BIRD'S-EYE VIEW

OF

LIFE - INSURANCE

AND

Mathematical and Logical Exposition

OF THE

LEVEL PREMIUM PLAN.

KING BRUCE, · ACTUARY,

TORONTO, ONT.

PRICE, ONE DOLLAR.

Preface.

TO all parties holding Life Insurance Policies, whether in the Old Line Companies or in the Co-Operative Societies, this Book may be found convenient at least, and to all others it will be more or less instructive, for which it has been with great care expressly prepared, with a desire that it may accomplish the desired end. The school-girl gathers flowers in the garden and makes a boquet; the writer gathers facts and makes a book. If the boquet is beautiful and the book useful, it is enough. Had the flowers been of the girl's own manufacture, the boquet would have been without fragrance, and were the book to contain but the ideas, opinions and theories of the author, it might be worthless. Theories that have been proved, facts that have been established, and laws that have been authoritatively explained, are better material for a book, if properly arranged, than would be the thoughts of the author's own coining, even though he may be "wise in his own conceit." To make use of the language of others, is but to back opinion by authority.

Life Insurance presents great opportunities for fraud on the part of both the insurer, insured and assured, but it is a necessity of modern society. The general public have but limited ideas of the business, or the methods of carrying it on. The Life Insurance field is assiduously cultivated, and it will continue to furnish opportunities for fraud and robbery on the part of the Managers of Companies until the Policyholders awake to the importance of a personal knowledge of the business and its details. Of all forms of contract, the Life Insurance contract is the least understood. This is unnecessarily so, and it should not be so. Equity and right are matters of importance in Life Insurance.

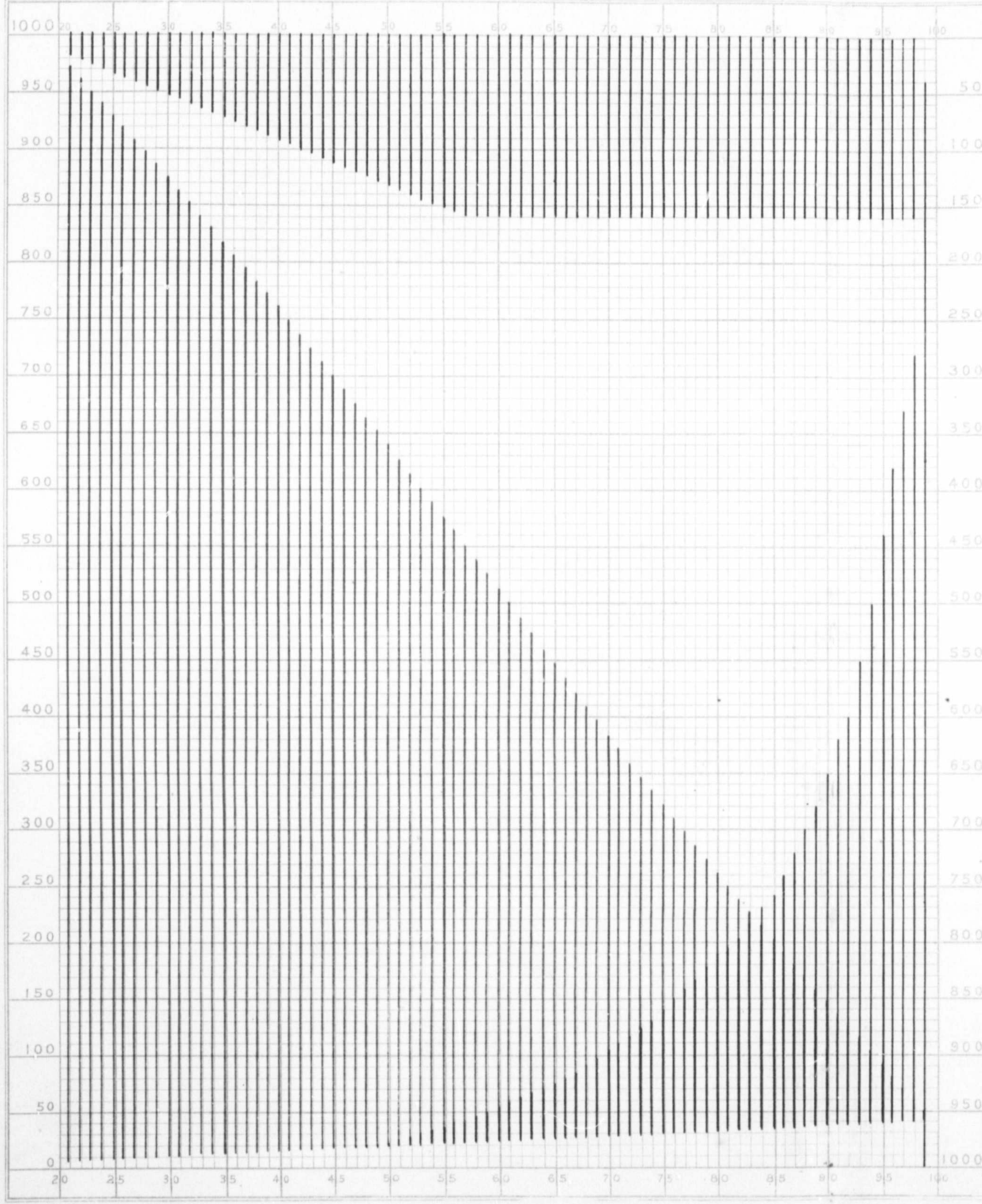
The net value or legal value belongs to the insured, and should be given to the Policyholder on surrender or lapse. (See J. L. Greene in New York *Tribune*, March 28th, 1885.) True, its forfeiture to Companies is a large profit, but that profit is the profit of pure gambling. A Mutual Life Insurance Company, with the forfeiture clause in its Policies, is an engine for plunder in the hands of dishonest Managers. Commercial value is in addition to net value. Surplus and Reserve in a Mutual Life Insurance Company belong to the Policyholders, as they are the unearned and unexpended part of their premiums.

The Reserve Fund is said to constitute the wealth of Life Insurance Companies. It is not *wealth*, but a *debt* from the Corporation to its Members. It is a great Trust Fund confided to the Managers. It has nothing to do with the Insurance except to diminish the risk. It represents so much of the Policy absolutely bought and paid for, and belongs to the Policyholder as does a deposit in a Savings Bank, and to forfeit it for any cause is great injustice.

An analysis of a Life Policy is necessary to distinguish the two ownerships of insurer and insured, as well as to show how the account stands with the Company, and the dual character of the Policy. No settlement should be made with a Company on surrender or lapse of a Life Policy without Actuarial advice. No person should insure his life without first consulting a disinterested and unbiased Life Insurance Mathematician.

To Policyholders I would say, send or bring your Policies and get an honest opinion and honest service, as you cannot afford to fight gigantic monopolies unaided and alone.

KING BRUCE.



AGE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
20	$12.95	$19.45	$3.9[illegible]	$	$993.78	$	$5.98	$7.29	$7.01	$6.97	$173.16	$13.85	$11.70	$18,262	$4651
1	13.27	19.32	3.90	6.22	987.34	6.44	5.95	7.38	7.09	7.00	174.11	13.93	12.02	18,153	4581
2	13.61	19.20	3.82	12.66	980.69	6.65	5.91	7.46	7.18	7.04	175.08	14.00	12.35	18,050	4487
3	13.96	19.07	3.75	19.31	973.81	6.88	5.87	7.56	7.27	7.08	176.08	14.08	12.69	17,937	4393
4	14.33	18.94	3.68	26.19	966.71	7.10	5.83	7.67	7.37	7.12	177.09	14.17	13.06	17,819	4248
5	14.72	18.80	3.61	33.29	959.36	7.35	5.79	7.77	7.47	7.16	178.14	14.25	13.46	17,694	4200
6	15.13	18.66	3.54	40.64	951.77	7.59	5.72	7.89	7.58	7.23	179.20	14.33	13.88	17,561	4102
7	15.56	18.51	3.47	48.23	943.93	7.84	5.68	8.01	7.70	7.27	180.30	14.42	14.33	17,423	4004
8	16.00	18.36	3.40	56.07	935.82	8.10	5.64	8.14	7.83	7.31	181.49	14.52	14.80	17,281	3909
9	16.48	18.20	3.33	64.18	927.47	8.36	5.58	8.28	7.96	7.37	182.51	14.60	15.34	17,137	3816
30	16.97	18.04	3.27	72.53	918.86	8.61	5.51	8.42	8.10	7.44	183.66	14.69	15.80	16,989	3726
1	17.49	17.87	3.20	81.14	909.93	8.93	5.45	8.58	8.25	7.50	184.82	14.78	16.32	16,839	3638
2	18.04	17.69	3.13	90.07	900.74	9.19	5.37	8.75	8.41	7.58	186.00	15.06	16.88	16,684	3552
3	18.61	17.52	3.06	99.26	891.25	9.49	5.31	8.92	8.58	7.64	187.21	14.98	17.46	16,523	3467
4	19.22	17.34	3.00	108.75	881.44	9.81	5.24	9.10	8.75	7.71	188.43	15.07	18.07	16,358	3383
5	19.87	17.14	2.94	118.56	871.32	10.12	5.17	9.29	8.93	7.78	189.67	15.17	18.72	16,186	3300
6	20.54	16.95	2.87	128.68	860.88	10.44	5.10	9.48	9.12	7.85	190.94	15.27	19.40	16,010	3220
7	21.26	16.74	2.80	139.12	850.07	10.81	5.04	9.69	9.31	7.91	192.23	15.38	20.11	15,830	3141
8	22.02	16.53	2.74	149.93	838.82	11.15	4.96	9.91	9.53	7.99	193.56	15.48	20.86	15,645	3065
9	22.82	16.32	2.69	161.08	827.39	11.53	4.90	10.13	9.74	8.05	194.92	15.59	21.64	15,455	2990
40	23.67	16.09	2.62	172.61	815.46	11.93	4.83	10.36	9.96	8.12	196.33	15.70	22.47	15,260	2916
1	24.59	15.86	2.56	184.54	803.13	12.33	4.76	10.61	10.20	8.19	197.78	15.82	23.36	15,056	2844
2	25.55	15.62	2.50	196.87	790.40	12.73	4.68	10.89	10.48	8.27	199.27	15.94	24.30	14,845	2772
3	26.59	15.37	2.44	209.60	777.29	13.11	4.55	11.25	10.82	8.40	201.03	16.08	25.32	14,625	2701
4	27.68	15.12	2.39	222.71	763.85	13.44	4.36	11.70	11.25	8.59	202.40	16.19	26.39	14,398	2632
5	28.84	14.86	2.33	236.15	750.09	13.76	4.15	12.21	11.74	8.80	203.95	16.32	27.54	14,165	2564
6	30.08	14.59	2.28	249.91	736.08	14.01	3.87	12.84	12.35	9.05	205.45	16.43	28.74	13,927	2498
7	31.38	14.32	2.22	263.92	721.81	14.27	3.57	13.52	13.00	9.38	206.80	16.54	30.01	13,676	2435
8	32.77	14.04	2.17	278.19	707.30	14.51	3.26	14.26	13.71	9.69	208.21	16.66	31.34	13,441	2374
9	34.22	13.76	2.12	292.70	692.55	14.74	2.90	15.06	14.48	10.03	209.44	16.75	32.75	13,191	2315
50	35.77	13.47	2.07	307.45	677.58	14.97	2.57	15.94	15.33	10.88	210.55	16.84	34.24	12,936	2258
1	37.42	13.18	2.03	322.42	662.41	15.17	2.18	16.90	16.25	10.79	211.55	16.92	35.83	12,676	2202
2	39.15	12.88	1.98	337.59	647.05	15.36	1.79	17.95	17.26	11.16	212.41	16.99	37.53	12,408	2147
3	40.99	12.58	1.93	352.95	631.52	15.53	1.37	19.09	18.36	11.58	213.12	17.05	39.35	12,134	2092
4	42.95	12.28	1.89	368.48	615.82	15.70	.94	20.31	19.53	12.01	213.67	17.09	41.29	11,856	2043
5	45.02	11.98	1.85	384.18	599.98	15.84	.45	21.66	20.83	12.50	214.05	17.12	43.38	11,573	1993
6	47.23	11.67	1.81	400.02	584.02	15.96	-.03	23.13	22.24	12.98	214.20	17.13	45.55	11,286	1945
7	49.57	11.36	1.77	415.98	567.92	16.10	-.53	24.68	23.73	13.48	214.28	17.14	47.88	10,996	1899
8	52.07	11.05	1.73	432.08	551.73	16.19	-1.05	26.39	25.37	14.00	214.12	17.13	50.38	10,702	1855
9	54.72	10.73	1.70	448.27	535.45	16.28	-1.55	28.25	27.16	14.50	213.77	17.10	53.04	10,405	1812
60	57.55	10.42	1.67	464.55	519.15	16.30	-2.18	30.34	29.17	15.13	213.21	17.06	55.88	10,107	1771
1	60.57	10.10	1.63	480.85	502.85	16.30	-2.77	32.61	31.36	15.72	212.44	16.99	58.90	9,808	1731
2	63.78	9.78	1.60	497.15	486.58	16.27	-3.48	35.12	33.77	16.43	211.43	16.91	62.11	9,509	1693
3	67.20	9.46	1.57	513.42	470.37	16.21	-4.46	37.84	36.38	17.43	210.18	16.81	65.51	9,211	1657
4	70.84	9.14	1.54	529.63	454.26	16.11	-4.80	40.83	39.26	17.83	208.69	16.69	69.12	8,912	1623
5	74.72	8.83	1.51	545.74	438.28	15.98	-5.62	44.08	42.39	18.57	206.97	16.56	72.96	8,619	1590
6	78.85	8.52	1.48	561.72	422.46	15.82	-6.39	47.61	45.78	19.34	204.94	16.40	77.04	8,323	1559
7	83.23	8.21	1.46	577.54	406.83	15.63	-7.19	51.47	49.49	20.14	202.67	16.21	81.53	8,026	1,528
8	87.91	7.91	1.43	593.17	391.41	15.32	-7.99	55.63	53.49	20.94	200.14	16.01	86.34	7,728	1499
9	92.89	7.61	1.41	608.59	376.20	15.21	-8.78	60.09	57.78	21.73	199.35	16.00	91.60	7,426	1470
70	98.20	7.31	1.39	623.80	361.23	14.97	-9.61	64.93	62.44	22.56	194.31	15.54	97.31	7,124	1443
1	103.86	7.02	1.37	638.77	346.53	14.78	-10.42	70.16	67.46	23.37	191.03	15.28	103.48	6,824	1,416
2	109.90	6.74	1.35	653.47	332.03	14.44	-11.25	75.80	72.89	24.20	187.55	15.00	110.07	6,530	1,391
3	116.35	6.46	1.33	667.97	317.94	14.15	-12.08	81.88	78.73	25.03	183.77	14.70	117.01	6,247	1,368
4	123.24	6.18	1.31	682.06	304.09	13.85	-12.91	88.47	85.07	25.86	179.81	14.38	124.20	5,979	1,347
5	130.61	5.91	1.29	695.91	290.55	13.54	-13.73	95.56	91.89	26.68	175.65	14.05	131.61	5,723	1,327
6	138.49	5.65	1.27	709.45	277.31	13.24	-14.66	103.18	99.21	27.61	171.27	13.70	139.54	5,476	1,309
7	146.93	5.39	1.26	722.69	264.41	12.93	-15.39	111.47	107.18	28.34	166.71	13.34	147.98	5,235	1,291
8	155.98	5.14	1.25	735.54	251.85	12.56	-16.23	120.44	115.81	29.18	161.96	12.96	157.01	4,998	1,274
9	165.68	4.90	1.23	748.15	239.62	12.23	-16.99	130.06	125.06	29.94	157.02	12.56	166.79	4,765	1,258
80	176.10	4.66	1.22	760.38	227.71	11.91	-17.79	140.41	135.01	30.74	151.69	12.14	177.27	4,539	1,243
1	187.32	4.43	1.20	772.29	216.07	11.64	-18.50	151.44	145.61	31.45	146.58	11.72	188.24	4,323	1,229
2	199.48	4.20	1.19	783.93	204.63	11.44	-19.16	163.19	156.92	32.11	141.09	11.29	199.38	4,125	1,216
3	212.78	3.98	1.18	795.37	193.37	11.26	-19.75	175.91	169.15	32.70	135.44	10.83	210.71	3,941	1,204
4	227.42	3.76	1.17	806.63	182.19	11.18	-20.26	189.68	182.38	33.21	129.65	10.37	221.89	3,774	1,194
5	243.73	3.54	1.16	817.81	171.10	11.09	-20.79	205.10	197.21	33.74	123.75	9.90	233.27	3,619	1,185
6	262.02	3.33	1.14	828.90	160.09	11.01	-21.28	222.48	213.92	34.23	117.20	9.37	245.65	3,464	1,175
7	282.68	3.11	1.13	839.91	149.16	10.93	-21.77	242.23	232.92	34.72	111.72	8.93	260.03	3,299	1,166
8	306.23	2.90	1.12	850.84	138.35	10.81	-22.33	265.27	255.07	35.28	104.15	8.33	276.89	3,125	1,156
9	333.14	2.69	1.11	861.65	127.78	10.57	-22.97	292.38	281.14	35.92	99.59	7.97	299.43	2920	1,144
90	363.90	2.48	1.10	872.22	117.45	10.53	-23.61	323.73	311.28	36.56	93.58	7.49	329.19	2682	1,131
1	399.27	2.28	1.10	882.55	107.47	9.98	-24.35	360.99	347.10	37.30	87.70	7.01	365.82	2446	1,118
2	430.95	2.09	1.09	892.53	98.02	9.45	-25.24	405.26	389.68	38.19	82.00	6.56	411.85	2198	1,105
3	488.07	1.90	1.08	901.98	89.30	8.72	-26.31	457.23	439.64	39.26	76.71	6.13	474.99	1,930	1,091
4	537.28	1.73	1.07	910.70	81.46	7.84	-27.49	516.30	496.45	40.44	66.96	5.36	557.89	1,664	1,077
5	592.71	1.58	1.06	918.54	75.16	6.30	-29.27	584.27	561.80	42.22	61.88	4.95	666.96	1,408	1,065
6	645.61	1.46	1.06	924.84	70.28	4.88	-30.88	648.65	623.70	43.83	63.42	4.27	807.42	1,176	1,053
7	693.07	1.37	1.05	929.72	63.77	6.51	-29.50	692.31	665.68	42.45	37.07	2.96	956.94	1,000	1,045
8	767.74	1.24	1.04	936.23	51.41	12.36	-24.10	750.00	721.15	37.07					
99	961.54	1.00	1.04	948.59		51.41		1000.00	961.54						
100				1000.00											

EXPLANATION OF LIFE INSURANCE CHART.

The whole face of the Chart represents a Life Insurance Policy.

1. The Net Premium at each age from 20 to 100 by the "Combined Experience" or "Actuaries'" Table of Mortality and 4 per cent. compound interest.

2. Value of an Immediate Annuity of $1.00 at each age on the Chart.

3. Amount of paid-up Insurance which $1.00 cash will buy at each age on a whole Life Policy.

4. Net or Legal Value, also called Reserve or Self-Insurance Fund, on a Life Policy issued at age 20. Net Premium $12.95.

5. Amounts at risk, Company's risk or Legal Liability, represented by the long dark lines between the ends of the red lines at bottom and top as shown by the numbers in this column. As the Banking Fund or Self Insurance increases the amounts at risk decrease.

6. This column represents the yearly decrease of Company's risk and increase of Policyholder's Insurance Bank deposit. The applicant for insurance should study this column and note the amount he would place in the Insurance Bank—liable to forfeiture in case of failure to put up his stake—buy his insurance at cost and make his deposit with his private banker at home, and not in a distant city or foreign country.

7. Net deposit in the Reserve from yearly premiums; the balance of the net premium being consumed in death costs or contributions to the death fund, while the difference between these amounts and the yearly increase of the Reserve is wholly derived from interest accumulations, proving interest gain, the architectural brace and stay of the Old Line plan. At age 57 on a policy issued at age 20. Net Premium $12.95. The whole of the Net Premium is consumed in death costs, and the increase in that department must come from interest accumulations of the Reserve or Self Insurance fund. Clear proof that the Old Line man must draw on his private but forfeitable Bank account in the Company's hands or on his private purse to meet his Calls—now on a par with the assessment Policyholder. Bankers should instruct their customers and others that at 4 per cent. the small deposits will furnish interest as represented by red lines, and also pay the excess of cost on amounts at risk as shown by amounts after deposits cease, or after Costs of insurance exceed Level Net Premium; that it is better to buy insurance at cost and bank their surplus funds with their private Banker who handles a non-forfeitable deposit.

8. Cost of insurance on $1000 of insurance at each age on the Natural Premium plan, and which is exhibited by the long dark lines running up from the bottom of the Chart, while the whole of the Chart is the Co-operative or Natural Premium Policy. Relatively they are to the Chart as a whole, as the short red lines are to the spaces between bottom of Chart and ends of long red lines.

9. Advance Cost of Insurance or each amount represented in column 8, discounted one year at 4 per cent.

10. Cost of Insurance on amount at risk in column 5. To find the Cost per $1000, take any age as an example. At age 61, Cost of Insurance on amount at risk is $15.72, and as $502.85 is to $1,000.00, so is $15.72 to $31.26, which is the cost per $1,000 on the Old Line or Level Premium plan, and so on for each and every year. This calculation proves the Cost of Insurance in the Level Premium Companies on a par with the Tabulated increasing cost.

11. This column represents the "Insurance Value" at each age. By "Insurance Value" is meant the present value of all the future annual contributions to the Death Fund made by or chargeable to a policy on the basis on which the premiums were calculated. These costs must be discounted by both interest and the chance of living to pay the premiums.

12. Surrender charge, 8 per cent. of Insurance Value.

13. Net Annual Premiums by the Institute of Actuaries' Table of Mortality (H. M.) and 4½ per cent. compound interest. O. L., Canadian law.

14. Value of an Immediate Annuity of $1.00 at each age. Canadian Standard.

15. Amount of Paid-up Insurance which $1.00 will buy at each age by Legal Standard.

The red lines coming down from the top represent the amount of the Banking business done by the Company; measured by the scale of dollars on either side of the Chart That part of these red lines extending beyond the black lines, indicates the interest accumulations from the Self-Insurance Fund; the dark lines representing the amount of deposits from premiums. The earnings of the Banking Fund at 4 per cent. show that the greater part of the Banking element is sustained by interest.

At 57 the deposits cease from premiums, and the dark lines end at $150.23 for the remainder of the term as the amount of deposits.

If a line were drawn across the Chart to intersect the long red lines, it would indicate at any year of age the exact proportion of the policy carried by the insured, or the Company. All the space above the line would represent the Policyholder's Banking Fund; all below the line would represent the insurance done by the Company.

So a line drawn across to intersect the ends of the dark lines running up from the bottom, would indicate how much insurance a Company on the Co-operative or Natural Premium Plan would carry on the same life. If the spaces between the ends of the red lines at bottom and top were covered with a blue line, it would represent to the eye the amount at risk under the Level Premium Company's Policy as indicated in amounts at risk in column 5.

The proportion of the short red lines at bottom of Chart, representing cost of insurance under Level Premium Policy, is to the space between themselves and the long red lines coming down from the top of Chart, as the long dark lines running up from the bottom is to the remainder of the Chart above them.

In the last year of the policy there is no insurance under the Level Premium system and the entire Net Premium of $12.95 goes into the deposit fund, which fills up the space in the last long red line.

To find the Reserve or Self-Insurance, multiply the difference between the Net Annual Premium at the age of entry and the age at which the valuation is to be made, by the Immediate Annuity at the age of valuation. (1, 2 or 13, 14.)

To find the Paid-up Insurance at any age, multiply the amount of Reserve, or Reserve and surplus by the amount of Paid-up Insurance which $1.00 cash would buy at the present age of the Policyholder.

To find the permanent reduction of the premium, divide the surplus by the value of an Immediate Annuity of $1.00 at the present age of the Policyholder.

Net Annual Premium multiplied by an Annuity at same age, gives Net Single Premium. (1 and 2 or 13 and 14.)

Divide the number 72 by the rate of interest and you have the number of years it will take for money to double itself at compound interest.

Deduct the party's present age from 80 and take two-thirds of the remainder, and you have the Expectation of Life of said party.

The Chart is sufficiently plain to permit any one desiring insurance to readily see the effect of the two systems, both upon the insured and the Company. The thought necessary to apply the lesson which the Chart teaches, will be amply repaid by the knowledge gained of the two systems and the saving in money in accepting the common sense method of insuring on the same plan that all other goods are purchased by—*the Cost Plan.*

KING BRUCE.

Actuary.

O——C——, Policy No. 00000, New York Life Insurance Company of New York—Issued June 18th, 1875. Amount, $1,000. Age at issue, 31 years. Ordinary Life, payable at death or 97. Gross Annual Premium, $23.35. Net Premium, $16.32. Loading or margin for expenses and contingencies or extraordinary Mortality $7.03. Per cent. of Loading on Net premium 43. Expenses of management, 10 per cent. of total income. Costs of Insurance as per "Institute of Actuaries' Mortality Experience 'H. M.' Table," and 4½ per cent. compound interest. Rate per cent. earned by Company on Trust Funds and general Assets, 6—Dividends to accumulate and to be changed to Reversionary Assurance every five years.

COMPANY	DR.	COMPANY	CR.
31		32	
To Prem. 1st year 18 6-'75, -	$23 35	By Self Ins. end of 1st year. -	$ 9 21
Net Deposit $8.81.		" Cost of Ins. on $990.79 -	7 51
" Int. on Net Deposit at 6 p. c.	52	" Expense of Management, -	2 38
		" Dividend of Surplus, -	4 77
	$23 87		$23 87
32		33	
To Prem. 2nd year 18-6-'76, -	$23 35	By Self Ins. end of 2nd year, -	$18 73
" Self Ins. 1st " - -	9 21	" Cost of Ins. on $981.27, -	7 61
" Surplus " - -	4 77	" Expense of Management, -	2 47
" Int. on Net Deposit $8.71, -	52	" Dividend Allowed, -	00 00
" " S. Ins. $9.21, -	55	" " of Surplus, -	9 87
" " Surplus, $4.77, -	28		
	$38 68		$38 68
33		34	
To Prem. 3rd year 18-6-'77, -	$23 35	By Self Ins. end of 3rd year, -	$28 58
" Self Ins 2nd year, - -	18 73	" Cost of Ins. on $971.42, -	7 70
" Surplus " " - -	9 87	" Expense of Management, -	2 55
" Int. on Net Deposit $8.62, -	51	" Dividend of Surplus, -	15 34
" " S. Ins. $18.73, - -	1 12		
" " Surplus, $9.87, -	59		
	$54 17		$54 17
34		35	
To Prem. 4th year 18-6-'78, -	$23 35	By Self Ins. end of 4th year -	$38 76
" Self Ins. 3rd year, - -	28 58	" Cost of Ins. on $961.24, -	7 78
" Surplus " " - -	15 34	" Expense of Management, -	2 65
" Int. on Net Deposit, $8.54, -	51	" Surplus Accumulation, -	21 22
" " S. Ins. $28.58, -	1 71		
" " Surplus, $15.34, -	92		
	$70 41		$70 41

35		36	
To Prem. 5th year 18-6-'79, -	$23 35	By Self Ins. end of 5th year, -	$49 22
" Self Ins. 4th year, - -	38 76	" Cost of Ins. on $950.78, -	7 98
" Surplus " " - -	21 22	" Expense of Management, -	2 74
" Int. on Net Deposit, $8.34, -	50	" Surplus Accumulation, -	27 48
" " S. Ins. $38,76, -	2 32		
" " Surplus, $21.22, -	1 27		
	$87 42		$87 42

Legal Value, - - -	$49 22	Total value, - - - -	$ 76 70
Commercial Accumulation, -	27 48	" paid-up, 76.70 x 3.22, -	246 97

King Bruce—Policy No. Massachusetts Mutual Life Insurance Company, of Springfield, Mass., U. S., issued Jan. 1st, 1875. Amount, $10,000. 10 Annual, 10 year Endowment. Gross Annual Premium, $1050.30. Net Premium, $850.30. Loading or Margin, $200.00. Age at entry, 35. Policy payable at 45 or prior death. Tabulated Costs of Insurance on amounts at risk as per "Combined Experience" or "Actuaries" Table of Mortality and 4 per cent. compounded.

COMPANY	Dr.	COMPANY	Cr.
35		36	
To Prem. 1st year, 1-1-'75, -	$850 30	By Self Ins. end of 1st year -	$798 90
Net Deposit, $768.17.		" Normal costs on $9,201.10, -	82 13
" Int. on Net Deposit at 4 p. c.	30 73		
	$881 03		$881 03
36		37	
To Prem. 2nd year, 1-1-'76, -	$850 30	By Self Ins. end of 2nd year, -	$1635 80
" Self Ins. 1st year, - -	798 90	" Normal costs on $8364.20, -	76 30
Net Deposit, $774.00.			
" Int. on Net Deposit, $774.00,	30 95		
" " Self Ins. $798.90, -	31 95		
	$1712 10		$1712 10
37		38	
To Prem. 3rd year 1-1-'77, -	$ 850 30	By Self Ins. end of 3rd year, -	$2513 10
" Self Ins. 2nd year, - -	1635 80	" Normal costs on $7,486.90,	69 66
Net Deposit, $780.64.			
" Int. on Net Deposit, $780.64,	31 23		
" " S. Ins. $1,635.80, -	65 43		
	$2582 76		$2582 76
38		39	
To Prem. 4th year, 1-1-'78, -	$ 850 30	By Self Ins. end of 4th year, -	$3432 90
" Self Ins. 3rd year, - -	2513 10	" Normal costs on $6,567.10,	62 53
Net Deposit, $787.77.			
" Int. on Net Deposit, $787.77,	31 51		
" " S. Ins. $2,513.10, -	100 52		
	$3495 43		$3495 43

39		40	
To Prem. 5th year 1-1-'79, -	$ 850 30	By Self Ins. end of 5th year, -	$4397 90
" Self Ins. 4th year, - -	3432 90	" Normal costs on $5,602.10,	54 45
" Int. on Net Deposit, $795.85,	31 84		
" " S. Ins. 3,432.90, -	137 31		
	$4452 35		$4452 35

40		41	
To Prem. 6th year 1-1-'80, -	$ 850 30	By Self Ins. end of 6th year, -	$5410 60
" Self Ins. 5th year, - -	4397 90	" Normal Costs on $4589.40,-	45 70
" Int. on Net Deposit, $804.60,	32 19		
" " S. Ins. $4,397.90, -	175 91		
	$5456 30		$5456 30

41		42	
To Prem. 7th year 1-1-'81, -	$ 850 30	By Self Ins. end of 7th year, -	$6473 80
" Self Ins. 6th year, - -	5410 60	" Normal costs on $3,526.20,	36 09
" Int. on Net Deposit, $814.21,	32 57		
" " S. Ins. $5,410.60, -	216 42		
	$6509 89		$6509 89

42		43	
To Prem. 8th year 1-1-'82, -	$ 850 30	By Self Ins. end of 8th year -	$7590 90
" Self Ins. 7th year, - -	6473 80	" Normal costs on $2,409.10,	25 16
" Int. on Net Deposit, $8235.14,	33 01		
" " S. Ins. $6,473.80, -	258 95		
	$7616 06		$7616 06

43		44	
To Prem. 9th year 1-1-'83, -	$ 850 30	By Self Ins. end of 9th year, -	$8764 90
" Self Ins. 8th year, - -	7590 90	" Normal costs on $1,235.10,	13 40
" Int. on Net Deposit, $836 90,	33 47		
" " S. Ins. $7,590.90, -	303 63		
	$8778 30		$8778 30

44		45	
To Prem. 10th year 1-1-'84, -	$ 850 30	By Self Ins. end of 10th year, -	$10000 00
" Self Ins. 9th year, - -	8764 90		
" Int. on Net Deposit, $850.30,	34 01		
" " S. Ins. $8,764.90, -	350 79		
	$10000 00		$10000 00

DEATH OR 45.

AGE AT ENTRY 35.

Gross Premium, $1,050.30. Net Premium, $850.30.

INSURANCE. SELF-INSURANCE.

1	2	3	4	5	6	7	8	9	10
Age.	Margin.	Normal Costs of Ins	Company's Risk.	Ins'ance Value.	Surrender Charges.	Deposits	Reserve.	Surrender Value.	Age of Policy.
	$	$	$	$	$	$	$	$	
35	200 00	82 13	9201 10	406 70	.....	768 17	......	......	..
36	200 00	76 30	8364 20	340 50	27 20	774 00	798 90	771 70	1
37	200 00	69 66	7486 90	277 50	22 20	780 64	1635 80	1613 80	2
38	200 00	62 54	6567 10	218 10	17 40	787 76	2513 10	2495 60	3
39	200 00	54 45	5602 10	163 40	13 10	795 85	3432 90	3419 80	4
40	200 00	45 70	4589 40	114 30	9 10	804 60	4397 90	4388 80	5
41	200 00	36 09	3526 20	72 10	5 80	814 21	5410 60	5404 80	6
42	200 00	25 16	2409 10	37 90	3 00	825 14	6473 80	6471 00	7
43	200 00	13 41	1235 10	13 41	1 10	836 89	7590 90	7589 90	8
44	200 00	.....	....	.....	.....	850 30	8764 90	8765 00	9
45	......	......	.	.....	.....	......	10000 00	10000 00	10

EQUITY IN A LIFE POLICY.

Insurance on life should not be extended beyond the "insurable interest" of the beneficiary in the life insured, which insurable interest seldom lasts beyond the age of 75. It often terminates before that age, which requires that the Policy itself should provide for an equitable surrender.

The "surrender charge" to be retained by the Company out of the Self-Insurance or deposit in bank, should depend not on the magnitude of that deposit, but on the present value (discounted by both interest and mortality) of the probable contributions of the surrendered Policy to the death-claims of the future, should it continue in force, which may be called its "insurance value."

The interest rest in banking is never longer than one year, and one year is the unit of the Mortality Table, during which the risk is considered constant. Hence Co-Insurance can regard only the current fiscal year of the Company, and all the Policy years that begin in it are assumed, without material error, to coincide with it.

It should be well-known and remembered, that there is no form of life insurance which a strong Company cannot do better and cheaper than a weak one, and that the strength of a Company does not consist in its capital stock, but in the extent of its new business, in proportion to its existing business, and the equity, justice and prudence of its rules.

The natural rules of equity in life insurance, are that every Policy-holder shall pay in the ratio of the risk borne, as decided by the table, and have all the insurance he pays for; and that no forfeiture shall be exacted beyond what is necessary for the solvency of the Company—*its permanent existence.* Exacting forfeitures from retiring members, for the benefit of the persistent—a game which favors long purses at the expense of short ones—is diametrically opposite to the morals of Robin Hood.

In laying down the reasoning of the equitable surrender value of a Life Policy, two points are to be carefully and studiously noted from beginning to ending, viz.: the cessation of premium payment prior to the death of the insured, and the continuation of premium payment up to and after the demise of the Policy-holder by advance premium prior to decease. In case a suit would be brought against a Company for the face of a Life Policy as insurance due where premium payment ceased prior to claim, a fatal error would be committed in preparing such a case, as I will show by my reasoning, and to which I again implore your most careful and studious attention, which plan, as I will exhibit, is the *modus operandi* practised by the Massachusetts Mutual Life Insurance Company, of Springfield, Mass., and others of standard sterling quality.

The fundamental principles being the same in all cases where a Life Policy is in dispute, which has been issued by an "Old Line" Company, and in the absence of full data on Bruce's Policy, let us assume, for the purpose of this illustration, that it was the same in form and amount as the one used in the foregoing illustration of what a Life Policy really is, viz.: a Ten Annual Premium, Ten Year Endowment, issued at 35, payable at 45, or previous death, and there had been five full annual Premiums paid, and the sixth not being paid, and B died during the sixth year.

Bear in mind, that all these Policies are dual in nature and composition—one part, the "Self-Insurance," and belonging to the Policyholder—the other, the "Insurance" done by the Company, and that as the "Self-Insurance increases the "Insurance" diminishes.

The "Insurance" to be done in the sixth year, had B paid the sixth premium, was $10,000, less the "Self-Insurance" Fund in the sixth year. To the extent of the "Self-Insurance" Fund, B insured himself by the funds deposited with the Company for this purpose, and this purpose only—$5,410.60—leaving as the amount of "Insurance" done by the Company, $4,589.40 (4 and 8). Hence it is plain that a suit brought on the theory of "pure insurance" could not be maintained for $10,000.

But B did not pay the sixth premium; hence he did not pay for "Company's risk" of $4,589.40 in the sixth year, and did not deposit in "Self-Insurance" Fund $804.60 from the sixth premium (7).

Had he paid the sixth premium, the two departments of the Policy representing the separate ownerships would have been as follows: B, $5,410.60; Company, $4,589.40. Had B died in the sixth year, the loss to the Company would have been $4,589.40, and B's "Self-Insurance" Fund of $5,410.60 would have been paid over to his heirs and the policy cancelled. B's tabular contribution to death losses in the sixth year would have been on the basis of "amount at risk" on his life, $4,589.40, and not on $10,000, and in amount would have been $45.70. (3).

By reference again to the table it will be seen that at the end of the 5th year B's deposits with their accumulations of interest at 4 per cent. amounted to $4,397.90, while the "Company's risk" was $10,000, minus $4,397.90, or $5,602.10 (4 and 8). These two columns represent the Policy divided into its component parts in any given year of its existence.

If B did not pay for the "Insurance" to be done in the sixth year—$4,589.40—his estate was not entitled to it, and no honorable court or jury would so decide. In short, on surrender or lapse, the "Insurance" portion of a Policy should be renounced, while the "Self-Insurance" should be claimed and the Company released from liability.

B was not entitled to the "amount at risk" or the "Company's risk" in the fifth year, $5,602.10, because he did not win his bet by dying during the fifth year. The stakes during the fifth year were as follows: "Company's risk," $5,602.10, and "cost of Insurance on amount at risk," $54.45 (3 and 4), which $54.45 the Company won by B living through the year. This "cost of insurance" is based on "amount at risk," $5,602.10, and not on $10,000. Were "costs of insurance" based on face of Policy, the level premium paid would be inadequate to maintain the policy.

Were the "beneficiary" to accept the tender of the "Self-Insurance" fund at the end of the fifth year, $4,397.90, which the Company might tender, and by offering which it acknowledged as belonging to B's estate—the contract would be equitably cancelled. But instead, the beneficiary might demand payment of the entire $10,000 as the "Insurance due on B's life, which he or she might term "pure Insurance," and which, as such, had not been paid for.

Were a counsellor to claim in his petition the "Self-Insurance" Fund of $4,397.90, and in addition the "Insurance" or "Company's Risk" of $5,602.10, the case would raise the question of "equitable value," and the court might pass upon the question so raised, but, if brought otherwise, the court could not and should not "lay aside the role of Judge and assume that of actuary," to determine actuarial questions, which are rather matters of *fact* than *law*. It is the duty of the court to lay down the law, and not to determine values or amend complaints. The court might, if it chose, render an opinion on the issue and express a conviction, and in the light of that opinion it would seem as though an equity existed which ought not to be ignored.

From the foregoing, it seems plain that B did not pay the "costs of Insurance on amounts (to be) at risk" in the sixth year (and in the year in which he died), which would have been $45.70 upon $4,589.40 of "Insurance" or "amount at risk;" that he did not make the annual deposit of $804.60 in the "Self-Insurance" Fund in that year, nor pay the annual *assumed* expense of $200, and was not entitled to the benefits of the "Insurance" for that year.

This question decided, and the general grounds taken by the Company admitted, viz.: that no excuse, of whatever nature—not even the interposition of an act of God himself—could excuse performance on the part of the Policyholder, the next question presenting itself would be: to what extent do the terms of forfeiture expressed in the Policy apply; or, in other words, what does the language of the Policy, as to forfeiture, mean?

Do these terms and conditions annul all the well-known and well-recognized laws, customs and usages governing men in the most ordinary business transactions of life? Are they to be interpreted as making an exception of all such persons as are so fortunate or unfortunate as to be or become beneficiaries under a Life Policy? Do these terms and conditions of forfeiture in these peculiar and unilateral contracts, place them outside the pale of all law, written or unwritten, and are all laws governing the question of damage for non-performance of contract obligations to pale away into misty haze and mirage, so soon as the beneficiary or beneficiaries under a Life Policy—a widow and her defenceless children—come within the horizon of Judge or Jury?

That all laws of damage are ignored—nay, ruthlessly violated, whether consciously or unconsciously—by such decisions, rendered in the light of the expressed and implied conditions and terms of the Insurance contract, cannot be questioned when we remember what has been agreed upon to be performed by both parties to the contract.

The purposes for which the premiums are paid, as well as the component parts of the premium, are fully set out in the foregoing analysis. If paid for these purposes, it is plain that they can be legally used for no other. The "trustee" must use them for these purposes, and these purposes only.

That the damage to the Company would be the same whether the violation of the contract on the part of the insured was voluntary or not, needs not to be discussed. *It is self-evident.* In either case the "Insurance value" of the Policy would be the same. By "Insurance Value" is meant the "present value" of all the future annual contributions to the death fund, made by, or chargeable to a Policy on the basis on which the premiums were calculated. (5 shows the "present values" of amounts in 3 brought back to the year in which they appear, and the amount at any age is the "present value" of all contributions subsequent to that age.

At the end of the fifth year the "Insurance value" would be $163.40, or in other words, $163.40 *paid in advance* in that year with interest at 4 per cent. compounded, and taking into consideration the chance of B living to pay through the term of ten years, would, on the assumption of mortality in the "Actuaries" Table, exactly pay for all the "Insurance" (4) yet to be done under the Policy, should it be continued in force by B, through the term by payment of full annual premiums.

If $163.40 would pay for all "Insurance" that B could have enjoyed by paying the remaining five premiums and living out the term, upon what grounds can a right be based or maintained, to charge him $5,410.60 at end of 6th year, or $4,397.90 at commencement of, or any time during the sixth year? And if $163.40 was retained, why is not the Company liable to pay the "Insurance," $5,602.10 (4), of which it was the price for all the remaining five years, and *per se.* for any one of them? Or, if retained, why is not the Company, in addition to the amount of the "Insurance" as determined and paid for, bound to pay the remainder of the unused and unearned funds in its hands?

Why is it not obligated to pay in that case, the amount of the "Insurance" paid for, $5,602.10 plus the "Self-Insurance" fund in its hands, $4,397.90, minus the "Insurance Value" of $163.40, which was used to pay the "costs of Insurance" upon "amounts at risk" for the remainder of the time, or a sum total of $9,836.60?

If the Company is entitled to keep any portion of the "Self-Insurance" Fund, $4,397.90, the right must be based on the damage done to remaining members, and in their interests, and it can keep no more than equity demands to make all parties good. If B were not to remain, and would pay to all others only the sum represented by $163.40 as a "present value," by paying that amount "at once and for all," has he not compensated remaining members for all the risk they would have incurred had he remained? If, upon these assumptions, upon which the Company proposed to carry out its contract with B if he paid his premiums for the remainder of the term, it will require no more than $163.40 paid now to carry the "Insurance," is it not plain that the Company can legally demand no more than $163.40 as a penalty? And is it not plain, that by receiving the price of the "Insurance," the Company is obligated to pay it to his heirs? And is it not plain that by having in its hands at end of fifth year $4,397.90, and using only $163.40 for "Insurance," it must have the remainder, $4,234.50, *without any shadow of compensation given for it?*

In brief, the nature of the business, *as a whole*, must be looked at to understand the general equities of the parties, and whatever the cause of the forfeiture, the results, financially, are the same, while the Policyholder or his beneficiaries should have some compensation or return for the money already paid, otherwise the Companies would be gainers from their loss.

Why does the vendor of a Policy of Life Insurance insist upon the terms of forfeiture? As has been seen, it is the loss of "Insurance Value." If that loss be paid to the Company, and the damage from retirement made good, an equitable right to some compensation or return for premium payments would clearly result from the circumstances of the case.

But to any and all arguments in favor of these claims, the Companies make answer, "that it is not so nominated in the bond." Is this true? In the light of the mathematics of Life Insurance and the law of compensatory damages, will the language of the Policy bear the interpretation sought to be placed upon it by the Companies? Let us see.

The Policy stipulations are, with slight modifications in some cases, that "if any premium or premiums are not paid when due on a certain day, and before a certain hour (usually 12 M.), this policy shall become forfeited and void, and becoming so forfeited and void, the Company shall not be held liable for the sum assured, or any portion of it, and all premiums paid on this Policy shall become forfeited to the Company.

My analysis clearly defines two distinct departments to this or any other Policy, the difference between this one and any Policy in dispute being one of degree only.

In the first department, the "Insurance" upon which premiums are paid, and the amount of premium so paid each year, are indicated (4 and 3).

In the second, the "Self-Insurance" or Banking done on the Policy is also indicated, and which is simply the aggregate of the annual deposits in this fund, having no relation to the "Insurance," and no function to perform other than to reduce the "amounts at risk," upon which "Insurance" is to be paid. This "Self-Insurance" Fund represents so much of the Policy as *bought and paid for*, upon which no "costs of Insurance" are ever charged or chargeable. *It is not involved in the bet from year to year*, its *sole* function being to reduce the bets as shown by the risks each year, reducing in amount (4), which reduces the "costs of Insurance" (3). *It is not the subject of forfeiture*, and failure to increase it results in injury to the Policyholder alone, if to anyone, since its whole interest income comes to him in dividends. A Savings Bank might with equal propriety claim of a depositor the forfeiture of his present deposit, on notice being given to the bank that he intended no longer to deposit with it, for the reason that if he continued, his business would be worth the amount of those deposits to the bank.

The annual payment on this Policy is $1,050.30, of which $200.00 each year is the loading of the net premium, $850,30, for *assumed* expenses that *may* be incurred, the net premium being applicable only to paying for "Insurance" (3), and deposits in "Self-Insurance" Fund (7). These three items in any year equal the gross or office premium (3, 2 and 7).

The first question to be considered is: Can this contract so constructed, *under any circumstances, and without consent of both parties*, be and become null and void? If the Company tender back or pay over to the insured the remainder of funds in its hands unused and unearned, at date of cessation of payment, or "*lapsing of Policy*," *i.e.* the "Self-Insurance" or "equitable value," which value accumulated during the years in which B made payment to the Company, the Policy then becomes null and void as an "Insurance" Policy, *and only so*, for in that case the Company would have received only pay for the "Insurance" done in past years, to which, as has been seen, it would have been and was entitled, by reason of B having lost his bets that he would die in some one of these years by having lived through them.

But if the Company keep the unused and unearned monies paid by B, or any portion of them, it can do so only on the grounds that B is to be held strictly to his contract for "Insurance," and must pay for and is entitled to that which he contracted and has paid for, if not by premiums regularly paid, then out of money previously deposited for "Self-Insurance," which the Company holds in its keeping, as a Bank, and has so applied.

If he be so compelled to pay for the "Insurance" yet to be done, *and for the whole of it at once*, for five years in advance, instead of annually, is not the contract as an "Insurance" Policy in full force and effect, and can it be forfeited at the same time? If so, the Insurance contract is an anomaly, and Insurance Companies are fictitious beings created by law, but in no sense amenable to it. The wisdom of man has outreached the wisdom of an Almighty God, by creating a thing which is a law unto itself, and responsible to no one but itself. In full view of the fact that monied power is despotic and corporations are soulless, the creature man has fashioned for his convenience a fictitious being known only to the law, yet irresponsible.

If what has been said is true, neither the "Insurance" portion of these contracts "become null and void," nor does that portion of the monies paid which represent the "Self-Insurance" and which were in excess of the "costs of Insurance on amounts at risk" become forfeited. The forfeiture clause can take effect only upon the Policy becoming "null and void," according to its terms, which we have seen cannot occur, except by payment of the unearned and unused monies in the Company's hands.

The ownership of the "Self-Insurance" Fund is vested absolutely in the Policyholder or his estate, or in the beneficiary or beneficiaries under his Policy, and is recognized in various ways.

1st. Does the Insured wish to discontinue his running Policy and be excused from annual payment and in its stead receive a fully paid-up Policy? In most Companies, if not all, he is allowed to discontinue payment, and a fully "paid-up" Policy is issued for such an amount as the *equitable value* (?) of his present Policy will purchase, used as a "single premium" at his present age at date of change. The rules for determining this "equitable value" vary in different Companies, some allowing as such "single premium," the full "Self-Insurance" value, while others retain all dividends due and unpaid, together with a liberal share of the "Self-Insurance value," while nearly all issue the new Policy on a non-participating basis.

2nd. Does he wish to cancel his Policy and surrender it for cash? Several of the Companies will purchase it if allowed to fix their own values.

3rd. Does he wish a different Policy? The Companies will allow him the "equitable value" (?) of his old Policy as they figure it, and apply it in premiums on the new Policy.

4th. Does he wish an annuity in its stead? This "equitable value" is computed into an annuity payable annually as long as he may live, or for a term of years.

5th. In all forms of running Policies which are "participating," the "Self-Insurance" Fund is recognized as belonging to the Policyholders, by applying its interest income to increase the deposits in that fund at a certain rate per cent., usually four or four and a half per cent. compounded, and the excess (?) of interest is paid to him in dividends.

6th. Do the Company's officers or managers fail from any cause to keep the "Self-Insurance" Fund up to the legal standard? A receiver is appointed, and under the direction of a court the "Self-Insurance" Fund is parceled out, *or what remains of it*, in exact proportions to each Policyholder, as each has contributed to it.

Under all conditions, the ownership of the Policyholder is recognized, except where the arbitrary will of the officers and directors are allowed to have full sway.

REMARKS.

The sum of the discounted future "costs of Insurance" is the "Insurance Value" and that is what a Company should deal in, and what it should buy and sell. With the Reserves on its Policies, it should deal as with Trust Funds.

If the miscellaneous profits arising from lapses, surrenders, short term Policies, &c., are sufficient to cover the expenses of conducting the business of some Companies, it certainly leaves the whole of the margin for expenses and contingencies as dividend or surplus.

With 20, 25 or 30 per cent. of mortality saved, and at least 2 and 2½ per cent. of interest earnings of the Trust Funds as margin from interest, it must appear plain that the dividends of some Companies have been much less than they ought to have been, and need overhauling by the heirs of dead members and the insured now living. If the expenses shown in reports are in addition to funds derived from lapses, surrenders and other sources, the Managers have sworn falsely, and have also made false representations in their pamphlets and circulars, as I find by analysis that about 99 per cent. of dividends given are derived entirely from premium payments direct by Policyholders.

Let it be distinctly understood that Life Insurance ALWAYS involves a bet on the event of death within the current policy year. The insurance, or sum actually insured in any year, is the sum of the two stakes, *both held by the Company*. The stake of the Policyholder is the "cost of Insurance on amount at risk," and is *paid in advance*, or placed in the hands of the Company as stakeholder. Against this stake of the Policyholder, the Company puts up the "costs of Insurance" on other Policies, which other Policyholders have placed in its hands to the extent of the amount at risk under HIS Policy. The Policyholder's stake is lost if he lives through the year in which he bet with the Company that he would die, and the Company uses it to pay the Company's losses on other bets with other Policyholders who won by dying during the year. The Company's actual losses during the year are paid with the bets it wins during the year, *and if it wins more than it loses*, it agrees, as stakeholder, to divide among the living and continuing members the excess of winnings over its losses.

These bets so made by the Company *are all it can use* in paying its losses. *These sums were the only sums put up for that purpose*, and if not sufficient to pay its losses, the remainder must be made up, first, from the margins or loadings of net premiums, represented on the Policy by the margin for expenses and contingencies, and second, from the excess of interest received on the Self-Insurance deposits above, 4 or 4½ per cent. These two items of margin being exhausted, and losses still remaining unpaid, there is no fund in the hands of the Company with which to pay. NO PART OF THE SELF-INSURANCE OR TRUST FUND CAN BE USED TO PAY A DEATH CLAIM ON ANY POLICY SAVE THE ONE TO WHICH IT BELONGS and from the premiums PAID UPON WHICH IT WAS REQUIRED TO BE ACCUMULATED, any more than a bank of deposit can use the funds of one depositor to make good its losses to any other.

The Reserve or Self-Insurance Fund on any individual Policy is not in any way involved in the bet or bets between a Company and its Policyholders. IT HAS AND CAN PERFORM BUT ONE FUNCTION. Its sole function is to so reduce the bets on the part of the Company on any individual Policy, that the level premium agreed to be paid annually, at the outset, may prove adequate to maintain the Policy and provide for its ultimate payment.

The Self-Insurance Fund comes to the heirs of the insured at his death, or to himself at the end of the term, and if death occurs before the term has expired, the Company makes up its losses on his life to the extent of the amount it had at risk, by appropriating enough of its winnings to pay the Policy after applying the Policyholder's deposit in its hands towards payment.

Analysis, by using the Massachusetts' standard, justifies the assumption that the actual expenses are paid from premiums paid by Policyholders, and that the vast sums of money annually forfeited to the Companies, have been used in controlling legislation, in bonuses to Officers and Directors, in feeing Insurance Commissioners and silencing the press.

Although the strong probabilities are that as the expenses are quoted so low in some companies, some portion of the general expenses are borne out of funds which are forfeited by the many thousands who lose all or nearly all they pay to the Companies because unable to keep up their premiums, and that expenses, instead of 10 or 12 per cent. they are fully 25 per cent. of income.

Surplus in a Mutual Life Insurance Company, belongs to the insured from whose premiums it has accrued. If not divided, a wrong will be done to those who drop away by death, or by lapse or surrender of their Policies. True, the Companies would lose the large profits that now arise from these forfeitures of value, *but that profit is the profit of pure gambling*. In reality, for ingenious rogues, a Mutual Life Insurance Company with the forfeiture clause in its Policies, *is an engine for plunder*.

TONTINE.

The term "Tontine" as applied to a fund, is generally understood to mean a contribution by individuals to a general fund, which fund with its accumulations is to be divided at the end of a stated period among the surviving contributors or members of the association.

It is virtually an agreement by which parties consent that one or more of the contributors who shall be so fortunate as to survive the others shall take or divide between them the funds contributed by all.

The "Tontine" periods are five, ten, fifteen or twenty years and the results offered to the Policyholders at the end of the "tontine" period must be accepted by them on the *faith* and authority of the officers who gave them.

Or in other words—the original plan of a Tontine was for a number of persons to subscribe a sum of money to a common fund, and the interest was divided annually among the survivors, the last survivor receiving the whole of the fund. The fundamental idea which lies at the base of all Tontines is that the survivors get all the profits, which have accrued up to the period of division; the survivors and those who keep their Policies in force obtain the whole of the reserve and surplus of those who allow their Policies to lapse, and the surplus of those who die before the period of its distribution.

The Tontine Policy becomes a triple "bet" on the part of the insured. As in the ordinary form of life Policy, he bets that he will die during the year, and puts up his premium on the result. In the second place, he bets that he will live till the period of distribution of surplus, and stakes his share of it on this result. In the third place he bets that he will be prosperous enough to pay his premiums promptly, and pledges both his surplus and his reserve on the issue.

Just so far as the first bet is the proper and legitimate one in life insurance, so far the second is contrary to it, and the third is introducing an entirely foreign element into the plan. Whether all three of these incongruous elements are for the ultimate advantage of the Policyholder, he must decide for himself. It is a gambling contract, purely.

The origin of this scheme of enriching the few at the expense of the many, is credited to Lorenzo Tonti, a Neapolitan, who, appreciating what a late insurance superintendent termed the "Tontine tendencies of man," invented the "Tontine" and gave it its name. He first introduced it to the French Government in 1648, when it was put in use for the purpose of replenishing the exhausted French treasury, and in 1689 the government by Royal edict organized a "Tontine," styled the "Royal Tontine," which resulted so favorably that in later years others were organized. Tontines for various purposes have since been organized in England, and a few in the nature of private agreements in the United States.

Its first development in this country in connection with Life Insurance is to be credited to a great Life Insurance Association, which introduced the plan in 1868, and whose efforts in this direction, if not prompted by reasons similar to those which actuated the French Government in 1689, namely, to replenish an exhausted treasury or mis-appropriated "trust funds," seem at least to have been intensified by a desire to obtain through the forfeiture of immense sums a fund which could be drawn upon *ad-libitum* for the expenses of a more extravagant management.

1st. In other words—the Tontine Scheme concisely stated is this:—You agree to pay a stated number of premiums—say ten premiums of $93.78 each, (Ten Payment, Fifteen Year Tontine period) and failing to pay any one of them, or any part of one of them, you forfeit all you have aleady paid, and with them all your interest in the Tontine Fund.

If you die before having paid all the premiums during the Tontine Term, you receive only the face of your Policy—the penalty exacted for the crime of dying during the term being the sum of all the surplus accumulating from the premiums paid by you while you were living, and all your share in the forfeitures and losses of others who had died before you did, or had found it impossible to put up their stakes that they would out-wind you in the race. Such is, in short, the game of "long purses against short ones," and whether you live or die, the chances are against you, and whether dying, or lapsing your Policy by non-payment of premium, a penalty is certain.

2nd. Many who elect the Tontine Plan of insurance, are well off and only seek by avaricious gain to increase their wealth at the expense of others who are more needy, and fail to meet their premium payment.

3rd. If men are in need of life insurance, the Tontine Plan of Policy is one that no sensible business man would choose who expected to pay for his insurance. Wealthy and learned men cannot be classed among those who are susceptible to the specious arguments which are relied upon to induce rich men to take this form of Policy, except it be that they seek to enrich themselves still further at the expense of others.

Certainly no honest man would accept a policy which he did not expect and intend to pay for himself, and all the benefits to accrue to him from such Policy, were to so accrue from the money put into it by himself. To go in on any other basis or expectation would be to place himself on a par with any other ordinary gambler in any other ordinary gambling scheme.

No honest man would accept a Policy which he knew was to be made specially valuable to him by the losses of those who were induced to go into the game through, *first*, having exerted upon them the influence of his name; and, *second*, the confidence placed in his judgment. The foundation stone in this scheme, viz., that the profits to accrue to such as are able to keep up their premiums in excess of the profits or surplus under all other forms of Policy, is this: that the great majority of those who will take this form of Policy will not be able to make the required number of payments, and must, in compliance with the harsh and cruel terms of the Tontine Policy, lose all they have paid to the Company's treasury.

These blood-and-sweat premiums are relied upon as forfeitures to make the Tontine Policy inviting and palatable to men of immense wealth.

Can it be that these facts could escape the notice of moral and judicious men? Can it be that the promises and representations of those companies which are urging this form of life insurance, are placed before the mind of man in such manner and in such cunning phrase as to conceal these facts and the principles, *or ra her want of principles*, of the scheme?

You ought to know that the promises *and* representations made by the Managers of the Companies, as well as by the agents which issue the Tontine Policy, cannot be made good to you or others, without great, and oftentimes, irreparable loss to the majority of those who are induced to accept this form of Policy.

You ought to know that the basis of, or foundation for the exceptionally low cost of insurance represented as possible and certain under this form of swindling contracts, is the expectation and well-founded belief and knowledge of the fact, that the majority of those who are lured into this swindling form of Life Insurance under the influence of the names and examples of wealthy and learned men, must ultimately lose all they have paid in, and that the forfeitures, losses and penalties imposed upon those least able to lose, *are supposed* to be used to swell the profits of those who are more fortunate and least need them. Do I place such men on a plane of intelligence which they are ready to admit they are not competent to occupy? Better then to look around, because I warn them that their names will be used to "rope in" the ignorant and unwary, and while they reap the ill-gotten gains, there is a day of reckoning coming.

4th. You ought to know that men entering the ten, fifteen or twenty year Tontine period, that there is no certainty that they will finally reap the reward of either their credulity if they are honest, or their covetousness if dishonest. The term for which they enter is, without doubt, to witness the downfall of both the Tontine scheme and perhaps some of the Companies which are urging it upon the unwary and incipient gamblers of the hour. Let the applicants pause and consider the fact that while the cycles of financial crises are shortening, the Tontine terms are chosen by the Companies so that if they escape one crisis they must pass through a second, and perhaps a third financial panic ere the golden goal of their anticipation is reached. From a cycle of ten years the financial disturbances are so skillfully manipulated that twenty of them may occur in a century.

Bleeding at every financial pore to-day, and prostrated by financial weakness, yet such are the recuperative powers of this young and vigorous nation, under the influences of inventive genius and invented machinery, and such are the opportunities and abilities of financial manipulators, that the wasted and scattered forces of to-day can be gathered again and made ready for the quinquennial sacrifice. Are they to be among those who manage the guillotine, or are they to be numbered among those who are to be guillotined? They know which is by them intended. I do not.

5th. You ought to know that this Tontine System of Life Insurance is against public policy and the public good—is a gambling policy without the redeeming feature of being beneficial to those who most need Life Insurance—is, in fact, gambling, pure and simple. One of the parties to this three-sided game—the orignators of the game, who put no money into it—is both game-keeper and stake-holder, and holding millions of dollars as the stakes between Policyholders and their fellow gamesters, gives not a single dollar of security.

Take an example of a Ten payment Fifteen year Tontine period, and are they shrewd enough to safely risk a double-header, eight times repeated, on the throw of the cards in this "three-card monte" scheme, and then wait for five years longer for the declaration of the result?

Are they not almost certainly fated to find that when, in their turn, they call for an accounting at the end of the "Canteen Period," that the Tontine barrel has been "tapped on the backside, next to the wall, and though spiked down, is EMPTY," and that the reserve keg hid in the weeds and thistles in the back yard "is not spiked down, can be rolled, and rolling will give it a voice"—a sound of emptiness, of hollow mockery?

Will they then "have faith in the Canteen idea," and will try it again as depositors of funds to purchase "liquor" with? Will not those who are to become depositors with them in the "Canteen Association," suspect that some at least have been put on the outside as depositors to lure others into the scheme, while, secretly, they have access to the "tap on the backside of the barrel?" Will not the questions be asked by those who clamor for a "divy" at the end of the "Canteen Term": How were we baited by these men? Are they depositors and managers?

6th. You ought to know that the shorter the term of payment of premiums, when no dividends are given, the more speedily the insured assumes the heaviest part of the burden—the butt end of it, in fact; is more of an Insurance Company to himself than the Company is to him, and just why some, by times, extend the Tontine Term five or ten years beyond the term of premium payment, I am quite unable to understand. It may be to let their liquor go on improving in strength and flavor and richness every day, opening up such a fucher. But if some are not playing the double role of depositor and manager, it would be a strong argument in favor of their sincerity in the "Canteen scheme." It is a strong argument in favor of their sincerity and honesty of purpose, though at the risk of an unfavorable opinion of their judgment as financiers in Tontine Life Insurance. It might be dreaded that the hands of Wm. H. Beers and H. B. Hyde are quicker than the eyes of many who enter the scheme, as some might have gone direct from the Confederate Cross Roads in Kentucky to Life Insurance Offices, their heads still muddled and confused from the effect of poor whiskey on tap at Bascom's grocery.

7th. The Tontine scheme was, and is now, specially designed to uphold and continue the iniquitous and unjust system of forfeitures which has been so long used to enrich the Managers of the Tontine Companies, but which, in obedience to a growing intelligence among Policyholders, has been abandoned by other Companies, and this Tontine system is now to be used by the few Companies which have adopted it as a pretence to benefit the persistent and faithful Policyholders, when, in fact, the holder of the Tontine Policy receives no part of the forfeitures and penalties which are relentlessly exacted from the unfortunate dupes of the Companies which are urging this system upon the public.

8th. The financial condition and weakness of the Companies introducing the Tontine system, was the chief cause or reason which prompted the Managers to devise some scheme which would enable them to retain control of the surplus without any liability for the same, with which to bridge over a chasm in the assets that had resulted from a wholesale misappropriation of trust funds.

9th. No sensible man could be induced to place so large an amount of money as some do in the hands of a Manager of a Company, who may have been forced to testify that no security was given by him and his associates for the vast sums of money entrusted to their keeping.

10th. The settlements already made with Tontine Policyholders at the expiration of their Tontine periods, have been so made as to leave all the profits from Tontine forfeitures and penalties in the hands of the Managers of the Companies. It can be demonstrated that this is a fact, and this statement will not and cannot be successfully controverted.

Are any of those lured into the scheme prepared to drop their share of the illegal and immoral gains for the benefit of Managers and their associates, after being used as their tools in inducing others to wager their premiums against their persistency in, and their ability to pay their premiums?

But suppose they shake the barrel, will it be so spiked down that it can't be shaken? Will a smell at the bunghole be all they will get in the Institution or Canteen Association? Will they be contented with a smell? I hardly think so.

11th. Perhaps these Tontine Policies are now being, and have been, bought up by the Companies issuing them, before maturity, and at merely nominal value, by Agents all over the country. The *modus operandi* is about as follows, which I state for the special benefit of parties going in or staying out. After paying premiums on a Ten Year Tontine, say for six years, they get tired of paying, or get their eyes open, and do not wish to "ante" for the seventh and subsequent years of the term. If they are "posted," the Company will not buy the Policy outright, because it would violate the terms of the Tontine Policy. But it will arrange with them in this way: If the remaining four premiums were paid the Policy would have an "estimated value," as shown by the rate books. This value would be composed of the Reserve and Surplus. The Company would first take one-half of the "estimated value." It will then inform him that there are yet four premiums to be paid in cash before the Policy can have the "estimated value" stated. These four premiums need not be paid in cash, but can be deducted from the "estimated value," with interest added at ten per cent. from the date when due at the commencement of each of the remaining four years of the Tontine Term. After this deduction is made, he will be informed that the remainder is not due for four years, and hence must be discounted at say ten per cent. The remainder will be paid as a "gratuity." The terms of the Tontine Policy, as to payment of premiums, have been scrupulously complied with. But what must appear plain is this: That the Policyholder's share in the profits of the transaction is infinitesimally small. Is he prepared to lend his name and influence to such a scheme without being a full partner and sharer in the "liquor," which has been going on and improving in strength and flavor and richness every day for six years? Is he prepared to be a partner in the scheme in any way? If he enters the "Canteen Association" scheme, I advise him to go in with his eyes wide open. Let him take all that the scheme brings to him and keep calm. A man who has money can keep calm easier than he who has none. Let him take the "liquor" and the "opprobrium." He may get both if the "liquor" has not already been drank by the Managers, and the money paid out in salaries and commissions. But in any event he will scarcely fail to get a liberal "divy" of abuse.

REMARKS.

H. B. Hyde says: "Tontine Policies are the same in all respects as ordinary Policies, except that all premiums received, and interest on the same, minus only death losses on members dying in the meantime, and the average expense of the Company, are accumulated and divided 'exclusively' among those Policyholders who survive and continue to pay their premiums or continue 'faithful' until the end of the Tontine period, when the Surplus is ascertained and awarded." This does not state the amount *lost* to those who die and lapse, nor the amount of "paid-up" insurance *lost* which it would buy for the widow and the fatherless.

Let the Agents solicit the wife and children, whom only the insurance is for, explaining facts and figures truthfully, instead of using the Book—"Confidential;" "Not for Circulation;" "To be Carried in the Pocket," etc.—and a negative order will be their doom.

To make good the "estimates" to those who "survive" at least seventy-two per cent. more than their own premiums can be made to produce, must come out of the forfeitures of Reserves and Surplus, which ought to buy and would buy "paid-up" insurance for families.

Any attempt on the part of the Policyholders to look into the affairs of a Tontine Company, will be met by the Company with every conceivable opposition in the line of even a demurrer such as the following:—The Policyholders have no rights which entitle them to bring action against a Company; he is not *cestui que trust*, he is not a partner, he is not a creditor, he is not a member of the Company, neither Director nor Company are Trustees, and the fund produced by the payment of all the premiums does not in any sense belong to the Policyholders but belongs exclusively to the Company.

The best definition is:—

1st. "They are the same in all respects as ordinary Policies," except that a man in his application waives all right to dividends, or surrender values, whether in cash or Paid-up Insurance, and agrees that in case of lapse, all his money, *reserve and surplus*, shall be forfeited to the Company (pool).

2nd. It is a scheme well calculated to assist a Company in meeting extravagant expenses. Phillips admits that the "Tontine Fund" is a liability, but testified in open court as follows:—"I may say again that this liability is only a contigent liability in regard to the Tontine Fund over the Reserve, because if we haven't got it, why, then we are not bound to pay it." "It depends on the future success of the Fund." We have never promised to pay them anything over the losses."

There you have it again. But the Agents do not talk that way, nor does their printed matter read that way, but that confidential "Red Book" says on every page:—"Attention is called to the preface of this book. Agents are enjoined to state in every case that these are "estimates" and not guarantees." How many now insured ever saw the "preface" of that book, or read the waiver in the application? The Company may spend all of the "Fund" and the insured have no remedy.

To know what belongs to a Policyholder on surrender lapse, we must know. 1st. The actual "costs of insurance" on amounts at risk in each year chargeable to his Policy. 2nd. The expenses chargeable to him. 3rd. The mean rate of interest earned by the Trust Funds in the hands of the Company.

All savings in "mortality," "expenses," gains on "interest," investments, lapses and surrenders are accumulations in surplus, and belong to the Policyholders, and in equity ought to be returned to them in dividends in the reduction of premiums or increase of insurance. But, on the contrary, nearly all are confiscated to the "pool" by the Tontine Companies.

SEMI-TONTINE.

The partial non-forfeiting element is brought into the modified schemes of Tontine Policies, by way of the New York non-forfeiture law, which provides that when its provisions are not waived—as they may be by those who want full Tontine—whenever a Policy lapses after making three full payments, the holder shall be entitled to so much of a paid-up Policy as the 4½ per cent. reserve will buy, taken as a single premium at the Company's "published rates," *provided* he surrenders his Policy within six months. The Companies pare this Reserve to begin with, they actually do and must carry a 4 per cent. Reserve, but they use only a 4½ per cent. Reserve in giving paid-up insurance, the difference goes to the Tontine Pool, and this difference during a twenty year Tontine period runs from 7 to 10 per cent. of the Reserve.

From a table of secretly published single premium rates, we find that these Companies take a margin on their single premiums of just about 50 per cent. of the net premiums, so that using the 4½ per cent. Reserve as a single premium, one-third of it is taken as margin or loading. Most Companies load the net about 10 per cent. as the paid-up insurance given under the New York law "shall not participate in the profits of the Comany," that 50 per cent. loading, or one-third the premium is clear Tontine profit to the Pool.

"Semi-Tontine profits from the lapses are therefore, 1st. the entire surplus; 2nd. 10 per cent. of the Reserve; 3rd. one-third of the remainder."

"By calculation made by Companies the Policyholder loses about 70 to 77 per cent. of his share in the Pool."

In short the profits in Tontine or Semi-Tontine, are the price of paid-up insurance to the beneficiaries.

In conclusion—by what right does a man who has a family to protect expose any part of that protection to loss, or seek to take from any other family any part of their protection?

By what right do men speculate in any degree with family protection?

By what right do they seek a gain which can come only from the needless losses of familes?

FINANCIAL JUGGLERY.

GROSS PREMIUMS DISSECTED.

Age.	1	2	3	4	5	6	7	8	9
25	$20 50	$14 72	$ 5 78	$ 7 47	$ 2 80	$10 27	$ 7 60	$ 2 98	$10 58
6	21 00	15 13	5 87	7 58	2 80	10 38	7 91	3 07	10 97
7	21 50	15 56	5 94	7 70	2 80	10 50	8 24	3 14	11 38
8	22 10	16 01	6 09	7 83	2 83	10 66	8 58	3 26	11 84
9	22 70	16 48	6 22	7 96	2 85	10 81	8 93	3 37	12 30
30	23 30	16 97	6 33	8 10	2 86	10 96	9 31	3 47	12 78
1	24 00	17 49	6 51	8 25	2 90	11 15	9 70	3 61	13 31
2	24 70	18 04	6 66	8 41	2 93	11 34	10 11	3 73	13 84
3	25 50	18 62	6 88	8 58	2 99	11 57	10 54	3 89	14 43
4	26 30	19 23	7 07	8 75	3 03	11 78	11 00	4 04	15 04
5	27 10	19 87	7 23	8 93	3 06	11 99	11 48	4 17	15 65
6	28 00	20 54	7 46	9 12	3 11	12 23	11 99	4 35	16 34
7	29 00	21 26	7 74	9 31	3 18	12 49	12 55	4 56	17 11
8	30 00	22 02	7 98	9 53	3 23	12 76	13 12	4 75	17 87
9	31 10	22 82	8 28	9 74	3 30	13 04	13 74	4 98	18 72
40	32 20	23 68	8 52	9 96	3 34	13 30	14 41	5 18	19 59
1	33 40	24 59	8 81	10 20	3 40	13 60	15 12	5 41	20 53
2	34 70	25 55	9 15	10 48	3 48	13 96	15 85	5 67	21 52
3	36 10	26 58	9 52	10 82	3 58	14 40	16 59	5 94	22 53
4	37 50	27 68	9 82	11 25	3 69	14 94	17 30	6 13	23 43
5	39 10	28 85	10 25	11 74	3 86	15 60	18 01	6 39	24 40
6	40 70	30 08	10 62	12 35	4 03	16 38	18 69	6 59	25 28
7	42 50	31 39	11 11	13 00	4 25	17 25	19 39	6 86	26 25
8	44 40	32 77	11 63	13 71	4 50	18 21	20 10	7 13	27 23
9	46 40	34 23	12 17	14 48	4 76	19 24	20 86	7 41	28 27
50	48 50	35 78	12 72	15 33	5 04	20 37	21 62	7 68	29 30
1	50 80	37 41	13 39	16 25	5 38	21 63	22 39	8 01	30 40
2	53 30	39 15	14 15	17 26	5 77	23 03	23 19	8 38	31 57
3	55 90	41 00	14 90	18 36	6 18	24 54	24 00	8 72	32 72
4	58 70	42 95	15 75	19 53	6 64	26 17	24 85	9 11	33 96
5	61 60	45 02	16 58	20 83	7 11	27 94	25 72	9 47	35 19
6	64 80	47 23	17 57	22 24	7 68	29 92	26 61	9 89	36 50
7	68 20	49 57	18 63	23 73	8 28	32 01	27 56	10 35	37 91
8	71 80	52 07	19 73	25 37	8 93	34 30	28 52	10 80	39 32
9	75 70	54 72	20 98	27 16	9 67	36 83	29 50	11 31	40 81
60	79 90	57 56	22 34	29 17	10 53	39 70	30 45	11 81	42 26

To find the Loading or Expense Element, deduct the Net Premium from the Gross Premium.

1. Gross Premiums, Ordinary Life, charged by the leading exponent of Level Premium Life Insurance Companies per $1,000.
2. Net Premiums at each age, "Combined Experience" or "Actuaries" Table of Mortality and 4 per cent. compound interest.
3. Expense Element or Loading—amount added to the Net Premium to defray working expenses and by these amounts being outrageously high they give the machine strong motive power.
4. Advance Cost of Insurance, or Tabulated Amounts available for paying death losses.
5. *Pro-rata* or proportional part of the Expense Element used in defraying expenses on the Insurance part of the Policy.

6. Gross Amount for Insurance.

7. Reserve or Self-Insurance Fund held *in trust* by the Company and increasing at 4 per cent. compound interest. It has nothing to do with the Insurance part of the Policy only to decrease the amount at risk.

8. *Pro rata* or proportional part of the Expense Element used in defraying expenses on the Reserve or Self-Insurance part of the Policy.

9. Gross Amount for Reserve or Self-Insurance.

In presenting this small but invaluable book to the insuring public, I wish to lay before the advocates of the Level Premium Plan an unbiased exposition of a Life Policy, and so mathematically and logically discussed that successful contradiction is impossible. In drawing a line of demarkation between the two plans in general use, it will be easy for any intelligent man to settle his mind in favor of the Assessment or Natural Premium Plan, paying for his insurance as he goes and doing his own banking.

The bet in Life Insurance thoroughly understood, shows clearly that the Policyholder in an Old Line Company, pays his full share of Costs or death losses, same as the Policyholder does on the Natural Premium or Assessment Plan.

The subject of Life Insurance should be taught in the public schools, and regularly discussed by co-operative and beneficiary societies, and from these sources an impregnable barrier would stand against the Old Line advocate for piling up wealth upon which the Life Managers can feast at will.

KING BRUCE,
ACTUARY.