exemplify the doctrine of the "survival of the fittest." During the course of their history numbers of other Companies in the same line of business have ceased to exist. Starting a new Company to compete with them at this stage of their existence would appear almost foolhardy, yet that is what a Mutual Fund would attempt to do, for without some strong financial support to meet possible contingencies a Mutual Fund is in much the same position as a new Life Office with no proprietary capital, and without even the £20,000 statutory deposit which the Government has thought necessary to prevent the growth of such concerns in the public interest.

27th July, 1917. F. L. COLLINS.

ADDENDUM ON THE QUESTION OF DISABLEMENT PENSIONS.

11. In order to illustrate the feasibility of maintaining the policies on the lives of those who, having effected Endowment Assurances under a Pension Scheme, break down in health, so as to provide them with a suitable maintenance out of the common fund, a further Table has been prepared. This is based on the assumption that a sufficient number of such cases will occur to yield an average, and that the mortality experienced will resemble that of a similar number of male grantees of disablement allowances according to the Tables given by Mr. D. C. Fraser, F.I.A., in his report on the valuation as at 31/3/13 of the Deferred Annuity Fund for Teachers in Elementary Schools. The high mortality which occurs in the early years following retirement has the effect of so changing the prospects of longevity of a recipient of a disablement allowance, that without exaggeration it may be said that for the time being his life is much more precarious than that of a healthy octogenarian. This has the two-fold effect of increasing the value of the sum assured payable at death and diminishing the value of the future premiums payable to age 60, as well as the cost of the pension. For the purpose of calculating these values $3\frac{1}{2}$ % compound interest has been reckoned, and it has been necessary to ascertain first the value of the sum assured at death for every year until age 60 is reached, and finally on maturity at that age.

The number of years' purchase that an annuity payable until that age represents has been calculated for arriving at the value of the future premiums. For determining the amount of pension, which the net value of the policies suffices to buy, it has been necessary to extend the calculations so as to embrace the years of life after age 60, again using the Elementary Teachers' Mortality Tables. The following table shows the results in the case of a breakdown in health occurring at various ages in each of the three Type Cases adopted by the Sub-Committee for illustrative purpose (*See* Appendix X). In adjacent columns are shown for purposes of comparison, the corresponding pensions which would be allowed under a scheme providing one-sixtieth of the average salary for each year's service, and also those suggested by Mr. Tinner, who has kindly supplied me with Tables for age 60 on the same basis as those calculated for age 65 in his original scheme, but with a fixed contribution of 10 per cent. as in the case of the Universities System. The calculations were duplicated so as to include the estimated policy results of the two Companies already quoted by the Sub-Committee. (Office A and Office B : *See* par. 418.)

Age next birthday at breakdown.	Value of Sums Assd. and Bonuses.		Value of future Premiums (both offices).	Net Value of Policies.		Equivalent Pensions.		Comparative Pensions based upon	
	Office A.	Office B.		Office A.	Office B.	Office A.	Office B.	Sixtieths of Average Salary.	Mr. Tinner's Method.
				TYPE CASE No. 1.					
	£	£	£	£	£	£	£	£	£
35	1,027	917	179	848	738	132	115	37	56
45	1,735	1,509	339	1,396	1,170	168	140	113	140
55	2,386	2,086	215	2,171	1,871	265	228	216	220
				TYPE CASE No. 2.					
35	762	668	104	658	564	102	88	35	59
45	1,115	944	177	938	767	112	92	74	101
55	1,595	1,383	146	1,449	1,237	177	151	136	148
				TYPE CASE No. 3.					
35	639	568	104	535	464	83	72	26	39
45	973	846	177	796	669	96	80	65	82
55	1,302	1,135	112	1,190	1,023	145	125	115	121

12. This Table is sufficient to show that if the policies were pooled and held upon trust to provide disablement allowances for the survivors, they should, in the ordinary course of events, amply suffice to give just as good pensions as, and at the youngest age far better pensions than, either of the other two plans. But a word of warning must be sounded, because the better the pension the greater the difficulty of ensuring adequate medical supervision, which is essential to provide against anything in the nature of malingering. It would therefore be prudent not to give pensions any larger than those contemplated by the other plans, and, after a few years had elapsed, to investigate the mortality in order to see whether it was necessary to revise the standard. Then an Actuarial Valuation could be made of the existing policies and the prospective liability in respect of the Incumbent Pensions to the survivors. If such a valuation showed a surplus owing to excessive mortality, this could be used either to increase the pensions, or to provide for the dependants (if any) of the deceased pensioners, as might be deemed the more satisfactory.

F. L. C.

21*st August*, 1917.

SUPPLEMENTARY ADDENDUM ON DISABLEMENT PENSIONS AND THE COST OF PROVIDING THEM IN ADVANCE.

13. I am reminded that the conditions in practice will not admit of the whole value of the policies being available for the disablement pensions if the member be allowed to retain for the advantage of his own dependants so much of the death benefit as has been provided by the past contributions. It is therefore of interest to consider how far provision for disablement is affected by the deduction of the death benefit which has accrued up to date of retirement in the form of the paid up assurance contemplated by the Federated Superannuation System for Universities. The following Table shows the effect of omitting, from the values available for setting up disablement pensions, the values of the death benefits in respect of these paid-up policies.

REVISED TABLE showing Pensions on Disablement in the three Type Cases, assuming that the Endowment Assurances are all maintained in their entirety by a Central Body, but that the benefit already secured by the past contributions is reserved for the member's own estate in the event of his death before the Pension age of 60 is reached:—

Age next birthday at breakdown.	Value of Sums Assd. and Bonuses.		Value of future Premiums (both offices).	Net Value of Policies.		Equivalent Pensions for life provided thereby.		Comparative Pensions based upon	
	Office A.	Office B.		Office A.	Office B.	Office A.	Office B.	Sixtieths of Average Salary.	Mr. Tinner's Method (*see* par. 11).
	TYPE CASE No. I.								
	£	£	£	£	£	£	£	£	£
35	744	675	179	565	496	88	77	37	56
45	1,071	960	339	732	621	88	74	113	140
55	1,599	1,447	215	1,384	1,232	169	150	216	220
	TYPE CASE No. II.								
35	466	423	104	362	319	56	50	35	59
45	636	559	177	459	382	54	46	74	101
55	1,065	966	146	919	820	112	100	136	148
	TYPE CASE No. III.								
35	441	401	104	337	297	52	46	26	39
45	585	527	177	408	350	49	42	65	82
55	868	788	112	756	676	92	83	115	121

14. The pensions based upon Mr. Tinner's method, which it will be seen are rather more liberal than those secured by sixtieths of the average salary, are repeated for comparison. It has been suggested to me that Mr. Tinner's pensions might suitably be adopted as a standard to be aimed at, and as a basis for further calculations. The relation of the reduced pensions to this standard is shown, and it will be noticed that in each of the type cases this relation varies considerably with the age at disablement. At age 35 there should be sufficient to provide as good pensions as the proposed standard scale, but at age 45, owing to the fact that the death benefit subtracted is very valuable, the pensions are reduced to about one-half of what is required; while at age 55, owing to the comparatively short time during which the death benefit is enjoyed before 60, the proportion automatically provided increases to about three-fourths of the standard adopted. In order to estimate, as I am asked to do, the all-round percentage

represented by these Endowment Assurance Pensions, account must be taken, first, of the fact that disablements do not occur in any great numbers at the early ages, but are concentrated very much in the 10 years before age 60; and, secondly, of the fact that the pensions at those higher ages are in themselves much larger than in the case of the early retirements. Allowing for these two factors as far as possible, I find that the all round proportion of the pensions which can be provided by keeping up the policies may be taken approximately at something like 66 per cent. of the standard adopted on the assumption that the experience will conform to that of the Elementary School Teachers (Males) both as regards the number of disablements, and also as regards the average duration of life in such cases.

15. While the relative proportion of a reasonable scale of disablement pensions which could be provided by Endowment Assurances, and by keeping them in force, is thus shown to be about two-thirds of the total, the problem of fixing, in the case of a concrete scheme, the present absolute cost of the Disablement Pensions as a whole, and therefore of a subsidy of the remaining one-third, is shown in App. XIII, and the relative paragraphs in the draft Report, which have been put before me, to be very complex. In the first place it is necessary to fix upon a basis for estimating the probable disablements occurring at the various ages, and for this purpose the Elementary Teachers (Males) experience has again been chosen, although in the absence of more complete statistical records the suitability of this basis is mere guess-work. From App. XIII it will be seen that, in comparison with other Funds, the numbers of early retirements in this experience are rather light when viewed in relation to the number of members in service at 60, but in App. IV the numbers of actual retirements from the Hospitals on account of "ill health" before age 60 are small, and the numbers occurring before age 50 are almost negligible. The introduction of a regular pension scheme would, in itself, completely alter the present state of affairs, but the fact that the Elementary School Teachers' experience is a most recent and extensive Table showing the rate of disablement in a service under Government supervision is a recommendation for taking it as a guide. Reckoning compound interest at 3½ per cent. the following Table shows the percentage of salary which would have to be set aside and accumulated in each of the three Type Cases from the original date of entering the service in order to provide disablement pensions of the proposed standard amounts:—

Future appointments with Salaries as shown in Appendix X.

Type Case No.	Age next Birthday at Entry.	Percentage of Salary to be set aside for proposed Disablement Pensions.
		s. d.
I	24	17 2
II	20	17 4
III	24	17 3

16. It will be seen that the scale of salary progression does not affect the cost in the case of future appointments, doubtless because the standard pensions are calculated on the money purchase principle. Allowing a margin, one per cent. of the salaries may be said to suffice to provide the disablement pensions; and this would amount on a salary list of, say, £300,000, to a total cost for disablement of £3,000 per annum in a fully established scheme. Thus, if only one-third of such pensions had to be found by a central body, an annual subsidy of one-third of one per cent. of the salary list set aside and accumulated year by year ought to suffice to supply the deficiency caused by preserving for members so much of the death benefit under their Endowment Assurances as had been paid for by the past contributions. Regarded in the aggregate a subsidy of this kind would commence with a very small sum in respect of new appointments and would gradually rise in course of years, when the whole of the existing staffs had been replaced, to about £1,000 per annum, being one-third of the total cost of £3,000, if the total salaries should remain at their supposed present amount of £300,000.

17. This method of stating the total amount of annual subsidy dating from th initiation of a scheme supposes, however, that the existing staffs are not to be included in any way; whereas the Sub-Committee, I understand, propose that they should be included. Dealing first with the question of the total cost of disablement in respect of future service in the case of the existing staffs, it does not follow from the foregoing estimate of one per cent. per annum as the total cost for young entrants that existing staffs, with a salary list of £300,000, taken as they stand, could be provided for in respect of future service at a cost of £3,000 per annum from the present time. The following Table has therefore been constructed to show exactly what, on the same data as before, would be the cost of disablement pensions calculated on the proposed standard scale in respect of future service at certain higher ages in the case of the Hospital Type Cases:—

COST OF DISABLEMENT IN RESPECT OF FUTURE SERVICE.

Type Cases of Existing Officers with Salaries as shown in Appendix X.

Years of Service.	Age next Birthday when Scheme begins.	Current Salary including Emoluments.	Percentage of future Salary to be set aside in respect of *future* Service.
		Type Case No. I.	
		£	s. d.
10	34	300	17 0
20	44	525	14 10
30	54	625	9 5
		Type Case No. II.	
10	30	175	17 0
20	40	225	15 5
30	50	375	12 2
		Type Case No. III.	
10	34	185	17 0
20	44	275	14 10
30	54	325	9 5

Taking these results as a guide I think it may be assumed that the cost of the disablement pensions in respect of future service on the standard scale is one which diminishes with the age in the case of an existing staff. For example, after 20 years' service about 15s. per cent. would suffice instead of the 17s. 6d. per cent. previously estimated for new entrants. Thus, there seem to be grounds for the conclusion that on the supposed Salary List of £300,000 per annum the total cost of disablement would not exceed the £3,000 arrived at in paragraph 16 when applied to the future service of an existing staff.

18. It remains to be considered whether my estimate of one-third of this amount, as the net cost to a central body after taking over the insurance policies, can be applied to an existing staff as regards its future service. It is likely that most of the cases where disablement is imminent would fail to pass the necessary medical examination, and it would not be possible to count on help from Endowment Assurances for them. In these cases the liability of the Central Body would approximate to the total cost of a small disablement pension to be entered upon immediately. On the other hand, I think my estimate of one-third as the proportionate cost to fall on the Central Body could be applied to the great majority of the officers, viz., to all cases in which it would not be

impracticable to set up Endowment Assurances. While, therefore, the initial annual outlay of the proposed Central Body ought not, on the supposed Salary List of £300,000, to reach anything like the total cost of £3,000 per annum arrived at in paragraph 17, it seems clear that it would exceed the £1,000 contemplated in paragraph 16. My calculations suggest, however, that it would fall steadily towards one-third of one per cent. of the salaries as the older members of the existing staffs become eliminated.

19. It may be of use to consider now the cost of disablement, on the supposed standard scale, in respect of the past service of an existing staff. I have therefore taken the Type Cases of Hospital Officers for the same durations of service as in the foregoing estimate of the cost of disablement in respect of future service, and have calculated by the Elementary School Teachers (Males) experience, with 3½ per cent. interest, the amounts required in each case to place an existing officer on the same footing, so far as disablement is concerned, as if he had contributed throughout his service. The following Table shows two alternative methods of meeting the liability if the Committee think fit to recommend its assumption:—

COST OF DISABLEMENT IN RESPECT OF PAST SERVICE.

Type Cases of Existing Officers with Salaries as shown in Appendix X.

Years of Service.	Age next Birthday when Scheme begins.	Current Salary including Emoluments.	Additional percentage of future Salary to be set aside in respect of *past* Service.	Lump Sum in lieu thereof.
TYPE CASE NO. I.				
		£	£ s. d.	£ s. d.
10	34	300	0 4 8	19 6 0
20	44	525	1 0 10	71 14 0
30	54	625	3 16 0	120 0 0
TYPE CASE NO. II.				
10	30	175	0 5 8	13 4 0
20	40	225	0 17 10	40 4 0
30	50	375	2 7 3	74 16 0
TYPE CASE NO. III.				
10	34	185	0 6 8	14 2 0
20	44	275	1 4 10	42 10 0
30	54	325	4 0 5	65 18 0

20. I have also tried similar methods in the endeavour to throw light on the amount of the far greater cost of ordinary superannuation in respect of past service. The amounts needed in similar typical cases, if Endowment Assurances on the terms shown in the F.S.S.U. pamphlet were effected in Office A and Office B respectively, are shown below. I should explain that the ultimate pensions here contemplated are not those of the standard scale which have been adopted in the disablement calculations. In this case the benefits are those of the Universities' system itself. As the Endowment Assurance Tables in the pamphlet do not extend to entrants over 50, the Deferred Annuity (With Return) Table of the Commercial Union Assurance Company has been adopted instead for members of 30 years' service.

COST OF ORDINARY SUPERANNUATION IN RESPECT OF PAST SERVICE.

Type Cases of Existing Officers with Salaries as shown in Appendix X.

Years of Service.	Age next Birthday when Scheme begins.	Current Salary including Emoluments.	Additional percentage of future Salary to be set aside in respect of *past* service.		Lump Sum in lieu thereof.		10 per cent. of past Salary accumulated at 3 per cent. Compound Interest.
			Office A.	Office B.	Office A.	Office B.	
			TYPE CASE No. I.				
		£	£ s. d.	£ s. d.	£	£	£
10	34	300	2 12 3	2 6 8	203	192	215
20	44	525	11 16 0	10 8 0	799	728	799
30	54	625	57 4 0	51 8 0	2,000	1,800	1,785
			TYPE CASE No. II.				
10	30	175	3 1 0	2 4 10	132	106	141
20	40	225	9 8 3	7 11 10	410	348	416
30	50	375	29 8 0	28 14 0	1,050	1,030	901
			TYPE CASE No. III.				
10	34	185	3 17 0	3 8 10	148	141	152
20	44	275	14 0 0	12 6 0	471	427	465
30	54	325	60 14 0	54 4 0	1,100	984	974

21. Summarizing the results indicated in paragraphs 19 and 20, it is clear that in the case of existing members of 30 years' service who are rapidly approaching retirement at age 60, the cost of providing ordinary pensions in respect of the whole of their past service would be practically prohibitive. Those of 10, or even 20, years' service might conceivably be brought into the scheme from the outset. For ordinary superannuation in respect of the past service of the existing staff the capital cost is seen to be roughly the amount of the contributions of 10 per cent. of the salary which would have been received in the past had the scheme been in force throughout their service accumulated at 3 per cent. compound interest. If disablement benefits in respect of past service were also to be included, the additional capital cost would seem to be somewhere about one-tenth of whatever sum might be needed for ordinary superannuation. Combining the two, the total cost might be put, perhaps, at 11 per cent. of the past salaries, all to be accumulated at 3 per cent. compound interest. It will be noticed that the three type cases exhibit wide variations in the proportion borne by the hypothetical accumulations of the past to the current salary. Consequently the current salary list does not form in itself a trustworthy basis for estimating the total capital cost of past service pensions. To enable me to do so properly, full particulars of the ages, duration of service and salaries, past and present, of the existing staffs would have to be furnished. With such information it would also be possible to make closer estimates of the cost of disablement generally in the case of existing officers. Conclusions arrived at by the method I have been forced to adopt, of reasoning by induction from the results in typical cases, must obviously be accepted with some reserve until fuller information be forthcoming. Moreover, the experience of different funds is very diverse as regards disablement, and much would depend on the circumstances in the case of the Hospital Service as to whether the foregoing estimates would be fulfilled in practice.

22nd February, 1918. F. L. C.

APPENDIX X.

TYPE CASES OF SALARY PROGRESSION USED FOR ILLUSTRATIVE PURPOSES IN THE TEXT OF THE REPORT.

Age.	Case I. Officer.	Case II. Officer.	Case III. Dispenser.	Case IV. Matron.
	£	£	£	£
20	—	60		
1	—	70		
2	—	80		
3	—	90		
4	100	100	80	
25	110	100	80	
6	120	100	90	
7	130	130	90	
8	140	130	110	
9	150	130	110	
30	175	150	120	
1	225	150	130	
2	225	150	140	
3	275	150	150	50
4	275	160	160	55
35	325	170	170	60
6	325	180	180	65
7	400	190	190	70
8	400	200	200	75
9	450	200	210	80
40	450	200	220	90
1	500	200	230	100
2	500	250	240	110
3	500	250	250	120
4	500	250	250	130
45	500	300	250	140
6	600	300	250	150
7	600	300	250	150
8	600	350	250	150
9	600	350	250	150
50	600	350	300	150
1	600	350	300	150
2	600	350	300	150
3	600	400	300	150
4	600	400	300	150
55	600	400	300	150
6	600	400	300	150
7	600	400	300	150
8	600	400	300	150
9	600	400	300	150
Additional emoluments taken as	25	25	25	50

APPENDIX XI.

DEPARTMENTAL COMMITTEE ON SUPERANNUATION OF OFFICERS OF REFORMATORY AND INDUSTRIAL SCHOOLS.

SPECIMEN PENSIONS.

For Males entering the Scheme at ages 25, 30 and 40.

Age at Entry 25.				Age at Entry 30.		Age at Entry 40.	
Age.	Scale of Salary, &c.			Age.	Scale of Salary, &c.	Age.	Scale of Salary, &c.
	£	£	£		£		£
25	80	80	120	30	100	40	150
30	90	90	150	35	120	45	200
35	100	100	230	40	200	50	250
40	100	150	270	45	250	55	250
45	120	150	300	50	300	60	250
50	120	150	350	55	350	65	250
55	120	150	350	60	350		
60	120	150	350	65	350		
65	120	150	350				
Approximate pension at age 65.	66·8	78·1	156·3	Approximate pension at age 65.	112·1	Approximate pension at age 65.	85

For Females entering the Scheme at ages 25 and 30.

Age of Entry 25.				Age of Entry 30.	
Age.	Scale of Salary, &c.			Age.	Scale of Salary, &c.
	£	£	£		£
25	40	50	80	30	100
30	45	60	90	35	120
35	50	70	100	40	130
40	60	80	120	45	130
45	60	80	120	50	150
50	60	100	150	55	150
55	60	100	150	60	150
60	60	100	150	65	150
65	60	100	150		
Approximate pension at age 65.	30·9	44	66·2	Approximate pension at age 65.	61·1

SPECIMEN PENSIONS FOR EXISTING OFFICERS WHO ARE BETWEEN 40 AND 60 YEARS OF AGE AT DATE OF COMMENCEMENT OF SCHEME.

Age next Birthday.	Salary and Emoluments.	Years of Service already completed at Commencement of Scheme.	Approximate Pension at Age 65.		
			In return for 10 per cent. of Salary.	Free Suplementary Pension.	Total Pension.
Males.	£		£	£	£
58	355	19	29·1	67·5	96·6
58	230	26	18·9	59·8	78·7
50	255	30	52	62·2	114·2
50	102	9	20·8	7·5	28·3
45	223	17	66	24·9	90·9
45	104	3	30·8	2	32·8
Females.					
58	135	39	9·9	52·7	62·6
58	70	14	5·1	9·8	14·9
50	128	28	23·4	29·1	52·5
50	65	14	11·9	7·4	19·3
45	65	20	17·3	8·5	25·8
45	64	5	17	2·1	19·1

ARBITRARY SCALE FOR VALUING EMOLUMENTS.

	Houses or Rooms.	Board and Laundry.	Coal and Light.	Total.
	£	£	£	£
Superintendent (man, unmarried, or with wife who is not an officer of the school)	45	40	15	100
Superintendent and wife holding appointments of Superintendent and Matron ... Supt. / Wife	25 / 25 } 50	40 / 30 } 70	10 / 10 } 20	140
Superintendent (woman)	30	40	10	80
Matron in Boys' School (not being wife of the Superintendent)	20	40	10	70
Schoolmaster, or officer of same rank, living in a provided house	25	—	—	25
Schoolmaster, or officer of same rank, living in school	15	30	—	45
Schoolmistress living in school	14	26	—	40
Other officers (men) living in school	14	26	—	40
Other officers (men) living in provided cottages ...	10	26	4	40
Other officers (women) living in school	14	21	—	35

APPENDIX XII.

The following extracts are taken from an article on the subject of Annuities that appeared in the *Economist* of October 14, 1916 :—

" In no financial contract is security of greater importance than it is for annuities. " It is essential not only that the security should be complete, but it should be so " clearly abundant as to be manifestly safe even in the unreflecting mind of the most " doubtful and anxious annuitant. The security for annuitants in first-class life offices " amply complies with these exacting conditions.

* * * * * *

" Annuities are definite contracts, which have to be paid and provided for in full " before the participating policyholders of a life office receive any bonuses, or the " shareholders of a proprietary company receive any dividends. Approximately four- " fifths of the total assurances in force participate in profits, and the policyholders pay " a much larger amount each year than is necessary for meeting the legal obligations " under the policies. In good companies this extra premium paid for the right to " receive bonuses is a particularly good investment. Among other things, in the " majority of cases it entitles the policyholders to a share of the profits that are " normally made out of the sale of annuities, with the happy result that the policy- " holders gain out of the annuitants, and the annuitants are provided with additional " security by the extra premiums paid for the right to share in the profits.

" An examination of the valuation returns rendered to the Board of Trade in 1914 " by all the British life offices transacting annuity business of any magnitude gives the " following results :—

" Class of Office.	Amounts.		Percentages.	
	Annuities Paid.	Surplus.	Annuities Paid.	Surplus.
	£	£		
" English and Scottish ...	2,387,686	7,391,575	100	310
" Colonial	251,237	1,223,932	100	487
" British	2,638,923	8,615,507	100	326

" The annuities paid in a valuation period, whether one year or five, are compared with " the surplus distributed or earned in the same period. The year chosen is the last " before the war, but even then profits were diminished by heavy depreciation of " securities. The point to notice is that the profits are three times as much as the " annuity payments. The profits must disappear before there can be any loss to the " annuitants, whose contracts are more than provided for by the annuity funds.

" The ultimate ability to pay annuities depends upon the value of the assets, and " in these days the possibility of depreciation of securities has to be taken into account; " but even so, there is no conceivable possibility of such a state of things as would " impair the ability of a good life office to meet its liabilities to annuitants. The loss " from depreciation, however serious it might be, would continue for a comparatively " short period only, but the sources of surplus, which constitute the margin for security, " are permanent, and must inevitably reassert themselves in due course. It is difficult " to exaggerate the security afforded for policies of life assurance, but in several " important respects the security for annuitants is even greater. It is very distinctly " greater than the security for bonuses, which, even in these trying times, have been " earned by the majority of offices, and will certainly be earned and paid in the future " by nearly all companies. In some respects the security for annuities is even greater " than that for non-participating policies.

" We have talked with some verbal looseness of degrees of security, meaning " thereby the extent of the margin in excess of complete security. As applied to "annuities the security must be considered absolute in the case of the majority of "British offices: some have a larger surplus of security than others, but in many "offices the security is so complete that it would not be imperilled even if we lost the "war and experienced overwhelming financial catastrophe in consequence. Even in "such circumstances, if they could conceivably bring about temporary technical "insolvency, recovery would be certain, because of the deferred dates of payment and "the large annual surplus which normally exists, and which should be available for "reinstating the reserves even if the impossible happened and they became temporarily "deficient.

"Consider the subject how we may, and take what pessimistic views we choose, "the fact remains that there is no form of investment, and in the nature of things "there can be none, which provides such complete security and so large a measure of "safety as is afforded by an annuity in an established life office selected with "reasonable care."

APPENDIX XIII.

MEMORANDUM BY THE SUB-COMMITTEE (MAJORITY) ON EARLY RETIREMENTS THROUGH DISABLEMENT, AND THE COST OF THE DISABLEMENT PENSIONS; WITH NOTES ON THE PROPOSED CENTRAL BODY.

1. It will be remembered that in the case of the New Zealand Government Funds (*see* pars. 207 to 215) we found the average annual rate of disablement to be about 2 per 1,000 of the membership. Applied to a salary list of £300,000, this ratio would represent an annual grant of disablement pensions of £600 per annum. We also noted (*see* par. 215) that disablement pensions are voided by death at a much higher rate than normal pensions.

2. The evidence of any particular fund is, however, of little use in this matter, as circumstances differ in different services. To illustrate this point we give an extract from certain Tables submitted by the late Sir G. F. Hardy, F.I.A., to Lord Southwark's Committee. The following Table shows for a certain uniform number of entrants (10,000) at age 20, how many may be expected to break down in health before age 60 according to the experience of the different Railway Funds. To these results we have added, reduced to a similar basis for purposes of comparison, some other experiences that have come before us in the preparation of this report:—

NUMBERS OF EARLY RETIREMENTS THROUGH DISABLEMENT ACCORDING TO THE EXPERIENCE OF DIFFERENT FUNDS.

(All based on a common radix of 10,000 entering at age 20.)

Age.	G.N. Ry. 1903.	Mid. Ry. 1905.	N.E. Ry. 1904.	L.&N.W. Ry. 1893.	Mr. Manly. 1901. *	Mr. King. 1905. *	Ry. Clearing Fund. 1893.	Cal. Ry. 1897.	L.B.&S.C. Ry. 1897.	Mr. McLauchlan. *
20-29	—	3	—	26	3	17	—	—	—	—
30-39	55	55	29	110	45	53	56	—	—	—
40-49	155	169	103	208	127	96	118	—	—	—
50-59	854	624	484	430	429	471	204	227	394	129
Total before 60	1064	851	616	774	604	637	378	227	394	129

Age.	Elementary School Teachers Defd. Anny. Fund.		New Zealand Railway.		New Zealand Teachers.		New Zealand Public Service.		Mr. Tinner. *	
	Males.	Females.	1st Divn.	2nd Divn.	Males.	Females.	Males.	Females.	Males.	Females.
20-29	—	—	—	—	—	—	49	—	73	71
30-39	47	146	30	18	76	66	80	27	140	85
40-49	166	535	98	52	162	410	98	111	235	118
50-59	819	1695	932	447	859	1556	465	385	788	307
Total before 60	1032	2376	1060	517	1097	2032	692	523	1236	581

* These Tables were based on data to which the respective authors had access. Mr. King's Table is believed to represent the Railway Clearing System Fund Experience (*see* Cd. 5484, Q. 5564), and would in that case be based on later and more complete *data* than the Railway Clearing Fund Table quoted in the next column. Mr. Tinner's Table is that on which the calculations in connection with his scheme (*see* Appendix VIII) were based.

NOTE.—The first 10 columns of this Table are extracted from the late Sir G. F. Hardy's valuable analysis

3. The foregoing Table shows that, even if we eliminate females, whose rate of retirement is subject to different laws, and one or two Funds, such as Mr. McLauchlan's and the New Zealand Funds, as being probably affected by special circumstances, the numbers of early retirements still present considerable differences in different funds. In the first decennium of service the numbers in most funds are insignificant; at ages 30 to 39, the extremes range from 29 to 140; and at ages 40 to 49, the range is from 96 to 235. It is only at ages 50 to 59, when the normal pension age is approaching, that the numbers rise considerably, and here they range from 200 or 300 to over 800. Disregarding the extremes, the number of the 10,000 entrants who will break down before age 60 may be put at from 600 to 1,000, of whom the great majority will work till over 50. The experience of Mr. Tinner's Table is throughout very unfavourable. According to this, 1,236 cases of disablement may be expected to occur before 60, and unless this heavy rate of incapacitation can be accounted for by some special circumstances affecting that particular Table it cannot be ignored.

4. Of the financial results of the retirements the foregoing analysis tells us little. Sir George Hardy proceeded, however, to use the statistics of the different funds for constructing what are known as "model funds," based on the assumption of as many new entrants annually in each case as would, after giving effect to individual rates of withdrawal, etc., leave 1,000 still in service at age 60. This particular assumption was adopted as a basis of further investigations which are too technical to concern us here; but as a preliminary result it was found that when such funds had been in existence long enough to reach a stable condition (*i.e.*, about 70 or 80 years) the relative results of the different experiences might be expressed as shown in the following Table. We lay stress on the word *relative*, as the method adopted in no way rests on a forecast of the concrete progress of any particular fund :—

Experience used.	Annual Salaries.	Benefits payable annually.			Percentage of			
		Returns on Death or Withdrawal.	Pensions resulting from retirements before 60.	Total Pensions.	Col. (3) on Col. (2)	Col. (5) on Col. (2)	Cols. (3) + (5) on Col. (2)	Col. (4) on Col. (5)
(1)	(2) £	(3) £	(4) £	(5) £	(6)	(7)	(8)	(9)
G. N. Railway ...	8,454,904	90,911	187,144	1,079,382	1·0	12·8	13·8	17·3
Mid. „ ...	8,231,179	75,219	150,440	1,055,220	·9	12·8	13·7	14·2
N. E. „ ...	8,660,145	116,281	137,187	1,111,345	1·3	12·8	14·1	12·3
L.&N.W. „ ...	9,736,506	121,372	230,171	1,263,675	1·2	13·0	14·2	18·2
Mr. Manly ...	9,782,709	158,031	195,949	1,219,271	1·6	12·5	14·1	16·1
Mr. King	10,334,749	152,651	250,617	1,313,951	1·5	12·7	14·2	19·0
Raily. Clearing Fund	9,936,796	157,716	154,701	1,279,234	1·6	12·8	14·4	12·0
Caledonian Railway	9,258,661	151,175	87,795	1,194,193	1·6	12·9	14.5	7·4
L. B. & S. C. „	9,894,720	156,497	162,814	1,239,612	1·6	12·5	14·1	13·1
Mr. McLauchlan ...	11,796,764	192,789	116,467	1,635,834	1·6	13·9	15·5	7·1

(continued from preceding page). of the different funds prepared for Lord Southwark's Committee. The Tables were arranged in order of the total number of pensioners commencing with the greatest, and the pensions arising before 60 are seen to be nearly in the same order. The original Tables show that the withdrawals from service are almost exactly in inverse order, being least numerous in the G.N. Railway, and exceptionally numerous in Mr. McLauchlan's Table. The remaining columns, added for comparison, are based upon experiences that have come before us in the preparation of this Report. This Table may be read thus: Assuming a certain 10,000 clerks to enter the service of the L. & N.W. Railway at age 20, then, according to the conditions found to prevail in that service, the number of that 10,000 who would subsequently be retired from disablement would be 110 from ages 30 to 39, 208 from ages 40 to 49, and so on; the total number breaking down before attainment of age 60 being 774.

5. Quite apart from the question of disablement, some of the general results of this investigation are very interesting and may be noticed in passing. The assumptions made include a moderate scale of pay such as a railway clerk would receive, a total contribution of 5 per cent. thereon, and 4 per cent. Interest on investments. On death unpensioned the total contributions were to be returned; on withdrawal the member's half only to be returned. These are the benefits shown in col. (3) of the Table. The scale of pensions assumed was not uniform but was in each case such as was found by calculation to be produced by the fund in a state of equilibrium and solvency.* As a fact the scales worked out on the average at about "fifty-fifths" of the average salary for each year of service, the variations on either side being in most cases not large. Bearing these assumptions in mind, cols. (6) and (7) of the Table show how small a proportion of the whole is the cost of the death and withdrawal benefits, and how the bulk of the money goes in pensions. As regards the latter, col. (7) gives the percentage of the current salaries which would be needed to provide them in arrear. This column is very interesting as showing that in any such pension fund, adjusting its scale of pensions so as to keep solvent, the pension payments will always be about 12½ to 13 per cent. of the current salaries, and the total benefits about 14 per cent. as compared with the 5 per cent. necessary to provide them in advance. This is notwithstanding the considerable variations already seen to exist in the different funds as regards the numbers of early disablements and withdrawals. Sir George Hardy's calculations confirmed Mr. Manly's estimate (*see* par. 266) that about 60 per cent. should be added to the cost of pensions based on average salaries to pass to final salaries. This would raise the percentage of col. (7) to about 20 or 21 per cent., and the cost in arrear of the total benefits of col. (8) to 22 or 23 per cent., as compared with 8 per cent. of the salaries, which would be sufficient if paid in advance. It will be seen that these figures have a bearing on the various estimates we encountered in the earlier stages of our enquiry (*see* more particularly pars. 54, 160 and 180) as to the cost of paying pensions on the Civil Service scale in arrear.

6. Reverting to our more immediate object in giving the last Table, viz., to throw light on the cost of disablement, it is seen that we state in col. (9) the percentage which the disablement pensions form of the total pensions. Unlike the preceding columns, which run with remarkable regularity, these percentages vary considerably and it will be seen, on reference to the earlier Table in par 2, that they do not vary according to the number of early retirements in the different Funds when the experiences are arranged in the form of the ordinary Life and Service Tables. For instance, Mr. King's fund, which Sir George Hardy believed to represent the Railway Clearing System Fund's later experience, and which shows the highest proportion of cost (19 per cent. of the total pensions), is fourth in magnitude as regards the number of disablements per 10,000 entrants; while the Great Northern Railway Fund, which is highest in respect of the latter, is third in order of proportional cost of disablement pensions.

7. The explanation of this discrepancy is clearly the great difference that exists between the different Funds as regards the number of withdrawals from service. In other words, if any general measure of the cost of disablement exists at all, it must be sought more in relation to the general body in service at and about the pension age than in relation to numbers entering the service. It was in order to eliminate the disturbing element of the withdrawals that Sir George Hardy (*see* par. 4) had rearranged the Service Tables of the Railway Funds quoted in the first ten columns of the earlier Table, so as to show in each case the number of retirements before age 60 *for every 1,000 still remaining in the service at the precise age 60.* From his results so arrived at we give the pre-60 retirements in the following Table in the form of percentages. These are stated in order of magnitude, and the corresponding percentages for the different funds from col. (9) of our last Table are placed beside them for comparison:—

* The investigation is described in full in the Volume of Evidence of Lord Southwark's Committee—Cd. 5484 p. 266.

RELATION OF DISABLEMENTS TO EXISTING STAFFS AT AGE 60.

Fund.	Disablement Pensions stated as a percentage of		
	(i) the existing staff at age 60. (Numbers.)	(ii) the total pensions as provided in arrear. (Amounts.)	Col. 3 ÷ Col. 2.
(1)	(2)	(3)	(4)
Mr. King	31·0 per cent.	19·0 per cent.	·61
L. & N.W. Railway ...	29·6 „	18·2 „	·61
G.N. Railway	28·9 „	17·3 „	·60
Mr. Manly	24·8 „	16·1 „	·65
Midland Railway	22·9 „	14·2 „	·62
L.B. & S.C. Railway... ...	19·8 „	13·1 „	·66
Railway Clearing Fund ...	18·2 „	12·0 „	·66
N.E. Railway	18·1 „	12·3 „	·68
Caledonian Railway ...	10·2 „	7·4 „	·73
Mr. McLauchlan	10·2 „	7·1 „	·70

8. It will be seen that the percentage of total pensions represented by the disablement pensions follows with remarkable closeness the variations in the number of early retirements in the first column. The following rough conclusions appear to be justified: first, that according to the experience of Railway Funds, and where pensions are based on salary, the amount of disablement pensions will work out at from 12 to 19 per cent. of the total pensions; and secondly, that the experience of any other class of the community can be applied usefully to elucidate the same question if it can be arranged similarly to show the number of pre-60 retirements per cent. of the number existing in a service table at age 60. In fact, from 60 to 70 per cent. of this last ratio, or say 65 per cent. for an average fund, will represent the ultimate proportion of the disablement pensions.

9. Applying the latter conclusion to Mr. Tinner's experience, which we have already noted (*see* par. 3) as showing a large proportion of early retirements, it is found that the number of pre-60 pensions per cent. in service at age 60 works out at 35·7. This number is considerably in excess of that shown by any of the Railway Funds; and if the relation found in the last paragraph to exist in the case of the latter is to be depended on, it would suggest that in this case the cost in arrear of similar disablement pensions would in a state of equilibrium work out at something like 21 per cent. of the total pensions. Applying a similar test to the Elementary School Teachers' Table, it is found that the number of pre-60 pensions works out at only 11·2 per cent. This figure, according to the Table in par. 7, would suggest a cost in arrear for the disablement pensions of about 8 per cent. of the whole. On the other hand the most recent railway experience which has come before us showed that the disablement pensions would work out, on similar assumptions, at about 14 per cent. of the total pensions, thus agreeing with the central figures of Sir George Hardy's Tables rather than with those showing the highest ratio of cost.

10. In order to use these results as an index of the cost provided in advance of disablement pensions it is necessary to assume that the latter would vary as the cost provided in arrear. This (*see* Report, par. 440) may probably result in understating it; but for the moment assuming the relation to hold, it is seen from Sir George Hardy's Tables, taking the mean of all his results, that the cost in advance for pensions of about "fifty-fifths" of the average salary would be about 16s. per cent. of the annual salaries, whereas according to Mr. Tinner's Table the cost under similar conditions would be 21s. per cent., and according to the Elementary Teachers' Table used by Mr. Collins 8s. per

cent. The average result of Sir George Hardy's Tables would thus be approximately midway between the results of the Tables used by Messrs. Tinner and Collins respectively.

11. It will now be interesting to compare this rough conclusion with the more exact estimates of Mr. Tinner and Mr. Collins. In both cases the results were got by synthetic calculations, based on the concrete Type Cases set out in Appendix X, so that they are independent of the element of withdrawals. As mentioned in the Report (*see* par. 450), Mr. Tinner arrived by induction at the conclusion that the cost, by his Table, of disablement pensions on the proposed standard scale would be about 42s. per cent. of the annual salaries; whereas Mr. Collins, using the Elementary Teachers' Table, puts it at 17s. 3d. per cent. It will be seen that, so far as relative magnitude is concerned, these results are curiously confirmatory of the relation noted in par. 8, by the application of which the respective estimates of 21s. and 8s. for these two Tables were arrived at in the last paragraph.

12. As indicated in the Report (*see* par. 452), some deduction must be made from the cost thus calculated by Messrs. Tinner and Collins on account of the withdrawal element. This point is of more than mere theoretical interest from the point of view of the working of the proposed central body. It is contemplated that this body, though, as purely representative of the Hospitals themselves, it would have no direct relations with members of the staffs, would levy on the Hospitals and invest from the outset, or otherwise bring into account, the estimated amount of its expenditure calculated in advance. When, therefore, members of Hospital staffs resign and go entirely outside the new scheme, the central body would be left with its investments in respect of those members to help its finances generally. This is what actuaries term the profit from withdrawals. It was this point that Mr. Tinner had partly in mind when he reduced his estimate of 42s. to 30s. per cent. of the salaries; and if we reduce Mr. Collins's 17s. 3d. in the same proportion the corresponding cost, according to the Elementary Teachers' Table, would be about 12s. 3d. per cent.

13. Pursuing the comparison with the estimated cost of 16s. obtained from Sir George Hardy's Tables it may be enquired whether the latter still holds a position midway between the other two, which give a mean cost of 21s. per cent. In the first place it is necessary to raise the scale of pensions for which Sir George Hardy estimated to the standard scale adopted by Messrs. Tinner and Collins. His pensions worked out on the average at about 8 per cent. in excess of the sixtieths on which the Hospital Officers' scale (*see* Table in par. 446 of Report) was based. It is estimated that, allowing for the heavier incidence of the retirements at the advanced ages, the proposed standard scale given in the same Table would on the average exceed the sixtieths by more than the foregoing 8 per cent., but not very greatly. Increasing, therefore, the 16s. got in par. 10 in a slight degree we arrive at 17s. per cent. of the salaries as about the average cost for the proposed scale according to the Railway staff experiences, when the profit from withdrawals is only partly pooled for the benefit of the Fund.

14. In order to correlate further the respective estimates we must therefore deduct something from the 17s. for the partial withdrawal benefit in the Railway Funds, and add something for our assumption (no doubt involving an under-statement) that the relation between the actual Pension payments would be exactly reflected in present cost when provided in advance. Something should also be added for the higher rate of interest used by Sir George Hardy. There are no means of measuring these factors, but it would seem that the figure to be arrived at would be not far removed from the 21s. per cent. which is the mean of the final results adopted by Messrs. Tinner and Collins. We think, therefore, we are justified in making the following statements of the independent results we have got from Sir George Hardy's Tables: (i) they are of some use as showing that the estimates of Messrs. Tinner and Collins, arrived at by induction, will probably hold good when tested in the mass; (ii) they confirm the conclusion that the difference between Messrs. Tinner and Collins is due to the different rates of disablement in the Tables used by them; (iii) they point to a large body of Railway experience as occupying in this respect a

position about midway between those Tables; (iv) they suggest that we have not exaggerated the probable profit from withdrawals; and (v) they show that in adopting the actuaries' suggestion of 30s. per cent. we have allowed for a maximum disablement rate, the highest, at any rate, that has come before us in the form of a standard Table in the course of our enquiry, and one considerably higher than is shown in the latest of the Railway experiences (*see* par. 9).

15. In the following Table the cost of the proposed standard disablement pensions is shown in the case of Hospital Type Case No. 1 by the New South Wales experience. These results were calculated from the statistics of the Departmental Committee, referred to in par. 303 of our Report, by Mr. W. R. Strong, F.I.A., who has communicated them to us. There are two divisions of the employees of the New South Wales Government, viz. (i) a division roughly representing the Weekly Wage Staffs, and (ii) a division representing the Salaried Staffs. Interest is taken at $3\frac{1}{2}$ per cent:—

COST OF DISABLEMENT IN TYPE CASE No. I.

Age 24 next birthday at entry.

Basis.	I.—New Appointment.	II.—Existing Officer. (Future Service.)		
	Percentage of salary.	Percentage of future salary where past service is		
		10 years	20 years	30 years
N.S. Wales Weekly Wage Staffs	1·62 per cent.	1·73 per cent.	1·65 per cent.	1·25 per cent.
N.S. Wales Salaried Staffs	1·72 „	1·78 „	1·67 „	1·20 „
Elementary School Teachers (Mr. Collins)	·86 „	·85 „	·74 „	·47 „

Basis.	III.—Existing Officer. (Past Service.)					
	Additional percentage of future salary where the past service is			Lump sum where the past service is		
	10 years	20 years	30 years	10 yrs	20 yrs	30 yrs
				£	£	£
N.S. Wales Weekly Wage Staffs	·47 per cent.	2·23 per cent.	9·16 per cent.	34	146	288
N.S. Wales Salaried Staffs	·48 „	2·25 „	9·19 „	37	149	290
Elementary School Teachers (Mr. Collins)	·23 „	1·04 „	3·8 „	19	72	120

It may be noted that the rates of invalidity are identical in the two divisions, while the rates of withdrawal are naturally heavier in the weekly wage division. It is curious that while the rate of withdrawal in the weekly wage division is nearly double the rate in the salaried division, the difference in the resulting cost of disablement shown as a percentage of the salary is very small. In this experience, however, the rates of withdrawal in both divisions are relatively low, especially at ages over 30. These results suggest that the effect of withdrawals in reducing the net cost may easily be exaggerated. At the same time, in the case of the proposed central body (*see* par. 12), the withdrawal element must be worth something, and the general conclusion from these calculations seems to be that we are confirmed in putting the all-round cost of disablement in respect of future service at $1\frac{1}{2}$ per cent. of the salaries. Mr. Strong's calculations also confirm Mr. Collins's conclusion (*see* par. 454 of Report) that the cost for the future service of an existing staff would not be greater than for new appointments.

The proposed Central Body for Disablement.

16. It may be worth while to make some effort to visualize rather more closely than would be suitable in the main Report the practical working of the proposed central body. In constitution it would consist of the Associated Hospitals, who would act by elected representatives. For facility of working and dealing with its property (which in the supposed case would include numerous policies of insurance) it might be found desirable to register it as a limited company with a nominal capital, of which the shares would be held by the Hospitals. Its objects would be to systematize the grant of disablement benefits, to set up in advance the estimated cost of them, and after providing for as much as possible of this from extraneous sources, such as the Central Hospital Funds or other corporate or private donors, to levy the balance on the Hospitals annually.

17. As regards the general method of working by which the central body would best carry out its objects, there would be little to do involving general principles when once started but a good deal of detail work, calling for careful and sympathetic handling. Most of the questions arising would be connected with (i) the duration of life, (ii) the values of reversionary sums and the best way of dealing with them, (iii) the investment of surplus funds or alternatively applying them to finance the policies, (iv) the adjustment of financial relations with the individual Hospitals, or (v) the supervision of the combined disablement experience so as to test the sufficiency of the provision being made in advance for future cases. The work would be in some ways analogous to that transacted in the offices of Reversionary Societies and Insurance Companies. It is not likely that at the outset the disablement problem alone would provide sufficient work to absorb the whole time, even of a small staff; but it will be seen that such work as there would be is of a special kind, and the chief official should be, if possible, a qualified actuary, or at any rate a person familiar with such problems as have been named.

18. It may tend to give a clearer view of these problems if an attempt be made to trace approximately the financial progress of the proposed body. If the sums of money contemplated in the Report (*see* pars. 457 and 458), as necessary to extend the full benefits on superannuation and disablement to the whole of the existing staffs in respect of past service, were to be raised successfully, the central body would start with the prospect of every application for disablement pension being for the full amount based on past service, but it would at the same time, by hypothesis, be placed in funds sufficient to meet such payments, and it would clearly have surplus funds for investment. If, however, a start be made, as recommended in the Report, by providing each year the sums necessary to purchase benefits in respect only of future service, the position of the central body would be different. Suppose, for example, as suggested in par. 468 of the Report, it found that £5,000 per annum gradually falling to £2,000 would probably suffice for its operations in respect of a salary list of £300,000. Now the Table we have given above in par. 4 shows that, for a scheme in full operation, the disablement pensions might be expected, on the basis of Railway experience, to work out at about 2 or 2½ per cent. of the salaries, or about £6,000 or £7,000 a year on the Hospital salaries of £300,000, of which perhaps not more than £600 or £700 would fall in every year. But if past service be excluded the portions of the disablement pensions for which the central body would budget would be much less than this. For the proportion of each pension awarded in respect of past service the individual Hospital would remain liable as at present. The central body would commence only with such pensions as would emerge from year to year in respect of service dating from the initiation of the scheme. Without making any allowance for the relief estimated to come in later years by taking over insurance policies it seems clear that its actual outgoings would in the early years be very small. It would thus from the outset find itself with surplus funds to invest and not in need of temporary financial aid from any extraneous source, apart from the definite contributions it would hope to receive in mitigation of the annual levy to be made on the Hospitals.

19. In fact, as time goes on, the fund of the central body might amount to a considerable sum. The investment of a fund is a more difficult and complex question than is

commonly supposed. Even the best life insurance companies, under the advice of scientific actuaries, and professing to devote special attention to this question, have been caught in the grip of the financial conditions now ruling, and have had to write off large sums out of profits to make good the depreciation. It is now seen that permanent securities bearing a fixed interest, hitherto generally regarded as affording the highest security, are in reality, owing to their fluctuating value in the market, highly speculative from the point of view of conservation of capital. Fixed mortgages and short debenture bonds, often regarded with suspicion owing to the liability of the interest to fluctuate, are the reverse of speculative as regards conservation of capital. It would thus be a good thing if the central body, conducting what would be virtually a co-operative investment on behalf of the Hospitals at a minimum of expense, had at its disposal advice from the school of those accustomed to take long views. Indeed after the war the chief securities for Trustees will be for many years to come national loans of enormous amount which will be repayable by fixed dates, and perhaps non-state securities created in the future may tend to conform to the national type. Thus persons or bodies who in future have to prescribe rules for the investment of trust funds will be led naturally to consider the question whether it would be possible and desirable to restrict investments to such as guarantee a return of capital intact.

20. It is suggested in the Report (*see* par. 437) that the proposed central body, in order to provide in advance for future disablement, would proceed to make a " uniform or general " levy on the Hospitals for such proportion of the annual provision as it could not itself set up. From the point of view of any Hospital there will thus arise two questions of interest, apart from that of total cost, viz.: (i) on what principles should the part of the cost to fall on the Hospitals be levied? and (ii) what is likely to be its own share of the contribution? The answers will obviously depend on the amount of support from extraneous sources that the central body would receive. Assuming that efforts be concentrated on including the existing staffs in respect of all future service, we have already spoken of a total cost of £5,000 per annum to commence with, falling gradually to something like £2,000 per annum. This suggests that any financial help which the central funds or other donors might be disposed to give the Hospitals for this special purpose might usefully be given in the early years of the scheme. It is then not only that the cost will be greatest, but that the strain on the Hospitals of passing, in respect of ordinary superannuation as well as disablement, from a system of provision in arrear to provision in advance will be heaviest. Supposing, therefore, that the cost to fall on the Hospitals were no more than the sum of £2,000 or thereabouts estimated to be needed when the system of insurance policies should be in full working order and covering the whole staffs, in what way should this be levied on the Hospitals? It would probably be found to be sufficiently equitable to apply the ordinary principle of insurance, and to spread the average cost over all Hospitals by levying the charge as a uniform percentage of the salaries and emoluments. On a salary list of £300,000 the supposed charge would work out at two-thirds of one per cent., and it might be as low as one-half per cent. Thus a Hospital with a pensionable salary list of £10,000 would be called on to pay from the outset about £50 or £70 per annum for disablement in respect of future service. It would be found in practice, of course, that many of the lives, either through advancing age or failing health, would not be eligible for insurance policies. The central body would hope to provide for the additional cost of such cases from extraneous sources, but if it should not receive sufficient support to deal with the temporary and reducible extra cost of £3,000 or so for the existing staffs in respect of future service, a greater amount would fall on the Hospitals, and it might be necessary to devise a method of levying the charge that would take some account of the state of the existing staffs.

21. Though it will be clear from the foregoing remarks that it is difficult to forecast the exact working out of the suggested proposals in practice, it may be useful to carry the attempted process one step further and, from the point of view of financial soundness, summarize the considerations which may be regarded as the foundations on which the scheme rests, and the margins of strength that are allowed for. In the first place, it is fairly

clear from what we have written in the earlier part of this Appendix that the actuaries who have advised us have estimated the cost in advance of the disablement pensions at a figure which allows a considerable margin for contingencies. By adopting as a guide the great body of Railway experience, or the Teachers' experience, instead of Mr. Tinner's own Table, they might have justified us in putting the cost at two-thirds or even one-half of what we have estimated for. In the second place, the Universities system, on which the proposed pensions are to be grafted, already provides benefits which average about one-third of those proposed. In other words, about one-half of the provision by means of which the central body would hope to reduce its permanent levies from the £5,000 to the estimated £1,500 or £2,000 per annum already exists inherently in the main scheme for superannuation. In the third place, it seems clear from the actuarial evidence that, in cases of disablement, a system of existing insurance policies, if properly utilized, may be reckoned upon to provide at least some portion of the proposed pensions. In the fourth place, there is a fair prospect that the central body will get such an amount of extraneous support as will enable it to relieve the Hospitals of a part, and a not insignificant part, of their liability. It is a well-established fact that the mere existence of an organization for a specific object encourages support from those who approve the object. Better evidence in support of this statement could not be produced than the success of the great Central Hospital Funds. The spectacle of the Hospitals themselves combining for a good object, calculated to increase the efficiency and raise the status of Hospital service generally, is well adapted to elicit support. In the last place, the proposals are wholly governed by the principle that the primary responsibility for disablement will rest, as at present, on the Hospitals themselves. The proposed central body will be essentially a mutual association of the Hospitals for the purpose of administrating the disablement benefits and spreading the reduced ultimate cost rateably, so far as this may be done equitably, over the whole body. It seems to follow from these considerations (i) that although in our endeavours to forecast the operations of the proposed central body we may have spoken of its "liabilities" and of the necessity under which it will work of preserving an actuarial balance between its assets and hypothetical liabilities, the central body will not be in any way in the position of a mutual pension fund, to the solvency of which the individual members would look for the integrity of their pensions, and (ii) that in accepting the ultimate responsibility for keeping the central fund in a state of actuarial solvency, the Hospitals on their side cannot possibly be in the end any worse off than they are at present, whereas they may, and probably will, be a good deal better off.

22. We may add that all the considerations summarized in the last paragraph are qualified by the assumption that the pensions to be provided on disablement are those represented by the somewhat arbitrary scale adopted for purposes of illustration in par. 446 of the Report. We adopted that scale for our own use as the suggestion of an actuary having considerable experience of disablement questions, but there would be no obligation on the Hospitals to initiate the scheme with that particular scale, or to maintain it subsequently, if the cost were found to be excessive. We doubt whether a scale that yielded benefits on the average appreciably smaller than we have suggested would be found suitable for the purpose; but, for actuarial reasons which need not detain us here, the suggested scale based on Mr. Tinner's methods might prove difficult to handle in practice, and we quite contemplate that one of the first duties of the central body would be to investigate this question in order to recommend a scale of benefits which would be suitable from the technical point of view, and also be considered safe in the light of such later information as might then be available. Amongst other points to be weighed would be the consideration that the scale should not be such as would provide any positive inducement to retire. In the case of the Railway Clearing System Fund, in the language of one of the witnesses before Lord Southwark's Committee, an excessive number of retirements under the heading of incapacity were "dumped" on the Fund. In the circumstances of the proposed central body, however, there ought not to be the same tendency to this process that appears to exist in the case of a Superannuation Fund; for (i) each Hospital would be a constituent member of the associated body, and presumably feel an obligation to use it only in a legitimate way, and (ii) if a different

rule of conduct existed, and succeeded in influencing the flow of retirements, the financial result would quickly come home in the shape of increased levies. This point is illustrated clearly in par. 237 of our main Report. If the levies remained moderate it seems not undesirable that the Hospitals should have the choice of taxing themselves, within such limits as would be consistent with the fairness of a uniform levy, to produce efficiency. If, on the other hand, the levies became excessive, the remedies before the Hospitals would be (i) to insist on a more severe standard, or (ii) to make increased efforts for extraneous support, or (iii) in the final resource to reduce the scale of benefits. The important thing, from the point of view of the ability of the central body to forecast its expenditure and preserve an actuarial balance, would seem to be that the standard of what constitutes disablement should be carefully fixed and consistently adhered to, so that the law of average may have fair scope to work. The central body ought thus to be made sufficiently strong to maintain proper standards and rules. When, as will be inevitable, there are border line cases as regards health, or questions involving general policy, a possible solution might be to give the central body discretionary power to enter into partial commitments in individual cases, leaving anything further to be arranged by the individual Hospital concerned.

23. The reasoning of par. 21 suggests that, as a matter of procedure, each disablement question should be settled with the individual member by the Hospital concerned. Although the latter would need in any particular case to secure the consent of the central body, so that a uniform standard of medical elimination might be applied to all, and possibly for other reasons (*see* par. 460), it would no doubt be desirable that it should itself pay all pensions, arrange for all contributions, and settle up periodically any balance of the account with the central body. This conception of the relations existing between the Hospitals and the central body points in turn to a possible further development. For a good many years to come the cases of disablement will arise very largely among the older members of the present existing staffs, in regard to a great part of the past service of whom the central body would have no cognizance and make no provision. For the reward of all past service the Hospital will, pending a complete solution of the problem of the existing staffs, remain liable as at present.* If, therefore, the central body should be able, as time goes on, to carry out the programme roughly indicated in par. 20, and then find itself with surplus resources, the question would arise whether these should be applied to reduce the more or less permanent levy for future disablement, be it 10s. per cent. of the salaries or whatever rate it may settle down to, or whether the money could not be applied better in helping the Hospitals to bridge over the interval during which they will remain liable on any retirement for so much of the past service as was rendered prior to the initiation of the scheme. In other words, the ultimate object of the central body might come to be regarded as being not only to arrange for disablement pensions *pari passu* with ordinary superannuation in respect of future service, which is its primary conception, but to provide machinery by which the Hospitals could pass wholly, so far at all events as disablement is concerned, from the system of providing in arrear, with all its attendant liability to derange the finances of the smaller Hospitals, to that of providing in advance. The cost of this would depend on the ages and "insurability" of the existing

* To illustrate this point the following Table is given, showing, in certain selected cases, the amounts of pension in respect of future service to which the purview of the central body would be limited:—

EXISTING STAFFS :—SPECIMEN DISABLEMENT PENSIONS IN RESPECT OF FUTURE SERVICE PROVIDED BY THE PROPOSED STANDARD SCALE IN THE TYPE CASES.

[Deduced from the figures in App. VIII, Table VI.]

Years of Future Service to date of breakdown.	Number of Years Past Service at inception of Scheme.								
	10			20			30		
	Type Case No. I.	Type Case No. II.	Type Case No. III.	Type Case No. I.	Type Case No. II.	Type Case No. III.	Type Case No. I.	Type Case No. II.	Type Case No. III.
	£	£	£	£	£	£	£	£	£
5	38	21	21	43	21	20	32	23	16
10	83	42	43	81	45	39			
15	125	63	63	112	69	56			
20	163	87	82						
25	195	110	98						

staffs. It will be seen that this suggestion raises the question whether the central body should have discretion, in disposing of surplus funds, to apply them in cases of individuals or of individual Hospitals or otherwise in such a way as would in its opinion best help the Hospitals in the general pursuit of efficiency.

24. The proposed central body, or "Central Board," or whatever it may be called, might thus in time become, if managed with knowledge and discretion, a body with very useful functions and exercising a certain amount of moral authority. It might, for example, undertake for the King's Fund the collection and classification of the statistical information as to all Hospital staffs recommended in the main Report (*see* par. 113); and it might be one of the bodies authorized to exercise the trusts we have contemplated in connection with the scheme for young Nurses (*see* par. 106 of Report). It might even organize an Approved Society to include all Hospital employees in one system of National Health Insurance. If, later on, it should be practicable to help the Hospitals to pass from the system of providing in arrear for past service to that of providing in advance, not only in respect of the cost of disablement but of the much heavier cost of superannuation generally, the services of some such organization would be needed to co-ordinate claims and guide distribution. Finally, the existence of such an organization, especially if it possessed a corporate existence and skilled management, might suggest the possibility of its taking over the secretarial and purely ministerial part of managing the main superannuation scheme. The latter would depend, for the maintenance of its general principles, on the existence of some general representative council representing all interests; but when once an initial conference or council had organized the scheme such a body as we have contemplated, being in business relations with all the Hospitals but probably with insufficient work to occupy a small staff wholly, would be well qualified to carry it on. Indeed the experience of the Universities System suggests the desirability of such work being done by officials having some acquaintance with insurance business. That system, soon after its initiation, was faced with a state of war which, while existing contracts were unaffected by it, necessarily varied the terms on which new contracts could be effected. Where such unexpected events happen it would be not improbably an advantage to have a type of management which, while sufficiently expert to know how to get maximum concessions for the members from the companies would at the same time understand the maximum limits to which the companies can go, and would thus help to preserve advantageous relations with the institutions upon whose soundness and success the whole scheme would in turn depend.

25. If some of the preceding remarks appear to have little relation to the question of the cost of disablement, with which this Appendix is more particularly concerned, they will at least serve, in conclusion, to remind us of the existence of the much larger problem of ordinary superannuation and of the need for keeping the minor question of disablement in proper perspective. It is for this reason, and to differentiate our suggestion of a central body, with theoretical "liabilities" actuarially calculated, from the idea of an ordinary pension fund, that we have dwelt on the responsibility of the Hospitals as constituting the essential foundation of our proposals, and on the moderate amount of the ultimate levy that will probably suffice to give effect to them. We have seen that, whereas a contribution from the Hospitals of 5 per cent. of the salaries is the minimum that will provide in advance for their share of the cost of ordinary superannuation, our estimates point to an ultimate levy for disablement pensions only of perhaps one-eighth and possibly only one-tenth of this amount. In other words, whereas in order to give effect to the proposals in the Report for ordinary superannuation in respect of future service the Hospitals as a whole would have to face an estimated total expenditure of about £15,000 per annum, the relative net cost of financing the central body for disablement would be more likely to settle down to £1,500 or £2,000. Any sum of this kind, when spread over the whole body, has been seen to represent a very small percentage of the annual salary bill. Viewed, therefore, with a sense of proportion and relatively to the total responsibilities of institutions whose ordinary expenditure increased in the single year 1916 by £104,540, with a further increase in 1917 of £158,348, it appears that the liability of the Hospitals to contribute to the central body would be not only one of their own responsibilities in a mitigated form but in itself a liability of quite minor financial importance.

INDEX.

All FIGURES, *except those which are printed after* p. (*page*) *or* pp. (*pages*), *refer to* PARAGRAPHS.
Page FIGURES *in small type refer to pages in the* APPENDICES.

FIGURES *in heavy type indicate either the principal* PASSAGES, *bearing the heading in question, or* PASSAGES *containing conclusions or recommendations.*

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