

"The annual premium to insure \$1000 for life, at the age of 40, is usually \$32. If the Actuaries' Mortality at 4 per cent. is adopted as the rule of reserve, this premium consists of the net \$23.68, and the loading for expenses, etc., of \$8.32. By the same rule the net premium to insure \$1000 for one year at 40 is \$9.96. But when the company is paid more than that, it does not really insure \$1000, but \$1000, less what will be on hand at the end of the year to help pay the loss, should it occur. This, in case \$23.67 is paid, will be \$14.41, and the company really insures only \$985.59, whether the insured pays all cash, or part cash and a note, which, at 4 per cent., will amount to \$14.41 at the end of the year. He has fully paid for the mathematical value of the risk by the \$9.82 cash. The balance of the net premium, \$13.86, the principal of the net value of the policy or reserve at the end of the year, may more safely be in the hands of the insured than elsewhere, and as profitably, if it brings as high interest. And if we could be certain that the working expenses of the year would not exceed \$6.18, as the share of the policy, then his note might be taken safely for the rest of the loading, or \$2.14, making half of the year's premium, or \$16." (pp. 10, 11.)

This, though perfectly true and proving very clearly the financial soundness of the system, is not a correct explanation of its origin, but rather a comparatively recent invention to justify its continued existence; as such we consider it a poor one, the note system being an exceedingly clumsy and unscientific method of effecting what is thus avowed as its object. It seems to be a natural infirmity of the Anglo-Saxon mind to adhere to a principle, whether good or bad, as long as possible, and rather than adopt a better but different one to obviate the pernicious consequences of the old and bad one by various shifts, artifices and fictions. The history of English law, from Magna Charta downwards, is a commentary on and corroboration of this text. It is similar in regard to the question we are now discussing. The obnoxious principle (in the evasion of which Mr. Wright finds the justification of the note system) upon which Life Insurance has hitherto, that is for nearly two hundred years, been conducted is the payment of equal annual sums as premium. The defect is that the same sum is paid for a varying and unequal risk, e. g., a man insures at 25 for \$1000; for this he pays an annual premium of about \$20 all through, whether at age 25 or 60, though at the latter age the risk is nearly four times as great as at the former. It follows of course that far more is paid in the earlier years than is necessary to cover the risk then. This consequence is now attempted to be evaded by giving loans upon the policy by the declaration of dividends and bonuses, and, according to Mr. Wright, by the adoption of the note system; in short, by any means rather than the adoption of a different, though sounder principle, that of charging only a

sufficient premium in each year to exactly cover the risk for that year, the premium of course increasing each year in exact proportion to the risk. This method was pointed out in a former number (28, p. 249) of this journal. The rates upon such a policy would be about the following, on a life aged 25, for \$1000:

Year.	Amount.	Year.	Amount.	Year.	Amount.
1	\$9 30	13	\$12 00	25	\$18 50
2	9 40	14	13 40	26	18 70
3	9 50	15	14 10	27	19 20
4	10 10	16	15 00	28	19 80
5	11 00	17	16 20	29	20 00
6	11 40	18	16 60	30	21 00
7	11 70	19	16 90	31	22 40
8	11 90	20	17 10	32	23 70
9	12 00	21	17 50	33	24 30
10	12 20	22	17 70	34	29 00
11	12 50	23	17 90	35	31 80
12	12 60	24	18 30	36	36 00

These are the Aetna term rates for an insurance for one year at the different ages from 25 to 60: we think they are larger than necessary. Of course, on a policy covering the whole life, a small percentage would have to be added to cover the extra risk of being obliged in the years after the first, to insure whether sick or well. We think the above rates are more than sufficient to cover this. Now in the same company the rate for a life aged 25 for \$1000 is \$20.52. Half of this being given in note, the cash half would be \$10.26; add to this the interest on the note, 62 cents, and we get \$10.88 as the cash payment in the first year, being \$1.58 more than the above.

The advantages of a policy of this kind over the note system would be the following: 1st. Less cash would have to be paid throughout for the same insurance. 2nd. The annual premium and the sum to be paid at death would be known and certain. 3rd. The insured could allow his policy to lapse at any time without loss, the payments made being exactly sufficient to cover the risk and no more. 4th. The payments would be extremely small in the earlier years when the insured was least able to pay, and would only increase as (on the average) his ability to pay increased.

Mr. Wright concludes his letter with the following remarkable sentences: "The 'note system' can only be successfully attacked on the assumption that all men squander everything which they do not lay up in some savings bank from which they cannot withdraw it. The 'cash system,' as distinguished from the 'note system,' adds to Life Insurance a sort of compulsory savings bank. If a man insures \$10,000 for life at 40 in a company, which reserves by the Actuaries' Mortality at 4 per cent., and dies at 80, he has in deposit with the company, at the time of his death, \$7,103.88. This, if it is in cash, his widow or heir gets, because it was his own money. In the mean time the sum really insured under the contract has dwindled from \$9,855.88, in the first year, to \$2,896.12 in

the last, and this last sum is all that the widow or heir gets of the Insurance Company as such. With perfect safety to itself the company might have taken and held his interest-bearing notes up to the amount of \$7,103.88. If the insured could have made his money always earn one per cent. per annum more than the rate of interest on his notes, he would have gained during 40 years by giving his notes, instead of cash, \$1,451.55; and if these gains had been compounded at 6 per cent. from their receipt till the termination of the policy, they would have amounted to \$3,575.60. So that, though the widow and children should receive from the company, on the policy of \$10,000, the sum of \$7,103.88 in promissory notes of the deceased, of no use to them, they would be comforted by the receipt of \$10,679.48 from his estate, which would not have been there if he had paid the company all cash." (pp. 15 16.)

We demur to the quiet assumption that the insured would make one per cent. more than he pays to the company on his notes. The rate on the notes allowing for its being paid in advance is 6 1/4-10 per cent.; we question much if men on the average make so much as this on a small sum, such as \$60, which is half the average premium. We think the stockholders of the Grand Trunk Railway, for instance, would be glad to get even a sixth part of this rate of interest on their investment. We should like to have seen the calculations by which Mr. Wright arrives at his figures, as without them we are obliged to guess. We presume then that the \$7,103.88 is the amount which the insured pays beyond what is necessary to cover the risk from year to year during the 40 years. If so, it is curious that so acute an actuary as Mr. Wright should fail to see that a properly conducted all cash company would have returned this sum, except the last three or four premiums, in the shape of dividends, so that the insured would have had the control of it, just as under the note system. It is this fact which assimilates the two systems and which seems to be systematically ignored, so that it is generally imagined that there is far greater difference between them than is actually the case. If, however, the \$7,103.88 is not payment beyond the risk value, but is a portion of what goes to pay for the risk, so that the notes would be outstanding at death, then to this extent there will have been a failure of insurance during the 40 years, and the insured will get only \$2,896.12 at death—the cash payments made being sufficient only to insure to that extent. If this be what Mr. Wright intends, then it is even more curious that he should not perceive that his argument, pushed to its logical extreme, is utterly destructive of life insurance; for if it be so advantageous for the insured to keep the \$7,103.88, and invest it himself, why ask him for any cash payment? Why not let him keep the rest, and comfort his widow with the additional