

THE LATE MR. HILLMAN'S TABLES OF THE VALUES OF LIFE
ASSURANCE POLICIES.

To the Editor of the Assurance Magazine.

SIR,—Having recently had occasion to use the values of policies at 4 per cent. "Experience" rate of mortality, I very naturally sought to avail myself of the labours of the late Mr. Hillman, who, in his *Value of Life Policies* published the values at the rate above mentioned—that being the only published table, according to the "combined experience" at 4 per cent., with which I am acquainted. For the object I had in hand this promised to be a valuable assistance, inasmuch as it would save the necessity of my forming the values which I had there hoped to find were at my service. Instead, however, of obtaining the expected aid, I discovered that a considerable number of the values I had based upon Mr. Hillman's figures were untrue, owing to the extreme inaccuracy of the table referred to, not a page of which is without numerous errors.

It is painful to criticise the work of a deceased member of the profession, but I am impelled to do so as a duty to others who, like myself, may be tempted to avail themselves of these tables, which are stated to be the result of many years' labour, and to have been printed "for circulation among those engaged in the business of life assurance," in consequence of several of Mr. Hillman's more immediate friends being desirous of possessing a copy. The work is commended on the ground that, "if it will not much abridge the labour of the computations, it will form results by which they may be verified." The compiler also expresses his obligation to four gentlemen named, and others, for assistance rendered him during the compilation of the work. It therefore naturally follows that a certain amount of confidence will be reposed in the values thus accredited, which are there so extensively collected, and which, if trustworthy, would be of great value. Unfortunately, such confidence would be sadly misplaced, inasmuch as in the table at 4 per cent. Experience (to which my examination has been limited), at pages 69 to the end, the number of errors is, on an average, 10 to each page; besides nearly nine hundred differences which I have noted to the extent of + or - 1 and 2 in the final figures, and which appear to have arisen from incorrect interpolation of the logarithmic results.

That this communication may not be considered undeserving the notice of the profession of actuaries, and to show that I am not influenced by any feeling towards the deceased gentleman by whose name the tables are sanctioned, and with whom I was in no way acquainted, I append a list of the incorrect values above referred to, in order that others may possibly be spared the inconvenience to which I have been subjected in correcting the erroneous results at which I had arrived by confiding in so untrustworthy a pioneer. Allow me, in conclusion, to observe that some of the errors are so obvious as to be readily detected by inspection of the differences, by which means I first alighted upon a portion of them—sufficient, indeed, to throw distrust upon the whole. A recomputation of the entire table by myself has shown how far that distrust was well founded.

As further evidence of the want of attention in the compilation, I may instance Tables IV., V., and VI., being the preparatory tables

for computing the present values of policies at the rates of 3, 3½, and 4 per cent. Experience, the logarithms of the annuities payable immediately ($\lambda\bar{1} + a$) from age 93 to the final age, in each of the three tables, are given with a negative index—an error manifest to the merest tyro, and which, had those logarithms been used in the computation of the Tables of Values Nos. X., XL., and XII., founded on them, would have produced values of one-tenth only of the correct results.

It is very probable that the errors to which I thus draw attention may have been observed by others, who may have felt, as I do, a delicacy in making the fact public. I trust, however, that I shall be acquitted of having transgressed the requirements of good feeling, for I may truly say that I have no other object in view than to save others from falling into a difficulty similar to that which I have encountered.

I am, Sir,

Your obedient servant,

SAMUEL L. LAUNDY.

Eagle Life Office,
10th December, 1860.

A Schedule of Ninety-nine Errors referred to in the foregoing Letter.

Page 69, Age 14,	column 3	years,	·01517	should be	·01523
" " 15	" 5	"	·02770	"	·02735
" " 17	" 2	"	·01122	"	·01127
" " 18	" 2	"	·01172	"	·01169
" " 23	" 3	"	·02185	"	·02176
" " 23	" 5	"	·01748	"	·03748
" " 27	" 5	"	·04400	"	·04397
" " 29	" 1	"	·00894	"	·00890
" " 31	" 3	"	·02994	"	·03005
" " 33	" 2	"	·02141	"	·02146
" " 39	" 5	"	·07321	"	·07342
" " 40	" 2	"	·02927	"	·02933
" " 45	" 1	"	·01800	"	·01797
" " 49	" 5	"	·10705	"	·10715
" " 50	" 3	"	·06567	"	·06570
" " 51	" 2	"	·04501	"	·04507
" " 52	" 3	"	·07133	"	·07032
" " 55	" 2	"	·05067	"	·05168
" " 56	" 3	"	·08146	"	·08046
Page 70, " 16	" 9	"	·05596	"	·05494
" " 28	" 9	"	·08790	"	·08802
" " 42	" 9	"	·15644	"	·15633
" " 45	" 8	"	·15295	"	·15292
" " 46	" 6	"	·11792	"	·11693
" " 46	" 9	"	·17912	"	·17903
" " 49	" 7	"	·15160	"	·15170
" " 57	" 10	"	·27641	"	·27661
Page 71, " 18	" 11	"	·07473	"	·07515
" " 27	" 11	"	·10688	"	·10685
" " 33	" 15	"	·19861	"	·19869

Page 71,	Age 34,	column 15	years,	·20823	should be	·20640
"	"	40	" 15	" ·25587	"	" ·25570
"	"	47	" 15	" ·31533	"	" ·31690
Page 72,	"	18	" 18	" ·13989	"	" ·13886
"	"	38	" 17	" ·27355	"	" ·27555
"	"	43	" 16	" ·30101	"	" ·30200
"	"	45	" 18	" ·36400	"	" ·36299
"	"	47	" 20	" ·42633	"	" ·42607
"	"	60	" 20	" ·55258	"	" ·55247
Page 73,	"	16	" 24	" ·19126	"	" ·19114
"	"	20	" 22	" ·19790	"	" ·19691
"	"	30	" 25	" ·32679	"	" ·33603
"	"	33	" 21	" ·29812	"	" ·29892
"	"	42	" 24	" ·45435	"	" ·45426
"	"	56	" 23	" ·58011	"	" ·58021
Page 74,	"	22	" 26	" ·26914	"	" ·26895
"	"	25	" 28	" ·33969	"	" ·33069
"	"	38	" 28	" ·48452	"	" ·48440
"	"	40	" 26	" ·47039	"	" ·47027
"	"	41	" 26	" ·48294	"	" ·48194
"	"	44	" 30	" ·59198	"	" ·59098
"	"	52	" 26	" ·60163	"	" ·60082
"	"	53	" 27	" ·62943	"	" ·62964
"	"	58	" 28	" ·60871	"	" ·69871
Page 75,	"	14	" 32	" ·27231	"	" ·27398
"	"	22	" 33	" ·37638	"	" ·37628
"	"	27	" 35	" ·47242	"	" ·47169
"	"	35	" 35	" ·57323	"	" ·57320
"	"	43	" 31	" ·59765	"	" ·59776
"	"	49	" 32	" ·67836	"	" ·67805
"	"	50	" 34	" ·72049	"	" ·72079
"	"	52	" 34	" ·74176	"	" ·74170
"	"	54	" 34	" ·76182	"	" ·76382
"	"	57	" 31	" ·74441	"	" ·74461
Page 76,	"	28	" 38	" ·53658	"	" ·53568
"	"	31	" 37	" ·55124	"	" ·55724
"	"	31	" 38	" ·57043	"	" ·57402
"	"	32	" 39	" ·60311	"	" ·60301
"	"	34	" 37	" ·59460	"	" ·59469
"	"	34	" 40	" ·64426	"	" ·64326
"	"	39	" 36	" ·63740	"	" ·63749
"	"	39	" 38	" ·67019	"	" ·66942
"	"	41	" 38	" ·69098	"	" ·69113
"	"	46	" 38	" ·74212	"	" ·74222
"	"	47	" 39	" ·76285	"	" ·76755
Page 77,	"	22	" 43	" ·53005	"	" ·53995
"	"	26	" 42	" ·57504	"	" ·57594
"	"	27	" 41	" ·57245	"	" ·57255
"	"	33	" 44	" ·69312	"	" ·69212
"	"	33	" 45	" ·69646	"	" ·70646
"	"	34	" 41	" ·65980	"	" ·65878
"	"	34	" 45	" ·71733	"	" ·71739

Page 77,	Age 35	column 44	years,	·71524	should be	·71424
"	" 41	" 44	"	·77667	"	·77656
"	" 42	" 45	"	·80076	"	·80065
"	" 45	" 42	"	·78552	"	·79040
"	" 45	" 43	"	·80480	"	·80474
Page 78,	" 22	" 47	"	·60449	"	·60357
"	" 22	" 49	"	·63498	"	·63414
"	" 23	" 46	"	·60080	"	·60089
"	" 23	" 50	"	·66130	"	·66139
"	" 26	" 46	"	·64703	"	·63880
"	" 30	" 47	"	·70160	"	·70100
"	" 32	" 47	"	·71674	"	·72319
"	" 34	" 46	"	·73150	"	·73112
"	" 34	" 49	"	·77046	"	·77041
"	" 35	" 46	"	·74267	"	·74166
"	" 37	" 50	"	·81826	"	·81402
"	" 40	" 46	"	·79303	"	·79321

MISS FLORENCE NIGHTINGALE'S "NOTES ON NURSING."*

To the Editor of the Assurance Magazine.

SIR,—The important bearing which all matters connected with social and sanitary science have upon the health and longevity of the people, will be my apology for offering a few remarks on the above work, which, though entitled by the estimable Author *Notes on Nursing*, is devoted, to a considerable extent, to household *hygiène*—a subject entirely cognate to the questions usually discussed in the pages of the *Assurance Magazine*, as affecting, in the first place, the question of sanitary reform, in which we are all alike interested, and, in the second, the deepest interests of the assurance community.

With respect to that portion of the *Notes* which refers to nursing *proper*, I have only to say that the experience of the Author most fully qualifies her to lay down rules on the subject, and that every word she utters teems with valuable advice to those who have the personal charge of the health of others entrusted to them.

In connexion with *hygiène*, Miss Nightingale lays great stress upon the importance of procuring in our houses a due supply of fresh external air, by means of proper ventilation, a matter far too little attended to in general in this country, and she shows how it is possible to secure efficient ventilation without necessarily producing draughts of cold air—by means of proper arrangements as to the opening of the windows of houses, which, even at night, she considers to be unobjectionable.

Referring to the popular idea that exposure to the night air is generally undesirable, she says, that "in great cities, night air is often the best and purest air to be had in the twenty-four hours," and quotes the opinion of one of the highest medical authorities on consumption and climate in confirmation of the fact, that "the air in London is never so good as after ten o'clock at night."

* *Notes on Nursing: What it is, and What it is not.* By Florence Nightingale. London, Harrison, 59, Pall Mall.