

from the schedules, and these average salaries have been graduated to remove irregularities. The present salary of each person has then been assumed to increase from age to age in the same ratio as that of the graduated scale. The average and graduated salaries for males and females are shown hereunder:—

## SCALE OF SALARIES.

MALES.						FEMALES.					
Age.	Average Salary.	Graduated Salary.	Age.	Average Salary.	Graduated Salary.	Age.	Average Salary.	Graduated Salary.	Age.	Average Salary.	Graduated Salary.
	£	£		£	£		£	£		£	£
15	32·3	35·0	38	195·7	200·5	15	..	..	38	93·8	94·3
16	49·4	42·0	39	210·6	206·5	16	40·0	40·0	39	98·8	95·5
17	49·8	50·0	40	218·5	212·5	17	40·0	40·8	40	92·9	97·1
18	54·6	58·5	41	211·2	219·5	18	42·5	43·0	41	..	98·8
19	61·6	67·5	42	233·4	225·5	19	44·9	46·0	42	71·7	100·8
20	77·8	77·0	43	236·7	233·0	20	45·7	49·2	43	87·7	102·2
21	88·8	87·0	44	233·0	238·0	21	56·1	53·0	44	166·7	103·2
22	99·6	96·0	45	245·0	242·5	22	61·3	56·7	45	118·2	104·0
23	109·0	106·0	46	259·6	246·5	23	62·2	60·0	46	140·0	104·0
24	115·8	116·0	47	234·5	249·0	24	70·7	63·6	47	85·0	104·0
25	124·0	125·6	48	251·8	251·0	25	67·2	67·2	48	70·0	104·0
26	135·6	135·5	49	299·7	252·5	26	71·5	70·0	49	97·2	104·0
27	137·6	143·0	50	233·0	253·0	27	68·7	73·0	50	100·0	104·0
28	149·1	149·5	51	249·8	253·0	28	66·0	75·8			
29	164·1	156·0	52	232·9	253·0	29	89·6	78·3			
30	162·6	161·0	53	248·0	253·0	30	80·8	80·7			
31	168·7	165·5	54	268·6	253·0	31	77·1	83·0			
32	163·2	170·5	55	262·3	253·0	32	80·8	85·0			
33	173·4	175·5	56	236·8	253·0	33	106·4	87·0			
34	177·2	180·0	57	243·4	253·0	34	78·5	88·8			
35	175·9	185·0	58	227·1	253·0	35	82·3	90·2			
36	199·4	189·5	59	255·6	253·0	36	81·8	92·0			
37	187·5	194·5	60	231·9	253·0	37	97·5	93·2			

*Results of Valuations.*

12. I will now draw particular attention to the table in Appendix No. 5, which contains the results of valuations of the scheme in the Bill and of various modifications. No other schemes than the one in the Bill have been submitted to me, except the proposal of the Public Accounts Committee of last session that back service should only count for half-pensions, but certain proposed alterations have indirectly come under my notice, and I have fully dealt with each of them. It will be noticed from the table referred to that the capital value of the full actuarial liability involved ranges from £2,042,000 to £1,338,000, according to the nature of the scheme. These results will doubtless appear large, but they require analysis and explanation before their real meaning can be fathomed.

*Explanatory Illustration.*

13. For the purpose of illustration I take the valuation of a series of contracts of a simpler nature than those with which we are actually concerned. Let us consider the various liabilities incurred (on a 4-per-cent. basis) by a Government undertaking to pay—(1) £400 a year in perpetuity; (2) £600 a year for twenty-eight years; (3) pensions, commencing at £1,000 a year, on the lives of men aged 60; (4) £10,000 a year deferred pensions after 60, on the lives of boys now aged 15 (without any contributions from the boys); and (5) £20,000 a year similarly deferred pensions (with about half the necessary contributions from the boys). It would be quite impossible to compare these annual payments, differing so largely in amount and status, without ascertaining the present value of each set, or the sums which, paid now and invested at 4 per cent., would probably be sufficient to make all the payments as they fall due until the last. The following schedule gives these present values:—

Description of Contract.	Present Value of Net Liability Involved in the Contract.
(1.) £400 a year payable in perpetuity .. .. .	£ 10,000
(2.) £600 a year payable for 28 years .. .. .	10,000
(3.) £1,000 a year payable as pensions of £100 each to 10 men now aged 60 .. .. .	10,120
(4.) £10,000 a year payable as deferred pensions of £100 each to the survivors at age 60 of 100 boys now aged 15, <i>without any contributions from the boys</i> .. .. .	10,890
(5.) £20,000 a year payable as deferred pensions of £100 each to the survivors at age 60 of 200 boys now aged 15, <i>with contributions of £3 a year from each boy</i> .. .. .	10,250

The above schedule shows that these series of payments, *varying so greatly in nature and amount*, are all worth approximately *the same*, the liability involved being about £10,000 in each of the five.

*Different Kinds of Liabilities.*

14. Another important aspect will be made clear from a consideration of the foregoing schedule in reference to the essentially different nature of some of these liabilities. In No. (1) it is the simple case of a constantly recurring liability met by uniform recurrent payments of £400 a year. In No. (2) the liability is more largely a present one, and might be liquidated either by 28 yearly payments of £600 each or by a present single payment of £10,000; while No. (3) is still more of a present liability, and might be met either by yearly payments commencing at £1,000 and decreasing yearly till the death of the last pensioner, or by a present payment of £10,120. Nos. (4) and (5) are of an entirely different character. Although the present pay-