PROCEEDINGS

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NOTICE

"Hide still, best good, in subtile wise
Beyond my nature's utmost scope.
Be ever absent from mine eyes
To be twice present in my hope."
—*James Russell Lowell.*

"If all wars, civil and other, are misunderstandings, what a thing must right understanding be!" —*Carlyle.*

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PROCEEDINGS

NOVEMBER, 13, 1936

STATE MONOPOLY OF COMPENSATION INSURANCE, LABORATORY TEST OF GOVERNMENT IN BUSINESS

PRESIDENTIAL ADDRESS BY WINFIELD W. GREENE

> *"Men readily listen (to Utopias) and are easily induced to believe that in some wonderful manner everybody will become everybody's friend especially when someone is heard denouncing the evils now existing . . . which are said to arise out of the possession of private property. These evils, however, arise from quite another source, the wickedness of human nature."*
>
> ARISTOTLE, 384-322 B.C.

The Verdict of November Third implies that the people of these United States believe, at least for the time being, that a very considerable extension of governmental activity can accomplish much to their economic benefit; hence it is imperative that a conscientious effort be made without delay to ascertain in the light of all pertinent evidence available just what kind of governmental activity is most likely to produce constructive results. The casualty business can, I am confident, make a particularly valuable contribution to such an inquiry; but I think we can tell better how the casualty experience fits into the general anatomy of the body politic if first we take a little time to trace the evolution of current economic issues in broad outline.(1)

Belief in the all round efficacy of governmental interference in economic matters is no innovation. During our Colonial period the merchants of England, who then wielded great political influence, gradually prevailed upon the not unwilling British government to attempt to regulate certain phases of business in the most intensive and extensive manner. For example, the Navigation Acts limited the carrying trade to and from the colonies to English bottoms manned mainly by English seamen. Other British statutes provided that American tobacco and naval stores must be exported only to England; that goods normally manufactured in England or on the Continent must be purchased by colonials only through English factors; that woolen and iron goods must not be manufactured in the colonies; and that sugar and molasses imported by colonials from other than British possessions must be subject to heavy import duties. The "Board of Trade and Plantations," established about 1696, was charged with the enforcement of these and numerous similar regulations, and functioned until the very eve of the American Revolution. Like our own NRA it must have had its troubles, for throughout its lengthy existence it was usually meeting five times a week. This interference with economic forces on behalf of the mercantile class of the home country was not confined to colonial and foreign trade, for matters internal to England, such as prices, wages, and rules of apprenticeship, were similarly regulated; nor was it confined to the British Empire, but rather it was typical of the most approved national policy of the age.

Mercantilism, as a practical imperial policy, was stultified by the American Revolution. As an economic credo it was further vitiated by reaction against it on the part of agricultural interests in England and elsewhere, and by the rise of modern industry due to mechanical invention and the development of steam power. At last the long-term alliance between government and the merchant class was broken, and as the industrialists rose to power the economic freedom which they demanded was rationalized in the English classical school of economics, founded upon the laissez-faire theory. This doctrine, which originated in France near the close of the mercantile period, is the very antithesis of governmental interference, and holds that "economic law" should be allowed free play, since, according to this theory, in the long run the individual's pursuit of his own self-interest inures to the commonweal.

The classical school, evolved in its essentials by 1850, probably remains the orthodox brand of economics today, if there is such a thing. However, since "rugged individualism" and all its works was rebuked by the Verdict of November Third, it is expedient that we should now turn our attention toward the criticisms which have been recurrently directed against laissez-faire from its very inception down to the present date. These criticisms naturally fall into two fairly distinct categories.

(1) *The moderate criticisms,* based on the premise that capitalism (the private ownership of the tools of production) is sound, but requires a certain amount of guidance from government if it is to be kept in pro-social channels. The implements of guidance proposed include such measures

as the enforcement of safe and healthful working conditions, the prohibition of child labor, the enforcement of minimum wage scales, the prevention of monopoly and restraint of trade, the workmen's compensation acts, the improvement of the public domain and the mitigation of unemployment through useful public works non-competitive with private enterprise, and the constructive regulation of certain businesses peculiarly affected with the public interest, such as public carriers, basic utilities, and insurance. All of these measures require some financial support, and certain of them require a great deal of it; so that the taxes incident to even a conservative program of governmental regulation are bound to occasion a considerable reallocation of the national revenue in favor of the low income groups.

(2) *The radical criticisms,* which assume that private ownership of the productive mechanism is per se anti-social, that this anti-social tendency is the virus which will destroy capitalism, and that sooner or later society in self-defence will take over industry as a logical and unavoidable step in economic evolution. This is the essence of Socialism as it was originally preached, not necessarily as it is practised by pseudo-socialistic governments.

Since, then, governmental regulation of business, and socialism, are as far as I have been able to discover the only alternatives to pure laissez-faire which have been thought of in the last century and three-quarters, it appears, in the historical perspective, that the main objective of the inquiry which I have proposed should be to facilitate intelligent choice between a situation wherein private enterprise is fostered but controlled by a friendly government, and one in which a government essentially unfriendly to private enterprise undertakes an increasingly greater number of erstwhile private activities.

It is in this very connection that the business of casualty insurance has a message to the people of these United States; for in some quarters our particular business has been fostered and guided by government into pro-social channels, whereas in others government has projected itself into areas previously occupied by our business. This diverse array of governmental attitudes is most pronounced in the workmen's compensation field, wherein seven state governments have been conducting monopolies for periods averaging well over a score of years. It follows that a comparison of the record of state managed monopolistic compensation insurance with that of privately conducted compensation insurance should be of the utmost educational value not merely to our business and to business at large, but to the nation as a whole; for such a study amounts to a large scale laboratory test, quite likely the only one available, of the comparative efficacy of governmental regulation of business and governmental operation of business, under American conditions.

Obviously it is beyond the scope of this paper to present such a comparison in comprehensive form. Therefore, aside from directing attention to the tremendous significance of this subject, as I have already done, I shall confine myself to giving you my own impressions as to the sort of record which the monopolistic state compensation funds have made, and also as to whether the situation either in workmen's compensation insurance or in automobile liability insurance warrants rejection of private insurance as an instrument for meeting social need. I shall, of course, be speaking for myself, and not for this Society, which is a strictly non-partisan body. My statements will be supported by at least prima facie evidence.

Seven states, Nevada, North Dakota, Ohio, Oregon, Washington, West Virginia and Wyoming, established monopolistic funds coincidentally with enactment of the compensation law.(2) No state which started without a monopolistic fund has since established one. It is probable that state monopolies handle some ten per cent of the workmen's compensation business of the nation in terms of premiums.(3)

Apparently in 1926 the Ohio Fund was as large as all the other monopolistic funds combined in point of premiums, and almost twice as large as all the others combined in terms of assets.(3) It is likely that in both respects the other state monopolies as a group have gained on Ohio during the past decade, but the fund in that state unquestionably remains the largest monopolistic compensation fund in this country, as is borne out by the following statement which I quote from one of its recent publications:

> "The Ohio State Insurance Fund, with its claim reserves of $37,369,358.58, is the largest carrier of workmen's compensation insurance in the country; its total annual workmen's compensation pure premiums and benefits paid exceed that of any other insurance company or state fund."

The "largest carrier of workmen's compensation insurance in the country", particularly when it has been in business for more than twenty-four years and has all its business concentrated within a single state, should be as good as the best from every standpoint. However, we find that an investigating committee appointed by the Governor of Ohio reported to him on December 31, 1934, less than two years ago, among other things, the following:

> "That because of political influences, lack of constructive and intelligent development and business-like methods until very recently, and in some instances dishonest personnel, the administration of the law has not been efficiently managed and directed, and certain of its methods and procedure can only be characterized as loose, irregular and unsuitable.
>
> "That because of inadequate and, in some cases, inefficient staff, investigation for the development of all facts concerning injuries has frequently been very inadequate, lacking in thoroughness and accuracy, resulting in great delay and unnecessary cost, also there has been much negligence in answering communications.
>
> "That medical examination and investigation, which constitutes one of the most important functions in the rendering of satisfactory service and the determination of claims, has frequently been inefficient and unsatisfactory, causing serious delay, excessive cost, and meriting the just criticism of claimants and employers.
>
> "That the disabled worker must be relieved of the need of employing counsel, as has become very generally the case in recent years, and should be protected against being victimized.
>
> "That many millions of dollars which should have been contributed to the Fund have been lost because of inadequate and incompetent administrative staff.
>
> "That the state, principally the highway department, is badly delinquent in the payment of its premium obligations to the Fund, also certain counties and municipalities.
>
> "That if the Law is to fulfill the aims and purposes of the Ohio plan, the administration must be made as efficient as that of any private business."

Mr. Richard Fondiller, a Fellow of this Society, was employed by the aforesaid committee as consulting actuary and made a separate report. His comments regarding rates and rating plans indicated that he regarded them as inequitable. He remarked on the inadequacy of existing arrangements for inspections and safety work, and on the absence of any provision for vocational rehabilitation. He did not pass upon the adequacy of claims reserves but according to Table I of his report, it is evident that as of the end of 1933 the assets of the "Private Employers Accident Fund" were exceeded by its liabilities to the extent of more than $150,000, just how much more depending upon the extent to which bonds in default amounting to $3,000,000, and past due interest thereon, were actually uncollectible and how much of the unamortized premium on bonds should be written off as of the date mentioned. (Bonds were carried at cost which, in the aggregate, exceeded par by about $500,000.) The Public Employers' Fund, according to Table 4, showed a deficit of over $3,500,000. The Private Employers' Occupational Disease Fund (evidently a separate fund) was apparently solvent.

One of the boasts of the Ohio plan is that it saves the assured the cost due to the employment of agents and brokers. In this connection, it is interesting to find the following in Mr. Fondiller's report:

> "Service bureaus came into existence in 1921 and have since flourished by reason of the lack of field and information service rendered to employers. Twelve such organizations are authorized representatives of 1,500 risks insured in the State Fund, comprising about 25 percent of the premium income.
>
> "These service bureaus contract with the employer on a fee basis to handle his affairs with the Industrial Commission.
>
> "The service includes checking rates and manual classifications as they appear on the settlement sheets (or bills covering premium charges); checking the computations of experience rating; handling all matters dealing with claims affecting the employers' interests; and in some instances giving inspection service.
>
> "While actuarial service is advertised, we can find no part of their service which calls for the employment of an actuary —the only service even remotely connected with actuarial science is checking for clerical errors which may be made by the Actuarial Division of the State Fund. We are reliably informed that none of the heads or subordinates of these service bureaus are members of the nationally recognized actuarial societies.
>
> "A comparison of the services performed by these bureaus with those rendered employers of other states leads us to

> believe they have taken the place of brokers and agents who look after the employers' interests and are paid out of commissions received from the insurance carriers, with the exception that while brokers' and agents' commissions are limited by law and their activities supervised, there is neither supervision of activities nor charges, so far as service bureaus are concerned. If the State Fund gave adequate service to its risks, there would appear to be no economic justification for service bureaus."

Very lately a sub-committee of the Welfare Committee of the Ohio Senate filed a report representing the fifth distinct investigation of the Ohio Fund in less than four years. This latest report comments once more upon "the numerous instances of inequalities in rates structures and individual rates of employers . . . which have cost the Fund and injured workers in Ohio hundreds of thousands of dollars," the lack of a modern double-entry system of accounting, the need for additional payroll auditors "for the purpose of bringing the payroll audits up to date," the "deplorable condition" of the Rehearing Department, and the failure of the Industrial Commission to maintain the surplus of the Fund "to the degree contemplated in the Act," and recommends the removal of two officials. The Industrial Commission of Ohio has recently issued a statement denying the allegations of the Senate Sub-Committee and defending the officials in question.

So far, the Ohio record speaks for itself!

But there remains for our consideration one of the strongest reasons advanced for state monopoly of compensation insurance, namely, a supposed premium saving to the employer which is to be passed along to the employee in the form of higher wages, or a more liberal administration of the Compensation Act. We find scant evidence of the latter in these reports, for when the injured employee is receiving adequate medical attention and is also getting his compensation check promptly, he seldom goes to the expense of employing counsel. But, regardless of this, has the employer benefited by the Ohio plan in his premium cost? Contrary to what may be the general impression, it is by no means certain that he has.

In this connection there are attached (as Exhibits A, B, C, and D) the experience of the Ohio "Private Employers Accident Fund" for calendar years 1929-1933 according to forty classification groups, and the following experience of other states by industry schedule: New York,[4] policy years 1929-1933; Massachusetts, policy years 1930-1934; New Jersey, policy years 1929-1933.

According to this experience, the "pure premium" (losses incurred per $100 payroll) for each state mentioned, for all classifications combined, is as follows:

Massachusetts	$0.68
New York	0.86
New Jersey	0.89
Ohio	1.20

This encourages the suspicion that the Ohio employer does not get off so lightly in the matter of premium cost, but so crude a comparison is by no means conclusive, and may be actually misleading. The differences in dates involved are insignificant (the New York and New Jersey experience averages six months, and the Massachusetts experience eighteen months, more recent than the Ohio experience, but differences in the benefit levels of the several states and in their payroll distribution by industry must in all fairness and thoroughness be taken into account.

In another exhibit (E) these matters are ironed out so as to make a more enlightening comparison. In this exhibit the experience of twenty-two[5] out of the forty Ohio class groups is compared with the experience of the other three states for the corresponding industry schedules. These twenty-two Ohio groups represent about two-thirds of the total Ohio payroll. The pure premiums shown for the Eastern States reflect the combined experience of New York, New Jersey, and Massachusetts *upon the Ohio benefit level.*[6] The "tri-state" pure premiums, which reflect the benefit cost per $100 payroll that would have been experienced in the combined territory of New York, New Jersey, and Massachusetts if the Ohio law had been in effect in these states, are applied, in this exhibit, to the Ohio payrolls, and the resulting "projected losses" have been summed to determine what the aggregate losses for these twenty-two Ohio class groups would have been in 1929-1933 if in that state the experience had been just as good, or bad, as it was in the three Eastern states for about the same five-year period.

In eight out of eleven cases the Ohio pure premiums for individual industries are higher than the corresponding tri-state pure premiums on the Ohio law level. These eight differences in favor of the Eastern states range from $0.04, for the chemical schedule, to $3.02 in the case of Mining and Quarrying. The three differences favoring Ohio are $0.14 for Stone Products, $0.16 for the Paper schedules, and $0.61 for Metallurgy, which last schedule has the smallest exposure of any in Ohio, and next to the smallest of any in the Eastern states.

The most significant results, i.e., those obtained by applying the tri-state, Ohio law level, pure premiums to the Ohio payrolls, are equally indicative of relatively high cost in Ohio; the total projected losses obtained by this method being $29,451,228 as compared with total actual Ohio losses of $40,580,848 for these industries. The indication, then, is that for the period 1929-1933 the Ohio loss cost was about 38% above normal, using these Eastern states as a standard. That this last conclusion will be surprising to some may probably be accounted for by the fact that some years ago a comparison was made between *Ohio premium rates* and *New York pure premiums.* The possibility of erroneous conclusions being drawn from such a method will be made clear by the following quotation from page 37 of Mr. Fondiller's report:

> "On the basis of our figures a net loss due to operations of over $18,000,000 developed during the five years. The explanation of this loss is obvious when we compare the totals of columns (9) and (10). A deficit must result when but $.88 is collected per $100 of payroll to pay claims averaging $1.20 per $100 of payroll."

In this comparison indicating Ohio cost to be 38% above normal, differences in benefit scales and in industry have been eliminated, so that the difference remaining can only be due to other things such as the frequency and severity of accidents, the type of medical care, the type of claims administration, etc., etc. It cannot be due to illiberal claims administration in the Eastern states; for New York is not illiberal, yet the pure premiums for New York alone (adjusted to the Ohio law level) when applied to the Ohio payrolls produce an even smaller total of projected losses than that based on the tri-state experience. Failure to obtain full payrolls may be a factor (not a comforting one to the Ohio employer who has reported his payroll correctly), but the recent Ohio Senate Sub-Committee report (page 19) says that "the loss from this source was a very minor factor in depleting the Fund, and not at all comparable to the loss incurred through selling of the insurance below cost." The clear implication is, rather, that the Fund has failed on the constructive side of compensation, that is, in the prevention of accidents, in the prompt and adequate treatment of injuries, and in the ultimate rehabilitation of the workman.

Of course the Ohio employer pays the Fund only for the pure compensation benefits, for the State takes care of everything else, whereas employers insured privately pay their carriers enough to cover overhead, acquisition cost, claims handling cost, and taxes. Even so, it is doubtful if in practice the latter employers as a group pay net much more than 138% of the benefits for their compensation insurance. The average excess payment, if any, is small and it would appear to be an exceptional investment. Evidently the Ohio employers as a class are not through when they pay their compensation premiums, for they still have to support service bureaus, and pay taxes to maintain the Fund administration, and fill the gap in the State's revenues occasioned by failure to collect taxes from the Fund.

But whichever way the difference in the employer's direct outlay falls, these figures imply that if hidden costs are taken into account, the Ohio plan must be costly to employer and employee alike. 38% more compensation dollars incurred means 38% more death and disability. Too many and too serious accidents, and unduly prolonged disabilities, injure the employer through interrupted production, labor turnover, and disturbed morale,—and, to the normal employee, health and earning capacity are worth more than compensation.

If, as it appears, the Ohio Fund, the largest of the state compensation monopolies, has failed to render efficient and equitable service to employer and employee, if it has been and still may be in precarious financial condition, if directly and indirectly it has cost the people of Ohio dearly in money, life, health and good-will, what justification can there be for any state's initiating or continuing such an experiment in the workmen's compensation field, the automobile liability field, or any other field which can be served by private insurance? Unless the evidence here presented can be refuted, I can think of only three possible motives for such a course, namely: (1) politics, (2) blind prejudice, and (3) anxiety over the problem of the "rejected risk." The last of these is the only motive deserving of our consideration, and certainly this problem is soluble through private insurance channels provided State authority will adopt the socially sound plan of permitting the companies as a group to carry "rejected risks" at their full aggregate cost.

Regardless of how some may construe the Verdict of November Third, I believe that our national temperament favors a wholesome balance between courageous, resourceful, private enterprise and conservative, constructive governmental regulation. The record of the monopolistic state fund experiment only confirms the wisdom of this attitude. Unfortunately, as long as state managed monopoly persists, it sets a dangerous example to legislators which they may be tempted to follow not only in workmen's compensation, but in other fields as well. Not merely the insurance business but the American public at large should be made acquainted with the facts concerning this exotic institution in order that repetition of a false step may be avoided.

FOOTNOTES

(1) The evolution of economic thought is treated at greater length in an address entitled, "Some Comments on Economic Theory" delivered by the writer to this Society, May 15, 1936.

(2) Some of the facts, quotations, and figures set forth in this paper were used in an address entitled, "Trends in Workmen's Compensation Insurance; Their Implications for the Future" delivered by the writer to the Insurance Division of the American Management Association at Atlantic City, May 12, 1936. That Association has graciously consented to the use of this material for the second time.

(3) This was true in 1926, according to "State Insurance in the United States," by David McCahan: University of Pennsylvania Press, 1929.

(4) Including the experience of the New York State Fund, which competes with private carriers.

(5) The other eighteen class groups were not used because their captions were too indefinite to permit accurate allocation to industry schedule.

(6) For the benefit of anyone desiring to check Exhibit E against the individual exhibits for the several states (A, B, C, D), the Law Differentials employed are as follows:

Ratio of Ohio Law to New York Law,	.82
Ratio of Ohio Law to New Jersey Law,	1.01
Ratio of Ohio Law to Massachusetts Law,	1.17

These differentials are based upon calculations made by the National Council on Compensation Insurance.

EXHIBIT A

(From Actuarial Survey of Ohio State Insurance Fund by Woodward and Fondiller, Inc., Under Date of November 26th, 1934)

EXPERIENCE OF ALL 40 GROUPS—PRIVATE ACCIDENT*
BASED ON 5 YEAR EXPERIENCE PERIOD 1929-1933, INCLUSIVE

Group No. (1)	Description (2)	Payroll (00's Omitted) (3)	Claims (5)	(5) ÷ (3) Average Loss Cost (10)
1 A	Foods and Beverages	$ 106,750,0	$ 1,206,639	$ 1.13
1 B	Foods and Beverages	54,750,0	1,105,014	2.02
2 A	Chemical and Drugs	50,650,0	508,727	1.00
2 B	Chemical and Drugs	12,620,0	250,483	1.98
3	Wood and Metal	69,800,0	1,102,088	1.58
4	Mines and Quarries	98,870,0	7,183,864	7.27
5 A	Construction	117,910,0	2,867,057	2.43
5 B	Construction	139,270,0	6,409,466	4.60
5 C	Construction	52,960,0	3,347,752	6.32
5 D	Construction	19,190,0	2,848,221	14.84
6 A	Utilities, Railroads and Electrical	32,870,0	589,657	1.79
6 B	Utilities, Railroads and Electrical	28,780,0	1,191,849	4.14
7 A	Leather and Rubber	126,200,0	1,065,651	.84
7 B	Leather and Rubber	6,000,0	85,294	1.42
8 A	Wood	26,730,0	285,874	1.07
8 B	Wood	80,470,0	1,571,177	1.95
8 C	Wood	8,750,0	546,441	6.24
9	Oils and Grease	83,610,0	1,371,071	1.64
10 A	Metal	117,010,0	1,080,971	.92
10 B	Metal	484,040,0	5,900,842	1.22
10 C	Metal	201,140,0	3,363,526	1.67
10 D	Metal	55,440,0	1,328,959	2.40
11	Transportation and Public Utilities	184,150,0	3,467,047	1.88
12 A	Stone	10,760,0	177,690	1.65
12 B	Stone	11,150,0	232,056	2.08
13 A	Miscellaneous	57,560,0	320,406	.56
13 B	Miscellaneous	107,470,0	2,098,161	1.95
13 C	Miscellaneous	6,840,0	551,986	8.06
13 D	Miscellaneous	5,180,0	796,078	15.38
14 A	Textile	161,340,0	489,574	.30
14 B	Textile	103,520,0	950,032	.92
15	Ore Reduction and Concentration	15,880,0	222,580	1.40
16 A	Paper	345,770,0	1,127,351	.33
16 B	Paper	49,500,0	696,827	1.41
17 A	Pottery and Glass	87,930,0	821,983	.93
17 B	Pottery and Glass	71,420,0	1,070,851	1.50
18 A	Stores	2,045,780,0	5,559,342	.27
18 B	Stores	116,670,0	2,354,394	2.02
19 A	Service	226,960,0	1,384,284	.61
19 B	Service	188,400,0	1,637,273	.87
	Totals	$5,770,090,0	$69,168,538	$ 1.20

* These figures are taken from Table 13 which appears on Pages 38 and 39 of the above-mentioned report.

EXHIBIT B

(Compiled by Compensation Insurance Rating Board of New York, June 15th, 1936)

PURE PREMIUMS BY INDUSTRY SCHEDULES BASED ON NEW YORK EXPERIENCE OF POLICY YEARS 1929 TO 1933, INCLUSIVE

Industry Schedule — Description	No.	Payrolls* (To Nearest $100)	Total Losses	Pure Premium
Agriculture	01	$ 89,099,3	$ 1,808,329	$ 2.03
	01 Per Capita*	277,170,3	2,348,129	.85
		366,269,6	4,156,458	1.13
Mining	02	12,774,2	536,304	4.20
Metallurgy	03 (a) (16)	33,925,8	602,471	1.78
Quarrying, Stone Crushing	04	20,942,4	1,135,826	5.42
Food and Tobacco	05	449,951,9	6,759,668	1.50
Textiles	06	295,391,4	1,863,412	.63
Clothing and other Cloth Goods	07	1,434,813,6	6,406,814	.45
Laundries	08	173,525,3	1,914,692	1.10
Leather	09	261,668,6	1,556,574	.59
Rubber, Composition, Bone, etc., Goods	10	47,487,9	598,992	1.26
Paper and Pulp	11 (a) (12)	41,631,3	964,851	2.32
Paper Goods	12	131,281,3	1,407,561	1.07
Printing	13 (a) (12)	595,195,7	2,887,367	.49
Wood	14	188,381,5	3,755,905	1.99
Metallurgy	16	1,315,8	10,424	.79
Metal Forming	17	370,311,1	6,487,107	1.75
Machine Shops	18	277,023,3	3,225,567	1.16
Fine Machines and Instruments	19 (a) (18)	152,894,3	688,844	.45
Vehicles	20	66,744,8	970,895	1.45
Stone Products	21	61,242,9	1,100,305	1.80
Clay Products	22	30,245,5	417,901	1.38
Glass and Glass Products	23	31,475,8	365,190	1.16
Chemicals	24	169,115,8	2,082,558	1.23
Miscellaneous Manufacturing	25	142,284,5	926,747	.65
Contracting—Not Erection	26	325,413,7	13,822,204	4.25
Erection	27	839,323,8	28,531,834	3.40
Shipbuilding	28	51,253,6	1,457,402	2.84
Vessel Operation	29	42,489,2	695,983	1.64
Stevedoring and Freight Handling	30	55,823,1	3,262,328	5.84
Railroad Operation	31	33,805,8	666,107	1.97
Cartage and Trucking	32	528,222,4	10,163,423	1.92
	32 Per Capita*	36,493,8	323,882	.89
		564,716,2	10,487,305	1.86
Public Utilities	33	162,276,1	3,072,617	1.89
Commercial Enterprises	34	2,289,880,7	22,950,299	1.00
Clerical and Professional Occupations	35	7,220,493,1	6,580,105	.09
Care, Custody and Maintenance	36	1,919,542,9	18,004,865	.94
	36 Per Capita*	3,724,0	585,597	15.72
		1,923,266,9	18,590,462	.97
Micellaneous Occupations	37	205,519,0	2,122.455	1.03
	Grand Total	$19,070,155,5	$163,061,534	$ .86

* Per Capita Exposures have been adjusted to a payroll basis by assuming one person exposed for one year to be equivalent to $1,000 of payroll.

(a) Schedule discontinued; experience should be combined with that of another schedule, the number of which is shown in parenthesis.

EXHIBIT C

(Compiled by Massachusetts Rating and Inspection Bureau, October 16th, 1936)

PURE PREMIUMS BY INDUSTRY SCHEDULES BASED ON MASSACHUSETTS EXPERIENCE OF POLICY YEARS 1930 TO 1934, INCLUSIVE

Industry Schedule		Payrolls (To Nearest $100)	Total Losses	Pure Premium
Description	No.			
Agriculture	01	$ 38,617,9	$ 531,194	$1.38
	01 Per Capita*	(47,457,3	221,431	4.67)
Quarrying, Stone Crushing	04	6,988,9	347,966	4.98
Food and Tobacco	05	144,474,6	1,407,743	.97
Textiles	06	516,370,0	3,094,011	.60
Cloth Products	07	101,771,4	352,664	.35
Laundries	08	42,615,6	327,544	.77
Leather	09	313,374,2	1,879,813	.60
Rubber, Composition, Bone, etc., Goods	10	94,461,4	691,225	.73
Paper and Pulp	12	250,114,6	1,575,062	.63
Wood	14	64,915,9	809,751	1.25
Metallurgy	16	1,250,0	35,442	2.84
Metal Forming	17	148,629,5	1,814,241	1.22
Machine Shops	18	296,600,8	1,565,455	.53
Vehicles	20	25,351,3	416,037	1.64
Stone Products	21	20,832,9	584,903	2.81
Clay Products	22	2,169,2	43,372	2.00
Glass Products	23	12,441,8	43,100	.35
Chemicals	24	56,876,2	521,268	.92
Miscellaneous Manufacturing	25	27,915,0	197,702	.71
Miscellaneous Construction	26	64,477,6	2,772,202	4.30
Erection	27	177,082.4	4,739,072	2.68
Shipbuilding	28	16,751,6	296,185	1.77
Vessel Operation	29	3,604,4	107,597	2.99
Stevedoring and Freight Handling	30	8,232,9	527,281	6.40
Railroad Operation	31	71,377,3	389,441	.55
Cartage and Trucking	32	167,353,1	2,183,869	1.30
Public Utilities	33	106,527,7	1,001,256	.94
Commercial Enterprises	34	634,509,9	5,005,619	.79
Clerical and Professional Occupations	35	1,611,653,7	828,874	.05
Operation and Maintenance	36	278,240,7	1,897,593	.68
Miscellaneous Occupations	37	27,678,5	311,346	1.12
Code 7777		665,0	9,171	1.38
		5,333,926,0	36,307,999	.68
	Per Capita*	47,457,3	221,431	4.67
	Grand Total	$5,333,926,0	$36,529,430	$ .68

* Per Capita Exposure is shown on a straight per person basis and is not included in the grand total payroll.

All classifications are assigned on the basis of the present industry schedules.

EXHIBIT D

(Compiled by Compensation Rating and Inspection Bureau of New Jersey, October 10th, 1936)

PURE PREMIUMS BY INDUSTRY SCHEDULES BASED ON NEW JERSEY EXPERIENCE OF POLICY YEARS 1929 TO 1933, INCLUSIVE

Industry Schedule		Payroll (in Hundreds)	Total Losses	Pure Premium
Description	Schedule No.			
Per Capita	01	*$ 242,666	$ 872,015	$3.59
Agriculture	01	70,158,8	969,916	1.38
Mining	02	1,141,9	62,796	5.50
Quarrying, etc.	04	10,158,5	363,210	3.58
Food and Tobacco	05	154,095,2	1,481,745	.96
Textiles	06	306,134,2	1,947,766	.64
Cloth Products	07	144,570,8	525,729	.36
Laundries	08	46,626,3	329,281	.71
Leather	09	51,442,0	442,569	.86
Rubber Composition, Bone Prod., etc.	10	64,477,0	717,383	1.11
Paper and Pulp	12	131,189,3	909,821	.69
Wood	14	39,904,3	564,854	1.42
Metallurgy	16	16,493,4	517,816	3.14
Metal Forming	17	159,623,4	2,287,654	1.43
Machine Shops	18	175,929,4	1,485,850	.84
Vehicles	20	11,358,7	220,044	1.94
Stone Products	21	15,386,8	365,611	2.38
Clay Products	22	43,710,0	406,160	.93
Glass Products	23	38,789,6	173,993	.45
Chemicals	24	106,423,8	1,510,951	1.42
Miscellaneous Mfg.	25	33,894,2	313,836	.93
Miscellaneous Construction	26	74,379,1	3,058,607	4.11
Erection	27	252,271,3	6,234,280	2.47
Shipbuilding	28	34,675,6	587,075	1.69
Maritime Operation	29	14,645,1	259,524	1.77
Stevedoring and Freight Handling	30	17,108,6	835,524	4.88
Railroad Operation	31	2,271,2	30,481	1.12
Cartage and Trucking	32	160,189,2	2,182,113	1.36
Public Utilities	33	29,082,1	452,166	1.55
Commercial Enterprises	34	469,910,2	4,280,664	.91
Clerical and Professional Occupations	35	1,206,427,8	1,210,551	.10
Operation and Maintenance	36	258,414,3	1,808,736	.70
Miscellaneous Occupations	37	61,995,5	821,008	1.32
Excluding Per Capita	Total	$4,202,877,6	$37,357,714	$ .89

* Number of persons.

EXHIBIT E

Actual Ohio Losses for 1929-1933, Compared With Losses Which Would Have Occurred Had Ohio Experience Corresponded to Combined Experience of New York, New Jersey and Massachusetts for Approximately the Same Period

Ohio Experience — New York, New Jersey and Massachusetts Combined

Group Nos.	Description	Payrolls (Hundreds $)	Incurred Losses	Pure Premium (2)/(1)	Sched. Nos.	Description	Payroll (Hundreds $)	Actual Losses	Losses On Ohio Law Level	Pure Premium (6)/(4)	Difference (3) − (7)	Proj. Losses On Ohio Payrolls (1) × (7)
		(1)	(2)	(3)			(4)	(5)	(6)	(7)	(8)	(9)
1A	Food & Beverages	$ 106,750,0	$ 1,206,639	$	05	Food & Tobacco	$ 748,521,7	$ 9,649,156	8,686,549	$	$	$
1B	" " "	54,750,0	1,105,014									
	Total	161,500,0	2,311,653	1.43		Total	748,521,7	9,649,156	8,686,549	1.16	.27	1,873,400
2A	Chem. & Drugs	50,650,0	508,727		24	Chemicals	332,415,8	4,114,777	3,843,643			
2B	" " "	12,620,0	250,483									
	Total	63,270,0	759,210	1.20		Total	332,415,8	4,114,777	3,843,643	1.16	.04	733,932
4	Mines & Quarries	98,870,0	7,183,864		02	Mining	13,916,1	599,100	503,193			
					04	Quarry'g, Stone Crush'g	38,089,8	1,847,002	1,705,339			
	Total	98,870,0	7,183,864	7.27		Total	52,005,9	2,446,102	2,208,532	4.25	3.02	4,201,975
5A	Construction	117,910,0	2,867,057		26	Contract'g—Not Erection	464,270,4	19,653,013	17,666,876			
5B	"	139,270,0	6,409,466		27	Erection	1,268,677,5	39,505,186	35,237,441			
5C	"	52,960,0	3,347,752									
5D	"	19,190,0	2,848,221									
	Total	329,330,0	15,472,496	4.70		Total	1,732,947,9	59,158,199	52,904,317	3.05	1.65	10,044,565
7A	Leather & Rubber	126,200,0	1,065,651		09	Leather	626,484,8	3,878,956	3,922,767			
7B	" " "	6,000,0	85,294		10	Rubber Comp. Bone Goods, &c.	206,426,3	2,007,600	2,024,463			
	Total	132,200,0	1,150,945	.87		Total	832,911,1	5,886,556	5,947,230	.71	.16	938,620
12A	Stone	10,760,0	177,690		21	Stone Products	97,462,6	2,050,819	1,955,854			
12B	"	11,150,0	232,056									
	Total	21,910,0	409,746	1.87		Total	97,462,6	2,050,819	1,955,854	2.01	− .14	440,391

EXHIBIT E—*Continued*

ACTUAL OHIO LOSSES FOR 1929-1933, COMPARED WITH LOSSES WHICH WOULD HAVE OCCURRED HAD OHIO EXPERIENCE CORRESPONDED TO COMBINED EXPERIENCE OF NEW YORK, NEW JERSEY AND MASSACHUSETTS FOR APPROXIMATELY THE SAME PERIOD

OHIO EXPERIENCE — NEW YORK, NEW JERSEY AND MASSACHUSETTS COMBINED

Group Nos.	Description	Payrolls (Hundreds $)	Incurred Losses	Pure Premium (2)/(1)	Sched. Nos.	Description	Payroll (Hundreds $)	Actual Losses	Losses On Ohio Law Level	Pure Premium (6)/(4)	Difference (3)−(7)	Proj. Losses On Ohio Payrolls (1)×(7)
		(1)	(2)	(3)			(4)	(5)	(6)	(7)	(8)	(9)
14A	Textiles	$ 161,340,0	$ 489,574		06	Textiles	$ 1,117,895,6	$ 6,905,189	$ 7,115,235			
14B	"	103,520,0	950,032		07	Cloth'g & Other Cloth Gds.	1,681,155,8	7,285,207	6,197,190			
	Total	264,860,0	1,439,606	.54		Total	2,799,051,4	14,190,396	13,312,425	.48	.06	1,271,328
15	Ore Reduc. & Concen.	15,880,0	222,580		03	Metallurgy (Old Sched.)	33,925,8	602,471	494,026			
					16	Metallurgy	19,059,2	563,682	573,009			
	Total	15,880,0	222,580	1.40		Total	52,985,0	1,166,153	1,067,035	2.01	− .61	319,188
16A	Paper	345,770,0	1,127,351		11	Paper and Pulp	422,935,2	3,449,734	3,552,920			
16B	"	49,500,0	696,827		12	Paper Goods	131,281,3	1,407,561	1,154,200			
					13	Printing	595,195,7	2,887,367	2,367,641			
	Total	395,270,0	1,824,178	.46		Total	1,149,412,2	7,744,662	7,074,761	.62	− .16	2,450,674
17A	Pottery & Glass	87,930,0	821,983		22	Clay Products	76,124,7	867,433	803,646			
17B	" " "	71,420,0	1,070,851		23	Glass & Glass Prod.	82,707,2	582,283	525,616			
	Total	159,350,0	1,892,834	1.19		Total	158,831,9	1,449,716	1,329,262	.84	.35	1,338,540
18A	Stores (a)	2,045,780,0	5,559,342		34	Commerc'l Enterprises	3,394,300,8	32,236,582	28,999,290			
18B	"	116,670,0	2,354,394		35	Clerical & Profess'l	10,038,574,6	8,619,530	7,588,125			
	Total	2,162,450,0	7,913,736	.37		Total	13,432,875,4	40,856,112	36,587,415	.27	.10	5,838,615
Totals (above groups only)		$3,804,890,0	$40,580,848	1.07			$21,389,420,9	148,712,648	134,917,023	.63	.44	(b) 29,451,228

(a) These "Stores" groups include the clerical classifications.
(b) This indicates a pure premium of $0.77.
(N.B.) Compare Ohio figures in Column (3) with tri-state figures in Column (7); also Ohio actual incurred losses (total of Column (2)) with projected losses (total of Column (9)).

DEDUCTIBLE AND EXCESS COVERAGES LIABILITY AND PROPERTY DAMAGE LINES, OTHER THAN AUTOMOBILE

BY

JAMES M. CAHILL

Relatively few risks under the various Liability and Property Damage lines, other than Automobile, have been written in the past on either a deductible or an excess coverage basis. There is, however, a growing trend toward writing certain types of risks under these lines of insurance on a deductible basis. The reason why these forms of coverage have been given such scant consideration as underwriting tools is undoubtedly that most casualty insurance men are unfamiliar with them as applied to the miscellaneous Liability and Property Damage lines. The advantages of writing deductible or excess coverage in certain cases remain unappreciated because of a lack of knowledge of the mathematical derivation of the discounts, the method of applying the discounts to the basic rates, the method of experience rating such risks, etc. The purpose of this paper is to assemble the available data which may be published in order that there may be a more general understanding of the rate structure for deductible and excess coverages.

First, it would be well to define the coverage provided by policies written on a deductible or on an excess basis.

Deductible Coverage

The insurance company investigates, defends and settles all claims, paying total first aid medical, total allocated claim adjustment expense, and any indemnity in excess of the assured's retention of liability, subject to the limits of the policy.

The assured pays all indemnity up to the amount of his retention of liability per claim or per accident. In actual practice, the insurance company usually pays the total loss and subsequently secures reimbursement from the assured for his portion of the indemnity loss.

Excess Coverage

The assured investigates, defends and settles all claims not in excess of his retention of liability per claim or per accident.

The insurance company cooperates in the investigation, defense and settlement of such claims only as are necessary for the protection of its interests. The insurance company pays any allocated claim adjustment expense thus incurred by itself and any indemnity in excess of the assured's retention of liability, subject to the limits of the policy.

Deductible coverage is usually written for relatively small amounts of assured's retention of liability in connection with risks which experience a high claim frequency. This gives the assured a direct interest in controlling accidents and tends to make desirable risks which might be uninsurable on a full-coverage basis. On the other hand, excess coverage is usually written for high amounts of assured's retention of liability for risks which desire to self-insure all except the more costly claims or catastrophe losses. In Part I of this paper, deductible coverage will be discussed. Excess coverage will be treated in Part II.

PART I — DEDUCTIBLE COVERAGE

Distribution of Losses by Size of Claim

In order to calculate rates for deductible coverage, it is necessary to compile a distribution of incurred losses by size of claim, \$1-\$10, \$11-\$25, etc. The discounts currently in use were calculated from the following compilations of such data by line of insurance for claims settled in calendar years 1925 and 1926:

Line of Insurance (1)	Claims Settled in Calendar Years: (2)	Territorial Subdivisions (3)	Classification Groups (4)
Elevator P. L.	1925-26	Countrywide	Total
Elevator P. D.	1925-26	Countrywide	Total
Mfrs.' & Contrs.' P. L.	1925-26	Countrywide	(a) Manufacturing (b) Contracting (c) Public Utilities (d) All Other
Mfrs.' & Contrs.' P. D.	1925-26	Countrywide	Total
O. L. & T. P. L.	1925-26	Countrywide	Total
O. L. & T. P. D.	1925-26	Countrywide	Total
Teams' P. L.	1925-26	Countrywide	Total
Teams' P. D.	1925-26	Countrywide	Total

In 1935, the National Bureau of Casualty and Surety Underwriters called upon its member companies to file more recent data for the important Liability and Property Damage lines, other than Automobile, to serve as the basis for the calculation of revised discounts for these lines. The recent calls which have been compiled are as follows:

Line of Insurance (1)	Claims Settled in Calendar Years: (2)	Territorial Subdivisions (3)	Classification Groups (4)
Elevator P. L.	1934	(1) New York State	Total
		(2) Remainder of Country	Total
Mfrs.' & Contrs.' P. L.	1933	Countrywide	Total
Mfrs.' & Contrs.' P. D.	1933	Countrywide	Total
O. L. & T. P. L.	1934	(1) New York City	Apartments & Tenements
		(2) New York State	(a) Area & Frontage Classes excluding New York City Apartments & Tenements Classes.
			(b) Miscellaneous Classes.
		(3) Remainder of Country	(a) Area & Frontage Classes.
			(b) Miscellaneous Classes.
Product P. L.	1934	(1) New York State	(a) Bakeries.
			(b) All Other Foodstuffs—Stores & Mfg. Classes.
			(c) All Other Classes.
		(2) Remainder of Country	(a) Bakeries.
			(b) All Other Foodstuffs—Stores & Mfg. Classes.
			(c) All Other Classes.

It will be noted that these recent calls provide for a subdivision of the data by classification groups in certain instances and also between the state of New York and the remainder of the country for certain lines. The National Bureau has recognized the probability that a rather wide variation in the distribution of claims by size exists within classification groups and it is for this reason that the recent calls have included more subdivisions than the previous calls.

In these calls, the size of a claim was determined by the amount of incurred indemnity and medical combined, excluding allocated claim adjustment expense. The total allocated claim adjustment expense was recorded for all size groups combined. It might be pointed out that the medical losses should theoretically be handled in the same manner as the allocated claim expense rather than to be combined with the indemnity in determining the size of claim, since the insurance carrier is liable for both the medical and the allocated claim adjustment expense under deductible coverage. This is not a serious error, since for the various Liability lines, other than Automobile and Employers' Liability, the ratio of medical losses to total losses including allocated claim expense is less than 1%. It is recommended, however, that future calls provide for the determination of size of claim by the amount of indemnity alone, excluding all medical and allocated claim adjustment expense.

Rating Making Method

The method currently employed in determining the discounts for deductible coverage is as follows. The portion of the indemnity losses eliminated by the deductible feature is calculated from the distribution of incurred losses by size of claim. This percentage is deducted from 100% in order to determine the percentage of the indemnity losses which will be incurred by the insurance company. The product of this residual percentage and the permissible loss ratio excluding the provision for allocated claim expense determines the percentage of full-coverage rates which the insurance company may expect to incur in indemnity losses under the deductible form. To this percentage are added the provision for allocated claim expense and the full loadings in the manual rates for unallocated claim expense, Home Office administration, payroll audit and inspection. This total in terms of manual rates is then divided by .70 in order to load percentagewise for acquisition (25%), taxes (2½%) and profit (2½%). This calculation determines the indicated percentage of full-coverage rates which is necessary to give the proper allowances for losses and expenses under the deductible form. The indicated discount is calculated by deducting this percentage from 100%. In order to provide a safety margin, the indicated discount is multiplied by .90 and this discount is then rounded to the lower .025 interval.

The details of the calculation of the discount for $250 deductible coverage for the O. L. & T. Public Liability line are given in the following exhibit:

O. L. & T. PUBLIC LIABILITY
Calculation of Discount for $250 Deductible

(1)	Incurred indemnity losses under $250 per claim	$3,874,396
(2)	Number of claims over $250 per claim	7,312
(3)	First $250 of loss on claims over $250 per claim (2) × $250	$1,828,000
(4)	Total first $250 of loss (1) + (3)	$5,702,396
(5)	Total indemnity losses (5/10 limits)	$8,689,185
(6)	Portion of indemnity losses eliminated by $250 deductible (4) ÷ (5)	.656

	Full Coverage	$250 Deductible
Losses (excl. allocated claim expense)	.473	.473 × (1.000 — .656) = .163
Allocated claim expense	.037	.037
Unallocated claim expense	.080	.080
Administration	.075	.075
Inspection	.035	.035
Sub-Total	.700	.390
Acquisition, Taxes and Profit	.300	$.30 \times \frac{.390}{.70} = .167$
Total	1.000	.557
Indicated discount for $250 deductible		1.000 — .557 = .443
Safety factor applied		.443 × .90 = .399
Discount rounded to lower .025 interval		.375

The actual calculation of the discounts for the various deductible amounts is simplified by the use of formulas. The rate for deductible coverage is calculated from the manual rate for full-coverage as follows:

$$R_d = R\ (1.00 - \text{Discount})$$

The formulas for calculating the discount for each of the important Liability and Property Damage lines, other than Automobile, are as follows, where k is the percentage reduction in indemnity losses by reason of the deductible feature:

Mfrs.' & Contrs.' P. L. & P. D.
O. L. & T. P. L. & P. D.
Product P. L. & P. D.
Theatre P. L. & P. D.

$$\text{Discount} = \frac{.90 \times k \times (.510 - .037)}{1.000 - (.250 + .025 + .025)}$$
$$= .6081k \text{ (Rounded to lower .025 interval)}$$

Teams' P. L. & P. D.

$$\text{Discount} = \frac{.90 \times k \times (.520 - .037)}{1.000 - (.250 + .025 + .025)}$$
$$= .6210k \text{ (Rounded to lower .025 interval)}$$

Elevator P. L.

$$\text{Discount} = \frac{.90 \times k \times (.545 - .037 - \text{Inspection cost ratio})}{1.000 - (.250 + .025 + .025)}$$

(NOTE: *The inspection cost ratio is the inspection pure premium divided by the manual rate. This ratio varies by type of elevator and by territory.*)

Elevator P. D.

$$\text{Discount} = \frac{.90 \times k \times (.245 - .037)}{1.000 - (.250 + .025 + .025)}$$
$$= .2674k \text{ (Rounded to lower .025 interval)}$$

Employers' Liability

The following table of discounts (taken from page 17 of the September, 1923 edition of the manual of Employers' Liability Insurance) is used in the calculation of rates for deductible per claim coverage for the respective amounts of assured's retention of liability shown. These discounts are applicable only to the indemnity portion of the rate.

Assured's Retention of Liability	Per cent Discount Deductible per Claim
$ 100	5.0%
150	10.0
250	20.0
500	25.0
1,000	30.0
2,000	45.0
2,500	50.0
3,000	52.5
3,500	55.0
4,000	57.5
4,500	60.0

In calculating the rate for deductible coverage for a policy written on an ex-medical basis, the full-coverage rate is first multiplied by unity minus the ex-medical ratio in order to obtain the ex-medical rate, and then the deductible discount specified in the table is applied to this ex-medical rate.

To obtain the rate for deductible coverage for a policy written on a full-medical basis, the discount specified in the table is applied to the ex-medical rate and to this result is added the medical portion of the rate in order to determine the final deductible rate.

Rate Filing with New York Insurance Department

The National Bureau's filing with the New York Insurance Department does not consist of a definite, complete schedule of discounts for the various amounts of assured's retention of liability for each line of insurance. The filing consists of the formulas previously given in this paper to be used in calculating the discounts for the smaller amounts of assured's retention, together with an explanation of a modification of these formulas to provide for the graduation of the discounts for the amounts of assured's retention above $1,000 per claim for the Public Liability lines and above $250 per accident for the Property Damage lines. The discounts for the higher amounts of assured's retention are established by judgment in order to graduate to a discount of .80 for $5,000 deductible coverage on a per claim basis on a standard limits Public Liability policy, or for an assured's retention of $1,000 per accident on a standard limits Property Damage policy.

The Product P. L. and P. D. lines are considered to be on an "*a*" rated basis for deductible coverage; that is, discounts are quoted which fit the characteristics of each risk.

Under the present filing, it would theoretically be possible to use the distribution of losses by size for a group of classifications or for an industry group rather than the totals for a line of insurance in establishing the proper discount for a given risk, if it were considered that this procedure would establish a more accurate rate for the risk.

If the assured's retention of liability is in excess of standard limits, the rate is determined by applying the following multiplier to the manual rate:

$$M - .80N$$

Where $M =$ Table multiplier for limits desired

$N =$ Table multiplier for limits of assured's retention

Comments on Present Deductible Rate Making Method

Under the present method of determining the discounts for deductible coverage, the provision for allocated claim expense is .037 of the full coverage rate for all lines of insurance. This ratio was derived from the claim expense data compiled in the Supplement to the 1928 New York Casualty Experience Exhibit for the Owners', Landlords' and Tenants', the Manufacturers' and Contractors', the Elevator, and the Teams' Public Liability lines combined. The ratio of allocated and unallocated claim expenses combined to earned premiums was .117. Since the loading in the manual rates for unallocated claim expense is .080, the difference between .117 and .080, or .037, was assumed to represent the ratio of allocated claim expense to earned premium.

A review of the allocated claim expense ratios reported in the 1935 Casualty Experience Exhibit indicates that this ratio of .037 is only approximately half the average allocated claim expense ratio actually being incurred in connection with the Liability lines, other than Automobile. There is also considerable variation in the indicated allocated claim expense ratio by line of insurance. For all stock companies combined, the allocated claim expense ratios shown in the Supplement to the 1935 Casualty Experience Exhibit are as follows:

CASUALTY EXPERIENCE EXHIBIT—CALENDAR YEAR 1935

Line of Insurance	Allocated Claim Expense Ratio
Elevator P. L.	2.3%
Mfrs.' & Contrs.' P. L.	7.9
O. L. & T. P. L.	7.3
Teams' P. L.	8.4
Employers' Liability	6.2
Product P. L.	8.4
All other Liability lines, other than Auto	11.7
Total Liability other than Automobile	7.2

It is quite likely that the allocated claim expense ratio incurred on risks written on a deductible basis is higher on the average than that incurred on risks written on a full coverage basis because assured's whose coverage is on a deductible basis frequently endeavor to influence the insurance company to contest more cases than normal. Giving consideration to this point and also to the fact that the ratio of .037 is seriously out of line with the indications of the latest data on actual allocated claim expense ratios, it is the opinion of the writer that the present rate making method for deductible coverage does not include an adequate provision for allocated claim expense.

The foregoing table indicates that the provision for allocated claim expense on deductible risks should vary by line of insurance. It is the writer's recommendation that the allocated claim expense ratio to be used in the determination of the discounts for deductible coverage be determined in the following manner. In conjunction with the loss data reported by size of claim, the allocated claim expense incurred on the claims included in the report is shown in total as a separate amount. The ratio of the total allocated claim expense to the total of the standard limits indemnity losses and the allocated claim expense combined could be determined. Applying this ratio to the permissible loss ratio for the line of insurance would develop the indicated necessary provision for allocated claim expense on the basis of the assumption that the total loss experience incurred for the line of insurance would equal the permissible.

If it should be considered undesirable to use the data reported in connection with the call for experience by size of claim as the basis for this calculation, the data reported in the regular call for loss ratio experience by line of insurance could be substituted.

It would be preferable to determine the allocated claim expense ratio by the recommended method rather than to adopt a ratio based on the indications of the Casualty Experience Exhibit. The latter ratios are apt to be unreliable for some of the less important lines of insurance and, furthermore, the actual allocated claim expense ratio varies considerably with the character of the general loss experience, reflecting the effect of a favorable or an unfavorable loss ratio.

The present method of graduating the discounts for the higher amounts of assured's retention to produce a discount of .800 for

$5,000 deductible coverage apparently does not give an adequate provision for the expenses incurred in servicing such risks. The breakdown of the .200 of the full coverage rate which is charged for servicing a $5,000 deductible risk may be assumed to be as follows:

PRESENT METHOD

Expense Item	Ratio to Full Coverage Rate
Acquisition, Taxes and Profit (30% × .200)	.060
Unallocated Claim Expense	.080
Allocated Claim Expense	.037
Available for H. O. Admin., Insp., and Payroll Audit	.023
Total	.200

It will be noted that even with a provision of only .037 for allocated claim expense, the residue available for Home Office administration, inspection and payroll audit is .023 as compared with the provision of .110 in the manual rates for the important lines of insurance. If the provision for allocated claim expense indicated by the tabulation previously given were allowed, there would be nothing specifically available for Home Office administration, inspection and payroll audit. The above analysis assumes, of course, that the same number of claims would be incurred under deductible coverage as under full coverage. It seems quite likely, however, that some beneficial effect on the number of claims would normally result from writing the coverage on a deductible basis rather than on a full coverage basis, similar to that which has actually been experienced when Workmen's Compensation risks have been written under the Retrospective Rating Plan instead of on a guaranteed cost basis. Such a tendency for deductible coverage to reduce the number of claims would offset, to some extent, the apparent inadequacy in the expense provision.

If consideration is given to the theory underlying deductible coverage, it is apparent that there should be the same provision for company expenses in the deductible rate that there is in the full coverage rate. If the discount for $5,000 deductible coverage is calculated in accordance with this theory, the discount indicated for the important lines of insurance is .676 as compared with the discount of .800 allowed at present. The discount of .676 is calculated as follows:

PROPOSED METHOD

Expense Item	Ratio to Full Coverage Rate
Acquisition, Taxes and Profit (30% × .324)	.097
Unallocated Claim Expense	.080
Allocated Claim Expense	.037
H. O. Admin., Insp., and Payroll Audit	.110
Total	.324

If the indicated necessary provision for allocated claim expense were included, the discount calculated would be somewhat less than .676.

Under the present rate making method, it is questionable whether an insurance company could actually afford to insure a risk on a deductible basis with the assured's retention of liability approximating $5,000 per claim because of the apparently inadequate expense allowance which would be received. Consideration should be given to the desirability of revising the present method of graduating the discounts for the higher amounts of assured's retention so that a larger expense allowance will be provided. In the writer's opinion, the discount allowed for an assured's retention of $5,000 per claim should be considerably less than .800 as at present.

Per Claim vs. Per Accident Deductible Coverage

The formulas given for the Public Liability lines apply only when the deductible coverage is written on a per claim basis. No statistics of the distribution of losses by size on a per accident basis are available. It would be very difficult for the insurance companies to respond to a call for the distribution of losses by size on a per accident basis because of the manner in which their statistical records are maintained. When deductible coverage on a Public Liability policy is written on a per accident basis, the discount allowed is .05 less than the discount calculated on a per claim basis for all lines except Elevator P. L., for which .025 is deducted from the discount applicable on a per claim basis.

For the Property Damage lines, the formulas given are for a per accident basis since Property Damage deductible coverage is always written on a per accident basis and never on a per claim basis. This procedure is necessary in view of the difficulty of defining a claim under Property Damage coverage. This difficulty is not experienced with the Public Liability lines since the number of claims is a function of the number of persons injured in each accident.

Minimum Premiums

The deductible discounts are also applicable to the minimum premium for individual locations or operations on specific risks where the minimum premium is the controlling premium. In no event, however, may the deductible discount operate to reduce the premium charge per policy below the minimum premium charge (if not in excess of $10.00) which would apply if the policy were canceled by the assured.

Excess Limits

When excess limits coverage is provided on a policy written on a deductible basis with an assured's retention of less than standard limits, the premium charge for the excess limits portion of the coverage must be the same as would be made on a risk written on a full-coverage basis. The liability of the insurance company with regard to the excess limits portion of the coverage is not affected by the deductible provision applicable to the standard limits portion of the coverage. For example, if a $6,000 indemnity loss were incurred on a policy written for 50/100 limits and on a $250 deductible basis, the assured would be liable for $250 and the insurance company for $4,750 under the standard limits portion of the coverage and for $1,000 under the excess limits portion of the coverage. Under a full-coverage policy, the portion of the loss chargeable against the excess limits coverage would likewise be $1,000.

To illustrate the manner in which the final rate is calculated for a risk written on a deductible basis, with excess limits coverage, the following example is included:

Example—O. L. & T. P. L. risk subject to Table B

50/100 limits factor $= 1.320$
\$250 deductible discount $= .375$

Factor applicable to 5/10 manual rate:

$$1.00 \times (1.000 - .375) = .625$$
$$.32 \times 1.000 = .320$$

Total........ .945

If the 5/10 manual rate were \$.50, the rate for 50/100 limits, \$250 deductible, would be .945 × \$.50, which equals \$.473.

If experience rating modifications are applicable, the final adjusted rate for the above example would be calculated as follows. Assume a standard limits experience modification of .700 and an excess limits experience modification of .800.

$$.625 \times .700 = .4375$$
$$.320 \times .800 = .2560$$

Total .6935

.6935 × \$.50 = \$.347 Final adjusted rate

Aggregate Limits

For certain lines of insurance, an aggregate limit as well as the usual per person and per accident limits applies. All of the specified limits of liability—whether per person, per accident or the aggregate liability under the policy—apply to the gross indemnity cost of the claims incurred regardless of the portion of such costs which may be retained by the policyholder under the deductible form of coverage. It is therefore necessary that the insurance company maintain a record of the gross indemnity cost of all claims on each policy written on a deductible basis under those lines which are subject to an aggregate limit, in order to determine when the aggregate policy limit has been exhausted.

Classification Experience

The experience of risks written on a deductible basis is excluded from the classification experience reported for rate making. The experience of all risks written on a deductible basis is reported in total under a specified code number for each line of insurance.

No attempt is made to compile a record by deductible amount, because the volume of business which has been written to date on a deductible basis has not been sufficiently large to be of any value for rate making purposes.

Experience Rating

The Public Liability Experience Rating Plan is applicable on an intra-state basis in three states: Minnesota, New York and Wisconsin. A Public Liability risk written on a deductible basis qualifies for experience rating if it has developed an exposure during either the latest year or the latest two years of the experience period such that the application thereto of the manual rates for full coverage (standard limits only) produces a premium of the same amount as required for a full coverage risk to qualify for experience rating.

The experience rating of Public Liability risks is in accordance with the coverage to be provided on renewal. Full coverage experience is adjusted to the deductible basis if the risk is to be written on the deductible form on renewal and, vice versa, any deductible experience is built up to a full coverage basis before using in the experience rating calculation if the risk is to be afforded full coverage on renewal. In conformance with the rule that there should be only one experience rating modification outstanding for a risk at one time, it would be desirable to provide that if a portion of the coverage is to be written on a full coverage basis and the remainder on a deductible basis on renewal, the experience rating calculation should be based on the combined data compiled accordingly. For a risk written in such a manner, it is the writer's opinion that there should not be separate experience rating calculations based in the one case with all of the experience adjusted to a deductible basis and in the other case with all of the experience built up to a full coverage basis.

In developing the experience rating modification for a risk which is to be written on a deductible basis on renewal, the following changes in the Public Liability experience rating plan are necessary:

Actual Losses

The actual losses experienced under full coverage are reduced to an equivalent deductible amount by subtracting the deductible amount from the indemnity payments. Allocated loss expense and medical losses are included in full. The adjusted indemnity loss is combined with the allocated loss expense and the medical losses before separating any loss into normal and excess. In dividing actual losses between normal and excess, the deductible amount is first subtracted from the normal loss amount of Table A and the remainder is used as the normal amount for the deductible coverage.

Expected Losses

(1) The total expected losses on the deductible basis are obtained by multiplying the full coverage premium subject at standard limits by the ratio given below for each line of insurance, where r is the ratio of the manual rate for the deductible coverage to the manual rate for full coverage $\left(r = \frac{R_d}{R} \right)$:

Line of Insurance	Ratio Applicable to Full Coverage Premium Subject
General Formula	$.70\,r$ — (Unallocated Cl. Exp. + H. O. Admin. + Insp. + P. A.)
Mfrs.' & Contrs.' P. L. O. L. & T. P. L. Product P. L. Theatre P. L.	$.70\,r - .19$
Teams' P. L.	$.70\,r - .18$
Elevator P. L.	$.70\,r$ — (.155 + Inspection cost ratio)

For example, for the O. L. & T. Public Liability line, the total expected losses for a risk written on a \$250 deductible basis for which the discount is .375 would be equal to .2475 times the full coverage premium subject ($.70 \times .625 - .19 = .2475$).

(2) Under *any* of the following conditions, the total standard limits expected losses (deductible basis) shall be considered to be composed entirely of excess standard limits expected losses (deductible basis) and in such cases it will not be necessary to split either the expected losses or the actual losses into the usual normal and excess divisions:

(a) When the deductible amount is equal to or greater than the normal loss amount of Table A.

(b) When the ratio of the manual rate for the deductible coverage to the manual rate for full coverage is equal to or less than the ratio given for each line of insurance in the following table:

Line of Insurance	Ratio of Deductible Rate to Full Coverage Rate
General Formula	$.70r$ — (Unallocated Cl. Exp. + H. O. Admin. + Insp. + P. A.) = .40 * (Full Cov. Perm. L. R.)
Mfrs.' & Contrs.' P. L. O. L. & T. P. L. Product P. L. Theatre P. L.	$.70r - .19 = .40 \times .51$ $r = .56$ or less
Teams' P. L.	$.70r - .18 = .40 \times .52$ $r = .55$ or less
Elevator P. L.	$.70r$ — (.155 + Insp. Cost Ratio) = .40 × (.545 — Insp. Cost Ratio) $r = .53 + .86$ Insp. Cost Ratio, or less.

(c) When the normal credibility in all other cases calculated as provided for in Rule (5) below is less than the excess credibility determined in accordance with Rule (4).

(3) In cases other than those described under Rules (2a) and (2b), the normal and excess expected losses are determined by the following formulas:

(a) The normal expected losses (deductible basis) are equal to the product of the ratio given in the following table and the premium subject (full coverage).

Line of Insurance	Ratio Applicable to Full Coverage Premium Subject
General Formula	$.70r$ — (.40 × Full Cov. Perm. L. R. + Unalloc. Cl. Exp. + H. O. Admin. + Insp. + P. A.)
Mfrs.' & Contrs.' P. L. O. L. & T. P. L. Product P. L. Theatre P. L.	$.70r - (.40 \times .51 + .19)$ $= .70r - .394$
Teams' P. L.	$.70r - (.40 \times .52 + .18)$ $= .70r - .388$
Elevator P. L.	$.70r$ — [.40 (.545 — Insp. Cost Ratio) + .155 + Insp. Cost Ratio] $= .70r - .373 - .60$ Insp. Cost Ratio

(b) The excess expected losses (deductible basis) are obtained by applying the ratio shown in the following table to the premium subject (full coverage).

Line of Insurance	Ratio Applicable to Full Coverage Premium Subject
General Formula	.40 (Full Cov. Permissible L. R.)
Mfrs.' & Contrs.' P. L. O. L. & T. P. L. Product P. L. Theatre P. L.	$.40 \times .51 = .204$
Teams' P. L.	$.40 \times .52 = .208$
Elevator P. L.	.40 (.545 — Insp. Cost Ratio) = .218 — .40 Insp. Cost Ratio.

*NOTE: In the Public Liability Experience Rating Plan, the excess standard limits premium subject is equal to .40 of the total standard limits premium subject.

Credibility

(4) In all cases the excess credibility factor shall be the same as for full coverage and, therefore, shall be read from Table B using excess expected losses calculated in accordance with rule (3b).

(5) The normal credibility factor shall be determined from Table B by using the normal expected losses (deductible basis) as calculated in accordance with Rule (3a). In the event that the normal credibility factor so determined is less than the excess credibility factor as determined by Rule (4), the excess credibility factor shall be substituted and used for normal.

The derivation of the various ratios specified to be used in experience rating Public Liability risks written on a deductible basis can be reproduced by referring to the Public Liability Experience Rating Plan and to the data given in this paper showing the methods employed in calculating the discounts for deductible coverage.

Underwriting Considerations

From an underwriting standpoint, the risks which it is preferable to write on a deductible rather than on a full coverage basis are those with high accident frequency. Through writing such risks on a deductible basis, the assured is directly impressed with the necessity for introducing accident prevention measures in order to reduce his own share of the incurred losses. Many risks of this nature which would produce very unfavorable experience for the insurance company if written on a full coverage basis prove to be satisfactory when written on a deductible coverage basis. Deductible coverage for an assured's retention of such amounts as $100 or $250 is most frequently written on Product Public Liability risks, department stores for O. L. & T. Public Liability coverage, and Theatre Public Liability risks. Many risks of these types would be almost uninsurable on a full coverage basis but the loss experience can be controlled when the risks are written on a deductible basis because of the cooperation which is received from the assured through his realization of the monetary loss which he will directly suffer if accidents occur.

As a sales argument, it might be well to recommend deductible rather than full coverage for any fairly large risks with a tendency to produce almost no losses. Concerns of this type should be willing to carry their risk up to a nominal amount provided that the insurance company continues to furnish the necessary service and protection against severe losses. On risks of this type, a review of the past experience will indicate whether it is likely that the discount received by reason of the deductible coverage will more than offset the assured's share of the probable incurred losses.

It should be emphasized that the insurance company must retain control over the settlement of all losses, regardless of amount, and not obligate itself to consult an assured as to whether a claim should be settled or contested. Some assureds with their coverage written on a deductible basis would want every claim, regardless of merit, fought in order to avoid payment under their retention of liability, if possible. Whereas the insurance company might decide that certain claims should be settled in order to avoid the legal expense of court actions, the assured might object to making any payments under his retention unless forced to through legal judgments. Unless the insurance company retains full control of the settlement of all claims, it will be found that the cost of allocated claim expense will be increased substantially over the average experienced on risks written on a full coverage basis. In addition to incurring unusually high allocated claim expense through permitting the adoption of a policy of contesting all claims, the insurance company might find its portion of the indemnity losses increased because of substantial judgments in the case of certain claims which would have been settled out of court if the decision had been entirely in the hands of the insurance company and had not been affected by the assured's judgment.

In the settlement of losses incurred under a deductible policy, it is customary, as previously stated, for the insurance company to pay each loss in full and then to secure reimbursement from the assured for the portion of the loss for which he is liable because of his retention. The usual procedure for securing reimbursement is to bill the assured for his portion of each claim immediately after the loss is paid. Since some of the losses on a Public Liability policy may not be paid until several years after the policy has expired, the claim adjuster should always be certain that it will be possible to secure the reimbursement from the assured if the loss is paid in full. Otherwise, the insurance company should pay only its share of the incurred loss. This problem should not arise in the case of any risk for which the insurance company is still writing the current coverage.

Recommended Alternative Method of Writing Deductible Coverage

Sometimes, the criticism is expressed by risks written on a deductible basis that the insurance company is settling too many cases, regardless of liability, and that a considerable portion of the indemnity payments made must be borne by the assured because of the deductible coverage feature. In these cases, the assured undoubtedly feels that the insurance company is paying out his money in order to decrease the possibility of loss under the insurance coverage. In order to meet this criticism, the suggestion is advanced that deductible coverage might be more satisfactory and salable if it were written to provide that the insurance company and the assured would share equally the portion of any loss lower than a specified amount. For instance, instead of writing $250 deductible coverage on a particular risk, it could be provided that the insurance company and the assured would share equally the first $500 of any indemnity loss and the insurance company would pay in full the portion of any loss in excess of $500, subject to the policy limits. The maximum amount of loss which the assured would have to pay on any one claim not exceeding the policy limits would still be $250. Since the insurance company would be obligated to pay at least an equal amount with the assured in the settlement of every claim, it could no longer be accused of needlessly settling claims for amounts within the assured's retention in order to avoid incurring any loss under its portion of the coverage.

The discount for this co-insurance coverage would be 50% of the usual discount for deductible coverage equal to the total amount of loss for which the insurance company and the assured are jointly liable. For purposes of comparison, the discount for $250 deductible coverage for O. L. & T. Public Liability insurance is 37.5% whereas one-half the discount for $500 deductible coverage would be 23.8%.

It is the writer's opinion that this suggestion of writing co-insurance coverage instead of deductible coverage under certain circumstances possesses sufficient merit to justify thorough study of this proposal on the part of the committees which deal with the rate making problems for deductible coverage. It may be found that this form of coverage contains sufficient advantages to warrant its addition to the plans which are now available on an optional basis.

Part II — Excess Coverage

Rate Making Method

In calculating the rates for excess coverage when the assured's retention is less than standard limits, the same distribution of incurred losses by size of claim is employed as in calculating the rates for deductible coverage. The expense loading is treated differently, however, reflecting the difference in the degree of service which the insurance company gives under these two forms of coverage. Under excess coverage, only the provision for payroll audit expense and two-thirds of the provision for Home Office administration expense are treated as fixed. Unallocated claim expense, inspection, acquisition, taxes, profit, and one-third of the Home Office administration expense vary with the premium. Reflecting the manner in which losses are adjusted and defended under this coverage, the allocated claim expense is necessarily treated in the same manner as the indemnity cost.

The rate for excess coverage is calculated from the rate for full-coverage in this manner:

$$R_e = R\ (1.00 - \text{Discount})$$

The discount for each line of insurance is calculated by means of the following formula, where k is the percentage reduction in indemnity losses by reason of writing the coverage on an excess basis:

$$\text{Discount} = \frac{.90 \times k \times (\text{Indemnity} + \text{Allocated Claim Expense})}{1.00 - (\text{Acquisition} + \text{Taxes} + \text{Profit} + \text{Inspection} + \text{Unallocated Claim Expense} + \tfrac{1}{3}\ \text{H. O. Admin.})}$$

The formulas employed in calculating the discounts for excess coverage for the important lines of insurance are:

Mfrs.' & Contrs.' P. L. & P. D.

$$\text{Discount} = \frac{.90 \times k \times .510}{1.00 - (.25 + .025 + .025 + .015 + .08 + .025)}$$
$$= .7914k \text{ (Rounded to lower .025 interval)}$$

O. L. & T. P. L. & P. D.
Theatre P. L. & P. D.

$$\text{Discount} = \frac{.90 \times k \times .510}{1.00 - (.25 + .025 + .025 + .035 + .08 + .025)}$$
$$= .8196k \text{ (Rounded to lower .025 interval)}$$

Teams' P. L. & P. D.

$$\text{Discount} = \frac{.90 \times k \times .520}{1.00 - (.25 + .025 + .025 + .005 + .08 + .025)}$$
$$= .7932k \text{ (Rounded to lower .025 interval)}$$

The formulas for calculating the discounts for excess coverage for the Product P. L. & P. D. and the Elevator P. L. & P. D. lines are on an "*a*" rated basis.

Rate Filing with New York Insurance Department

The National Bureau's filing with the New York Insurance Department for excess coverage is similar to that for deductible coverage. The filing does not consist of a complete schedule of discounts for the various amounts of assured's retention for each line of insurance but only of the formulas to be used in calculating the discounts for the lower amounts of assured's retention, together with an explanation of a modification of these formulas to provide for the graduation of the discounts for the higher amounts of assured's retention. The discounts for the higher amounts of assured's retention are graduated by judgment to produce a discount of 100% for a \$5,000 retention per claim on a standard limits Public Liability policy, or for an assured's retention of \$1,000 per accident on a standard limits Property Damage policy. The graduation applies to the amounts of assured's retention above \$1,000 per claim for the Public Liability lines and above \$250 per accident for the Property Damage lines.

When the assured's retention is in excess of standard limits, as is frequently the situation, the rate is determined by taking the difference between the excess limits table multipliers for the upper limits desired and for the limits of the assured's retention.

Suggested Rate Making Formula

In the present rate making formula for excess coverage, it is considered that the provisions for inspection, unallocated claim expense, and one-third of Home Office administration should vary with the premium. It is the writer's suggestion that this portion of the company expenses be considered instead to vary with the losses rather than with the premium. If this adjustment is made, the formula for calculating the discount for excess coverage would be as follows:

$$\text{Discount} = \frac{.90 \times k \times (\text{Ind.} + \text{Alloc. Cl. Exp.} + \text{Insp.} + \text{Unalloc. Cl. Exp.} + \tfrac{1}{3}\,\text{H. O. Admin.})}{1.00 - (\text{Acq.} + \text{Taxes} + \text{Profit})}$$

This suggestion is made because the present formula for calculating the discount for excess coverage does not allow credit for the proportion of company expenses contemplated because the denominator used in this formula is higher than the corresponding denominator employed in calculating manual rates. The recommended formula would produce results more in line with those intended by the theory underlying the application of the expense loadings in the calculation of excess rates. The discounts produced by the suggested formula would be somewhat larger than those developed by the present formula.

Per Claim vs. Per Accident Excess Coverage

The formulas given in this paper produce the indicated discounts for excess coverage on a per claim basis for the Public Liability lines and on a per accident basis for the Property Damage lines. When excess coverage on a Public Liability policy is written on a per accident basis, the discount allowed is .05 less than the discount calculated on a per claim basis for all lines except Elevator Public Liability, for which .025 is deducted from the discount applicable on a per claim basis. For the Property Damage lines, excess coverage is always written on a per accident basis and never on a per claim basis.

Minimum Premiums

The discounts for excess coverage also apply to the minimum premium for individual locations or operations on specific risks where the minimum premium is the controlling premium. In no event, however, may the discount for excess coverage operate to reduce the premium charge per policy below the minimum premium charge (if not in excess of $10.00) which would apply if the policy were canceled by the assured.

Excess Limits

The charge for excess limits coverage on a policy written on an excess basis is the same as that which would be made for the corresponding excess limits portion of the coverage on a risk written on a full coverage basis. To illustrate the manner in which the final rate is calculated for a risk written on an excess coverage basis with excess limits coverage the following example is given:

Example—O. L. & T. P. L. risk subject to Table B

50/100 limits factor = 1.320
$250 excess discount = .525

Factor applicable to 5/10 manual rate:

$1.00 \times (1.000 - .525) = .475$
$.32 \times 1.000 = .320$

Total .795

If the 5/10 manual rate were $.50, the rate for 50/100 limits, $250 excess coverage, would be .795 × $.50, which equals $.398.

Aggregate Limits

Theoretically, the aggregate limit specified for certain lines of insurance should apply on the basis of the gross amount of incurred indemnity losses, including those incurred by the assured under his retention. As a practical matter, however, it would be impossible to treat the policy limits in this manner where the insurance is written on an excess coverage basis. The insurance company would obviously not be able to maintain a record of the losses settled within the assured's retention and, for this reason, it would be necessary to provide that the aggregate limit would apply instead on the basis of the net amount of losses incurred by the insurance company under the excess coverage. The premium charge for excess coverage should reflect the extension of coverage, of course, where the aggregate liability under the insurance policy applies on the basis of the net incurred losses rather than on the basis of the gross incurred losses.

For example, the calculation of the factor applicable to the standard limits manual rate for Contractors' P. D. where the assured's retention is $5,000 per accident and the insurance company is assuming liability in excess of this amount to the extent of $25,000 per accident, with an aggregate limit of $100,000 applying on the basis of the gross amount of losses, would be as follows:

Example—Contractors' P. D. risk subject to Table II

$30,000/100,000 factor................................	= 1.68
$ 5,000/100,000 factor................................	= 1.42
Factor for $25,000 per accident coverage in excess of $5,000 per accident, with an aggregate limit of $100,000 applying on the basis of the gross incurred losses.....	.26

When, recognizing the impracticability of treating the aggregate policy limit in this manner, it is specified that the aggregate limit will apply instead on the basis of the net losses incurred by the insurance company, the factor calculated in the above manner should be increased somewhat to reflect the extension of coverage. This adjustment would be similar in character to that which is made in modifying the discounts calculated for deductible coverage on a per claim basis to reflect the increased insurance protection afforded when the deductible provision is to apply on a per accident basis instead.

Few risks under the lines of insurance involving aggregate limits have been written to date on an excess coverage basis. Because the whole question of aggregate limits for the casualty lines of insurance is still in the experimental stage, no definite procedure for determining the proper premium charge for risks written on an excess coverage basis has been worked out, but the method outlined above appears to offer a reasonable solution of the problem.

Classification Experience

The experience of risks written on an excess coverage basis is excluded from the classification experience employed in deriving manual rates. The experience of all risks written on an excess coverage basis is reported in total under a specified code number for each line of insurance. No attempt is made to compile a record by excess amount, because the volume of experience developed is too limited to justify such refinement for statistical purposes.

Experience Rating

The Public Liability Experience Rating Plan is applicable on an intra-state basis in three states: Minnesota, New York and Wisconsin. A Public Liability risk written on an excess coverage basis qualifies for experience rating if it has developed an exposure during either the latest year or the latest two years of the experience period such that the application thereto of the manual rates for full coverage (standard limits only) produces a premium of the same amount as required for a full coverage risk to qualify for experience rating.

The experience rating of Public Liability risks is in accordance with the coverage to be provided on renewal. Full coverage experience is adjusted to an excess coverage basis if the risk is to be written on the latter basis on renewal. Conversely, any experience developed on an excess coverage basis should theoretically be built up to a full coverage basis before using in the experience rating calculation if the risk is to be afforded full coverage on renewal. As a practical matter, this latter adjustment would be very difficult, if not impossible, because the insurance company would not have a record of the losses incurred by the assured under his retention.

In developing the experience rating modification for a risk which is to be written on an excess coverage basis on renewal, the following changes in the Public Liability experience rating plan are necessary:

Actual Losses

The actual losses experienced under full coverage are reduced to an equivalent excess coverage amount by subtracting the assured's retention from the indemnity payments. Allocated loss expense and medical losses are excluded, except where the allocated loss expense was incurred with the insurance actually written on an excess coverage basis. In dividing the adjusted actual losses between normal and excess, the assured's retention is first subtracted from the normal loss amount of Table A and the remainder is used as the normal amount for the excess coverage.

Expected Losses

(1) The total expected losses on the excess coverage basis are obtained by multiplying the full coverage premium subject at standard limits by the ratio given below for each line of insurance, where r is the ratio of the manual rate for excess coverage to the manual rate for full coverage $\left(r = \frac{R_e}{R}\right)$:

Line of Insurance	Ratio Applicable to Full Coverage Premium Subject
General Formula	r — [Full Coverage Expense Loading — (1.000—r) × Expense Loading in Excess Discount]
Mfrs.' & Contrs.' P. L.	$r - [.490 - (1.000 - r)\ .420]$ $= .58r - .07$
O. L. & T. P. L. Theatre P. L.	$r - [.490 - (1.000 - r)\ .440]$ $= .56r - .05$
Teams' P. L.	$r - [.480 - (1.000 - r)\ .410]$ $= .59r - .07$

For example, for the O. L. & T. Public Liability line, the total expected losses for a risk written on a $250 excess coverage basis for which the discount is .525 would be equal to .216 times the full coverage premium subject ($.56 \times .475 - .050 = .216$).

(2) Under *any* of the following conditions, the total standard limits expected losses (excess coverage basis) shall be considered to be composed entirely of excess standard limits expected losses (excess coverage basis) and in such cases it will not be necessary to split either the expected losses or the actual losses into the usual normal and excess divisions:

(a) When the assured's retention is equal to or greater than the normal loss amount of Table A.

(b) When the ratio of the manual rate for the excess coverage to the manual rate for full coverage is equal to or less than the ratio given for each line of insurance in the following table:

Line of Insurance	Ratio of Excess Rate to Full Coverage Rate
General Formula	r — [Full Cov. Expense Loading — (1.000 — r) × Expense Loading in Excess Discount] = .40 (Full Cov. Perm. L. R.)
Mfrs.' & Contrs.' P. L.	$r - [.490 - (1.000 - r)\ .420] = .40 \times .51$ $.58r - .070 = .204$ $r = .47$ or less
O. L. & T. P. L. Theatre P. L.	$r - [.490 - (1.000 - r)\ .440] = .40 \times .51$ $.56r - .050 = .204$ $r = .45$ or less
Teams' P. L.	$r - [.480 - (1.000 - r)\ .410] = .40 \times .52$ $.59r - .070 = .208$ $r = .47$ or less

(c) When the normal credibility in all other cases calculated as provided for in Rule (5) below is less than the excess credibility determined in accordance with Rule (4).

(3) In cases other than those described under Rules (2a) and (2b), the normal and excess expected losses are determined by the following formulas:

(a) The normal expected losses (excess coverage basis) are equal to the product of the ratio given in the following table and the premium subject (full coverage):

Line of Insurance	Ratio Applicable to Full Coverage Premium Subject
General Formula	$r -$ [Full Cov. Expense Loading $-$ $(1.000 - r)$ $\times$ Expense Loading in Excess Discount $+ .40$ (Full Cov. Perm. L. R.)]
Mfrs.' & Contrs.' P. L.	$r - [.490 - (1.000 - r)\ .420 + .40 \times .51] = .58r - .274$
O. L. & T. P. L. Theatre P. L.	$r - [.490 - (1.000 - r)\ .440 + .40 \times .51] = .56r - .254$
Teams' P. L.	$r - [.480 - (1.000 - r)\ .410 + .40 \times .52] = .59r - .278$

(b) The excess expected losses (excess coverage basis) are obtained by applying the ratio shown in the following table to the premium subject (full coverage):

Line of Insurance	Ratio Applicable to Full Coverage Premium Subject
General Formula	.40 (Full Cov. Perm. L. R.)
Mfrs.' & Contrs.' P. L.	$.40 \times .51 = .204$
O. L. & T. P. L. Theatre P. L.	$.40 \times .51 = .204$
Teams' P. L.	$.40 \times .52 = .208$

Credibility

(4) In all cases the excess credibility factor shall be the same as for full coverage and, therefore, shall be read from Table B using excess expected losses calculated in accordance with Rule (3b).

(5) The normal credibility factor shall be determined from Table B by using the normal expected losses (excess coverage basis) as calculated in accordance with Rule (3a). In the event that the normal credibility factor so determined is less than the excess credibility factor as determined by Rule (4), the excess credibility factor will be substituted and used for normal.

The derivation of the various ratios specified to be used in experience rating Public Liability risks written on an excess coverage basis can be reproduced by referring to the Public Liability Experience Rating Plan and to the data given in this paper showing the methods employed in calculating the discounts for excess coverage.

Underwriting Considerations

Excess insurance is mainly written on very large risks which self-insure the smaller amounts of loss but wish to purchase insurance protection against an unusual or catastrophic loss, and on those risks which insure the primary portion of their coverage in one company and purchase the higher limits coverage from another. A large part of this excess coverage is written by London Lloyds, undoubtedly because the premium charge is less than that determined by the rating methods which have been established for this coverage by the Bureau companies.

Except for coverage which involves a severe catastrophe hazard, such as on oil refining operations or on theatres, it may be considered that business written on an excess coverage basis is desirable provided that the assured's retention is a fairly large amount.

SUMMARY

As stated previously, the main purpose of this paper was to assemble the available data on rate making, etc. which may be published for deductible and excess coverages. In addition, certain observations and suggestions have been advanced by the writer with regard to the rating methods and insurance practices for these coverages. The information included in this paper may prove to be of help to underwriters and others in the writing of business under either of these forms of coverage. Undoubtedly, some important points may have been omitted unintentionally by the writer, but it is likely that any such matters will be treated in the written discussions of this paper.

SMALL RISKS VERSUS LARGE RISKS IN WORKMEN'S COMPENSATION INSURANCE

BY

MARK KORMES

INTRODUCTION

In the last decade a new element was introduced into the Workmen's Compensation rating structure and the Manual of rates for a large majority of states shows for each classification so-called "loss and expense constants." For a long time the carriers realized that a small risk presents aspects as regards the cost of insurance differing from those characterizing a risk of a substantial size. The fundamental reason for this condition may be readily recognized if one considers that the small risk does not have the same incentive to provide for efficient and extensive accident prevention work, first, because such work requires an expenditure of money and second, because it does not reduce the cost of insurance. Furthermore, it must be borne in mind that many small employers do not keep accurate and adequate payroll records and, in certain industries, are tempted to conceal and do conceal considerable portions of the payrolls actually expended. The auditor of the insurance carrier is faced very frequently with the almost impossible task of segregating the payrolls by classifications. Even though the assured keeps an honest and complete record on a basis which may well serve the purposes of the assured it often does not lend itself to the determination of correct payroll distribution by classifications. The problem of premium collection is also very acute in case of a small risk where frequent changes of the insurable interests, disappearance of the assured, reluctance to pay additional premium upon audit and other similar conditions, make it well nigh impossible to collect the full premiums due. On the other hand, the expenses of handling the records of the books of the company and of preparing reports to various boards, bureaus and supervisory authorities are percentage-wise considerably higher for those risks than for risks with substantial premium volume.

A special "Conference Committee" appointed by the Superintendent of Insurance of New York, studied this problem during 1926 and 1927 and evolved a method of correcting the situation. The work of the Committee, the experience data it had at its disposal and the results of its deliberations are adequately and concisely described in a paper by Charles J. Haugh entitled "Recent Developments with respect to the Distribution of Workmen's Compensation Insurance Costs."(1) As a result of the work of the "Conference Committee" loss and expense constants were adopted in New York State effective May 1, 1928 and were introduced shortly thereafter in Massachusetts,(2) New Jersey(3) and more recently in a number of other states under National Council supervision.(4) Since the data used by the "Conference Committee" were obtained from rather crude tabulations submitted by individual carriers, the minority report of the "Conference Committee" recommended and the New York Insurance Department approved the so-called "Unit System of reporting." Under this system the experience on each and every policy beginning with policy year 1928 was to be reported to the Rating Board, checked as to underwriting and statistical accuracy and then used for experience rating of individual risks, for a tabulation of experience for ratemaking purposes (Classification Experience) and for a check-up on the "size of risk" situation.(5)

In the present paper it is the design of the author to give a resume of the "size of risk" experience for a number of years during which the Unit Plan was in operation and also to demonstrate the methods used in the calculation of the constants. The paper deals, in the main, with the experience of New York State, supplemented by the available experience of other states, in particular, by that of Massachusetts and North Carolina. Since in other states the Unit Plan has been introduced only very recently the experience of such states will not be available for some time to come. The method of calculation described in this paper is adaptable for any state and should prove, therefore, of interest to the student of insurance. It is interwoven with the ratemaking procedure so closely that its knowledge is absolutely essential to

(1) *Proceedings,* Volume XIV, page 262.

(2) Effective December 31, 1928.

(3) Expense Constant effective July 1, 1929; Loss Constant June 30, 1935.

(4) Coincident with the 1934 revision of rates.

(5) In this connection see paper by Charles M. Graham entitled "New York Unit Statistical Plan," *Proceedings,* Volume XVII, page 190, and the paper by Mark Kormes entitled "A Method of Assembling and Analyzing the Data Reported under the Unit Statistical Plan," *Proceedings,* Volume XVIII, page 99.

the actuary and underwriter for a complete understanding of the makeup of a rate for Workmen's Compensation insurance.

I — Experience by Size of Risk

The New York experience which is available at the present time comprises policy years 1928 to 1933 inclusive. Policy Year 1933 represents the first reporting of unit data or a development of six months after the expiration of the policies; and since the reports of all policies are submitted between eighteen and twenty months after the inception date, the development period in connection with short term policies is considerably longer. Similarly, the experience for policy year 1932 is valued thirty months, that of policy year 1931 forty-two months and the data for all other policy years fifty-four months after the inception of the policies issued during the given policy year. The data presented in this paper for policy year 1928 are limited to the period from May to December during which the constants were effective.

The variation of conditions in the several industries was recognized from the beginning by the adoption of different constants for Manufacturing, Contracting and All Other industries. In order, therefore, to study the results of the application of the constants the exhibits appended to this paper present the experience separated into these three industry groups.

Policy Year 1933 is further subdivided to show separate experience for the group of classifications which are subject to the U. S. Longshoremen's and Harborworkers' Act. This group, which will be henceforth referred to as the "Federal" group, is treated as a separate unit in the ratemaking procedure and, beginning with March 1, 1935, risks in this group have been assigned a loss and expense constant different from those applicable to other groups.

In Exhibit I the experience of the six policy years is summarized in six significant premium size groups. While a much finer subdivision (twenty-eight premium size groups) is actually available, the variations found in such a subdivision do not alter the situation materially and are also subject to casual fluctuations.

The experience for the Federal industry group is given only for policy year 1933 since it is not readily available for other policy years. It is, however, included in the All Other group for the policy years prior to 1933. A review of the exhibit indicates that for the Manufacturing industry the constants, while adequate for the first year, became more and more markedly inadequate for the subsequent years. This will explain the revision of the manufacturing constant from $23 to $32 on July 1, 1934 and to $42 on July 1, 1936. In the Contracting industry the inadequacy appears to exist only for the first four years, after which period of time the conditions apparently improved. In accordance therewith, the constant for the contracting industry was increased from $43 to $63 on July 1, 1934, and then decreased to $41 on July 1, 1936. In the All Other industry the inadequacy of the constant is indicated all along the line and thus it was increased from $7 to $13 on July 1, 1934 and to $18 on July 1, 1936. The reversal of the trend in the Contracting industry may be ascribed to the fact that carriers became very careful in underwriting contracting risks during the period of depression, insisting on adequate payroll records and making more careful payroll audits, as well as to the fact that the manual rates for this group of classifications were materially increased.

How much greater the disparity between the small and large risk would have been but for the introduction of constants may be seen from Exhibit II in which the loss ratios were calculated on premiums exclusive of constants. This exhibit in conjunction with Exhibit I serves to illustrate to what extent the constants have corrected the small risk problem.

Exhibit III serves to illustrate that subsequent developments in losses changed the situation but slightly. With the exception of policy year 1928 the subsequent reports bring the loss ratios on the two groups closer but still disclose a substantial difference. The exhibit is based on premiums inclusive of constants. It is quite obvious, therefore, that if the constant were excluded the differences would be much more marked.

Exhibit IV shows the experience on short term policies for policy years 1931, 1932 and 1933. This exhibit has been prepared in order to demonstrate the fundamental cause of the disparity in loss ratios between large and small risks. This exhibit shows that a substantial number of risks is being cancelled for various reasons, the most important reasons being nonpayment of premium or very bad experience. The exhibit demonstrates that this group of risks, which unfortunately float from carrier to carrier, has a great influence on the unsatisfactory small risk situation, and, if anything, indicates the necessity for a very careful underwriting of risks cancelled previously by another carrier. Inasmuch as the Board furnishes the carriers at a nominal cost with the past experience on any given risk, there is no reason whatsoever why underwriters should not avail themselves of such experience when writing a new small risk where there seems to be some evidence that the risk has changed carriers frequently in the past.

The medical loss ratio is also substantially better on risks of large size as shown below:

Industry Group	Premium Size Group	Policy Year		
		1931	1932	1933
Manufacturing	$ 0 - $399*	27.9	29.5	24.2
	400 & Over	19.1	18.4	18.3
	Total	21.6	21.7	19.9
Contracting	$ 0 - $399*	19.5	17.2	17.7
	400 & Over	18.3	18.6	18.9
	Total	18.6	18.1	18.4
All Other (Excl. P. C.) ...	$ 0 - $399*	21.5	21.4	22.1
	400 & Over	17.2	16.6	17.6
	Total	18.9	18.4	19.4
All Other (Incl. P. C.)	$ 0 - $399*	21.5	21.2	22.0
	400 & Over	17.1	16.6	17.6
	Total	18.9	18.4	19.4

* Including all minimum premium risks.

This may be ascribed in part to more efficient medical aid rendered in large plants, especially in those which have first aid stations or plant hospitals, and in part to the fact that a number of large risks are written on an ex-medical basis. In summarizing, it will be interesting to note that the average constants collected do not correspond to the constants established for the given industry group.

Pol. Yr.	Average Collected Constant		
	Mfg.	Contr.	All Other
1928	$20.0	$33.7	$6.6
1929	20.6	33.2	6.5
1930	20.3	32.3	6.3
1931	19.0	29.1	7.0
1932	23.0	41.7	7.8
1933	23.0	41.8	7.7

The figures for policy years 1928, 1929, 1930 and 1931 should be increased somewhat because in punching the experience for these policy years short term and full term policies were both counted as one risk. Policy years 1932 and 1933 reflect a more accurate average since in those years short term policies were punched as fractions of risks corresponding to the term of coverage. If we remember that during the period the manufacturing constant was \$23, the contracting constant was \$43 and the all other constant was \$7, we find that while the manufacturing constant was collected in full the contracting constant was collected in part only and in the All Other group a higher constant was collected than that provided. The explanation of this situation lies in the fact that the Classification and Rating Committee assigned to certain classifications other constants than those normally assignable to the industry group to which such classifications belonged. Furthermore, the Manual rule provided that on every policy the highest loss and expense constant applicable to any classification should be charged. This very often resulted in the application of a contracting constant of \$43 on a policy where the governing classification was that of an All Other industry merely because there were several hundred dollars of payroll for incidental contracting operations. This situation was corrected by the New York Classification and Rating Committee effective July 1, 1936 by ruling that all classifications assignable to any given industry should carry a uniform constant and by amending the Manual rule so as to require the assignment of the constant in accordance with the governing classification. These amendments to the Manual bring the practical application of the constants in conformity with the manner in which the experience enters the calculation of such constants.

In Exhibit V we find a condensed summary of Massachusetts experience for the latest five policy years available. It will be noted that the experience in this State is subdivided into more industry groups, the additional subdivision arising out of a separation of the All Other industry group into the Commercial and Clerical Group, Care and Custody Group, and remaining schedules. The applicable loss constant for the Manufacturing industry was \$18 prior to June 1, 1931 and \$17 thereafter. The Contracting industry constants for the corresponding periods were \$12 and

$11 respectively. There was no constant applicable to the Commercial and Clerical group. The Care and Custody group had constants of $5.00 and $4.00 and the All Other loss constants were $15 and $14 respectively. The experience indicates that the Commercial and Clerical group would have benefited by the use of a constant and that the reduction of the constant in the other groups was not warranted. This conclusion is based on the consideration of the total experience over the period.

In Exhibit VI we have a brief summary of the North Carolina experience for policy years 1929 to 1934.[6] The North Carolina experience is on a different basis than the experience of New York and Massachusetts for the reason that the constants were not introduced there until the latter part of 1934 and, therefore, are not reflected in the loss ratios which are indicative of the disparity between small and large risks. With the exception of policy year 1929 in the Contracting and policy year 1932 in the All Other industries, the experience of all years indicates the need for a substantial loss constant. The average indications of the six years combined for the Manufacturing industry produce a required constant of approximately $32, for the Contracting industry a constant of $10 while the All Other industry seems to require a constant of $21. Of course, individual years or a combination of a smaller number of years will produce considerable variations which must be ascribed to the small volume of experience in that State.

It is still a question open for discussion as to whether or not loss constants are the only and final solution of the situation. There are many who believe that with a more efficient payroll audit and more careful underwriting the small risk problem could be corrected without any use of constants. In the last few years the New York Compensation Insurance Rating Board has inaugurated test audits and is expanding its activities at the present time into the field of small risks. This is done because of a particular request of the Insurance Department to determine the propriety of audits on small risks. In addition thereto, the Board is conducting test inspections to determine the propriety of classifications in the field of small risks. Of course, it will take a number

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[6] The experience for policy years 1934 comprises only the first seven months.

of years before a number of test audits and test inspections are made sufficient to permit the drawing of definite conclusions. In the meantime more experience will be accumulated by size of risk and it will be perhaps necessary to reexamine the subject. The author hopes that he will have the privilege and opportunity to present another paper on this subject in the future.

II — Method of Calculation of Loss Constants

Having thus surveyed the available experience let us turn to the method used in the determination of loss constants. As mentioned above, the constants were revised for the first time coincident with the general rate revision effective July 1, 1934. Inasmuch as the ratemaking procedure for New York requires the use of one policy year for the determination of rate level and of two policy years for the determination of industry group differentials, it was felt that for the determination of constants an experience period of three years would provide sufficient stability. The experience of policy years 1929, 1930 and 1931 was available at that time, but in view of the fact that the experience of policy year 1929 did not readily permit segregation of indemnity and medical losses and also because it was felt that policy year 1929 belonged to an entirely different business cycle, it was decided to use the experience of policy years 1930 and 1931, discounting the indications of these policy years 20%. The method developed during that revision was to be applied each year to the experience of the latest three policy years. Coincident with the July 1, 1934 revision of rates the qualifications for experience rating were revised to require an average annual premium of at least $500, and inasmuch as constants were deemed assignable to risks below the minimum qualifications for rating the Manual rule was changed to require constants on risks producing premiums of less than $500. In 1935 a number of legislative amendments occupied the attention of the Actuarial Committee to such an extent that it was decided to continue the then existing constants for another year and merely to recalculate the off-setting adjustments so as to balance the collectible rate level resulting from the revision effective July 1, 1935. It was, therefore, in the 1936 revision of rates that the method has been used for the first time to the full extent.

The latest experience then available was the third report of policy year 1931, second report of policy year 1932 and the first report of policy year 1933. The first element to be determined was the amount of premium necessary to equalize the loss ratio for the group of small risks (to which the constants apply) and the loss ratio for the group of large risks. In order to reflect future conditions this calculation must be performed on the basis of the proposed rates which will become effective after the revision. Since the computation had to be done separately for each industry and premium size group, it involved a considerable amount of labor and care and for this reason it may not be amiss to go into the details of the process necessary to bring about the required results.

In order to obtain the premiums at proposed rates it was necessary to tabulate the experience of the period by classification within each industry group and separately for each premium size group, namely, for risks under $500 and risks over $500. It was further necessary to segregate minimum premium risks in order to adjust for the effect of the application of minimum premiums.[7] Per capita risks, which are not subject to constants, had to be eliminated from the "All Other" industry group. In order to realize the large amount of work involved it must be remembered that the coding of industrial schedules and groups throws all classifications of any given risk into the industrial group of the governing classification[8] and that, therefore, each industry group and premium size group will contain practically all of the classifications. Upon completing the tabulation of the experience by classifications for each of the industrial and premium size groups described above the payrolls were extended by "full" proposed rates. By "full" rates we mean the adopted pure premiums on rate level loaded by the full expense loading factor of 1.667 corresponding to the full allowed expense ratio of 40%. The results of these calculations are summarized in column (1)

(7) The payrolls on the minimum premium group of risks were extended class by class by the manual rates effective during the particular policy year and the resulting "manual" premiums were compared with the premiums actually collected exclusive of constants. In this manner a factor was determined to adjust the premiums obtained by extending the same payrolls by the proposed manual rates for the effect of the application of minimum premiums. Similar adjustment factors had to be calculated for "*a*" rated classifications.

(8) In this connection see paper by Mark Kormes loc. cit.

of Exhibit VII. In view of the fact that the loss experience does not contain medical losses on ex-medical policies it was necessary to make an adjustment by calculating the medical loss ratio on full coverage policies and by applying this loss ratio to the total premium to produce full medical losses. This adjustment, of course, implies the assumption that the medical losses on ex-medical policies would be on the whole the same as on full-coverage policies. In order to obtain the premium at "full" proposed rates on full-coverage policies it was necessary to repeat the procedure described above on the experience of ex-medical policies and to deduct the result from the premium for all risks. The premiums at "full" proposed rates for full-coverage policies are shown in column (2) and the medical loss ratio in column (6) of Exhibit VII. The indemnity and total loss ratios are not needed for the calculation of constants and they are shown in the exhibit merely for the sake of completeness as they illustrate the existence of substantial differentials between small and large risks. In column (8) are shown the total losses incurred adjusted to include medical losses on ex-medical policies.

Inasmuch as the proposed rates are presumed to be adequate, that is, are supposed to bring about a loss ratio of 60% it is necessary to adjust the actual losses of each industry group so that they produce a 60% loss ratio for such group. Therefore, adjustment factors were calculated by dividing 60% of the total premiums at "full" proposed rates by the total incurred losses shown in column (8). The adjusted losses shown in column (9) serve then to calculate the deficiency or excess in the premium for the two premium size groups as indicated in column (10), which, for example, shows that the group of risks under $500 in the Manufacturing industry lacks $4,109,115 of premium to produce a 60% loss ratio and consequently the premium on the groups of risks over $500 is excessive to the same extent. In the last column of the exhibit there is shown the number of risks for each of the industry and premium size groups. For policy years 1932 and 1933 it was merely necessary to tabulate the risk cards but for policy year 1931 a separate tabulation of full term and short term policies had to be prepared. The number of short term policies was then adjusted by taking the ratio of collected constants for the short term to full constants (obtained by multiplying the number of short term policies by the full constant) and then by applying this ratio to the number of short term policies. The resulting number of short term risks was then combined with the number of full term policies.[9]

In connection with this first step of our calculation it should be observed that it involves a number of assumptions some of which were previously mentioned. One assumption tacitly implied should be given some consideration, with regard to the fact that the distribution of risks does not necessarily remain the same after considerable changes of rate level, since a number of risks which fell into the "under \$500" group during the experience will develop premium in excess of \$500 on basis of the new Manual rates. It was felt, however, that there would be other risks in the group over \$500 which will produce premiums less than this amount and that any adjustment for this situation would involve many more assumptions. Therefore, on the whole, it seemed better to leave the distribution unchanged.

Having thus calculated the amount of premium necessary to produce the required balance between small and large risks, one might think that all that remains to be done is to divide such amount by the number of risks and to obtain the necessary constants. If this were done we would still have to contend with the excess of premium on risks over \$500. In order to overcome this difficulty it is apparent that the rates must be reduced somewhat; but since change in rates has an effect on the results of the experience rating plan which in turn affects the premiums for the group of risks over \$500, it is evident that a number of adjustments are necessary, both in the rates and in the amounts needed for constants in order to arrive at a balanced result. Before going into the actual details of these adjustments, let us first develop a few theoretical formulæ which will prove extremely helpful.

The experience modification M is given by the formula:

$$M = 1 - z\left(1 - \frac{A}{E}\right) \qquad \text{I.}$$

where z = average credibility
A = Adjusted Actual Losses
E = Expected Losses

[9] On short term policies where constants were not applicable because of large premium, the adjustment factor was arbitrarily taken as one half (.5).

In this expression the second term represents the off-balance of the experience rating plan [10] which we shall denote by b:

$$b = z\left(1 - \frac{A}{E}\right) \qquad \text{II.}$$

If the plan is therefore changed by the introduction of factor $1 + F$ (where F may be positive or negative) applicable to the adjusted losses we have

$$b_1 = z\left(1 - \frac{A\,(1+F)}{E}\right)$$

$$= z\left(1 - \frac{A}{E} - \frac{AF}{E}\right)$$

hence $$b_1 = b - \frac{AF}{E}\,z$$

But from II we find that

$$z\,\frac{A}{E} = z - b \qquad \text{III.}$$

and therefore we have

$$b_1 = b - (z - b)\,F \qquad (1)$$

On the other hand an introduction of a factor of $1 + f$ in the rates will affect the expected losses:

$$b_2 = z\left(1 - \frac{A}{E\,(1+f)}\right)$$

We have then $$b_2 - b = z - \frac{Az}{E\,(1+f)} - z + \frac{Az}{E}$$

$$= \frac{-Az + Az + Azf}{E\,(1+f)}$$

$$= \frac{Azf}{E\,(1+f)}$$

By use of III $$b_2 - b = \frac{(z-b)\,f}{1+f}$$

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(10) The rating plan produces a substantial off-balance. In this connection see paper by Mark Kormes "Experience Rating Plan as Applied to Workmen's Compensation Risks," *Proceedings,* Vol. XXI, p. 81 and Vol. XXII, page 81.

Therefore $$b_2 = b + \frac{zf - bf}{1 + f}$$
$$= \frac{b + bf + zf - bf}{1 + f}$$

Hence finally $$b_2 = \frac{b + zf}{1 + f} \qquad (2)$$

The introduction of an adjustment off-setting the excess premium on risks over \$500 will affect the off-balance in accordance with formula (2). If we denote such an adjustment by $1 - r$, the premium over \$500 by P_2, the excess by E and remember that the application of this adjustment and the resulting off-balance should result in the premium less the excess we have:

$$P_2\,(1 - r)\left(1 - \frac{b - rz}{1 - r}\right) = P_2 - E$$

or $$1 - r - b + rz = 1 - \frac{E}{P_2}$$

for the sake of convenience let us put

$$1 - \frac{E}{P_2} = e$$

we have then

$$-r\,(1 - z) + 1 - b = e$$

or $$r\,(1 - z) = 1 - b - e$$

and $$r = \frac{1 - b - e}{1 - z}$$

Therefore $$1 - r = 1 - \frac{1 - b - e}{1 - z} \qquad (3)$$

Formula (3) gives us the required tool for obtaining off-setting adjustments in rates, which, together with the off-balance of the rating plan, will produce for risks over \$500 premiums free from excess. On the other hand, the application of this adjustment to the rates will reduce the premium for risks under \$500. Let us denote such premiums by P_1, the number of risks in this group by N_1 and the loss constant by C, we have then for the calculation of constants

$$P_1\,(1 - r) + N_1 \cdot C = P_1 + E$$

or $$-P_1\,r + N_1 \cdot C = E$$

and finally $$C = \frac{P_1\,r + E}{N_1} \qquad (4)$$

Nothing has been said until now about the expense constant. The expense constant of $5 recommended by the minority report of the "Conference Committee"[11] and approved by the Superintendent of Insurance to become effective in 1928 has not been revised since. After the loss constants are calculated in accordance with formula (4) the loss portion or 60% of the constants is loaded for expenses exclusive of H. O. Administration and Payroll Audit. Since the allowance in rates for these items is 9.5% we have an expense loading of 30.5%. The expense constant is then added as a flat amount of $5. It will be seen from the actual calculations that this flat addition of the expense constant produces some additional premium and, therefore, it becomes again necessary to reduce the rates. Since the additional premium accrues out of an increment of the allowance for expenses the reduction in the rates is accomplished by decreasing the expense loading.

Let us turn now to the details of the calculations. The first step involves the determination of the existing off-balance and the average credibility of risks subject to experience rating. Inasmuch as the Board prepares a punch card for every experience rate promulgated containing, among other information, the amount of Adjusted and Expected Losses underlying the promulgated modification, it was an easy task to tabulate these cards by industry group. This was done for the period July 1, 1935 to June 30, 1936 in order to reflect the experience modification applicable to the period of the rate level effective prior to the proposed revision. The results were as follows:

Industry Group	(1) Expected Losses	(2) Adjusted Losses	(3) Experience Modification (2) ÷ (1)	(4) Off-Balance 1. − (3)
Mfg.	15,791,876	14,491,712	.9177	.0823
Contr.	8,152,393	7,162,577	.8786	.1214
Federal	1,604,671	1,484,597	.9252	.0748
All Other	17,523,676	15,709,812	.8965	.1035

The same punch cards were used to calculate the average credibility for each industry group. Exhibit VIII which shows

(11) See paper by Charles J. Haugh, loc. cit.

the details of calculation for the Manufacturing industry will serve as a sufficient illustration of the method used to calculate the average credibility. The calculations performed for each industry produced the following results:

Industry Group	Average Credibility
Mfg.	.438
Contr.	.509
Federal	.570
All Other	.502

Inasmuch as the off-balance shown above was based on rates containing off-setting factors calculated for the previous rate revision, it is necessary to find out what off-balance would have been realized without those off-setting factors. Furthermore, it was decided to apply a correction factor of 1.05 in the experience rating plan for under-development of losses and for excess off-balance applicable to actual losses in the Federal industry group. (This factor was introduced for the other industries in the revision of rates and constants effective July 1, 1934.) This requires a further correction in the off-balance before we can proceed with the calculation of the new off-setting adjustments. It is obvious that the first correction will be accomplished by means of formula (2) and the second by formula (1). We have then:

Ind. Group	(1) 1935-6 Off-Balance (b)	(2) Aver. Credi-bility	(3) Off-Set. Adjust-ments in 7/1/35 Rates	(4) $f = \frac{1}{(3)} - 1.$	(5) Remova of (3) from 1* $\frac{(1)+(2)\ (4)}{1.+(4)}$	(6) ** $(z-b)\ .05$ $[(2)-(5)]\times .05$	(7) Off-Balance After Removal of Col. (3) and Introduction of a Factor of 1.05 in the Federal Group (5) − (6)
Mfg.	.0823	.438	.9670	+.0341	.0940	—	.0940
Contr.	.1214	.509	1.0263	−.0256	.1112	—	.1112
Federal. . .	.0748	.570	.9750	+.0256	.0872	.0241	.0631
All Other.	.1035	.502	.9987	+.0013	.1041	—	.1041

*By use of formula (2).
**Application of formula (1) to the Federal Group only.

The corrected off-balance in column (7) or b_1 permits us to determine the new off-setting adjustments by the application of formula (3):

Industry Group	(1) Full Premium at Proposed Rates For Risks Over $500 (Exhibit VII)	(2) Excess (Exhibit VII)	(3) $1-e$ (2) ÷ (1)	(4) b_1	(5) s	(6) Off-Set. Adjustment $1-r = 1.-\frac{(3)-(4)}{1.-(5)}$	(7) $-s.r$ (5) × (6) − 1.	(8) Final Off-Balance $\frac{(4)+(7)}{(6)}$	(9) Final Modification 1. − (8)
Mfg.....	36,260,760	4,109,115	.11332	.0940	.438	.9656	−.0151	.0817	.9183
Contr....	24,027,745	2,344,575	.09758	.1112	.509	1.0277	+.0141	.1219	.8781
Federal..	4,727,138	144,501	.03057	.0631	.570	1.0757	+.0431	.0987	.9013
All Other	46,147,449	5.036,887	.10915	.1041	.502	.9899	−.0051	.1000	.9000

While column (6) gives us the desired off-setting adjustment columns (8) and (9) have been calculated in order to permit us to make a test of the results of the calculation of constants, off-setting adjustments and expense loadings. We can now proceed with the calculation of constants:

Industry Group	(10) Premiums For Risks Under $500 (Exhibit VII)	(11) Col. (10) with Off-Setting Adjustment (10) × (6)	(12) Amount Needed For Constants (2) + [(10) − (11)]	(13) Number of Risks Under $500 (Exhibit VII)	(14) Indicated Loss Constants (12) ÷ (13)	(15) Portion of Constant For Losses (14) × .6
Mfg...........	15,343,612	14,815,792	4,636,935	109,116	42.50	25.50
Contr..........	10,506,120	10,797,140	2,053,555	48,815	42.07	25.24
Federal........	191,519	206,017	130,003	1,105	117.65	70.59
All Other......	33,788,443	33,447,180	5,378,150	367,901	14.62	8.77
Total.......	59,829,694	59,266,129	12,198,643	526,937	23.15	13.89

Industry Group	(16) Col. (15) Loaded For Expenses Excl. H.O. Adm. and Payroll Audit (15) ÷ .695	(17) Ultimate Loss Const. Col. (16) Rounded	(18) Expense Constant	(19) Additional Amount Due to Expense Constant [(17) + (18)] − (14)	(20) Additional Premium Due to Expense Constant (13) × (19)
Mfg...........	36.69	$37.	$5.	−$ .50	− 54,558
Contr..........	36.32	36.	5.	− 1.07	− 52,232
Federal........	101.57	102.	5.	− 10.65	− 11,768
All Other......	12.62	13.	5.	+ 3.38	+1,243,505
Total........	19.99	—	—	—	+1,124,947

We have arrived at the final step of our calculations, namely, the determination of the expense loading. While the results in column (20) indicate that only the All Other industry is affected to any considerable extent, it was decided to calculate the reduction in the expense loading for the business as a whole as follows:

1.	The full premiums for all risks (Total of columns (1) and (10))	$170,992,786
2.	Expected Losses for all risks (.6 × 170,992,786)	102,595,672
3.	Premiums for all risks reduced by additional premium due to Expense Constants ($170,992,786 — 1,124,947)	169,867,839
4.	Expected loss ratio 2 ÷ 3	60.40
5.	Expected loss ratio rounded	60.5
6.	Corresponding loading factor $\left(\frac{1}{.605}\right)$	1.653

In order to determine whether the above adjustments in rates and in constants will produce the required result a test was performed by calculating the ultimate collectible premium and the resulting loss ratios for the various size and industrial groups. This was done in the following manner:

Industry Group	(21) Final Premium For Risks under $500 (10)×.9916*	(22) Premium Due To Loss and Expense Const. (13)×[(17)+(18)]	(23) Tot. Premium For Risks Under $500 (21)+(22)	(24) Off-Sets× Modif. × Reduction in Loading for Exp. (6)×(9)×.9916*	(25) Final Prem. For Risks Over $500 (1)×(24)	(26) Total Final Premium For All Risks (23)+(25)
Mfg.......	14,691,339	4,582,872	19,274,211	.87926	31,882,636	51,156,847
Contr.....	10,706,444	2,001,415	12,707,859	.89484	21,500,987	34,208,846
Federal....	204,286	118,235	322,521	.96138	4,544,576	4,867,097
All Other..	33,166,224	6,622,218	39,788,442	.88343	40,768,041	80,556,483
Total...	58,768,293	13,324,740	72,093,033	—	98,696,240	170,789,273

*Ratio of the loading factor of 1.653 to the full loading of 1.667.

Industry Group	Losses Incurred (Exhibit VII) (27) For Risks Under $500	(28) For Risks Over $500	(29) For All Risks	Loss Ratios (Test) (30) Under $500 (27)÷(23)	(31) Over $500 (28)÷(25)	(32) All Risks (29)÷(26)
Mfg..........	11,671,636	19,290,987	30,962,623	60.6	60.5	60.5
Contr.........	7,710,417	13,009,902	20,720,319	60.7	60.5	60.6
Federal.......	201,612	2,749,582	2,951,194	62.5	60.5	60.6
All Other......	23,295,198	24,666,337	47,961,535	58.5	60.5	59.5
Total.......	42,878,863	59,716,808	102,595,671	59.5	60.5	60.1

It may be seen from columns 30, 31 and 32 in the above table that the various calculations produced satisfactory results. The variations by industry group were expected because of the manner of adjusting the excess in premium due to expense constant. If the adjustment were made by industry group these variations would disappear but then it would be necessary to have different expected loss ratios for each industry group in the rating plan which did not appear advisable especially in view of the very small departures.

Upon reviewing the above calculations the Actuarial Committee adopted all of the indications except that the constant of \$107 for the Federal industry did not appear warranted because of the small number of risks. For this reason it was decided to continue the existing loss and expense constant of \$50 and to use unity for the off-setting adjustment in this industry group.

Exhibit I
Sheet 1

New York Workmen's Compensation Experience by Size of Risk
Policy Years 1928, 1929, 1930, 1931, 1932 and 1933
(Based on First Report under the Unit Statistical Plan)

Manufacturing

Premium Size Group	Number of Risks						Premium Volume† (In thousands)					
	1928‡	1929	1930	1931	1932	1933	1928‡	1929	1930	1931	1932	1933
Minimum	3,432	6,312	7,548	8,854	6,620	6,094	158	290	333	409	370	339
$ 0-$ 99	16,676	26,737	25,313	24,963	15,924	14,951	839	1,345	1,268	1,167	1,020	1,005
100- 399	9,424	14,672	14,127	13,596	11,251	13,009	1,844	2,840	2,737	2,578	2,329	2,677
400- 999	2,880	4,363	4,129	3,695	2,799	3,167	1,763	2,661	2,508	2,232	1,820	2,032
1,000-4,999	2,052	2,898	2,555	2,169	1,736	2,041	4,262	5,976	5,180	4,348	3,585	4,208
5,000 & Over	441	603	470	364	303	398	4,805	7,456	5,341	4,122	3,368	4,442
Total	34,905	55,585	54,142	53,641	38,633	39,660	13,671	20,568	17,367	14,856	12,492	14,703
$ 0-$ 399*	29,513	47,705	46,988	47,413	33,795	34,054	2,832	4,468	4,338	4,153	3,719	4,021
400 & Over*	5,392	7,880	7,154	6,228	4,838	5,606	10,839	16,100	13,029	10,703	8,773	10,682

Premium Size Group	Premium Due to Constants						Loss Ratios Based on Premiums Inclusive of Constants					
	1928‡	1929	1930	1931	1932	1933	1928‡	1929	1930	1931	1932	1933
Minimum	65,478	127,389	150,375	174,964	153,477	141,058	44.6	43.0	39.3	42.1	42.5	40.5
$ 0-$ 99	314,471	522,237	479,443	424,847	358,651	339,788	63.4	66.2	78.6	96.3	93.0	76.4
100- 399	212,515	334,707	321,855	299,887	264,192	302,492	63.1	70.0	71.6	69.8	77.0	61.5
400- 999	4,381	5,145	4,759	4,010	438	254	67.6	64.8	65.5	65.2	63.1	57.5
1,000-4,999	122	89	23	46	17	—	64.3	62.5	59.4	55.8	51.7	54.6
5,000 & Over	—	—	—	—	—	—	63.0	64.1	56.7	52.4	49.4	48.5
Total	596,967	989,567	956,455	903,754	776,775	783,592	63.8	64.4	62.4	61.6	60.5	55.6
$ 0-$ 399*	591,875	983,988	951,673	899,698	776,320	783,338	62.0	67.1	71.2	74.5	78.0	65.5
400 & Over*	5,092	5,579	4,782	4,056	455	254	64.3	63.6	59.4	56.5	53.2	52.6

†Including Constants
‡May to December only, since constants were inaugurated May 1, 1928.
*Includes minimum premium risks.

New York Workmen's Compensation Experience by Size of Risk

Policy Years 1928, 1929, 1930, 1931, 1932 and 1933

(Based on First Report under the Unit Statistical Plan)

Contracting

Premium Size Group	Number of Risks						Premium Volume† (In thousands)					
	1928‡	1929	1930	1931	1932	1933	1928‡	1929	1930	1931	1932	1933
Minimum	5,468	9,494	11,216	12,333	6,454	5,006	510	856	947	1,085	817	650
$ 0-$ 99	5,659	8,008	7,450	7,414	2,148	1,721	312	431	385	323	241	197
100- 399	10,010	13,692	11,477	9,389	5,915	5,993	1,922	2,645	2,219	1,826	1,325	1,341
400- 999	2,473	3,397	2,831	2,360	1,198	1,224	1,468	2,021	1,675	1,360	805	798
1,000-4,999	1,469	2,027	1,613	1,334	708	724	3,106	4,266	3,452	2,750	1,575	1,550
5,000 & Over	286	506	426	303	149	106	3,524	7,191	6,005	4,438	2,029	1,048
Total	25,365	37,124	35,013	33,133	16,572	14,774	10,842	17,410	14,683	11,782	6,792	5,584
$ 0-$ 399*	21,120	31,172	30,143	29,136	14,517	12,720	2,733	3,920	3,551	3,234	2,383	2,188
400 & Over*	4,245	5,952	4,870	3,997	2,055	2,054	8,109	13,490	11,132	8,548	4,409	3,396

Premium Size Group	Premium Due to Constants						Loss Ratios Based on Premiums Inclusive of Constants					
Minimum	191,671	318,726	367,597	383,001	280,200	219,614	53.7	61.4	52.1	55.8	38.9	42.9
$ 0-$ 99	124,687	169,749	149,920	112,494	81,798	66,724	55.2	70.2	85.6	95.6	90.0	64.1
100- 399	395,582	546,302	454,898	353,226	243,839	245,612	74.8	74.4	84.9	95.3	75.4	66.4
400- 999	9,762	10,976	8,601	6,387	562	171	63.3	76.4	82.1	76.7	78.2	72.4
1,000-4,999	437	91	119	215	188	—	64.9	70.0	77.2	74.6	73.9	68.7
5,000 & Over	—	—	—	—	—	—	66.6	66.9	71.3	63.6	63.1	60.5
Total	722,139	1,045,844	981,135	855,323	606,587	532,121	66.2	69.7	75.1	72.7	67.8	64.0
$ 0-$ 399*	711,940	1,034,339	972,415	848,721	605,837	531,950	68.8	71.0	76.3	82.1	64.4	59.2
400 & Over*	10,199	11,505	8,720	6,602	750	171	65.3	69.3	74.8	69.2	69.7	67.1

†Including Constants
‡May to December only, since constants were inaugurated May 1, 1928.
*Includes minimum premium risks.

EXHIBIT I
SHEET 3

NEW YORK WORKMEN'S COMPENSATION EXPERIENCE BY SIZE OF RISK
POLICY YEARS 1928, 1929, 1930, 1931, 1932 AND 1933
(Based on First Report under the Unit Statistical Plan)

ALL OTHER (Excl. P. C.)

Premium Size Group	Number of Risks						Premium Volume† (In thousands)					
	1928‡	1929	1930	1931	1932	1933	1928‡	1929	1930	1931	1932	1933
Minimum	Not Tabulated (See Sheet 4)			51,288	44,176	41,935	Not Tabulated (See Sheet 4)			1,979	1,868	1,730
$ 0-$ 99				71,620	53,760	54,122				2,925	2,698	2,820
100- 399				25,168	21,385	22,466				4,648	4,141	4,401
400- 999				5,093	4,113	4,423				3,042	2,573	2,785
1,000-4,999				2,385	2,082	2,204				4,595	4,157	4,411
5,000 & Over				443	415	389				6,864	6,792	5,898
Total				155,997	125,931	125,539				24,053	22,229	22,045
$ 0-$ 399*				148,076	119,321	118,523				9,552	8,707	8,950
400 & Over*				7,921	6,610	7,016				14,501	13,522	13,095

Premium Size Group	Premium Due to Constants						Loss Ratios Based on Premiums Inclusive of Constants					
	1928‡	1929	1930	1931	1932	1933	1928‡	1929	1930	1931	1932	1933
Minimum	Not Tabulated (See Sheet 4)			361,796	327,924	309,502	Not Tabulated (See Sheet 4)			40.1	39.6	44.2
$ 0-$ 99				440,306	396,346	394,956				79.3	74.9	78.0
100- 399				227,607	204,791	206,036				62.7	61.2	62.5
400- 999				2,507	349	152				59.5	54.1	60.0
1,000-4,999				35	24	14				53.4	50.6	54.0
5,000 & Over				—	7	—				53.1	50.4	49.4
Total				1,032,251	929,441	910,660				58.0	54.9	57.5
$ 0-$ 399*				1,029,709	929,061	910,494				63.1	60.8	63.9
400 & Over*				2,542	380	166				54.6	51.2	53.2

†Including Constants
‡May to December only, since constants were inaugurated May 1, 1928.
*Includes minimum premium risks.

EXHIBIT I
SHEET 4

NEW YORK WORKMEN'S COMPENSATION EXPERIENCE BY SIZE OF RISK
POLICY YEARS 1928, 1929, 1930, 1931, 1932 AND 1933
(Based on First Report under the Unit Statistical Plan)

ALL OTHER (Incl. P. C.)

Premium Size Group	Number of Risks						Premium Volume† (In thousands)					
	1928‡	1929	1930	1931	1932	1933	1928‡	1929	1930	1931	1932	1933
Minimum	27,140	48,793	53,693	55,435	54,174	42,632	860	1,518	1,681	1,979	1,979	1,748
\$ 0-\$ 99	54,174	84,630	86,405	66,929	67,726	76,662	2,085	3,231	3,421	2,883	3,091	3,410
100- 399	16,305	24,839	25,704	23,377	21,860	23,306	3,089	4,697	4,822	4,345	4,220	4,544
400- 999	3,467	5,372	5,243	4,732	4,210	4,505	2,094	3,228	3,157	2,841	2,631	2,832
1,000-4,999	1,620	2,574	2,514	2,182	2,091	2,215	3,183	5,108	4,898	4,219	4,171	4,425
5,000 & Over	251	460	446	404	416	388	3,469	7,009	6,966	6,386	6,793	5,898
Total	102,957	166,668	174,005	153,059	150,477	149,708	14,780	24,791	24,945	22,653	22,885	22,857
\$ 0-\$ 399*	97,610	158,243	165,802	145,741	143,759	142,599	6,027	9,436	9,925	9,206	9,290	9,702
400 & Over*	5,347	8,425	8,203	7,318	6,718	7,109	8,753	15,355	15,020	13,447	13,595	13,155

Premium Size Group	Premiums Due to Constants						Loss Ratios Based on Premiums Inclusive of Constants					
Minimum	173,670	300,940	316,028	343,171	327,978	309,512	43.6	41.1	46.7	40.8	40.4	44.5
\$ 0-\$ 99	324,941	492,697	484,328	389,635	396,459	395,048	65.0	80.9	76.7	79.0	73.9	76.1
100- 399	150,090	234,625	239,874	218,427	204,823	206,072	60.2	67.7	65.9	63.9	61.4	63.1
400- 999	2,357	2,335	2,175	2,448	349	152	57.9	67.2	61.2	59.2	55.5	59.9
1,000-4,999	56	95	14	28	24	14	52.8	59.2	57.3	53.1	50.4	54.2
5,000 & Over	14	10	—	—	7	—	56.4	60.6	61.7	53.1	50.4	49.4
Total	651,128	1,030,702	1,042,419	953,709	929,640	910,798	57.1	64.0	62.6	58.3	55.3	57.9
\$ 0-\$ 399*	648,694	1,028,212	1,040,230	951,233	929,260	910,632	59.4	67.8	66.4	64.0	61.1	64.3
400 & Over*	2,434	2,490	2,189	2,476	380	166	55.5	61.6	60.2	54.4	51.4	53.3

†Including Constants.
‡May to December only, since constants were inaugurated May 1, 1928.
*Includes minimum premium risks.

EXHIBIT I
SHEET 5

NEW YORK WORKMEN'S COMPENSATION EXPERIENCE BY SIZE OF RISK

POLICY YEAR 1933

(Based on First Report under the Unit Statistical Plan)

FEDERAL

Premium Size Group	Number of Risks	Premium Volume Including Loss and Expense Constants	Premium due to Constants	Loss Ratios Based on Premiums	
				Inclusive of Const.	Exclusive of Const.
Minimum	68.4	6,392	1,455	26.5	34.3
$ 0-$ 99	97.6	6,989	1,010	38.4	44.9
100- 399	146.7	35,439	2,883	73.9	80.4
400- 999	76.8	52,212	—	56.6	56.6
1,000- 4,999	75.3	186,595	—	61.0	61.0
5,000 & Over	47.4	945,492	—	48.7	48.7
TOTAL	512.2	1,233,119	5,348	51.4	51.7
$ 0-$ 399	312.7	48,820	5,348	62.6	70.3
400 & Over	199.5	1,184,299	—	51.0	51.0

EXHIBIT II
(1 SHEET)

LOSS RATIOS
(Based on Premiums
Excl. of Constants)

NEW YORK WORKMEN'S COMPENSATION EXPERIENCE BY SIZE OF RISK
POLICY YEARS 1928, 1929, 1930, 1931, 1932 AND 1933
(Based on First Report under the Unit Statistical Plan)

Premium Size Group	1928‡	1929	1930	1931	1932	1933	1928‡	1929	1930	1931	1932	1933
	MANUFACTURING						CONTRACTING					
Minimum	76.3	76.8	71.6	73.5	72.7	69.5	86.0	97.9	85.2	86.3	59.2	64.8
$ 0-$ 99	101.4	108.2	126.4	151.5	143.4	115.4	92.0	115.9	140.3	146.6	136.3	97.0
100- 399	71.3	79.4	81.1	79.1	86.8	69.4	94.1	93.8	106.8	118.1	92.5	81.2
400- 999	67.8	64.9	65.6	65.3	63.1	57.5	63.7	76.8	82.6	77.1	78.3	72.5
1,000- 4,999	64.3	62.5	59.4	55.9	51.7	54.6	65.0	70.0	77.2	74.6	73.9	68.7
5,000 & Over	63.0	64.1	56.7	52.4	49.4	48.5	66.6	66.9	71.3	63.6	63.1	60.5
Total	66.7	67.6	66.0	65.5	64.6	58.7	70.9	74.1	80.5	78.4	74.5	70.7
$ 0-$ 399*	78.4	86.1	91.2	95.2	98.5	78.8	93.0	96.5	105.0	111.2	86.4	78.2
400 & Over*	64.3	63.6	59.5	56.5	53.2	52.6	65.4	69.4	74.8	69.3	69.7	67.1

Premium Size Group	1928‡	1929	1930	1931	1932	1933	1928‡	1929	1930	1931	1932	1933
	ALL OTHER (Excl. Per Capita Risks)						ALL OTHER (Incl. Per Capita Risks)					
Minimum	Not Tabulated			49.0	48.0	53.8	54.6	51.2	57.6	49.3	48.4	54.0
$ 0-$ 99				93.4	87.7	90.8	77.0	95.5	89.3	91.0	84.7	86.0
100- 399				66.0	64.4	65.6	63.2	71.2	69.4	67.1	64.5	66.1
400- 999				59.6	54.1	60.0	57.9	67.2	61.3	59.2	55.5	59.9
1,000- 4,999				53.4	50.6	54.1	52.8	59.2	57.3	53.1	50.4	54.2
5,000 & Over				53.1	50.4	49.4	56.4	60.6	61.7	53.1	50.4	49.4
Total				60.5	57.3	60.0	59.7	66.7	65.4	60.9	57.7	60.4
$ 0-$ 399*				70.7	68.0	71.1	66.6	76.1	74.1	71.3	67.9	70.9
400 & Over*				54.6	51.2	53.2	55.5	61.6	60.2	54.4	51.4	53.3

*Including Minimum Premium Risks.
‡May to December only, since constants were inaugurated May 1, 1928.

EXHIBIT III
(1 SHEET)

NEW YORK WORKMEN'S COMPENSATION EXPERIENCE BY SIZE OF RISK

LOSS RATIO* DEVELOPMENT FROM FIRST TO SUCCESSIVE REPORTS

(Based on Policy Years 1928 to 1932 Inclusive)

Industry and Prem. Size Groups	1928‡				1929				1930				1931			1932	
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	1st	2nd
Manufacturing																	
Under $400†	62.0	63.1	64.7	65.3	67.1	66.9	67.3	68.0	71.2	74.0	75.3	76.9	74.5	75.1	77.1	78.0	79.2
$400 & Over†	64.3	65.6	66.1	66.6	63.6	64.7	64.4	65.4	59.4	60.3	61.5	61.8	56.5	57.6	58.5	53.2	53.5
Total	63.8	65.0	65.8	66.4	64.4	65.2	65.1	66.0	62.4	63.7	64.9	65.6	61.6	62.5	63.7	60.5	61.1
Contracting																	
Under $400†	68.8	71.8	73.0	75.4	71.0	72.5	76.5	76.8	76.3	81.4	82.6	84.9	82.1	88.2	94.9	64.4	65.9
$400 & Over	65.3	66.7	69.2	70.1	69.3	70.6	72.3	73.6	74.8	76.7	78.3	79.9	69.2	71.8	74.4	69.7	71.6
Total	66.2	68.0	70.2	71.4	69.7	71.0	73.2	74.3	75.1	77.8	79.3	81.1	72.7	76.3	80.0	67.8	69.6
All Other (Incl. P. C.)																	
Under $400†	59.4	60.0	61.3	60.8	67.8	68.2	69.0	69.1	66.4	67.9	68.9	69.4	64.0	66.4	67.5	61.1	61.7
$400 & Over†	55.5	57.6	58.9	59.2	61.6	61.6	63.0	63.5	60.2	60.2	60.2	61.2	54.4	55.7	56.8	51.4	51.4
Total	57.1	58.6	59.9	59.9	64.0	64.1	65.3	65.6	62.6	63.3	63.7	64.4	58.3	60.0	61.1	55.3	55.5

*Based on Premiums Inclusive of Constants.
†Including Minimum Premium risks.
‡May to December only, since constants were inaugurated May 1, 1928.

New York Workmen's Compensation Experience by Size of Risk
Experience on Short Term Policies—Policy Years 1931, 1932 and 1933
(Based on First Report Under the Unit Statistical Plan)

Premium Size Group	Number of Risks‡			Premium Including Constants (in thousands)			Loss Ratios Including Constants			Loss Ratios Excluding Constants		
	1931	1932	1933	1931	1932	1933	1931	1932	1933	1931	1932	1933
	Manufacturing											
Minimum	2,083	840	617	50	55	40	71.5	44.4	67.4	113.7	69.9	106.9
$ 0-$ 99	9,577	3,736	3,005	268	286	261	158.2	163.7	114.1	218.7	226.5	151.6
100- 399	1,744	901	926	309	304	296	124.9	130.4	108.3	133.0	139.1	115.5
400- 999	348	183	170	200	180	168	92.8	107.5	83.3	92.9	107.6	83.4
1,000- 4,999	143	77	85	273	232	237	67.1	60.7	62.1	67.1	60.7	62.1
5,000 & Over	13	8	17	90	203	239	54.6	59.5	61.4	54.6	59.5	61.4
Total	13,908	5,745	4,820	1,190	1,260	1,241	106.2	106.6	87.0	117.2	117.7	94.4
$ 0-$ 399*	13,404	5,477	4,548	627	645	597	134.8	137.8	108.1	164.0	168.8	129.2
400 & Over*	504	268	272	563	615	644	74.3	74.0	67.4	74.3	74.0	67.4
	Contracting											
Minimum	4,688	1,074	773	211	178	135	73.6	36.9	64.6	106.4	52.8	92.6
$ 0-$ 99	6,083	1,195	887	222	169	133	112.4	112.1	74.0	157.8	157.2	102.4
100- 399	1,817	623	565	312	230	202	177.9	131.0	102.8	199.6	146.4	114.4
400- 999	394	135	114	224	157	123	117.2	125.7	110.4	117.4	125.9	110.4
1,000- 4,999	264	97	79	530	310	252	101.3	81.9	82.7	101.3	81.9	82.7
5,000 & Over	39	16	11	482	318	113	71.9	67.3	52.1	71.9	67.3	52.1
Total	13,285	3,140	2,429	1,981	1,362	958	106.3	89.7	83.1	115.8	98.9	92.6
$ 0-$ 399*	12,588	2,892	2,225	744	578	470	128.8	96.4	83.8	164.9	123.4	105.8
400 & Over*	697	248	204	1,237	784	488	92.7	84.7	82.6	92.7	84.8	82.5

*Including all minimum premium risks.

‡Prior to 1932 each short term policy was punched as one risk. In 1932 and thereafter short term policies were punched as fractions of risks corresponding to the period of coverage. This explains the sudden drop in the number of risks.

Exhibit IV
Sheet 2

New York Workmen's Compensation Experience by Size of Risk

Experience on Short Term Policies—Policy Years 1931, 1932 and 1933

(Based on First Report Under the Unit Statistical Plan)

All Other (Excluding Per Capita)

Premium Size Group	Number of Risks‡			Premium Including Constants (in thousands)			Loss Ratios Including Constants			Loss Ratios Excluding Constants		
	1931	1932	1933	1931	1932	1933	1931	1932	1933	1931	1932	1933
Minimum	5,634	2,902	2,530	119	147	131	54.5	59.9	64.4	64.7	71.3	77.1
$ 0-$ 99	19,180	8,589	8,496	433	532	538	150.5	124.9	143.3	170.6	141.5	161.2
100- 399	2,235	1,343	1,302	376	400	425	126.5	113.1	100.9	129.7	116.0	103.1
400- 999	426	204	244	244	209	255	111.4	79.0	62.4	111.5	79.0	62.4
1,000- 4,999	221	110	130	402	353	430	71.4	71.4	67.0	71.4	71.4	67.0
5,000 & Over	39	15	25	477	308	355	67.9	67.5	51.2	67.9	67.5	51.2
Total	27,735	13,163	12,727	2,051	1,949	2,134	101.2	93.9	89.6	105.2	98.8	93.6
$ 0-$ 399*	27,049	12,834	12,328	928	1,079	1,093	128.5	111.7	117.3	140.4	122.6	128.0
400 & Over*	686	329	399	1,123	870	1,041	78.6	71.8	60.5	78.5	71.8	60.5

*Including all minimum premium risks.
‡Prior to 1932 each short term policy was punched as one risk. In 1932 and thereafter short term policies were punched as fractions of risks corresponding to the period of coverage. This explains the sudden drop in the number of risks.

EXHIBIT V
(1 SHEET)

MASSACHUSETTS WORKMEN'S COMPENSATION EXPERIENCE BY SIZE OF RISK

BASED ON UNIT REPORTS FOR POLICY YEARS 1929 TO 1933 INCLUSIVE*

Industry Group	Premium Size Group	Number of Risks					Loss Ratios (Based on Premiums Incl. Loss Constant)				
		1929	1930	1931	1932	1933	1929	1930	1931	1932	1933
Manufacturing	Minimum	809	785	739	649	469	40.5	69.0	35.7	48.1	28.9
	$ 0-$199	4,635	4,539	4,428	3,757	3,273	76.3	70.1	65.7	71.0	45.4
	200 & Over	4,316	4,048	3,525	3,132	3,370	68.6	72.6	63.7	57.4	51.9
	Total	9,760	9,372	8,693	7,538	7,112	68.9	72.5	63.7	58.3	51.5
Contracting	Minimum	1,851	1,961	2,103	1,566	1,131	70.4	62.0	55.6	51.3	24.9
	$ 0-$199	4,299	3,886	3,410	2,377	1,932	89.4	92.5	106.1	93.5	70.6
	200 & Over	2,234	1,804	1,420	963	1,058	82.9	95.3	104.1	77.9	60.9
	Total	8,384	7,651	6,933	4,906	4,121	83.2	92.9	100.6	78.0	59.5
Commercial and Clerical‡	Minimum	3,221	3,311	2,867	2,277	1,891	66.9	51.7	55.0	44.9	34.6
	$ 0-$199	8,469	8,649	8,971	8,320	8,159	75.3	81.5	74.4	66.1	56.9
	200 & Over	1,960	1,831	1,656	1,578	1,789	73.3	68.2	69.1	59.1	50.4
	Total	13,650	13,791	13,494	12,175	11,839	73.6	71.2	70.1	60.4	51.5
Care & Custody	Minimum	1,853	1,943	1,801	1,601	1,492	52.4	24.3	34.1	25.0	28.6
	$ 0-$199	3,043	3,149	3,227	2,943	2,886	60.0	77.5	65.6	63.2	62.3
	200 & Over	540	506	503	491	556	55.8	65.1	67.0	55.8	52.9
	Total	5,436	5,598	5,531	5,035	4,934	56.9	65.2	63.0	55.2	53.8
All Other	Minimum	570	592	551	489	387	45.4	71.7	27.0	19.3	80.0
	$ 0-$199	1,665	1,721	1,689	1,437	1,298	69.2	68.9	60.4	55.8	46.9
	200 & Over	1,312	1,300	1,216	1,124	1,146	62.4	66.4	67.1	52.3	48.6
	Total	3,547	3,613	3,456	3,050	2,831	62.7	66.7	65.7	51.9	49.0

*First report of policy year 1933, second report of policy year 1932, third report of policy year 1931 and fourth report of policy years 1930 and 1929.
‡Loss constants not applicable to this group—hence loss ratios are on basis of full premiums.

EXHIBIT VI
(1 SHEET)

NORTH CAROLINA WORKMEN'S COMPENSATION EXPERIENCE BY SIZE OF RISK

Based on Unit Reports for Policy Years 1929 to 1934 Inclusive*

Industry Group	Premium Size Group	Number of Risks						Loss Ratios					
		1929	1930	1931	1932	1933	1934	1929	1930	1931	1932	1933	1934
Manufacturing	Under $500	2,088	1,878	1,774	1,531	1,340	858	67.8	75.7	68.2	58.2	68.5	65.8
	Over $500	650	520	408	355	515	407	55.6	60.0	53.7	56.6	57.8	43.4
	Total	2,738	2,398	2,182	1,886	1,855	1,265	58.6	64.2	58.1	57.1	60.0	47.6
Contracting	Under $500	1,477	1,141	843	579	556	333	38.6	90.4	111.3	126.7	107.1	70.0
	Over $500	231	156	68	54	95	88	51.5	66.1	107.7	103.4	78.4	53.6
	Total	1,708	1,297	911	633	651	421	47.5	74.7	109.5	113.3	85.9	57.1
All Other	Under $500	4,907	4,865	4,394	3,683	3,530	2,360	67.9	90.3	79.0	47.1	68.8	50.3
	Over $500	231	175	173	140	205	172	48.7	67.8	53.4	85.5	58.2	46.3
	Total	5,138	5,040	4,567	3,823	3,735	2,532	59.2	81.0	68.7	80.1	63.8	48.2

*Policy year 1934 comprises only the experience of the first seven months.

NEW YORK COMPENSATION EXPERIENCE BY SIZE OF RISK — EXHIBIT VII (1 SHEET)

LOSS RATIOS AT FULL PROPOSED RATES AND CALCULATION OF PREMIUM EXCESS
(Used for Determination of Off-Setting Reductions & Constants)
BASED ON EXPERIENCE FOR POLICY YEARS 1931, 1932 AND 1933†

Industry and Premium Groups	(1) Total Premium at Full Proposed Rates**	(2) Full Cov. Premium at Full Proposed Rates**	(3) Indemnity Losses Incurred	(4) Full Coverage Medical Losses Incurred	Loss Ratios (5) Ind. (3)÷(1)	(6) Med. (4)÷(2)	(7) Total (5)+(6)	(8) Total Losses Incurred (3)+[(1).(6)]	(9) Total Losses Adjusted*** (8)×Factor	(10) Excess or Deficiency of Premiums (1)−[(9)÷.6]	(11) Number of Risks‡
Mfg.											
Under $500*	15,343,612	15,228,089	6,015,378	3,600,222	39.20	23.64	62.84	9,642,608	11,671,636	−4,109,115	109,116
$500 & Over	36,260,760	34,736,759	10,349,608	5,354,146	28.54	15.41	43.95	15,937,391	19,290,987	+4,109,115	13,443
Total	51,604,372	49,964,848	16,364,986	8,954,368	31.71	17.92	49.63	25,579,999	30,962,623	—	122,559
Contr.											
Under $500*	10,506,120	10,504,174	4,929,512	1,673,643	46.92	15.93	62.85	6,603,137	7,710,417	−2,344,575	48,815
$500 & Over	24,027,745	23,771,327	8,200,576	2,909,166	34.13	12.24	46.37	11,141,572	13,009,902	+2,344,575	6,102
Total	34,533,865	34,275,501	13,130,088	4,582,809	38.02	13.37	51.39	17,744,709	20,720,319	—	54,917
Federal											
Under $500*	191,519	191,519	98,283	35,339	51.32	18.45	69.77	133,622	201,612	− 144,501	1,105
$500 & Over	4,727,138	4,326,152	1,330,242	450,298	28.14	10.41	38.55	1,822,337	2,749,582	+ 144,501	539
Total	4,918,657	4,517,671	1,428,525	485,637	29.04	10.75	39.79	1,955,959	2,951,194	—	1,644
All Other											
Under $500*	33,788,443	33,689,198	12,113,337	6,388,203	35.85	18.96	54.81	18,519,626	23,295,198	−5,036,887	367,901
$500 & Over	46,147,449	44,600,372	13,093,658	6,296,255	28.37	14.12	42.49	19,609,678	24,666,337	+5,036,887	16,059
Total	79,935,892	78,289,570	25,206,995	12,684,458	31.53	16.20	47.73	38,129,304	47,961,535	—	383,960

†Third, Second and First Report respectively.
*Includes Minimum Premium Risks.
**In accordance with the resolution of the Actuarial Committee. (Worksheets showing details of these calculations are on file in the New York Compensation Insurance Rating Board.)

$$\text{***Adjustment Factor} = \frac{\text{Total Col. (1)} \times .6}{\text{Total Col. (8)}} \text{ hence Mfg.} = \frac{30{,}962{,}623}{25{,}579{,}999} = 1.2104232$$

$$\text{Contr.} = \frac{20{,}720{,}319}{17{,}744{,}709} = 1.1676900$$

$$\text{Federal} = \frac{2{,}951{,}194}{1{,}955{,}959} = 1.5088220$$

$$\text{All O.} = \frac{47{,}961{,}535}{38{,}129{,}304} = 1.2578655$$

‡Adjusted for Short Term Policies.

EXHIBIT VIII
(1 SHEET)

CALCULATION OF AVERAGE CREDIBILITY

BASED ON RATINGS FOR POLICY YEAR 1935-1936†

BY INDUSTRY GROUP

MANUFACTURING

(1) Size of Risk	(2) Number of Risks	(3) Unweighted Premium	(4) Average Risk Prem.* (3) ÷ (2)	(5) Normal Ratio ‡	(6) Excess Ratio ‡	(7) Normal Premium* (4) × (5)	(8) Excess Premium* (4) × (6)	(9) Z_n	(10) Z_e	(11) (3) × (9)	(12) (3) × (10)
Under 2,000	180	317,871	1,766	.702	.298	1,240	526	.115	.010	36,555	3,179
2,000- 2,999	1,234	3,067,933	2,486	.687	.313	1,708	778	.155	.010	475,530	30,679
3,000- 3,999	844	2,929,873	3,471	.686	.314	2,381	1,090	.205	.015	600,624	43,948
4,000- 5,999	953	4,627,869	4,856	.681	.319	3,307	1,549	.260	.025	1,203,246	115,697
6,000- 7,999	507	3,522,718	6,948	.678	.322	4,711	2,237	.335	.035	1,180,111	123,295
8,000- 11,999	455	4,405,719	9,683	.670	.330	6,488	3,195	.410	.045	1,806,345	198,257
12,000- 15,999	233	3,223,604	13,835	.669	.331	9,256	4,579	.495	.065	1,595,684	209,534
16,000- 19,999	155	2,833,976	18,284	.666	.334	12,177	6,107	.565	.085	1,601,196	240,888
20,000- 29,999	190	5,120,826	26,952	.695	.305	18,732	8,220	.665	.110	3,405,349	563,291
30,000- 39,999	92	3,179,450	34,559	.657	.343	22,705	11,854	.710	.150	2,257,410	476,918
40,000- 79,999	141	7,718,320	54,740	.662	.338	36,238	18,502	.795	.220	6,136,064	1,698,030
80,000-119,999	31	2,996,421	96,659	.667	.333	64,472	32,187	.875	.325	2,621,868	973,837
120,000 & Over	30	6,501,119	216,704	.638	.362	138,257	78,447	1.000	.540	6,501,119	3,510,604
Total	5,045	50,445,699	490,943	.655	.345	321,672	169,271	—	—	29,421,101	8,188,157
Average Credibility	—	—	—	—	—	—	—	—	—	.5832	.1623

Average Credibility $Z_a = .655 \times .5832 + .345 \times .1623$
$= .3820 + .0560$
$= .4380$

†July 1935 to June 1936 Inclusive.
*Totals shown in these columns are obtained by summation and not by indicated calculation.
‡Based on ratios of Normal (or Excess) Expected Losses to Total Expected Losses. Totals shown in these columns are based on columns (4), (7) and (8).

ON THE USE OF SYNTHETIC RISKS IN DETERMINING PURE PREMIUM EXCESS RATIOS FOR LARGE COMPENSATION AND LIABILITY RISKS

BY

PAUL DORWEILER

The pure premium ratio which denotes the ratio of the aggregate of risks' losses in excess of a specified loss ratio to the total aggregate losses depends upon the size of the risks considered. There is a dearth of material in the larger premium sizes for determining such pure premium ratios. The premium volume may be large when viewed as an aggregate but the data are rather limited when viewed as to the number of units—the individual risks—involved. This is not strange, for risks falling into the higher premium size groups do not exist in large numbers. Even if the experience of every risk of larger size could be secured there still would be a scarcity of material. This scarcity suggests recourse to other possible sources of material.

Concept of Actual and Synthetic Risks

The common conception of a risk is rather indefinite. A risk is perhaps most often considered as the total of the insured operations of an individual in a line for a specified term, usually a year. Should the term be doubled, then immediately the size of the risk, measured in premium, would be doubled, or should the term be increased n-fold the size of the risk would also be increased n-fold. Obviously, one way to obtain larger risks would be to extend the term. Or, instead of extending the term, two or more consecutive terms could be united and thus composite risks of various sizes could be constructed synthetically. However, the form of the material used in this paper precludes following this process. The data are not given out in such form that it is possible to identify and unite consecutive terms of the same assured.

If a combination of terms of the same assured is not possible the next recourse might be to various combinations of separate but comparable risks. The available material is in such form that it is possible to unite risks in the same premium size groups for the same policy year or to unite risks in the same premium size group but in two different policy years. Risks may be combined to build larger synthetic risks by adding premiums and losses and determining the resulting loss ratios. By continuing such combinations a number of large synthetic risks may be built and utilized for studying the behavior of loss ratios and determining pure premium ratios for losses in excess of specified loss ratios for the very large premium size groups where now little or no material is available.

Source of Material Used

In this study such synthetic risks were built up from printer tabulator lists of premiums and losses for individual experience rated compensation risks of the Compensation Inspection and Rating Board of New York. These records listed the premiums and losses arranged in groups by size of premium for policy years 1931 and 1932. For policy year 1931 all risks having annual premiums of $5,000 or more were given, arranged within the size groups according to experience rating modification. For policy year 1932 all risks having annual premiums of $2,500 or more were given, arranged without definite order within the size groups. With respect to factors affecting the size of loss ratios, the risks were arranged at random within each size group for each policy year.

Starting with the lowest premium size group in each year, the adjacent risks were combined in pairs consecutively by adding premiums and losses. The composite risks, each of whose elements came from the group $2,500-$5,000, fell into group $5,000-$10,000. These synthetic risks in the $5,000-$10,000 groups were similarly combined in pairs making new risks falling into the $10,000-$20,000 premium size group. The actual risks of the $5,000-$10,000 group were combined in pairs into synthetic risks also falling into the $10,000-$20,000 premium size group. The process was continued to the point where there were but 25 synthetic risks falling into the premium size group $640,000-$1,280,000. When combining risks in pairs it is convenient to select as group limits such values that the upper limits of the groups are double the lower. Under such a selection the limits of synthetic risks combined from a given size group are co-terminal with the limits of the next larger group of actual risks.

The process of forming synthetic risks may be readily observed by following the risks on a line from left to right in the table below. The number in parentheses at the left on each line is the number of actual risks in the premium size group shown in the heading and the policy year indicated in the left column. On the same line moving to the right are shown the number of synthetic risks derived from pairing the risks in the preceding column. As will be noted from the table, each policy year and size group was treated separately in combining into higher groups, and odd risks left over in the process of pairing were dropped. The reason for the separate treatment of policy years and groups will be discussed under the heading "Adjustment of Premium and Industrial Cost Level."

Policy Year	Lower Limit of Premium Size Groups in Thousands								
	2.5	5	10	20	40	80	160	320	640
1931	..	..	..	..	..	..	..	..	..
1932	(959)	479	239	119	59	29	14	7	3
1931		(538)	269	134	67	33	16	8	4
1932		(465)	232	116	58	29	14	7	3
1931			(227)	113	56	28	14	7	3
1932			(170)	85	42	21	10	5	2
1931				(99)	49	24	12	6	3
1932				(78)	39	19	9	4	2
1931					(34)	17	8	4	2
1932					(32)	16	8	4	2
1931						(8)	4	2	1
1932						(6)	3	1	..
1931							(3)	1	..
1932							(2)	1	..
Total Actual	959	1,003	397	177	66	14	5	..	..
Total Synthetic		479	740	567	370	216	112	57	25
Grand Total	959	1,482	1,137	744	436	230	117	57	25

METHOD USED IN CALCULATING PURE PREMIUM RATIOS

The method used in deriving pure premium ratios is substantially the one described in a previous paper in the *Proceedings*, Volume XIII, pp. 163-7, and Table IV, pp. 174-5. The method involves relatively simple operations, produces reasonably accurate results, facilitates combinations of experience from various sources, and permits the graduation of frequency distributions of risks by loss ratio size. The decisive factor in selecting the method was the possibility of using for comparisons results of prior studies based upon this method.

The disadvantages of the method consist of the uniform weighting of all risks within a given premium-size group and the use of the mid-points of the class interval of the loss ratio groups into which the risks have been divided as the loss ratio for all risks of the group. This latter feature, however, is not an essential part of the method. These disadvantages make an offsetting correction necessary when the experience of a group is keyed to a specific loss ratio. Recently in connection with Retrospective Experience Rating, Mr. S. D. Pinney and Mr. Mark Kormes have used methods which are more accurate though somewhat more laborious, not involving the disadvantages mentioned. The results from the three methods show close agreement.

DISPERSION OF RISK LOSS RATIOS

The causes of dispersion and skewness in the loss ratios of risks of a premium size group when these loss ratios are considered as a frequency distribution may for convenience in discussion be divided into these three kinds:—

Accidental Dispersion
Lack of Homogeneity within Classifications
Variations in Industrial Cost Level

Accidental Dispersion

It is the accidental deviations of the loss ratios of risks that are of primary concern here. It is known that the frequency distribution of risk loss ratios changes in form with the size of the risk. The distribution* is of a form that is high at the extreme left, then

* Where abscissas represent size of loss ratios and ordinates, the number of risks.

descends very sharply and extends to the right as a long low flat curve for very small risks. It changes to other forms which tend somewhat toward the normal curve for very large risks. These accidental dispersions are inherent. They are the most important factor in the study of pure premium ratios for excess insurance per loss ratio for small and medium risks.

Lack of Homogeneity in Classifications

The hazards and conditions of individual risks vary almost endlessly. The attempt to assign risks to a limited number of classifications composed of equally hazardous risks can only partly succeed. For the risks when arrayed according to hazard vary gradually whereas the classifications on account of their limited number must have abrupt differences in the pure premiums which represent the average hazards. Even with the application of experience rating it is vain to believe that complete justice has been served in each case. The best that can be said is that there is no more reason for believing that individual rates are too high than that they are too low. If the experience rated rate is either too high or too low, it will tend to decrease or increase the risk loss ratio and thus introduce a deviation. In view of the refinements made in assigning classifications, calculating manual rates, and determining special rates, it is not believed that the lack of homogeneity of risks within classifications is comparable in degree to the other two divisions as a cause of dispersions of loss ratios. Deviations arising from a lack of homogeneity are not biased. The caution needed is not regarding the use of the experience for determining pure premium ratios but rather regarding the propriety of applying the pure premium ratios to every risk in the classification as the measure of its probable deviation.

Variations in Industrial Cost Level

Wage level, accident frequency, accident severity, medical cost and claim consciousness, major factors entering into the cost of compensation coverage, are continually changing. If a premium level for a specific term is predicated on a definite set of factors which determine what will be called the industrial cost level, and then during the term the factors change so that a different industrial cost level prevails there will be definite responses in the risk loss ratios. If the industrial cost level is lower than the cost level predicated in the premium level there will be general decreases in loss ratios. Similarly, if the industrial cost is above that predicated in the premium level there will be increases in the loss ratios.

It is rare that the premium level is just right. Over a period of years there will be generally some high and some low levels even though they average out for the period. These variations from the proper premium level produce biased deviations in the risk loss ratios; biased in the sense that all loss ratios deviate in the same direction from what they would be if the premium level were such as to produce the permissible loss ratio. If proper adjustment of premium level is not made in deriving pure premium ratios serious errors may be introduced unless the period of the experience is long enough to include industrial cost levels and premium levels that will approximately reproduce the expected average.

Relative Effect on Pure Premium Ratios

It is difficult to give the relative importance of the first and third of the above divisions of the causes of dispersion and skewness with regard to their effect on pure premium ratios. The relative importance changes with the size of both the selected risk loss ratio and the risk premium. For all but the large risks, accidental dispersion is generally the dominant factor. But even in moderate sized risks when the selected loss ratio is small (e.g., .10 or less) the variations in industrial cost level is more important than accidental dispersion. As the risks increase in size of premium, the effect of variation in industrial cost level increases and in large risks becomes dominant.

Adjustment of Premium and Industrial Cost Level

There may be some question as to what is the proper premium level to use in determining pure premium ratios. Should the actual premiums in effect during the period the experience was developed be used or should some adjustments be made? It would seem that the premium used in determining the pure premium ratio should preferably be on the same basis as that which will be used in the application of the pure premium ratios, or the rates derived from them, in insuring excess losses per loss ratio. Generally, this would be the collected premium, the premium at manual rates modified by schedule and/or experience rating, or what has recently been termed "standard" premium. The standard premium basis would be most desirable if the experience extended over several rate levels so as to approach an average experience. Since the data used in this paper came from only two policy years and since the loss level deviated on the same side of the permissible in both it has been deemed better to adjust the premium level by premium size groups to the levels producing the permissible loss ratio by groups.* The permissible loss ratio has been taken at .60 as representative of general conditions.

It would seem reasonable to have used a premium level adjusted to produce the permissible loss ratio for all risks of the groups used for each policy year as a unit rather than for each premium size group separately. This would be desirable if the volume were large enough. It was decided to use the other method on the basis that with an adequate experience rating plan there should be no known premium size group that would be expected to deviate far from the loss ratio level of the whole. A comparison of the results of the adopted method and the method mentioned in this paragraph may be made from Tables III and III′.

If the pure premium ratios for selected excess loss ratios have been determined for a definite premium level and charted as in Chart I it is relatively simple to use the same chart to obtain pure premium ratios for any selected excess loss ratios on other premium levels and industrial cost levels.

Pure Premium Ratios

Pure premium ratios for compensation losses in excess of various selected ratios were calculated upon the basis of all available data. The actual data for New York risks for policy years 1931 and 1932 were used for each premium size group. The data for each size group except the lowest were augmented by using syn-

* It will be noted from the preceding tabulation, page 79, that this procedure when combined with successive pairing of risks results ultimately in a single synthetic risk for each premium size group for a given policy year which, aside from the effect of dropping odd risks in pairing, will have the permissible loss ratio. This lessens the value of higher premium groups containing "ultimate" or "near ultimate" synthetic risks.

thetic risks derived from the lower premium size groups. The resultant pure premium ratios are shown in Table II. In the four lower premium groups the pure premium ratios for losses in excess of the selected loss ratios of .55, .65, and .75 were interpolated using third differences. For the five higher premium size groups these ratios were determined directly from the data by using a more detailed procedure in the calculation.

The pure premium ratios for various selected excess loss ratios are plotted against the size of annual premium for the risk from the data in Table II and the results are shown in Chart I. Upon examining the chart and on reflection it becomes obvious that curves for the various selected excess loss ratios approach definite horizontal lines as asymptotes when the risks become indefinitely large. In general, the asymptote for all curves for selected excess loss ratios in excess of the permissible "E" is the line $(ppr) = 0$, where (ppr) represents the pure premium ratios. For any selected excess loss ratio r, less than permissible "E," the curve has as its asymptote the line $(ppr) = 1 - r/E$. It will be noted from Table II and Chart I that the data for the larger risks have reached the limits represented by the asymptotes for the lower selected excess loss ratios.

Results from Synthetic and Actual Risks

It would be expected that the use of synthetic risks introduces a stabilizing effect into the risk loss ratios as compared with actual risk loss ratios. The homogeneity within a risk tends to reproduce variations that are not accidental. Any inherent traits or qualities that produce results in one part of the term will have the same tendency in the rest of the term. In a synthetic risk formed by uniting two risks selected entirely at random a particular characteristic of one part that produces a definite variation will on the average be partly neutralized by the effect of the risk forming the other part which fails to have the particular characteristic. The lack of homogeneity in the classifications is a cause of variations in the loss ratios of the risks in the classification. When these risks are combined into synthetic risks the different traits producing the lack of homogeneity become blended, thus lessening the effect of heterogeneity in classifications.

In Table III and Table III′ are given, by premium size groups, a comparison of pure premium ratios produced for synthetic risks derived from lower size groups with the pure premium ratios for the actual risks. These ratios must be accepted with reservation for the number of risks with large loss ratios in a premium size group is small and a few additional losses in particular risks may be reflected in a perceptible difference in the pure premium ratios.

In Appraisement of Method

Assuming that further tests will confirm those in this paper, it must be admitted that the results are not of a quality demanded for calling the method a complete success, nor are they such that the method can be considered a total failure. Not much has been added to what has already been known or believed with regard to the behavior of large Compensation risks as to excess losses per loss ratio, though some confirmation has been given to existing beliefs. However, in the determination of excess ratios per loss ratio for other lines of coverage where there is a scarcity even of medium size risks and an even greater scarcity of large size risks the method may have positive value in determining first approximations of the ratios. The method also may be useful in getting approximations to compensation or liability pure premium ratios for selected excess loss ratios when these are used jointly with per case and/or per accident limits.

TABLE II

Pure Premium Ratios for Excess Losses per Loss Ratio

Table showing pure premium ratios—ratios of losses in excess of selected risk loss ratios to total losses—for various selected loss ratios, by premium size groups. Data from New York Board risks in Table I.

Selected Risk Loss Ratio	a b c	a: Lower Limit of Premium Size Group; Upper Limit is Double Lower; b: Average Risk Premium of Group—Synthetic and Actual Combined; c: Number of Risks—Synthetic and Actual Combined								
	a	$2,500	$5,000	$10,000	$20,000	$40,000	$80,000	$160,000	$320,000	$640,000
	b	$3,049	$6,217	$12,290	$24,824	$49,369	$97,078	$193,024	$386,304	$775,957
	c	959	1,482	1,137	744	436	230	117	57	25
00%		1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
10		.848	.840	.835	.834	.833	.833	.833	.833	.833
20		.722	.698	.681	.672	.668	.667	.667	.667	.667
30		.620	.580	.545	.524	.507	.502	.500	.500	.500
40		.537	.484	.434	.396	.364	.342	.336	.333	.333
50		.468	.405	.344	.290	.247	.206	.183	.172	.167
55		.438	.372	.306	.247	.199	.151	.120	.100	.089
60		.411	.341	.272	.209	.157	.108	.071	.046	.030
65		.385	.314	.242	.177	.122	.074	.040	.016	.005
70		.362	.289	.215	.150	.094	.050	.023	.005	.001
75		.341	.267	.190	.126	.071	.033	.012	.003	.000
80		.320	.246	.168	.106	.054	.021	.006	.001	
90		.285	.210	.132	.075	.031	.011	.003	.000	
100		.255	.180	.104	.054	.019	.006	.001		
110		.229	.156	.083	.039	.011	.004	.000		
120		.208	.135	.066	.029	.007	.002			
130		.190	.118	.053	.022	.004	.001			
150		.163	.090	.034	.013	.001	.000			
175		.137	.067	.023	.007	.000				
200		.117	.051	.017	.004					
300		.062	.016	.004	.000					
500		.028	.004	.000						
700		.019	.002							
1000		.013	.000							
1500		.004								
2000		.000								

Note: In assigning risks to premium size groups the actual premiums for the individual risks were used. The original risk assignments were not changed with later adjustments of premium levels. The individual risk loss ratios and the average premiums for the groups were recalculated with changes in premium level. As a result there have been brought together in the premium groups of the Table risks from different sources having adjusted premium limits somewhat at variance from one another and from the Table limits.

CHART I. *Showing pure premium ratios for losses in excess of selected loss ratios, by size of premium. From risks in Table I and data in Table II. Figures over curves represent selected loss ratios.*

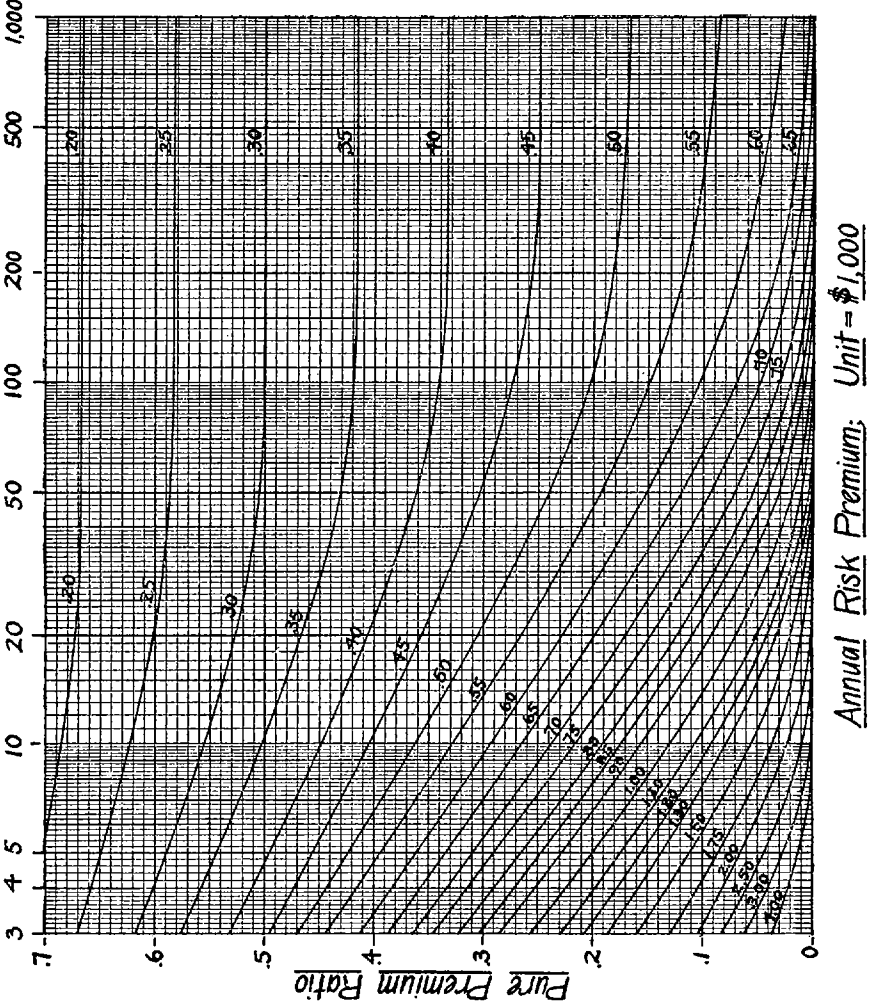

TABLE III

Pure Premium Ratios

Comparison of Pure Premium Ratios of Actual and Synthetic Risks for four premium size groups. Premium level adjusted by Policy Years to 60% loss ratio for each premium size group.

Selected Risk Loss Ratio	PREMIUM SIZE GROUP							
	$5000–$9999		$10000–$19999		$20000–$39999		$40000–$79999	
	Actual	Synthetic	Actual	Synthetic	Actual	Synthetic	Actual	Synthetic
0%	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
10	.841	.838	.838	.834	.835	.833	.833	.833
20	.700	.693	.686	.678	.677	.670	.673	.667
30	.585	.571	.554	.541	.535	.521	.529	.505
40	.491	.469	.445	.427	.409	.392	.408	.361
50	.415	.386	.356	.337	.305	.286	.304	.243
60	.352	.319	.285	.265	.223	.205	.213	.152
70	.299	.267	.229	.207	.163	.146	.141	.088
80	.256	.225	.181	.162	.119	.102	.090	.050
90	.219	.191	.144	.126	.087	.071	.052	.029
100	.188	.165	.115	.098	.065	.050	.026	.018
110	.162	.143	.094	.077	.048	.036	.013	.011
120	.140	.126	.077	.060	.035	.027	.006	.007
130	.120	.113	.062	.047	.026	.021	.004	.004
140	.104	.101	.050	.038	.019	.016	.001	.002
150	.090	.091	.040	.031	.015	.013	.000	.001
175	.064	.072	.025	.022	.008	.007		.000
200	.046	.060	.016	.017	.005	.004		
300	.010	.030	.002	.006	.000	.000		
400	.002	.018	.000	.001				
500	.000	.012		.000				
Number of Risks	1,003	479	397	740	177	567	66	370
Average Premium	$6,276	$6,099	$12,020	$12,435	$25,579	$24,571	$47,255	$49,076

See note under Table II.

TABLE III

Pure Premium Ratios

Comparison of Pure Premium Ratios of Actual and Synthetic Risks for four premium size groups. Premium level adjusted by Policy Years to 60% loss ratio for the combined group $5,000-$79,999.

Selected Risk Loss Ratio	PREMIUM SIZE GROUP							
	$5000–$9999		$10000–$19999		$20000–$39999		$40000–$79999	
	Actual	Synthetic	Actual	Synthetic	Actual	Synthetic	Actual	Synthetic
0%	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
10	.842	.839	.835	.835	.844	.834	.822	.836
20	.703	.695	.683	.680	.694	.671	.650	.672
30	.587	.573	.551	.543	.557	.520	.500	.512
40	.494	.472	.441	.429	.435	.390	.374	.368
50	.417	.389	.351	.339	.333	.284	.266	.250
60	.355	.322	.280	.268	.253	.204	.177	.157
70	.313	.270	.223	.210	.193	.145	.114	.093
80	.259	.227	.176	.164	.147	.103	.070	.053
90	.222	.195	.138	.128	.113	.072	.039	.031
100	.191	.169	.109	.099	.088	.050	.019	.064
110	.165	.147	.088	.078	.069	.036	.008	.013
120	.143	.130	.071	.060	.054	.027	.004	.009
130	.123	.117	.056	.047	.044	.021	.001	.006
140	.106	.105	.044	.037	.036	.016	.000	.004
150	.092	.096	.035	.031	.030	.013		.002
175	.066	.077	.021	.022	.022	.007		.001
200	.049	.064	.013	.017	.018	.004		.000
300	.012	.031	.000	.006	.004	.000		
400	.003	.017		.001	.000			
500	.000	.012		.000				
Number of Risks	1,003	479	397	740	177	567	66	370
Average Premium	$6,225	$6,039	$12,231	$12,327	$24,511	$24,579	$50,053	$49,117

See note under Table II.

TABLE I

DATA OF NEW YORK EXPERIENCE RATED RISKS USED

Premium Size Group	Policy Year	Number of Risks	Total Premium	Total Losses	Loss Ratio
$2500 to 4999	1931	....	....	....	....
	1932	959	$3,303,687	$1,754,614	.5311
	1931 & 32	959	3,303,687	1,754,614	.5311
$5000 to 9999	1931	538	3,737,494	2,147,467	.5746
	1932	465	3,227,297	1,629,134	.5048
	1931 & 32	1,003	6,964,791	3,776,601	.5422
$10000 to 19999	1931	227	3,090,109	1,635,912	.5294
	1932	170	2,318,709	1,227,148	.5292
	1931 & 32	397	5,408,818	2,863,060	.5293
$20000 to 39999	1931	99	2,720,551	1,519,407	.5585
	1932	78	2,113,820	1,197,100	.5663
	1931 & 32	177	4,834,371	2,716,507	.5619
$40000 to 79999	1931	34	1,956,128	1,004,324	.5134
	1932	32	1,729,889	866,958	.5012
	1931 & 32	66	3,686,017	1,871,282	.5077
$80000 to 159999	1931	8	809,539	329,236	.4067
	1932	6	569,857	254,451	.4465
	1931 & 32	14	1,379,396	583,687	.4231
$160000 to 319999	1931	3	584,196	351,157	.6011
	1932	2	454,450	195,990	.4313
	1931 & 32	5	1,038,646	547,147	.5268
$2500 to 319999	1931	909	12,898,017	6,987,503	.5418
	1932	1,712	13,717,709	7,125,395	.5194
	1931 & 32	2,621	26,615,726	14,112,898	.5302

ADDRESS DELIVERED AT THE DINNER OF THE CASUALTY ACTUARIAL SOCIETY NOVEMBER 13, 1936

RESHAPING THE BODY POLITIC

BY

CLARENCE W. HOBBS

The worthy Winfield Greene, whom personally no problem whatever appals, at the meeting last May issued what might, by a little stretch of the imagination, be termed a clarion call to the great minds of this Society to essay the problem of problems, the determination of a satisfactory mean between the laissez-faire doctrines of individualism and the communist's dream of the highly integrated economic and social polity. As yet there has not appeared a wide-spread and enthusiastic response to the rallying note of Brother Greene's slug-horn. Indeed, this is no mean problem. Skilled economists, wise statemen and profound philosophers have labored over it for many years, arriving in this year of grace at almost perfect disagreement on practically every detail. Lately it has been blatantly and vociferously discussed by politicians, and by the press—a discussion mercifully halted for the time being by the election. It may be premised and that beyond peradventure of doubt, that the aforesaid great minds of this Society can come at least as near settling the problem as any of the above.

And possibly nearer: for not only is the insurance principle deeply involved in many projects advanced for the betterment of the body politic, but an insurance background is no mean asset to one who seriously assails the greater task. Insurance is of all economic functions the most human, and casualty insurance is the most human of all branches of insurance. It takes cognizance of all economic and social activities, public and private. It scans the operation of the great mass of employments in all their detail, from the president and board of directors down to the lowliest manual laborer and the humblest clerk. It goes into the counting house of the financier; travels with railroad and motor vehicle, and with those who go down to the sea in ships or explore the pathways of the air; surveys the work of factory, quarry, mine and farm; follows the operations of the contractor, visits now and then the press, the house of worship or the charitable association, stops in at the club; and also enters into the houses of the people. It is a sharer in the prosperity of the community, a partaker in many of its woes. It associates with the good and upright and the financially solvent whenever it can, is in touch with poverty and want, and to its sore cost is compelled to reckon with the vicious, the knave and the criminal. Any one of the large multiple line companies can from its files, its employees and its agents draw material for a real picture of the polity in which we dwell, with all its high lights and shadows, its virtues and its vices, its vital form and substance and the parasites which prey thereon.

To be sure, much that is purely human unavoidably disappears in the process of statistical recording and tabulation and in actuarial computations. There was a case involving the death of an employee who, disregarding the warning of his superintendent, descended into a vat reeking with poisonous vapors to rescue a comrade who had been overcome. The case goes on record as a D. & P. T. case, side by side with the death of an employee who, being drunk, reeled into some heavy machinery: and the two cases figure in the experience ratings, and the probability of their widows remarrying is computed, in much the same way. Vast differences in human records merge indistinguishably in general averages. Yet I conceive that few actuaries and statisticians worthy of the name fail to grasp some distinct vision of the vibrant and complicated life of the polity into the several parts of which run the lines of underwriting, or fail to catch some reflection of the vast sea of human suffering and death whence emerge their loss statistics. More than one, too has heard the rude and brutal comment, "To hell with actuarial soundness: Give me something I can sell!"

Being in the actuarial sense one of the humblest of the brethren present, I cite the above by way of solemn warning. The old economists fell into the very common error of over much abstraction and generalization; and looked a deal more to general rules than to individual cases, and their science is thereby curiously inhuman. The new economy realizes better that it deals with living factors, and must give heed to their needs, desires and aspirations and that its doctrines, if not in conformity therewith, are not for use in this day and generation, but utilizable, if at all, only in a day and by a generation, with whose needs, desires and aspirations they happen to accord. The classic of the older economy was "The Wealth of Nations." Today we are concerned less with wealth, more with life.

The matter of producing something which can be sold is, likewise, the very breath of life in any economic doctrine. Take a middle-aged gentleman and try to persuade him to go on a diet, take exercise, rest, swallow bitter medicine or take a trip to the operating table. He will reply, and somewhat bitterly, that this means giving up all that makes life worth living, and that he's not going to fatten up druggists and surgeons till he has to. And he will in fact try all manner of nostrums and quack remedies rather than do what he really should. The body politic is at least middle-aged. It normally opposes change with all the force of inertia, and all the active might of the various parties interested in seeing that no change occurs. Half-way measures, compromises, palliatives, diplomacy and endless delays are the order of the day, and gall the very heart of the sincere reformer.

Yet on occasion the body politic does absorb new ideas, and sometimes with miraculous quickness. Certain far-reaching social, economic and governmental changes come, not as a planned matter, but as the normal result of a quickening of the spirit of the community; an inspiration, a hope, a strong motivating desire sufficient to spur the unwieldy and inert mass into action along a single definite line. How such a quickening is brought about is a matter none too clear. It is something innate in the man which in due time stirs and grows and proliferates until the whole race feels its magic touch. The rise of the democracies of ancient Greece was preceded by a religious revival, and a great colonial expansion. The Italian city states attained to liberty in the first breath of an economic expansion and a spiritual awakening which laid the foundation of the Renaissance. English democracy had its birth at about the same time as Puritanism and the opening up of the new world. Strong personal and individual faith goes hand in hand with the birth of democracy and with the spirit of freedom in economic and social matters. Neither is the cause of the other: both are fruits of a strong emotional urge for liberty.

Everything in the polity not consistent therewith must bend or break, and the ruins or the modifications of the old are built into the structure of the new.

Another series of changes result when that spirit has spent its force, grown familiar from usage, or distasteful from abuse. "Free —free for what?" queries Nietzsche: and in that pointed query there is deep significance. Freedom to develop all that is best and greatest is linked with freedom to develop all that is basest and worst. The freedom of those who are able to rule themselves and are therefore fit for liberty, is coupled with the freedom of those who along with the yoke throw off all that is best in them. So with liberty is coupled license: with mighty advancement in the fields of science, the arts and the manifold means of production and commerce is joined a shocking proficiency in what is purely base. Against these ills the polity struggles until it weakens, grows weary of the task, and subsides by default beneath the yoke of a master. These changes too have their emotional background: an emotional background carefully laid and developed. Fear, hatred, prejudice, the yearning for leadership, an exaggerated and blatant patriotism all combine in the means whereby the new leader stirs the body politic to action.

It is hardly possible in a few moments to do justice to this theme and suit it to ourselves. The yearning of our ancestors for liberty begot a fine and robust individualism, very widely spread. That individualism produced a fine concept of the rights of man—freedom of thought, freedom of speech, freedom of action. Less emotionally gifted than the Latin races, our race developed along very practical lines, with more predilection for the sciences than for the arts, more zeal for an utilitarian than for an idealistic philosophy; and more enthusiasm for production, commerce and gain than for either. To this development we owe a practical democratic form of government adapted to the uses of a great nation; a vast progress in science and education and the useful arts: and the whole Industrial Revolution as well. This has resulted in a state, or in states, if you please, with well-varied industrial and commercial life, and a somewhat less well-varied social, intellectual and artistic life: yet a place wherein generally speaking there is prosperity, plenty, and a very well spread distribution of the necessities and even of the comforts and luxuries of life. It is the sort of a society which, generally speaking, we like, and we dislike heartily the idea of seeing it pass into the barren nakedness of the socialistic state, or the hard and narrow discipline of the totalitarian state.

On the other hand, towards one of these results it seems now heading. This is not, be it said, a reflection on the result of the late election. The movement began long before and would have taken place in any event. The election settles merely the directive personnel and the modification and the tempo of the movement. The practical direction of the spirit of the race, its adoption by predilection of materialistic ends, has tended to narrow the pursuit of knowledge within utilitarian lines. This has tended to weaken both religion and art. The one has not been sufficiently robust to contend with the spirit of the times and to point the way toward a new social ethic with any convincing force; the other has developed along lines capable of pleasing the worker and the tired business man. It has tended to weaken philosophy. Science has fared much better. The tendency in business has been distinctly in the direction of building up big personal fortunes and big corporate organizations and combinations, and a narrowing of the field wherein individual initiative has any hope of success. More and more we become a nation of few masters and many employees. Counter to this there has been a growth of labor organizations and cooperative organizations: and the polity appears to be taking shape as a chaos of mutually antagonistic blocs. Governmentally, the state has been weak, crippled by the abundance of guarantees, checks and balances, and by the careful division of governmental powers. It was designed for a state which was supposed to govern as little as possible. It is not suited to the uses of a state called upon to govern a great deal. The legislatures are hard-worked, and have exhibited an alarming degree of recklessness and improvidence: the courts are overworked, and both are fast being overshadowed by the growing power of the executive arm and by a vast bureaucracy. The voters, being like the employers, very practical persons, fall rather naturally into political machines, and are very absorptive of propaganda, and only spasmodically interested in public affairs. There is a marvellous lack of enthusiasm for the gospel of individualism: a ready acceptance of political nostrums, and a certain uneasiness, a consciousness that things are not right, an apprehension for the future and a great yearning for a leadership appealing to the imagination.

These are phenonema which have had their parallels in other nations. It is not thought that a leadership here would operate on just the same lines as these. It is very doubtful if there will ever be an American Stalin, or an American Mussolini, least of all an American Hitler. We are not likely to see the government make war on religion or engage in the ludicrous essay to reestablish the ancient Nordic faith. We are not even likely to see the government make violent breach with the past: relegate the legislative power completely to the background or hamstring the courts. It is not necessary to do this, and it seems likely that our Constitution and our American form of government will for some time to come be on the lips of those who bear rule. It seems likely however that the executive branch of government will de facto definitely overshadow the others and this result would make undoubtedly for a more efficient and rapidly moving type of rule. It seems more than likely that the government will exert a closer control over industry and over labor, a closer control over finance: and that we must be prepared for some surrender of liberty, some narrowing of the field of personal initiative, some limitation of rights of acquisition. But all this has been growing on us for years, and it is perhaps time that we realize that the prime object of society is not summed up in the words, production, commerce, finance, profits. The prime object of society is human life, and to this all the others, important though they be, are but accessories. We have perhaps forgotten this too long: and if the remedies we are likely to get are somewhat rude, it may be we have deserved them.

The above is spoken without malice and without fear. As previously stated, something like this was bound to happen sometime. Individualism embraces an immortal truth which can never completely die, that man is essentially a unit, a single moving, doing, thinking, feeling entity: and that he requires for his full and harmonious development due measure of freedom. Any state which denies this either fills itself with warped and impotent units or courts the hazard of revolt. But there is another truth equally immortal, that no man liveth to himself and no man dieth to himself. Each human unit is linked with every other and with the entire cosmos in what is intended to be a grand harmony. The individual who stands upon his rights to the prejudice of others, who surrenders himself to the mastery of greed or envy or hate, or to the more brutish mastery of rage or lust or intemperance is an outrage to that harmony, a wrong-doer to every one of his fellows. A society which, in its desire that all should be free, permits such an one to work his will, presently finds that its liberty is but a mockery and that its doom is sealed.

With so much we shall hardly disagree. But if the change that impends is attended by no change of heart: if the human elements involved remain as they were, content with a mere reshuffling of the social pieces, a bringing down of the high and raising up of the low, there is little hope of stability. A people who have grown old and set in their ways do not readily orientate themselves to new ideals, and do not take kindly to those who present those ideals to them. We are in a time where clouds seem to gather darkly. We seem to hear the tramping of the hooves of the red horse bearing him who comes to take peace from the earth; we listen in dread lest we catch the first far-breathed notes of the trumpet call to Armageddon. And that which has brought us to this pass is the result of our own shortcomings thrown up on a national scale. It may be that there will be found one, who can detach himself from his environment sufficiently to view it objectively, with humor, understanding and sympathy: who can still remain within that environment sufficiently to touch its higher and more exalted emotions, to call it to cast off its weaknesses, clothe itself with new strength, and face the future faithfully and hopefully. If so, may we be moved to listen.

This is not perhaps as cheerful an estimate and prognostication as might be wished. That, however, cannot well be helped. It is not intended as a counsel of discouragement. Rather would I close with the words of one who was in his way a prophet, and a prophet moreover of this very time: and who saw within it a great dying and a greater rebirth:

"But by my love and hope I conjure thee; cast not away the hero in thy soul; retain holy thy highest hope."

REVIEWS OF PUBLICATIONS

HAROLD J. GINSBURGH, BOOK REVIEW EDITOR

The Actuary's Handbook—Volume II. Harry M. Sarason, B.S. and Donald B. Warren, M.A. Published by the Insurance Field, Louisville, Kentucky, 1936.

This is the second volume of what is stated to be designed to be "An extensive set of reference values on the most popular mortality table and interest rates in use by life insurance actuaries; for company, state department and consulting work." This volume contains the 3½% values according to the American Experience Table, (Volume I gave the 3% values). It gives in a very handy form values of premiums, costs and reserves for a large number of ages, durations, and plans together with detailed instructions for their use, these instructions being particularly adapted to calculations made by calculating machines. The Foreword states that the purpose of the volume is not only to provide the actuary with a complete set of reference volumes but also to enable the actuarial clerk to make computations quickly without the need of going back to first principles under the direct supervision of an actuary. For these purposes the tables seem to be well adapted and should be a valuable asset in the offices of those who have need of making many calculations in connection with life insurance. For those, however, who require only isolated values from time to time the cost of this work would probably be incommensurate with the value derived therefrom and indeed many in such a position would, like this reviewer, prefer to make such isolated calculations direct from the more fundamental values and commutation functions for the mortality table in question. The volume has evidently been extremely carefully prepared and particular attention has been given to ways and means of reducing to a minimum the labor required to use the tables given. This, of course, should be the primary purpose of all tables meant to be used extensively. If calculations can be made once and for all in a central office and made available with a minimum of trouble to all desiring to use them, then any enormous labor of original compilation is well worth while.

F. S. PERRYMAN.

Examples in Finite Differences, Calculus, and Probability. Harry Freeman, M.A., F.I.A. Published for the Institute of Actuaries by the Cambridge University Press, England, 1936. Pp. 86.

To review a book of problems is a little different from reviewing a text book. The reviewer cannot attempt to read it through and discuss the reaction which it gives him; and owing to the time it would take he cannot work out all of the problems in order to judge of their merit. It seems to this reviewer that all that can be done is to go through the book examining the various problems in a general way and sampling these by solving a small number taken at random.

The author's idea of issuing a supplement to his excellent Elementary Treatise on Actuarial Mathematics is a very happy one, as there is a distinct lack of readily available examples for students to supplement those given in the usual text books, especially since those given in the text books are not particularly adapted to the special requirements of actuarial students. Mr. Freeman has had wide experience in preparing students for the examinations of the Institute of Actuaries in England; he is the author of one of the few, and to my mind, probably the best text book for the use of students studying the mathematical foundations required in actuarial work. The present book of examples is thus a valuable contribution to the needs of such students. The book contains 400 examples grouped under the following headings: Finite Differences, Differential Calculus, Integral Calculus, Probability and Mean Value. There are appended enlightening notes regarding many of the examples, and answers are given to all the questions where feasible. Your reviewer's random check of a few questions confirmed his impression that the problems, by their selection and the manner in which they cover the field, will prove of great assistance to those struggling with the mathematical requisites for actuarial work. A professional mathematician could, no doubt, accuse Mr. Freeman of being, in a few places, guilty of lack of mathematical precision of language. Mr. Freeman's aim, however, has been to meet the needs of actuarial students and not to becloud the point at issue with abstruse technicalities. I believe the book is a valuable addition to the all too small number of actuarial mathematical text books and I would warmly commend it to students of the Society.

F. S. PERRYMAN.

Administration of Workmen's Compensation. Walter F. Dodd. The Commonwealth Fund, New York, 1936. Pp. xiii, 845.

One who has from time to time written in a small way on the subject of Workmen's Compensation finds it impossible to scan this work without mixed feelings of admiration and envy. The author has undertaken to cover a very vital phase of Workmen's Compensation, namely the administration of the compensation laws. No remedial law is better than its enforcement. Bad administration causes the highest purpose and the most excellent intent to rank no higher than a pious wish. The theme is therefore vital: and the author has approached it most painstakingly and carefully, quoting liberally from others, and advancing his own views in a spirit far from dogmatic. He has sought, and in general with success, to give all sides of controverted subjects fairly and impartially. The work begins with a fine discussion of the rise of Workmen's Compensation and the background whence it arose, and of the birth and development of American Compensation laws. Then comes the development of the major theme, passing into discussion of many methods, problems and statutory provisions with a magnificent wealth of detail.

It may fairly be said that some of the topics descanted upon have a somewhat remote connection with the subject of administration. The section on third party liability for instance is connected with the main theme by the most tenuous of verbal threads. No doubt the subject of Workmen's Compensation is an organic whole, and every important part of it is related to every other part. But the attempt to state the substantive provisions of the law as functions of the machinery of enforcement is to reverse the natural process. The administrative machinery was made for them, not they for the machinery; but this, after all, is no great defect, and does not really mar the splendid scope and great value of the work. It deals with so many vital problems of the day that anyone concerned with any phase of the great subject of Workmen's Compensation can read this work with profit.

In a volume of this length, touching on many controversial themes it is inevitable that at times one finds himself not entirely in accord with the author. Certain of the conclusions as to insurance carriers on page 592 should not be passed without commentary. The author thinks that writers of small volumes of compensation insurance should be eliminated, and that companies of other states should not be admitted without obtaining a certificate of public necessity and convenience. But the one measure would close the field to new incorporations: the other would become a retaliatory battle-ground between states. Again, the author sees great possibilities in consolidation of services. The three major services which might be consolidated are loss adjustment, payroll audit, and inspections and safety Engineering. But the bureau method while an excellent one for some purposes, is not entirely satisfactory in performing services involving personal contacts, whenever not merely the service itself but the manner in which it is performed are of importance. It would not conduce to better relations between companies and industrial commissioners to have an impersonal handling of claims, which might readily lead to technical and litigious methods. It would not conduce to harmony between carrier and assured to have an impersonal audit, which might very readily lead to an audit according to the straitest sect of the Pharisees. Again, in safety engineering, it seems very probable that it is better and more efficiently done by way of contact between carrier and insured than between bureau and assured: and it is matter of great difficulty to conduct a service organization for safety engineering without giving rise to suspicion. If one is to do so much, one might as well organize the carriers into a pool and be done with it. Especially if the recommendation as to abolition of renewal commissions is to prevail also. Now it may be that some proposition like this, or some modification of it may be the only way to bridge the competitive margin of advantage between stock and non-stock carriers: and it may be that companies can perform renewal services through their home offices quite as well as through their agents. Still, the strength of the stock company's method lies in its agency system, and the agent supplies the human link which serves to make insurance something more than a cold business transaction. It may be, too, that the agents will hardly endorse the author's views.

The discussion of the relative merits of the several types of insurance carriers is made in an impartial manner. One is by no means sure that the author is correct in considering that the impairment of a state fund is of little moment. At the present time, one of the smaller monopolistic state funds is faced with a serious impairment, coupled with an inability to increase its rates. The law fixes the maximum which an employer may be called upon to contribute, and an effective increase cannot be made without changing the law. Naturally such a change is not relished by employers who have contributed their maximum. The difficulties incurred by other larger state funds by giving favorable rates to influential employers might well be paralleled by difficulties about stepping those rates up. The author admits the unsatisfactory financial situation of the Ohio State Fund and the difficulties of some years ago of the West Virginia State Fund, but seems not greatly moved thereby. Admittedly he is correct in stating that a state fund will ordinarily not be permitted to become insolvent to the extent of suspending payment: but it is most respectfully submitted that it is dangerous practice for a state organization to run up deferred liabilities for the future to meet. The theory of current legislation appears to be that future generations will have an unlimited ability to pay taxes to liquidate debts being presently contracted, and that employers in particular have an unlimited ability to take it. It would seem the safer policy for a state insurance system not to be buoyed up by radiant hopes of the future, nor to rely too confidently that accumulated deficits when they can no longer be further carried along will find employers able and willing to pay amortization assessments or a state able and willing to put in enough money to save the situation.

Other points might be instanced, but one is not inclined to go hunting for criticisms when there is so much in the work of high merit, and so much with which one is entirely in accord. Doubtless the author did not look for perfect acquiescence. A judge once said that the only decision he ever made which he was absolutely certain was correct was one from which both sides took an appeal. Thus, the dissent of the writer of this review may be more reassuring than his commendation. Nevertheless he desires to voice most sincerely his conviction that this work is one without which no library on Workmen's Compensation is complete.

CLARENCE W. HOBBS.

CONTRIBUTIONS RECEIVED

Old Age Security. Emerson P. Schmidt. The University of Minnesota Press, Minneapolis, April 24, 1936.

Examples in Finite Differences, Calculus, and Probability. Harry Freeman, M.A., F.I.A. Published for the Institute of Actuaries by the Cambridge University Press, England, 1936.

Pension and Widows' and Orphans' Funds. D. A. Porteus. Cambridge University Press, London, England, 1936.

CURRENT NOTES

A. N. MATTHEWS, CURRENT NOTES EDITOR

Developments in 1936

Although the annual statement figures for calendar year 1936 are not yet available, the present indications are that 1936 was a very satisfactory year for the casualty insurance companies. The improvement in underwriting results which began in 1932 and resulted in a modest profit in 1935 may be expected to continue into 1936.

The Workmen's Compensation line which has produced substantial underwriting losses during the last fifteen years is expected to show further improvement in 1936 due to the fact that general business recovery has resulted in higher wage levels. The premiums increase in direct proportion to wages, but losses increase to a much less extent than wages on account of the limitations on weekly Compensation rates and medical benefits. For this reason, increasing wage levels should result in improved Compensation experience whereas decreasing wage levels result in increasing loss ratios. During 1936 the trend in the Compensation manual rate level was decidedly downward because of the effect of the improved experience of recent years. If these rate decreases continue, as they probably will, it will be necessary that the underwriter use the utmost diligence in selecting the business in order to avoid writing at the reduced rates risks which have not enjoyed wage increases.

Although the Automobile business produced fairly satisfactory results in 1935 and probably also will produce a profit in 1936, this line is still faced with the problem of increased accident frequency. There is little or no evidence that the energetic activities to reduce automobile accidents have had any appreciable effect. The work that the companies have been doing in collaboration with public officials in eliminating the fraudulent claimant and the ambulance chasing lawyer has doubtless been more effective in controlling the cost of Automobile claims than have attempts to improve the driving habits of the motorist.

The General Liability line produced an underwriting loss of 3% for all stock companies combined in 1935. It is expected that this condition will show some improvement for 1936 on account of rate increases combined with the efforts which have been made to eliminate the claim racketeer. This line as well as the Auto Liability line has been the victim during recent years of shyster lawyers and dishonest doctors and claimants. The Casualty companies are conducting a vigorous campaign to detect and prosecute persons attempting to defraud the companies.

The Fidelity and Surety business made very substantial underwriting profits in 1935 and it is expected that these profits will be even greater in 1936 as the result of general business improvement. The salvage recoveries on losses paid in previous years will also contribute substantially to the profits for 1936.

Automobile and O. L. & T. Rate Revisions

The National Bureau of Casualty & Surety Underwriters announced a general revision of O. L. & T. rates for area and frontage classifications throughout the country with the exception of New York State. This revision became effective November 2, 1936 except for the state of Washington, for which the effective date was November 9, 1936. In this revision several new territories were created by separating certain large cities from the remainders of their respective states for rate making purposes. The revision was general in nature, resulting in increases as well as decreases for individual classifications and territories.

A revision of automobile rates became effective in New York State on December 24, 1936 for all except public automobiles; the revised rates for public automobiles became effective December 31, 1936. A separate territory was established for New York City, this being the first time that New York City had been separated from the remainder of the state.

Insurance of Motor Vehicles in Interstate Commerce

The "Motor Carrier Act, 1935" empowered the Interstate Commerce Commission to regulate motor vehicles engaged in interstate commerce in much the same manner as it regulates the railroads. One of the provisions of the Motor Carrier Act is that all motor vehicles subject to the regulation of the Interstate Commerce Commission must file an insurance policy, or a surety bond, or give other evidence of financial responsibility before being given a certificate or permit to engage in interstate commerce.

Rules and regulations governing such insurance have now been issued by the Interstate Commerce Commission, to take effect February 15, 1937. These rules provide that all trucks must be insured for Public Liability limits of at least 5,000/10,000 and Property Damage limits of $1,000, and that the Public Liability limits for buses shall range from 5,000/15,000 for buses carrying seven passengers or less, to 5,000/50,000 limits for those carrying 31 passengers or more. All vehicles carrying freight must have Cargo Liability Insurance providing indemnity of $1,000 for goods lost or damaged in one motor vehicle, and of $2,000 for losses or damages in one accident.

CHANGES IN COMPENSATION MANUAL RATE LEVEL

According to the National Council on Compensation Insurance, the following changes in manual rate level, exclusive of changes caused by law amendments, became effective during the period from January 2, 1936 through January 1, 1937:

State	Effective Date	Total Change in Manual Rate Level
Alabama	1- 1-37	—19.2%
Colorado	3- 1-36	+ 9.1
Connecticut	3-31-36	— 1.0
Delaware	12-31-36	— 4.5
District of Columbia	7- 1-36	+ 4.4
Georgia	3- 1-36	—12.2
	12-31-36	—10.2
Idaho	3-31-36	—19.2
Illinois	10- 1-36	— 1.4
Indiana	7- 1-36	— 7.4
Iowa	4-30-36	— 1.2
Kansas	4-30-36	+ 2.3
Kentucky	6-30-36	— 4.6
Louisiana	3-31-36	—14.1
Maine	3- 1-36	+ 3.9
Maryland	4-30-36	— 6.1
Massachusetts	5- 1-36	— 6.0
Michigan	12-31-36	— 2.8
Minnesota	1 -1-37	— 8.3
Missouri	12-31-36	— .9
Montana	3-31-36	+ 6.7
Nebraska	6-30-36	—11.6
New Jersey	6-30-36	— 3.0
	12-31-36	— 2.0
New Mexico	3-31-36	+10.3
New York	7- 1-36	— 1.4
North Carolina	6-30-36	— 9.1
Oklahoma	2-15-36	+22.0
Pennsylvania	12-31-36	— 2.2
Rhode Island	3-31-36	+ .2
South Dakota	5-31-36	—14.8
Texas	3- 1-36	+ 1.0
Vermont	1-31-36	+ 6.4
Virginia	4- 1-36	+ 2.1
Wisconsin	11- 1-36	—10.0

The decrease of 1.4% shown for Illinois effective October 1, 1936 represents the relationship of the manual rates effective after that date and covering injuries resulting from accidents only, to the manual rates effective prior to that date which covered not only injuries resulting from accidents but also injuries and disabilities resulting from certain occupational diseases.

Retrospective Rating Plan Adopted

The retrospective rating plan for Compensation risks producing $5,000 or more in annual premium has been adopted in the following states:

State	Effective Date
Connecticut	Sept. 1, 1936
Idaho	"
Illinois	"
Iowa	"
Montana	"
Nebraska	"
New Mexico	"
Rhode Island	"
Oklahoma	Nov. 5, 1936
Alabama	Jan. 1, 1937
District of Columbia	"
Maryland	"
South Dakota	"
Vermont	"

Although there are minor variations in certain states, the retrospective rating plan in general follows the form adopted in Massachusetts on May 1, 1936. An outline of the Massachusetts plan was given in *Proceedings* XXII, page 378.

Illinois Occupational Diseases Act

The "Workmen's Occupational Diseases Act" which became effective in Illinois on October 1, 1936 was outlined briefly in *Proceedings* XXII, page 383. This Act has produced new problems for casualty insurance companies because the methods of providing insurance for occupational diseases differ in so many ways from those used in other states.

It is now necessary, if the employer elects to insure his obligations under the Occupational Diseases Act, for the insurance companies to use a special form of policy in Illinois or else provide two policies, one for the Workmen's Compensation Act and one for the Workmen's Occupational Diseases Act. The special form of policy shows a separate set of rates for each Act. Coverage under one Act may be canceled independently of coverage under the other Act. The rates to be used for occupational disease coverage range from \$.01 to \$.05 except for certain classifications which have special disease hazards. For these classifications the rates include a "Specific O. D. Element" which varies from \$.01 to \$8.27. This Specific O. D. element is removable for certain classes if it is determined that the specific disease hazard is not present. Special treatment is accorded the classifications included in the Chemical and Dyestuff Rating Plan.

Provision is made for employees who contracted silicosis or asbestosis prior to October 1, 1936 to remain at work if they waive their rights to full compensation on account of disability or death resulting from these two occupational diseases. If such disability or death actually occurs the benefits paid to the disabled men or their dependents are 50% of the regular benefits.

Under the new procedure it is possible to obtain either full occupational disease coverage or the so-called "Co-Insurance Coverage." Under the former, full coverage under paragraph 1(a) of the policy is provided for all occupational diseases covered by the Act up to the standard limits of \$5,000 for occupational disease suffered by any one employee and \$25,000 for all occupational disease suffered during the term of the policy. "Co-Insurance Coverage" may be provided if the policy includes a classification carrying a specific occupational disease element for silicosis or asbestosis. In this form of coverage the employer obligates himself to participate in the loss on each occupational disease claim covered by the policy to the extent of 50%, subject to a maximum liability on the part of the employer of \$1,000 per case. The rates for all classifications covered by a policy which has been endorsed to provide co-insurance coverage are 75% of the rates used for full coverage.

Personal Notes

Edward J. Bond, Jr. has been elected the President of the Maryland Casualty Company, Baltimore, Maryland.

Howard G. Crane is now the Treasurer of the General Reinsurance Corporation, New York.

Joseph P. Gibson, Jr. has been elected the President of Excess Underwriters, Inc., New York.

Harold J. Ginsburgh is now Assistant Vice President, American Mutual Liability Insurance Company, Boston, Massachusetts.

Robert S. Hull is now Field Representative of the Social Security Board, with office at Portland, Maine.

Carl L. Kirk, heretofore Actuary, has been appointed Assistant U. S. Manager of the Zurich General Accident & Liability Insurance Company, Chicago, Illinois.

William Leslie is now General Manager of the National Bureau of Casualty and Surety Underwriters, New York.

Henry Moir is the Chairman of the Finance Committee of the United States Life Insurance Company, New York.

Walter E. Otto has been elected the President of the Michigan Mutual Liability Company, Detroit, Michigan.

William R. Williamson is now Actuarial Consultant, Social Security Board, Washington, D. C.

Charles N. Young is now Special Consultant, Central Statistical Board, Washington, D. C.

LEGAL NOTES

BY

SAUL B. ACKERMAN
(OF THE NEW YORK BAR)

ACCIDENT—PREMIUMS

Facts: An insured was covered by an accident policy providing for the payment of total and partial disability. The insured was partially disabled and was entitled to partial disability benefits. The insured forwarded a check for premiums to the company. The check was returned by insured's bank marked "insufficient funds," there being a shortage of $2.00. The insured informed the company that the shortage was due to a mistake in bookkeeping and requested that the check be redeposited. The company refused to do so and rejected a tender of the money, the premium being then past due. At the time the premium became due, the company owed the insured $180.00 for partial disability benefits. The amount of the premium due was only $36.11. The insured contended that the company could not cancel the policy under the circumstances and that it should have applied the monies due to him and held by it, to the payment of premiums. The company contended that the policy had lapsed by failure of the payment of premiums; that the insured was under no obligation to renew the policy, and hence it could not apply the monies held by it to the payment of premiums.

Held: There is no merit to the company's contention that the insured being under no obligation to renew the policy was not indebted to it for the premium in question, and that an application of the monies due to the payment of premiums would have been a violation of the insured's rights. This principle is inapplicable to the facts presented. The insured was under no duty to renew the policy, but he did elect to renew it. As soon as he did, he became obligated to make payment therefor. The insurer was in default in the payment of disability benefits which were considerably more than the premium due. It is not proper for the insurer to seek to take advantage of the insured. Generally, an insurer is not justified in declaring a forfeiture of an insurance policy for the non-payment of premiums when, at the time such payment accrues, the insurer is indebted to the insured for either dividends declared or other funds which it may have in its hands belonging to the insured.

Ruderman v. *Massachusetts Accident Co.*, 184 A. 520.

AUTOMOBILE—COVERAGE

Facts: An insured owned and operated a number of trucks, trailers and automobiles insured under three separate policies. The insured sold one of the automobiles to one of the employees under a conditional sales contract. The three policies were about to expire and the insured requested the insurance company to renew the policies. The company sent its agent to negotiate for the renewal. The insured advised the agent that one of the automobiles had been sold to an employee, that that automobile was being used in the insured's business and that the registration remained in the name of the insured, and that it desired coverage on this automobile. The company renewed the policies and the automobile sold to the employee was included under a non-ownership policy. The policy provided "Exclusion . . . (c) This policy does not cover . . . (6) for any automobile and/or motorcycle registered in the name of the named assured . . ." The automobile was stolen, and while in the hands of the thief, was involved in an accident. An action was instituted against the insured by the injured party. The insured notified the insurance company and requested it to defend the action. The insurance company refused to do so, contending that the policy did not cover the automobile in question. The insured defended the action and then instituted an action against the insurance company to recover for the expenditures made to defend the action. Could the insured recover?

Held: The insured requested that full coverage be issued upon the truck, trailers and automobiles owned by it, and advised that although it had sold one automobile, it desired coverage for that automobile. The agent of the insurance company agreed to renew the policies and issue full coverage as requested. The fact that the insured did not read the policy did not preclude him from recovery, since the insured had a right to rely upon the agent performing his duty of making the contract in conformity with the insured's instructions. The agent's failure to do so, whether the result of a mistake or of a deliberate fraud, cannot operate to the prejudice of the insured. There was no fraud upon the part of the insured and no intentional misrepresentations were made. The insurance company by its agent was informed of all the facts. The insured requested specific coverage for the particular automobile. The insurance company having agreed to issue such insurance was bound to give protection for the automobile, notwithstanding that the policy issued pursuant to such request excluded the automobile registered in the insured's name. The insured could therefore recover for expenditures made to defend the action instituted against it by reason of the accident in which the automobile was involved.

Golden Gate Motor Co. v. *Great American Indemnity Co.*, 58 P. 2nd, 374.

BURGLARY—WAIVER

Facts: A county was covered by two policies, insuring it against loss due to burglary or robbery. Certain monies had been collected from taxpayers for water taxes. The county treasurer deposited these monies in a building and loan association. Under the laws of the county, the treasurer had no right to make such deposit. The building and loan association went into bankruptcy and a percentage of the money was repaid to the county treasurer. After receiving this money the county treasurer put this money into a pouch in his desk. This money was stolen therefrom. The policy provided: "The company shall not be liable . . . (2nd) unless the records of the insured have been so kept that the amount of the loss can be accurately determined therefrom by the company." The company sent its adjuster to investigate and adjust the loss. The adjuster disclaimed liability on the ground that the county did not have records to show the loss accurately. In consequence of the denial of liability, the insured did not submit proofs of loss within sixty days as provided by the policy. The insured instituted an action to recover the loss and the insurance company defended, contending that the insured did not keep records as provided by the policy and that the insured further failed to provide proofs of loss.

Held: The county kept books of account which showed that the money was or should have been in the county treasury as contemplated by the policy. The production of the pass book and receipt of the county treasurer showing the amount deposited in the building and loan association and the amount received from the association had the effect of showing the amount deposited in the building and loan association, and the amount received from the association had the effect of showing that the burglars did not take all the money that was missing. It proved that a portion of the missing money was on deposit with the association and that the amount received by the county treasurer from the association was the amount stolen by the burglars. The insurance company could not complain of the failure of the county auditor to keep the books required by law to be kept by him for the reason that the policies of insurance merely required that the records of the insured show the amount of money that was or should have been on hand at the time of the burglary. This was shown by the books of the county treasurer, setting forth the deposits in the association and the amounts received by him upon the insolvency of the association. The contention of the insurance company that it was not liable for failure of the county to submit proofs of loss as provided by the policies was without merit. An adjuster employed to adjust a loss is by virtue of his employment authorized to waive notice and proof of loss, and a denial of liability by him is such a waiver. The adjuster having denied liability, thereby waived notice of proof of loss and the county was therefore under no duty to submit proofs of loss as provided by the policy. The insured therefore could recover the amount of the loss.

Maryland Cas. Co. v. *Kern County,* 83 F. 2nd, 774.

Compensation

Facts: An employer conducted a gas business and a water business located at a distance from each other and managed separately. A workmen's compensation policy covered the employees at the gas plant. The employer acquired the water business two months after the issuance of the policy. The employer requested the agent to change the policy to cover the employees at the water plant. The agent agreed to do so but failed to make the change. The policy provided that the agent has no authority to change or alter the policy. An employee at the water plant was killed while at work. His widow instituted an action to recover under the policy. She contended that the employer could not insure a portion of his employees and leave the balance uninsured and that the policy should be reformed in accordance with the agreement between the agent and the employer.

Held: It is settled that an employer operating under workmen's compensation cannot insure part of his employees and leave part of them uninsured. However, it is also well settled that an employer who conducts two separate and distinct kinds of businesses involving different risks, payrolls, premiums, may insure his employees in one business and not those in the other. The employer conducted separate businesses located at a distance from each other and managed separately. The thing that connected these two businesses was the fact that the one employer owned both. The policy could not be reformed to conform with the agreement between the employer and the agent since the agent had no authority to change or alter the policy. Hence, the agreement was not binding as between the employer and the insurance company. Since this agreement was not binding as between the insurance company and the employer, it could not bind the company against third parties. The widow, therefore, could not recover, as her husband was not covered by the policy.

Mulkey v. Traders & Gen's Ins. Co., 93 S. W. 2nd, 582.

Fidelity—Representations

Facts: A corporation was engaged in the lending and investment business. An insurance company wrote the corporation advising the advantages of its blanket position bond. The board of directors passed a resolution to terminate its bond in another company and accept a policy in this insurance company. The policy indemnified the corporation to the extent of $5,000 on each employee and $15,000 additional on the secretary-treasurer. Pursuant to the resolution, the corporation submitted a written application for the policy, which was not attached to the policy, on a form prepared by the insurance company, and signed by the secretary-treasurer. The application contained a statement that to the corporation's knowledge and belief, all employees covered by the bond always performed their duties; that they were reliable and honest; that it had never known them to be deceitful and that no losses had been incurred during the preceding five years which were attributable to any of the causes against which indemnity was to be provided. The secretary-treasurer and another employee had embezzled funds before the policy was issued and embezzled further funds during the period of the policy. The secretary-treasurer and the other employee did not know of each other's embezzlement. The corporation on learning of the embezzlement notified the insurance company. The company refused to pay the loss stating that false statements were made in the application with respect to the honesty of the employees and that the knowledge of its agent, the secretary-treasurer, was knowledge to the corporation.

Held: The application for the policy was not attached to the policy and hence the statements made therein constituted representations as distinguished from warranties. The mere falsity of a representation does not relieve the insurer of liability. It must be shown that the representations were material to the risk and that it was not only made with intent to deceive, but made in such disregard of truth as to amount to fraud. A misrepresentation made in the application is material to the risk but the question presented was whether the knowledge of the secretary-treasurer was imputed to the corporation. A corporation is charged with knowledge of material facts which its officer or agent acquires while acting in the course of his employment because it is presumed in law that such facts will be disclosed to the principal. It is however, well settled that if in the course of his employment the agent acts for his own benefit and to defraud the principal, the latter is not charged with knowledge of the uncommunicated facts. In the instant case the secretary-treasurer was committing a fraud upon his principal and under the circumstances his knowledge of such fraud could not be imputed to the corporation. The contention of the insurance company that this latter exception to the general rule is not applicable because the secretary-treasurer was the sole representative of the corporation in this transaction was also without merit. The secretary-treasurer only performed a ministerial act in submitting the application. The board of directors however, acted in determining whether or not the insurance should be purchased. The corporation could therefore recover for the losses sustained by it due to the fraud of its employees, including the secretary-treasurer.

Maryland Casualty Co. v. *Tulsa, Industrial Loan & Investment Co.*, 83 F. (2nd) 14.

FORGERY—INDEMNITY

Facts: A co-partnership carried a "Depositors Forgery Policy" covering their payroll account. The signature card authorized any of the partners and one named employee to sign checks. The employee issued checks payable to one of the partners, endorsed the partner's name without the knowledge or consent of the partner, and converted the proceeds to his own use. The policy indemnified the co-partnership "against any loss which may be sustained through the payment—by the insured—or by any such bank—of the check,—upon which the signature of any endorser thereof shall have been forged." Upon learning of the defalcations, the partnership notified the insurance company. The insurance company refused to pay the loss contending that the loss was not sustained by payment of any check upon which the signature of an endorser had been "forged" within the meaning of the policy.

Held: The act of the employee in signing the name of the partner as endorser was done with the intent to defraud the co-partnership. The signing of another's name to an endorsement with intent to defraud is sufficient to make an endorsement a "forged" endorsement, within the ordinary accepted meaning of that term. The employee was guilty of the crime of forgery, as defined by statute. The endorsement was "forged" within the ordinary meaning of the word. There was nothing to indicate that the term was used in a narrower sense in this policy. The co-partnership therefore recovered the loss sustained.

Cutler et al v. *Fidelity & Deposit Co. of Maryland*, 60 P. 150.

PUBLIC LIABILITY—COVERAGE

Facts: An insured carried a public liability policy insuring him against liability for injuries sustained by persons upon the sidewalk. The insured's son, who was under sixteen years of age, was operating a sidewalk elevator and when it was raised, a pedestrian upon the sidewalk was injured. The pedestrian instituted suit and the insured notified the company. The company refused to defend on the ground that the loss was not covered by the terms of the policy. The insured settled the action and instituted an action against the company to recover the money paid by him to the pedestrian and for counsel fees. The policy provided for indemnification of the insured against liability imposed by law for injuries suffered by persons upon the sidewalk. The policy further provided that it did not cover loss suffered by any person "being in or upon any elevator or entering upon or alighting therefrom while the same is in charge of an operator under the age of 16 years; being in or upon any elevator car or entering therefrom or alighting therefrom or in or about any elevator well, shaft, hoistway, or equipment thereon unless the same is substantially described in the schedule and premium paid therefor." The schedule did not include any elevator nor was any premium paid therefor.

Held: The policy covered ordinary accidents on the sidewalk. The schedule did not include any elevator nor did the insured pay any premium coverage of the said elevator. The policy specifically excluded coverage against all accidents caused by the elevator. The policy further provided that the company is not liable for any injuries by any person upon any elevator car or entering upon or alighting therefrom while the same is in charge of an operator under the age of 16 years. The elevator at the time of the accident was operated by the insured's son who was under the age of 16 years and hence there was no liability upon the company. The policy must be construed as written and to hold otherwise is to vary the terms and conditions of the policy. The policy covered only ordinary accidents on the sidewalk and did not include accidents involving the sidewalk elevator. In addition thereto, it specifically excepted liability for injuries to persons in or about the elevator car. Therefore, the policy involved did not cover the loss for which the insured sought reimbursement. Consequently the company was not liable under the terms and conditions of the policy.

Deban v. *Continental Cas. Co.*, 2 N. Y. 2nd 212.

OBITUARY

ISAAC M. RUBINOW

1875 - 1936

Dr. Isaac M. Rubinow, Charter Member and First President of this Society, passed away on September 1, 1936. At the meeting of November 13, 1936 Mr. Leon S. Senior made the following comments on the life and works of Dr. Isaac M. Rubinow:

Mr. President, Fellow Members and Guests:

The passing of Isaac M. Rubinow has caused me personally a feeling of deep sorrow and grief. To most of you he was just a member of the Society. To me he was a personal friend of thirty years' standing.

My first contact with him was in the late Nineties when I met him in a circle of young students on the Lower East Side. He was preparing for medicine—I was preparing for law. He dreamed of becoming a great surgeon—I hoped to become a tribune of the people in the courts. Neither one of us fully realized his ambitions. It was in this circle of young intellectuals that social reforms for the betterment of the world were discussed. It must have been that Rubinow took these discussions more seriously than the rest, for eventually social reform became his life work. It was in the same circle of young reformers that Rubinow met his future wife, then a student in Normal (now Hunter) College preparing for the profession of teaching. Picture to yourself a young immigrant boy of eighteen coming here from Russia in pursuit, not of money, but of study and education. He received his degree of Bachelor of Arts from Columbia University, Doctor of Medicine from New York University, and later on Columbia rewarded him with a degree of Doctor of Philosophy.

He practiced medicine for a short time on the Lower East Side, but found private practice uncongenial and too narrow for his mind, and so he left New York to go to Washington, where he entered public service and there made a study of the science of statistics. When he tired of Washington and the urge for New

York became irresistible, he came to the Home Office of the Ocean Accident and Guarantee Corporation in 1911 as its Chief Statistician. He worked there for a period of five years in a friendly atmosphere during the time that Oscar Ising was the United States Manager. There I met him again in the course of my work as an Examiner for the New York State Insurance Department. When Oscar Ising died and was succeeded by a gentleman of reactionary tendencies, the atmosphere of a commercial organization became stifling to the free soul of Rubinow and he left to engage in the field of social welfare work.

It was fortunate for us, I mean for casualty insurance in general and for this Society in particular, that Rubinow stayed on as statistician during this five-year period. As chairman of the first statistical committee in casualty work, he laid the foundation for the workmen's compensation rate structure. It was Rubinow who wrote the "Standard Accident Table" which became the guiding star for ratemaking during the early years before experience for workmen's compensation was available. It was Rubinow who founded the Casualty Actuarial Society and became its first President. It was Rubinow who wrote numerous papers and essays on the manifold phases of workmen's compensation.

On leaving the insurance field he became Director of the American Zionist Medical Unit in Palestine; later, Director of the Jewish Welfare Society at Philadelphia, and from 1929 until his death, he was Secretary of the B'nai B'rith (Sons of the Covenant), an international organization for social welfare, comparable in scope to the Knights of Columbus or the Masonic Order. Among his numerous writings will be found "Social Insurance," which places him among the pioneer writers on this subject in the United States. This was in 1913. In 1916 he wrote "Standards of Health Insurance" and in 1934 he published "The Quest for Security." During Dr. Rubinow's last illness, President Roosevelt sent him a copy of this book with an inscription by the President, "From the reader to the author."

Dr. Rubinow's numerous activities included membership in the American Statistical Association, American Economic Association and American Association for Labor Legislation. His public service included appointment on the Ohio Commission on Unemployment Insurance, and he has served as a consultant of President

Roosevelt's committee on economic security, which formulated the present Social Security Law.

To few men is given the opportunity to see their work made effective during their time and generation. Dr. Rubinow lived to see workmen's compensation almost universally adopted and he witnessed the enactment of laws providing unemployment insurance and old age pensions. The old-timers in this Society who knew Dr. Rubinow and appreciated his qualities will cherish his memory. The newer generation will know and remember him by his printed works, which will undoubtedly endure for many years to come.

OBITUARY

WILLIAM H. GOULD

1879 - 1936

William H. Gould, a Fellow and Charter Member of this Society, passed away on October 28, 1936, after a brief illness brought on by an infection of influenza while engaged in actuarial work in Toronto.

Mr. Gould was born in Kingston, Canada, June 17, 1879, and was graduated from the Queens University, Kingston, Ontario, with a degree of M.A. and Medalist in Mathematics. After graduation, he took employment with the Canadian Life Insurance Company of Toronto for the purpose of gaining practical experience and for a time was engaged in the study of annuities at Winnipeg, Canada.

Later, he joined the Volunteer State Life Association at Chattanooga, Tennessee, and was there about four years. Coming North, he joined the firm of Joseph Froggatt & Co. and about two years later became an independent consulting actuary. For many years he was the consulting actuary of the Eagle Star and British Dominions Insurance Company and in 1923, took general charge of the accounting activities of Fred S. James & Co. On June 1, 1935, he severed his connection with Fred S. James & Co. and acted exclusively as an independent consultant. His services as actuary to the General Accident Insurance Company of Perth, Scotland, Police Pension Fund of New York City, Royal Arcanum, Sons of Israel, Lithuanian Society, Cremation Society and Workmen's Compensation Association are very favorably remembered.

Mr. Gould was a Fellow of the American Institute of Actuaries and an Associate of the Actuarial Society of America and a member of the Institute of Actuaries. For fourteen years he had been a member of The Drug and Chemical Club, New York City, associated with the New York Athletic Club and was an attendant at All Angels Church on 80th Street, New York City.

Among the insurance fraternity particularly his genial personality will be greatly missed.

CASUALTY ACTUARIAL SOCIETY

November 13, 1936

THE COUNCIL

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	Sydney D. Pinney	*Vice-President*
	Francis S. Perryman	*Vice-President*
	Richard Fondiller	*Secretary-Treasurer*
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	William Breiby	*Librarian*
†Ex-Presidents:	Paul Dorweiler	1938
	Winfield W. Greene	1940
†Ex-Vice-Presidents:	William F. Roeber	1938
	Ralph H. Blanchard	1940
	Charles J. Haugh	1940
†Elected:	Arthur N. Matthews	1937
	Charles G. Smith	1937
	Clarence A. Kulp	1937
	William J. Constable	1938
	Harold J. Ginsburgh	1938
	Albert Z. Skelding	1938
	Thomas O. Carlson	1939
	Ralph M. Marshall	1939
	F. Stuart Brown	1939

*Terms expire at the annual meeting in November, 1937.
†Terms expire at the annual meeting in November of the year given.

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ABSTRACT FROM THE MINUTES OF THE MEETING

NOVEMBER 13, 1936

The twenty-third annual (forty-seventh regular) meeting of the Casualty Actuarial Society was held at the Hotel Biltmore, New York, on Friday, November 13, 1936.

President Greene called the meeting to order at 10:20 A. M. The roll was called, showing the following forty-six Fellows and twenty-three Associates present:

FELLOWS

AINLEY	GLENN	MOORE, G. D.
BARBER	GODDARD	NICHOLAS
BERKELEY	GRAHAM, W. J.	OBERHAUS
BLANCHARD	GREENE	ORR
CAHILL	HAUGH	PERRYMAN
CAMERON	HOBBS	PRUITT
CARLSON	JACKSON, C. W.	SENIOR
CLEARY	JACKSON, H. H.	SINNOTT
COMSTOCK	KORMES	SKELDING
COOK	LAWRENCE	SMICK
CRANE	LINDER	SMITH, C. G.
DORWEILER	MARSHALL	TARBELL
DUNLAP	MAYCRINK	VALERIUS
FONDILLER	MCCONNELL	VAN TUYL
GINSBURGH	MCMANUS	WILLIAMS
	MICHELBACHER	

ASSOCIATES

BARRON	GATELY	MILLS
BLACK, N. C.	GILDEA	MONTGOMERY, J. C.
BUFFLER	HAM	PENNOCK
CRAWFORD	HARRIS	PIKE
FITZ	HIPP	POTOFSKY
FITZGERALD	JONES, H. L.	RICHARDSON, H. F.
FRUECHTEMEYER	JONES, H. M.	WOODWARD
GARWOOD	KARDONSKY	

A number of officials of casualty companies and organizations and guests were also present.

Mr. Greene read his presidential address.

The minutes of the meeting held May 15, 1936, were approved as printed in the *Proceedings*.

The Secretary-Treasurer (Richard Fondiller) read the report of the Council and upon motion it was adopted by the Society. In respect to the 1936 examinations, these resulted as follows:

The following Associates had passed the necessary examinations and had been admitted as Fellows:

ARTHUR E. CLEARY   DANIEL J. LYONS

The following candidates had passed the necessary examinations, had met the experience requirements, and had been enrolled as Associates:

JOHN W. CARLETON   WILLIAM H. MAYER, JR.
FRED J. FRUECHTEMEYER   SYLVIA POTOFSKY
HUGH P. HAM

The following candidates had been successful in completing the examinations for Associate, but have not yet been enrolled by reason of the terms of Examination Rule 4:

ALFRED L. BUCKMAN   AUBREY WHITE
ARTHUR W. ENGLAND   RICHMOND T. ZOCH
RICHARD E. O'KEEFE

Diplomas were then presented by the President to Arthur E. Cleary and Daniel J. Lyons, who had been admitted as Fellows under the 1936 examinations.

The President announced the deaths, since the last meeting of the Society, of two Fellows: Isaac M. Rubinow, first President of the Society, and of William H. Gould, and the memorial notices appearing in this Number were thereupon read.

In accordance with the constitutional requirements, notice of the following proposed amendment to the By-Laws was given. This amendment was, on motion, adopted to read as follows:

ARTICLE IV — DUES — SECOND PARAGRAPH

The payment of dues will be waived in the case of Fellows or Associates who have attained the age of seventy years, or who, having been members for a period of at least twenty years, shall have attained the age of sixty-five years.

The report of the Secretary-Treasurer was read and accepted. The annual report of finances follows:

CASUALTY ACTUARIAL SOCIETY
ANNUAL REPORT OF FINANCES
Cash Receipts and Disbursements from October 1, 1935 to September 30, 1936.

INCOME

On deposit on October 1, 1935 in Marine Midland Trust Company		$1,317.39
Members' Dues	$2,723.00	
Sale of *Proceedings*	1,673.70	
Examination Fees	496.00	
Examination Data	15.50	
Luncheons	379.50	
Interest and Miscellaneous	39.80	
Michelbacher Fund	114.75	5,442.25
Total		$6,759.64

DISBURSEMENTS

Printing and Stationery		$3,311.50
Postage, Express, etc.		247.35
Stenographic Services		360.00
Library Fund		45.94
Luncheons		470.32
Examination Expense		38.96
Insurance		33.19
Miscellaneous		98.30
Total		$4,605.56
On deposit on September 30, 1936 in Marine Midland Trust Company		2,154.08
Total		$6,759.64
Income	$5,442.25	
Disbursements	4,605.56	
Excess of Income over Disbursements	$ 836.69	
1935 Bank Balance	1,317.39	
1936 Bank Balance	$2,154.08	

ASSETS

Cash in Bank:		
Michelbacher Fund	$ 548.19	
Other Funds	1,605.89	
Total Cash in Bank		$2,154.08
Bonds		1,000.00
Total		$3,154.08

The Auditing Committee (W. P. Comstock, Chairman), reported that the books of the Secretary-Treasurer had been audited and his accounts verified.

The Examination Committee (T. O. Carlson, Chairman), submitted a report of which the following is a summary:

1936 EXAMINATIONS — SUCCESSFUL CANDIDATES

The following is a list of those who passed the examinations held by the Society on May 20 and 21, 1936:

ASSOCIATESHIP EXAMINATIONS

PART I:	A. L. Buckman	William H. Mayer, Jr.
	John W. Carleton	James R. Miles
	George B. Elliott	Richard E. O'Keefe
	Hugh P. Ham	Sylvia Potofsky, (Miss)
	Ben Helphand	Seymour E. Smith
	T. F. Hunton	Joseph P. Urbanek
	William Lassow	Eric H. Wood
	G. R. Livingston	Richmond T. Zoch
	Maxwell Marks	
PART II:	Kenneth J. Arnold	Roger A. Johnson, Jr.
	Henry F. Boyer	William Lassow
	A. L. Buckman	Jacob Levine
	John W. Carleton	William H. Mayer, Jr.
	George B. Elliott	Richard E. O'Keefe
	Arthur W. England	Sylvia Potofsky (Miss)
	Eli Grossman	Aubrey White
	Lillian Guralnick (Miss)	Esther Zinman (Miss)
	Samuel W. Joffe	Richmond T. Zoch
PART III:	A. L. Buckman	William H. Mayer, Jr.
	John W. Carleton	Richard E. O'Keefe
	Jarvis Farley	Sylvia Potofsky (Miss)
	Fred J. Fruechtemeyer	Aubrey White
	Eli Grossman	Donald M. Wood, Jr.
	William Lassow	Richmond T. Zoch
PART IV:	A. L. Buckman	Richard E. O'Keefe
	John W. Carleton	Sylvia Potofsky (Miss)
	Fred J. Fruechtemeyer	Aubrey White
	Eli Grossman	LeRoy J. Wolf
	William H. Mayer, Jr.	Richmond T. Zoch

FELLOWSHIP EXAMINATIONS

PART I:	John J. Gately	J. A. Mills
	Harold M. Jones	George I. Shapiro
PART II:	William Gould	Elsie Kardonsky (Miss)
	Harold M. Jones	George I. Shapiro
PART III:	Arthur E. Cleary	
PART IV:	Arthur E. Cleary	D. J. Lyons

The Council's election of Clarence W. Hobbs, Editor and William Breiby, Librarian, subject to confirmation by the Society, was announced.

The annual elections were then held and the following officers and members of the Council were declared elected:

President	Leon S. Senior
Vice-President	Sydney D. Pinney
Vice-President	Francis S. Perryman
Secretary-Treasurer	Richard Fondiller
Editor	Clarence W. Hobbs
Librarian	William Breiby

Member of Council (term expires in 1938):

Harold J. Ginsburgh

Members of Council (terms expire in 1939):

T. O. Carlson R. M. Marshall F. S. Brown

The presentation of the new papers printed in this Number was begun.

Recess was taken for lunch at the Hotel until 2:15 P. M.

Informal discussion upon the topic "Control of Medical Cost in Casualty Insurance" was participated in by a number of members and representatives of insurance and other organizations.

The presentation of new papers was concluded.

The papers read at the last meeting of the Society were discussed.

Upon motion the meeting adjourned at 4:40 P. M.

An informal dinner was held in the evening at the Hotel.

REPRESENTATIVES OF CASUALTY COMPANIES AND ORGANIZATIONS PRESENT

Harvey Brock, Casualty Reciprocal Exchange, Kansas City, Mo.

F. G. Conklin, Insurance Adviser, Building Trades Employers' Association, New York.

H. E. Curry, Actuary, Farm Bureau Mutual Automobile Insurance Company, Columbus, Ohio.

William F. Dowling, Assistant Treasurer, Lumber Mutual Casualty Insurance Company of New York, 41 East 42nd Street, New York.

Ernest A. Erickson, Statistician, Utilities Mutual Insurance Company, 350 Fifth Avenue, New York.

H. W. Gibson, Assistant Secretary, Interboro Mutual Indemnity Insurance Company, 270 Madison Avenue, New York.

John G. Goetz, Managing Director, Risk Research Institute, 30 Church Street, New York.

Bernard Hamilton, Assistant Manager, Compensation Rating & Inspection Bureau of New Jersey, 60 Park Place, Newark, N. J.

M. T. Howard, Director, Division of Self-Insurance, Labor Department, 80 Center Street, New York.

Frederick C. Kessler, Treasurer, Consolidated Taxpayers Mutual Insurance Company, 164 Montague Street, Brooklyn, N. Y.

G. F. Kline, Assistant Superintendent, Compensation Rating & Inspection Bureau of New Jersey, 60 Park Place, Newark, N. J.

Fred Kirchstetter, Assistant to Statistician, Utilities Mutual Insurance Company, 350 Fifth Avenue, New York.

N. W. Muller, Assistant Manager, State Insurance Fund, 625 Madison Avenue, New York.

J. C. Onderdonk, Jr., Vice-President, Bankers Indemnity Insurance Company, 15 Washington Street, Newark, N. J.

C. L. Schlier, Statistician, Compensation Rating & Inspection Bureau of New Jersey, 60 Park Place, Newark, N. J.

H. G. Wiberg, Assistant Secretary, Lumber Mutual Casualty Insurance Company of New York, 41 East 42nd Street, New York.

Roger Williams, Director of Service, State Insurance Fund, 625 Madison Avenue, New York.

Hubert W. Yount, Vice-President-Actuary, Liberty Mutual Insurance Company, Park Square Building, Boston, Mass.

B. H. Zimels, Vice-President, Consolidated Taxpayers Mutual Insurance Company, 164 Montague Street, Brooklyn, N. Y.

VOL. XXIII, PART II NO. 48

PROCEEDINGS

MAY 14, 1937

SOCIAL AND ECONOMIC FACTORS RELATING TO CASUALTY INSURANCE

PRESIDENTIAL ADDRESS BY LEON S. SENIOR

I.

Our modern civilization owes an immense debt to ancient Greece for its contributions in the world of art and literature. Every schoolboy who has advanced beyond elementary and into the beginnings of a classical education is familiar with Homer's Iliad, with Plato's Republic and with the architecture of Athens. What is perhaps less known to schoolboys and to adults as well is the fact that progress in mechanical inventions, which have so greatly promoted commerce, transportation and industry, and enhanced the comforts of our daily life, is due directly or indirectly to the theories in pure mathematics developed by the Greek philosophers long before the Christian era. Pythagoras, who lived in the Sixth Century, B.C. and taught mathematics as one of a secret brotherhood, proclaimed it as the basis for all sciences and gave to it a position which it has held substantially ever since.

There is no denying the fact that the science of numbers constitutes the most important subject for the young man who is ambitious to become the future executive of an insurance company. Notwithstanding its importance, it would be a serious mistake for the student of insurance to limit himself to mathematics. He must broaden his education by delving into other branches of human knowledge, and more especially must he become familiar with old and new ideas on political economy in order that he may understand and appreciate the behavior of certain economic laws and the influence of such laws on the operations of casualty insurance companies.

To a distinguished audience composed in large part of actuaries and statisticians, it requires no elaborate argument to demonstrate that the social and economic environment has an important effect on our business. I shall therefore merely endeavor in this address to illustrate certain economic conditions under which casualty companies conduct their operations, without any pretension to offer a remedy for any adverse results for which the environment may be responsible. Nor do I expect that my comments will serve as a clue for the invention of a device that will correct some of the unfriendly indications to which I shall presently refer. It is not beyond the bounds of probability, however, that my words may serve to accelerate a more thorough conception of the relation existing between economic forces and insurance, and lead toward desirable reforms in actuarial technique affecting premium rates and reserves, or in methods that would increase the demand for insurance coverage. I have in mind the fact that a large number of potential risks continue self-insured and remain uninsured.

There is a question in my mind whether the social and economic conditions under which casualty insurance lives and thrives have received adequate attention on the part of the actuarial profession, although I am not forgetful of the fact that our *Proceedings* include several valuable papers on the economics of insurance. I do not mean to underestimate the great value of mathematics in relation to the problems of insurance. The progress we made could not have been accomplished without the masterly application of the theory of equations or the doctrine of probability to the principal casualty lines. But this seems to be a favorable time for reviving interest in the importance of our social economy with the view of appraising certain human relations affecting the two most sensitive casualty lines, i.e., Workmen's Compensation and Automobile Liability Insurance.

II.

The economic history of this country has run in the form of business cycles influenced by conditions of peace and war, by extension of our frontiers, by technological inventions, by immigration and tariffs, by speculation, high finance and monetary vagaries, and also by politics, using that term in its best sense.

Looking over the past fifty years, our economic life, as shown in Chart I, indicates a series of curves reflecting normal periods followed by years of depression and then by returns of prosperity. Indeed, one is reminded of the story in Genesis concerning Joseph and his brethren. The classical tale of seven fat years followed by seven lean years seems to find its counterpart in modern life.

You will note that the country prospered in the years 1887 to 1893; then suffered a depression which lasted until the silver agitation subsided in 1896, recovered and enjoyed a period of normalcy until 1907, suffered a panic that year and did not recover until 1909; then followed again a period of normalcy until 1913. From 1913 to 1914 we observe a recession of business activities preceding the outbreak of the World War. Then follows again an uplift which carried us into times of prosperity lasting until 1920, again a recession from 1920 to 1921 followed by recovery which carried us through an eight year period of prosperity until 1929; then the crash in the Autumn of that year, with the consequent depression from which the country is now just about beginning to recover. During this period in American history we have seen the enactment of exceptionally important legislation such as the Sherman Antitrust law, the Federal Reserve Act, as well as the ill-conceived experiment with Prohibition. We engaged in two wars with foreign nations; as a result of the Spanish War we acquired Colonial possessions in the Pacific and Caribbean, a large part of which we are willing to relinquish; and as a result of the war with the Central Powers we acquired a collection of debtors who are willing to relinquish their obligations. During the same period we have witnessed the industrial revolution caused by the development of machinery, and as an incident thereto the rise of casualty insurance to its present status.

During the first twenty-five years beginning with 1887, when casualty companies started operations in the United States, we find that "employers' liability" was one of the principal lines until 1912, when "workmen's compensation" came into vogue, succeeded employers' liability cover, and developed phenomenal growth. From the very beginning of employers' liability insurance, casualty companies found their operations directly tied up with wages and employment, since payroll served as a yardstick for determining premium. It is therefore fitting, for the purpose of this analysis, to start our examination with certain economic phenomena in connection with workmen's compensation. Through observation of the manner in which wage payments fluctuate, we may be in a position to appraise the effect of such changes on the premiums earned and losses incurred by casualty companies. One of the outstanding features is the fact that in times of declining industrial activity—on the downward slope of the business cycle—the index of payroll expenditure declines more rapidly and falls to a greater depth than does the index of numerical employment. Index figures published by the New York Labor Department and by the United States Bureau of Labor Statistics, covering representative manufacturing establishments for the period 1926 to 1936, and which include periods of prosperity, depression and recovery, clearly establish the truth of this statement.

TABLE I

	UNITED STATES					NEW YORK STATE			
	Employment		Payroll			Employment		Payroll	
	Index	% Chge.	Index	% Chge.		Index	% Chge.	Index	% Chge.
1926	101.3	—	103.7	—	1926	99.7	—	101.1	—
1932	65.5	− 35.4	46.4	− 65.3	1932	58.2	− 41.6	46.0	− 54.5
1936	91.9	+ 40.3	82.4	+ 77.6	1936	78.2	+ 34.4	69.0	+ 50.0
Base 1923-25 = 100					Base 1923-25 = 100				

As will be seen from the above Table and the accompanying Chart II, the employment index nation-wide shows a drop of 35.4% in 1932 and a rise of 40.3% in 1936, while on the other hand, the payroll index shows a drop of 65.3% in 1932 and a rise of 77.6% in 1936.

The more rapid decline in wages reacts, of course, unfavorably on the insurer, while the more rapid rise in wages would produce favorable results if not defeated by behavior of the accident frequency rate. With changes in economic conditions the frequency rate is also subject to change because of certain events which are rather well described in the Handbook issued by the U. S. Bureau of Labor Statistics (Edition 1936).

The point is there made that curtailment of industrial activity and the resulting reduction in employment, with a diminished exposure to the hazards of industrial life, is followed as a matter of course by a substantial reduction in the total number of industrial injuries. But it is significant that the total number of injuries does not decline as rapidly as the man-hours of exposure. The difference in the frequency rate is presumably due, at least in part, to a let-up in safety activities—a common but unfortunate result of economy programs—so that unsafe conditions and practices are not eliminated with the same energy as during normal periods. The neglect naturally leads to a proportionate increase in accidents and, aside from the standpoint of human relations, does in the end prove far more expensive than the cost of the necessary safety work. Information received by the U. S. Bureau shows that in a number of establishments safety activities were greatly curtailed through reduction in safety and maintenance personnel, or in the funds allotted for upkeep and repair of working places. In subsequent recoveries the work of accident prevention, which has been previously slowed down, does not regain momentum until a much later period. Continued and energetic accident prevention work is especially important at a time when renewed industrial activity, with the attendant employment of many workers in tasks with which they are not familiar, tends to increase the occupational hazard. Laxity in safety work increases the hazard still further, exacting a higher toll of injuries and suffering, while retarding the efficient and economic operation of industry.

A marked tendency to disrupt the balance between premium income and losses is found in the compensation statutes of the several States which provide for maximum and minimum limits. When industry is at high tide the maximum provision favors the insurer, and the minimum has no appreciable effect. But with the decline of business activity and the consequent reduction in wages, the loss ratios in the aggregate are materially affected for the reason that compensation benefits get much closer to the actual wages and in certain instances become equal to wages in the lower strata of wage-earners. In fact illustrations may be cited under the New York Law where the compensation benefit for disability plus wages earned by the disabled man may exceed the wages earned by the worker prior to the injury. As wages fall and approach the statutory benefit limits a spirit for malingering comes to life, a fact against which the industrial accident commissions and boards are utterly helpless. The decline in payrolls, the slowing up or abandonment of accident prevention work, and the increase in unemployment are factors which are responsible for a material increase in the moral hazard of the casualty risk.

III.

Automobile insurance is a relative newcomer in the field of casualty coverage for the obvious reason that the automobile itself is a new vehicle in the field of transportation. Thirty years ago the automobile was still in the stage of experimentation with a future which was promising but speculative. The underwriter of that time could not have regarded the hazard as an attractive proposition. He was deterred from giving coverage because the automobile was largely considered to be unsafe and impractical, and the insurable base was too narrow to afford sufficient exposure for distribution of risk. The amazing developments that have taken place within the past twenty years are shown in Table II.

It was not until 1921 that automobile insurance was recognized as a separate line in the annual reports filed with the New York Insurance Department. From such reports and other sources we find that automobile premiums follow registration quite consistently. From 1,616,000 cars produced in 1921 with a registration of 10,463,000 and premium writings of 92,458,000 the production in 1935 rose to 3,937,000, registration to 26,221,000 and premium writings to 251,096,000. Conditions of prosperity and depression are quite clearly reflected in the figures showing production; registration seems to lag behind production, but premium writings follow with some consistency the volume of registrants.

Aside from the level of wages and employment which directly affect purchasing power, construction of improved highways, development of traffic systems, and a car improved in appearance, mechanism and convenience, have served as powerful incentives to attract the purchaser and to influence extension of the insurance market. The fact remains, however, that there is still a large block of uninsured owners, probably larger than the group that are covered by insurance. Here is a problem that gives room for reflection:—how to bring within the insurance fold this large block of uninsured owners without the exercise of compulsion. This condition presents a large opportunity for the study of rating methods in automobile insurance. A formula limited to physical conditions relating to territory, make, model and usage of the car is not in the opinion of competent underwriters the final answer. Future methods will in all probability take into account other considerations, such as the moral hazard, and give due weight to the character, sex, age and other qualities of the driver largely responsible for the accident frequency rate. Furthermore, a merit rating plan for pleasure cars is not beyond the bounds of possibility.

A lively debate has been going on for some time about other fundamental questions. One deals with the point as to whether compulsory insurance shall supersede voluntary insurance, and the second as to whether the principle of compensation should be substituted in place of negligence. The resistance to compulsory insurance is something that is inherent in human nature. The automobile owner naturally prefers to exercise freedom of choice, although such freedom may be opposed to public interest, while insurance companies have reason to fear compulsory insurance because it may be followed by rigid rate control plus state-managed insurance funds. Another phase relates to the abandonment of the negligence principle in favor of the compensation principle and involves so many debatable points that the subject will require considerable study before any legislative action will be in order.

IV.

The casualty companies, when suffering under the strain of depression, are strongly tempted to demand increased rates. This temptation, however, comes at a wrong time, for industry is also staggering under burdens incident to the slowing up of business activities. When prices are falling the time is hardly favorable for an increase in insurance rates, especially since the evidence on hand in the form of statistical experience, which usually lags from two to three years behind current events, is not up to date.

When in days of industrial adversity an attempt is made to increase rates, the company finds itself in the difficult situation of trying to explain to the policyholder the reasons for the increase. An effort to explain economic conditions that may affect adversely the casualty experience exhibit will very likely meet with this response: "I am not concerned with your exhibit nor with your algebraic rate formula. This is no time to think of Euclid and the other Greeks. We are in the midst of a depression when prices are falling, both for labor and commodities. The profits from industry have dwindled to the point of zero. The sheriff is lurking around the corner and our hopes and expectations are completely frustrated. If insurance followed the practice pursued by industrial corporations, contingency reserves created in days of prosperity might serve to tide over periods of depression." And the supervising authorities in the regulated states may offer a few pertinent questions on the company's skill in making payroll audits, on compliance with Manual rates, and with rules on acquisition costs, on claim settlements and on medical care of injured workers. We may point to our casualty experience exhibit in a spirit of *Res ipsa loquitur,* but this will hardly satisfy. The modern brand of statesmen look upon Latin not only as a dead but as a useless language and will require a more substantial explanation of our demand for higher rates.

An effort to save the companies from the results incurred under adverse conditions by means of a special rate formula started in November, 1933. In this connection, without appearing immodest, I may remind you of the paper I presented under the title *A Realistic Plan for Determining Compensation Rate Levels.* This was followed by a more profound mathematical paper offered by Mr. Perryman. The ideas submitted then resulted in a method developed by Mr. Leslie—a formula which creates a contingency factor, taking into account underwriting profits and losses on accumulated calendar year experience, and this formula has been accepted as appropriate in many jurisdictions. It may be that further study of the subject will result in a new approach to stability so that the surplus earned in good years shall be made available for the deficits of the slump years in accord with modern economic ideas, thus avoiding the necessity for rate increases in years of adversity.

V.

Aside from definite economic conditions which influence wages, employment, accident frequency, purchasing power and moral hazard, it would be interesting to note certain social trends and political tendencies which are closely related to the progress and welfare of casualty insurance. Organized labor and socially minded reformers are generally disposed to favor higher compensation benefits, reduction of the waiting period, enlarged coverage for occupational disease and extended medical benefits. Quite recently we witnessed in New York amendments to the Workmen's Compensation Law providing for free choice of physicians and depriving the insurance carrier from any medical control in the case of injured workers.

Speaking of medical benefits, the connotation of that term will not penetrate the inner consciousness of the policyholder until he is made familiar with the fact that it equals one-half of indemnity payments. Not all policyholders realize the extent to which the economic struggle has affected the medical profession. It is something of an experience to see dramatized, as I have seen, the private quarrel of physician and insurance carrier on the value of reducing a fracture, or of removing a foreign body from the eye, or on the question as to whether a particular medical service has been overdone or underdone. Instead of dealing with dry as dust statistical material, one comes in contact with stark realities and gets a much better conception of the human relations between doctor, carrier and injured workman.

Many of the reforms advocated in behalf of policyholders and beneficiaries are undoubtedly desirable, while others impose an unjustifiable burden upon industry in particular and upon the public in general. Industry and the public are now staggering under heavy taxes assessed by Federal, State and local authorities, and the prospect for a let-up is not encouraging. Government deficits are not pleasant things to envisage, particularly since the road leads to inflation of credit, higher taxes and higher living costs. Referees in compensation cases and juries in negligence cases are particularly affected by the social trend for higher costs and are more ready to grant higher awards and larger verdicts. The demand for enlarged benefits and broader coverage, while expected to be of advantage to the workman, may eventually defeat its own ends if carried too far for the reason that it meets with resentment on the part of industry and ultimately on the part of the general public. Unfortunately the full force of the resentment is not always visited upon the heads of the legislators who are responsible for higher costs. Frequently the brunt of the criticism illogically falls upon the insurance carriers who have assumed the obligations of the policyholders. As a rule the insurance carrier hesitates to take any part in the movement for greater benefits, and this passive attitude is misconstrued by industry as a lack of sympathy with its burdens. When actively opposing greater benefits the companies are subject to criticism from labor. The position becomes still more difficult if as a result of the enlargement of statutory benefits the companies are forced to increase insurance costs.

VI.

We seem to be passing through an iconoclastic period in world history when it is fashionable to demolish time-honored institutions because of real or mistaken belief in reform. This must be particularly disturbing to men in the actuarial profession who are serving private or public interests engaged in the business of insurance. We are as much concerned with this phenomenon as are members of the legal profession who in this country have a more intimate contact with government and its direct representatives—our public servants. It is disturbing for the reason that economic and political currents have an unfortunate habit of engulfing the ship of insurance, including the master and the crew.

Empires and republics have been swept away in the revolutionary movements following the great World War, to be succeeded by autocratic forms of government bent upon the destruction of freedom of thought, freedom of speech, and of all other precious liberties which have been conquered at great sacrifice and which we believed to be ours in perpetuity. That the reactionary movement is not limited to European nations has been evidenced but too clearly by current attacks on the judiciary, which has served this nation for a century and a half as a check upon the encroaching Federal power. Nor is it surprising to find that criticism on our traditional forms is initiated in the name of the new liberalism, while the effect would be distinctly reactionary by aggrandizing the State and limiting the rights and liberties of the individual. The very same thing has happened in all European countries where the totalitarian philosophy has superseded the ideals of democracy. Whether or not we shall retain our heritage as bequeathed by the founding fathers in its purity for ourselves and our children is largely in the hands of a relatively small group of intellectuals who have been trained in our schools and our universities to think straight, to use their reasoning faculties in developing solutions to difficult problems, and to give expression to their ideas in exact spoken or written word. The members of this Society are a section of that intellectual group from which must come leadership in rational thinking and fearless expression of thought.

As respects changes in our economic life, there are two schools of thought. One believes that we shall eventually reach a point of stability as a result of certain social and political measures designed to banish poverty and provide permanent security for all workers in trade, industry and agriculture. Men who hold these views visualize a world safe and free from economic disturbances. The more conservative school holds to the opinion that recessions and recoveries are just normal phenomena of an active industrial and commercial life, and that the absence of change would spell stagnation. In their minds perfect stability would be a contradiction in a world that lives and moves in an endless mechanism of evolution. But regardless of whether we differ with the philosophy of the first or second school, we may all accept the idea that foresight demands certain measures in order to adjust ourselves in a world where the economic balance is in a state of chronic maladjustment.

VII.

And this brings me to the end of my story and to the possible moral that may be drawn from these rambling remarks. Because of his appreciation of the social and economic factors that govern casualty insurance, the actuary must be the critic of his company or rather *the pessimist with hope* as defined by Clarence Darrow. He may be at peace with the other departments of the company, but it should be the kind of peace defined by Bernard Shaw as *Peace, but no friendly relations.* He must oppose the optimism of the enthusiastic producer who is out for premium volume, and of the sympathetic underwriter who can see mostly blue skies.

The true actuary will guide his company in establishing and maintaining adequate reserves and in discouraging dividends which have not been earned. He will insist on strict observance of rules and rates established in conference with competitors, and at all times urge cooperation in practices relating to acquisition, underwriting and claims.

But I do not want to see him lose faith in the ultimate triumph of his chosen line of work—a faith based on the conviction that rightly conducted, competitive forms of insurance in casualty and other branches are capable of rendering valuable and useful service to the nation. Empirical social reforms now being conducted in other parts of the world and to some extent in this land of the brave and the free, have thus far not shaken my belief in the theory that society and civilization itself may attain greater progress through individual effort rather than through a paternal government. It is quite true that social security schemes in the form of unemployment insurance, health insurance and old age pensions may open new fields for career men in government service. But it is also true that these new forms may serve as a stimulus for enlarging the horizon of private insurance carriers thus brought face to face in competition with the State. There is some consolation in the thought that both private and state-managed insurance will need the services of scientific workers, but whichever service you choose to enter—private or public—there will be need on your part to continue the study of mathematics, the basis for all sciences, and you must be sure not to ignore the social and economic factors which, as I have indicated, exert an enormous influence on the progress of casualty insurance. I am convinced that the actuary of the future must needs be an economist as well as a mathematician. And I fervently hope that under all circumstances you will find in this Society a free and open forum for stimulating discussions of your problems in the effort to find the truth and to distinguish the true from the false. In the words of Omar Khayyam:

A Hair perhaps divides the False and True;
Yes; and a single Alif were the clue—
Could you but find it—to the Treasure-house,
And peradventure to THE MASTER, too.

Briefly summarized, the picture I have tried to paint for you amounts to this. In days of prosperity we are apt to forget that the sunny days will not last forever. The story in Genesis is as good today as it was four thousand years ago. The history of this country proves beyond question that economic fluctuations are inevitable. The fate of casualty insurance is closely allied with the fortunes of industry, and it sustains severe blows in periods of depression because of circumstances beyond its control. The more rapid decline in wages as compared with employment, the rise in the frequency rate, the unfavorable operation of statutory provisions, and general social tendencies, all serve to bring about reduced premiums and a disproportionate increase in losses. In such times expectations for increase in premium rates cannot be realized because of inability and consequent resistance on the part of industry to meet the demand. The actuarial profession may save the day through building of proper reserves that will operate as bulwarks of strength for the protection of the company and its policyholders. For that purpose it may be necessary to introduce reforms in our rating formula as well as in our method of reserves. But the lesson of history is so clear and so apparent that no company executive will hereafter be able to make a plea in *confession and avoidance* as his excuse for failure to take proper precautions.

In the field of automobile insurance, I have taken the liberty to advance the thought—although without any claim to originality—that the large group of uninsured risks may be attracted by a change in the rating formula that will give more attention to the character of the driver and less to the character of the car. Furthermore, an equitable rating plan that will recognize justifiable distinctions in the moral hazard of the risk may prove of great service in counteracting the agitation for compulsory insurance, a prospect looked upon with disfavor by companies and motorists alike.

Time and space have made it necessary to limit my illustrations to compensation and automobile insurance, but the points raised are applicable in a greater or lesser degree to fidelity, surety and other casualty lines.

TABLE II

	AUTOMOBILE INDUSTRY*				AUTOMOBILE INSURANCE*			
	Automobile Production		Registration		Premium Writings		Losses Paid	
	Cars Produced	% Chge.	Cars Registered	% Chge.	Amt. of Premium	% Chge.	Amount of Loss	% Chge.
1919	1,657,652		7,565,446		Unavailable		Unavailable	
1920	1,905,560	+15.0	9,231,941	+22.0	"		"	
1921	1,616,119	−15.2	10,463,295	+13.3	92,458,109	—	40,596,295	—
1922	2,545,222	+57.5	12,238,375	+17.0	106,841,573	+15.6	41,213,195	+ 1.5
1923	4,033,248	+58.5	15,092,177	+23.3	122,031,048	+14.2	48,674,704	+18.1
1924	3,605,206	−10.6	17,595,373	+16.6	144,111,619	+18.1	58,928,376	+21.1
1925	4,265,830	+18.3	19,937,274	+13.3	166,583,184	+15.6	65,889,530	+11.8
1926	4,300,934	+ 0.8	22,001,393	+10.4	187,778,602	+12.7	78,796,696	+19.6
1927	3,411,326	−20.7	23,133,243	+ 5.1	207,766,821	+10.6	92,876,725	+17.9
1928	4,359,087	+27.8	24,493,124	+ 5.9	252,399,208	+21.5	107,210,130	+15.4
1929	5,359,090	+22.9	26,501,443	+ 8.2	276,031,583	+ 9.4	121,739,678	+13.6
1930	3,356,806	−37.4	26,545,281	+ 0.2	281,929,302	+ 2.1	138,920,564	+14.1
1931	2,389,800	−28.8	25,832,884	− 2.7	289,378,866	+ 2.6	145,636,434	+ 4.8
1932	1,370,678	−42.6	24,115,129	− 6.6	255,556,910	−11.7	132,646,338	− 8.9
1933	1,920,356	+40.1	23,827,290	− 1.2	236,050,568	− 7.6	115,269,918	−13.1
1934	2,753,111	+43.4	24,933,403	+ 4.6	238,198,050	+ 0.1	118,242,093	+ 2.6
1935	3,936,934	+43.0	26,221,052	+ 5.2	251,095,748	+ 5.4	121,175,696	+ 2.5

*National Automobile Chamber of Commerce.

*Experience of all companies reporting to New York Insurance Department.

CHART I

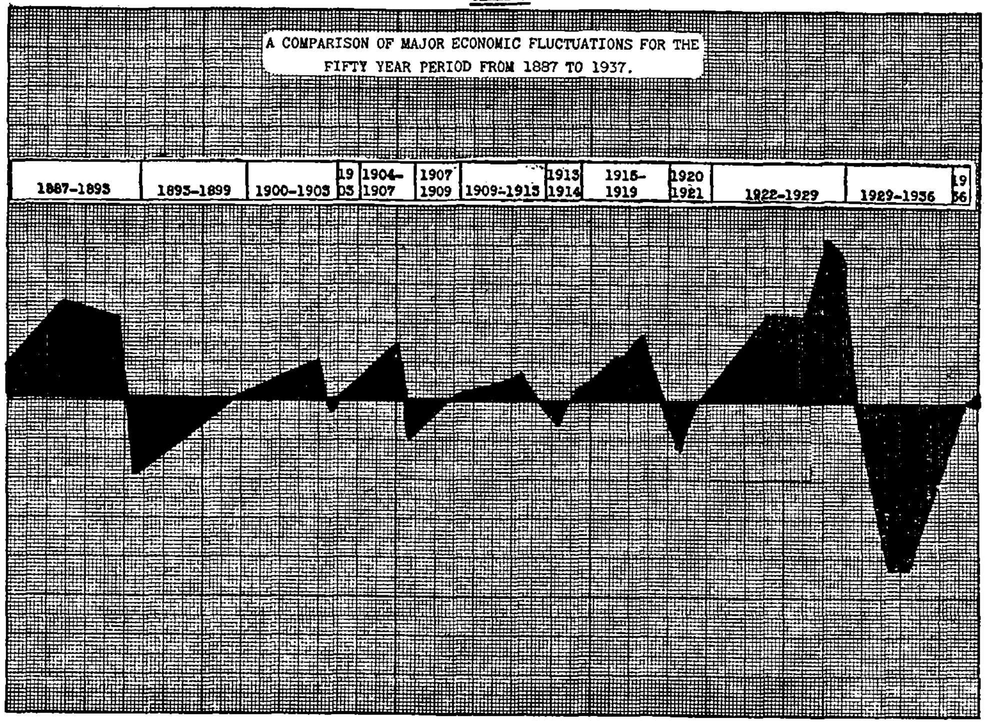
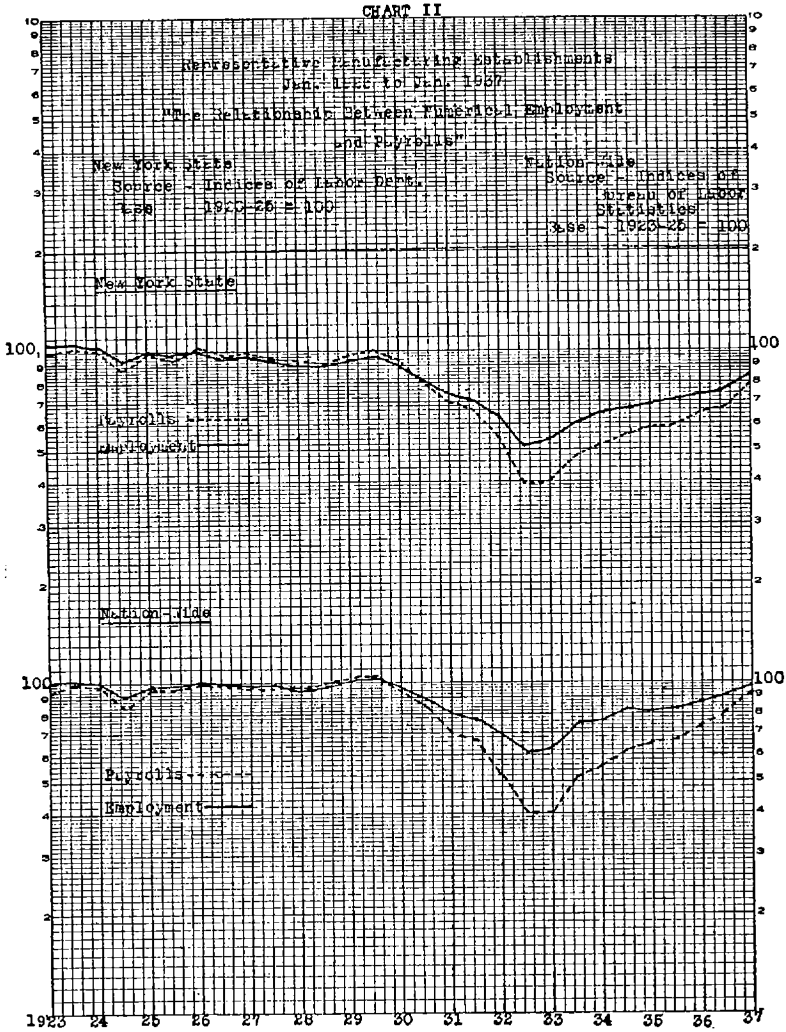

A COMPARISON OF MAJOR ECONOMIC FLUCTUATIONS FOR THE
FIFTY YEAR PERIOD FROM 1887 TO 1937.
1887-1893
1893-1899
1900-1903
19 03
1904- 1907
1907 1909
1909-1913
1913 1914
1915- 1919
1920 1921
1922-1929
1929-1936
19 36

CHART II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CAN WE IMPROVE THE COMPENSATION RATE-MAKING METHOD?

BY

HARMON T. BARBER

The title of this paper implies that a critical review of the compensation rate-making method might result in definite benefit in the form of an improved procedure. The suggestion may seem untimely to some who choose to regard the present plan as a permanent program to be preserved indefinitely in statu quo. To others, the present plan merely represents the latest stage in the gradual evolution of an ideal rate-making method which will approach its ultimate form only by occasional amendment. In accord with this latter thought, it is the aim of the writer to point out a few imperfections in the present plan and to suggest ways of correcting them. The comments relate particularly to the determination of classification rate relativity rather than to rate level as the latter phase of the rate-making procedure has been improved recently and apparently is operating satisfactorily. Inasmuch as a complete appraisal of the rate-making method is beyond the scope of the present writing, it may be expected that certain unfavorable aspects of the plan will receive undue emphasis and that the many advantages and merits of the present method will be neglected. However, the following comments are offered in a spirit of constructive criticism and not without due appreciation of the intrinsic value of the present rate-making method.

The compensation rate-making method has been described and discussed in several excellent contributions appearing in previous issues of the *Proceedings.* A review of the theory and the mechanics of the method will disclose that the propriety of many of the operations is actually contingent upon the assumption that the distribution of experience by year, by industry group, and by classification is static or, at least, that these elements are affected simultaneously and to the same degree by general trends in the volume of exposure. It is this qualification that is responsible for some of the difficulties to which reference will be made, for unfortunately for the compensation rate-making method, economic laws do not apply uniformly to all industrial operations. Few will dispute the truth of the observation that the acceleration and subsidence of industrial activity and the timing and extent of wage changes undoubtedly differ between even broad groups of industries. These variables are important in compensation rate-making because of their effect on premium volume and because practically every form of industrial activity is covered by the compensation manual. Not knowing how to gauge successfully the probable character of future trends for subdivisions of industry, the rate-makers have elected to follow the indications of the experience of the recent past and have abandoned attempts at projection to estimated future conditions. This attitude is commendable so long as a sufficient period of time is taken to establish the true character of the past experience apart from the influence of temporary fluctuations. The use of five policy years' experience for the determination of classification pure premiums, for example, results in the submergence of minor variations in experience which are not worthy of preservation and reflection in the rates. To use seven or ten years of experience might increase stability but practical considerations, plus the fact that industrial processes are continually changing, make it appear inadvisable to extend the period further.

Conversely, a shorter period of years serves to accentuate whatever erratic indications may be present in the abbreviated period. This fact was undoubtedly appreciated at the time the permanent rate-making method was being formulated, but in the quest for responsiveness and adequacy, which were primary objectives then, probably insufficient recognition was given to this point, at least such is the opinion of the writer.

The following table outlines the classification experience period used as the basis for the important steps in the development of compensation rates for an average state.

Element	Basic Period
(a) Total medical rate level	Latest single year
(b) Total indemnity rate level	Latest two years
(c) Industry group rate levels	Latest three years (balanced to a and b)
(d) Classification pure premiums	Latest five years (balanced to c)

Let us examine how a changing volume of experience by industry group may affect the medical rate level, keeping in mind the fact that, although the medical rate level is determined by the shortest period, the same tendencies are present to a less degree in connection with the other elements of the rate revision which are based on longer periods. An extreme but simple example, will serve to illustrate the apparent defect in the present method. It is not unusual to find a consistent variation between industry groups in the amount of the medical loss ratio because, for instance, serious losses occur in greater or less profusion in the different industry groups. In the following figures it has been assumed that the ratio of medical losses on the present law level to total premiums at current rates is the same for all years for each group and is .20 for Manufacturing, .15 for Contracting, and .25 for All Other. The premium volume for two of the industry groups changes materially during the period resulting in a varying total loss ratio for all groups. The three years are intended to represent the period used for establishing industry group rate levels according to the present rate-making method.

	Manufacturing		Contracting		All Other		Total	
Policy Year	Premium	Loss Ratio	Premium	Loss Ratio	Premium	Loss Ratio	Premium	Loss Ratio
1	1,000	.20	500	.15	1,500	.25	3,000	.217
2	1,000	.20	1,000	.15	1,000	.25	3,000	.200
3	1,000	.20	1,500	.15	500	.25	3,000	.183
3 Yr. Total	3,000	.20	3,000	.15	3,000	.25	9,000	.20

Note: Premium is the premium at current rates in thousands of dollars. Loss Ratio is the ratio of medical losses on present law level to these premiums.

Applying the principles of the rate-making method to these data, the medical rate level would be determined by the 18.3% ratio for the latest year for all industry groups. Industry group rate levels for medical would be obtained by applying the ratio of .183 to .200 (which is .917) to the three-year loss ratio for each group. Observe that this results in an 8.3 decrease in medical losses when it is apparent from the underlying experience that no modification in medical cost is necessary. The inaccuracy is due to the failure to recognize the changed distribution of exposure between the latest year and the three years used for industry group rate levels. Exactly this same influence may be at work in connection with the other parts of the rate level calculation—whether one year, two years or three years is employed, unless specific measures are taken to adjust for changing distributions.

The preceding illustration was purposely designed to magnify the distortion which might be created by differing trends in exposure. In actual practice it is improbable that an exactly similar situation would be encountered. However, a review of medical projection factors developed in actual rate revisions in states with limited premium volume seems to lend support to the implication that the method is faulty in some important respects. These factors, which are intended to apply to actual medical losses of the state to adjust them to the established rate level, frequently do not appear to conform to any reasonable interpretation or logical explanation. The following medical projection factors taken from a recent compensation rate revision illustrate the point:

Policy Year	Manufacturing	Contracting	All Other
1930	.749	1.529	1.145
1931	1.101	1.391	1.189
1932	1.069	.939	1.015
1933	.932	.864	.992
1934	.991	1.171	.920

Bearing in mind that medical cost is commonly considered to possess a high degree of stability from year to year, and also between industry groups in the same year, it is difficult to rationalize the wide departure between the 1930 manufacturing factor of .749 and the 1930 contracting factor of 1.529, a variation in the proportion of 1:2. Note that two years later the situation is reversed and manufacturing has a factor of 1.069 while the contracting factor is .939. Also, note the wide swing in the contracting factor in the adjacent years of 1931 and 1932 with factors of 1.391 and .939. This latter comparison is even more disconcerting when it is remembered that approximately half of the actual period of time embraced by each policy year is common to both policy years. Other instances of a similar nature could be readily cited but would serve no useful purpose.

A study of indemnity projection factors in states with moderate exposure shows similar situations which cannot be satisfactorily explained without concluding that varying trends in classification exposure have a more pronounced effect on the projection factor than is desirable. It might be noted in passing that the indemnity projection factors in some states may be too sensitive to the occurrence of serious losses. In two states of limited premium volume the number of serious losses in the reviewed classifications was related to the corresponding payroll exposure for several policy years to obtain rough indices of the trend of serious losses. A comparison of this trend with the indemnity projection factors showed evidence that the latter were appreciably affected by the incidence of serious losses. At a later stage in the rate-making process the serious losses of many classifications receive a very moderate measure of classification credibility. It might be advisable to similarly modify or discount their effect in the calculation of the indemnity projection factors. Otherwise the non-serious division of indemnity losses, which is usually subject to greater credibility, is unreasonably modified by the use of a single average indemnity projection factor for each year. The possibility of using separate projection factors for serious and non-serious indemnity losses is another alternative which might overcome this difficulty.

There is one other point in connection with the treatment of classification experience which makes the development of proper classification pure premiums under the present method a difficult task. The medical losses of the classification experience are usually subject to a high degree of class credibility on the theory that these losses consist predominantly of an aggregation of small individual losses. Whereas this may be true in most instances, no provision exists to take account of the occasional medical claim involving a substantial amount. A review of the incurred medical estimates on outstanding claims of one carrier for several recent years revealed more than a score of individual losses with medical amounts in excess of $5,000 each. The most extreme case was a New York permanent total with an indemnity incurred estimate of $23,895 and a medical incurred cost on the same claim of $26,875. While this claim happened to occur in New York, the same medical estimate might easily be incurred under any compensation law providing unlimited medical benefits. If such a medical cost were incurred in a classification with a moderate volume of exposure, it might happen that the serious losses which include the indemnity estimate of the claim would be subject to a small degree of class credibility, while the medical estimate might be assigned 100% class credibility. An instance of this kind would demonstrate the ineffectiveness of the rate-making method in minimizing the effect of the infrequent severe cost case. Every other medical loss of several thousand dollars in amount is a potential source of trouble in the development of proper classification pure premiums for a similar reason.

These deficiencies in the rate-making method have been cited, not to condemn the present method, which represents the best thought on the subject to date, but with a view to provoking interest and study which eventually might lead to an improvement in the rate-making procedure. For example, consideration might be given to a simple remedy for avoiding the effect of severe individual medical losses. Since most of these high medical costs are associated with serious indemnity claims, it might be desirable to segregate medical losses into three subdivisions according to the kind of injury of the accompanying indemnity loss, e.g., serious, non-serious and non-compensable medical. Each of these three parts could be modified by the factors which would apply to total medical but, in the determination of classification formula pure premiums, the serious medical pure premium might take the class credibility of the serious indemnity losses and similar treatment might be accorded to non-serious medical. Whether such a procedure would complicate the operations too greatly and how national experience on a comparable basis might be immediately obtained are questions which require further investigation.

The problem of how to project the older classification experience to a rate level more nearly equivalent to current experience without encountering the identical obstacles of the present procedure is a more intricate one. The writer is hopeful that better results may be obtained with less complications by an adaptation of a principle which was under consideration in 1925 at the time that the present method was originally formulated. This principle involves the use of a weighted five-year average for rate level purposes in lieu of the average of the two latest policy years of experience. When both of these methods were under consideration the present rate level formula was judged to be preferable because it produce rates more nearly equivalent to current cost levels. However, since the time the choice was made the "permanent" method has been amended in two important respects, the contingency factor has been introduced in the rate level determinant to insure equitable results over a long period and industry group rate levels have also been injected into the rate-making process. The contingency factor has leveled off to some extent the advantage of the present plan over the weighted plan and as pointed out previously, the changing distributions of exposure in connection with industry group rate levels may have a definitely harmful effect under the present method.

One version of the weighted average rate level may be briefly described in the following outline:

1. To convert the state experience to the proposed rate level, apply the following weights to classification payrolls and classification losses on the present law level:

Latest year . . .	1.00
Second year . . .	1.00
Third year . . .	.75
Fourth year . . .	.50
Fifth year . . .	.25

2. Calculate reversion factors by industry group, indemnity and medical separately, using the excluded amount of weighted losses according to present classification credibility standards.

3. Determine formula pure premiums for each class as at present, assuming the weighted five-year pure premium to be on the proposed rate level.

4. If pure premiums other than formula indications are adopted for any classification, apply the adopted pure premiums to the payroll distribution of the two latest years and determine correction factors by industry group to apply to adopted pure premiums in order to correct the latter to the equivalent of formula pure premiums.

5. In states with limited exposure combine all industry groups which produce less than $1,000,000 premium over the five-year period.

There are a number of apparent advantages to recommend this method for serious consideration as a substitute for the present method. The procedure is materially less complicated than the present. By using a common weighted period for all elements of the rate level and by assuming that the five-year experience of each industry group is entitled to 100% credibility it avoids a separate calculation of rate level for indemnity, medical and industry groups and the use of industry group credibility.

The weighted method will produce a rate level which in point of time is not far behind the present method. The continued use of the contingency factor in the rate level determinant minimizes whatever disadvantages that may accrue from this source. In the case of an industry group with a rapidly growing exposure the resulting rate level is advanced in point of time by the operation of the weights and conversely the rate level is retarded in point of time in the event that exposure is diminishing. In the case of a single classification entitled to 100% class credibility on all three parts of the pure premium, the rate level for the classification is determined solely by its own experience.

The weighted method avoids the situation where rates for one industry group are improperly affected by changes in the distribution of business or by the unusual experience indications of other groups.

The writer does not presume to propose in this paper a definite and complete substitute rate-making method since such a program would have to be developed with considerable care and investigation. Rather, it is hoped that the comments set forth will suggest the wisdom of reviewing some discarded principles and some new possibilities as avenues of approach to a more nearly perfect solution to the rate-making problem. Even though countrywide underwriting results in the compensation line show unmistakable signs of improvement there is ample evidence to indicate that compensation rating methods are far from perfect. New York State is a state in which compensation rates are subject to regulation, a state where rate-making procedure has kept pace with each new improvement and a state which produces a large volume of compensation premiums. Even under these ideal conditions, it is disturbing to note that a differential in compensation loss ratio of as much as thirty points exists among the principal insurance carriers. Such a wide range in loss ratio cannot be entirely attributed to differences in method of administration. Presumably, a share of the disparity is due to uncommon distributions of risks by size, industry group, classification, etc., in conjunction with existing inaccuracies in compensation rating methods. If there is truth in this conclusion, the situation constitutes a challenge to the rate-making organizations and particularly to those of us in the actuarial profession. Why should we not begin with a deliberate and studied analysis of the method used in deriving manual rates?

AUTOMOBILE INSURANCE IN THE PROVINCE OF ONTARIO

BY

JOHN EDWARDS

INTRODUCTION

During 1936, 138 insurers reported automobile insurance premiums written in Ontario amounting to $7,920,609—or slightly under $8,000,000 (after deducting return premiums and reinsurance premiums ceded to licensed companies). Of this total the Non-Marine Underwriters at Lloyd's reported some $709,000, slightly under 9 per cent; Mutual companies reported approximately $362,500—slightly more than 4½ per cent, and the remainder of 86½ per cent was reported by stock companies.

While, $8,000,000 of premium income appears quite small when compared with the premium income of various states of the United States, it must be remembered that the province-wide private passenger public liability and property damage premiums combined only averaged a little under $18.00 per car.

The total automobile insurance net premiums reported in Ontario for 1935 was $7,017,028, so that the increase in business during 1936 amounted to more than $900,000 compared with 1935, representing an increase of almost 13 per cent. Of the total premiums written almost 75 per cent is represented by private passenger motorists; and speaking of private passenger motorists, approximately 75 per cent of their insurance premiums are made up of public liability and property damage insurance.

UNIFORM AUTOMOBILE INSURANCE ACT

On September 1st, 1932, the so-called Uniform Automobile Insurance Act came into force in six provinces of Canada (including Ontario). Shortly afterwards two other provinces followed and by October 1st, 1933, this Act was in force in all provinces of Canada (excluding Quebec).

For reference purposes I shall refer to the Ontario sections. In this province the so-called Uniform Act is Part VI of The Insurance Act, commencing with section 169 and ending at section 183*k*, comprising in all some twenty-six complete sections.

Included in the eight definitions contained in section 169 of the Act is the definition of "Automobile" which is defined as:

> "'Automobile' includes all self-propelled vehicles, their trailers, accessories and equipment, but not railway rolling stock, watercraft or aircraft of any kind."

and "Automobile insurance" which is also defined as follows:

> "'Automobile Insurance' means insurance against liability for loss or damage to persons or property caused by an automobile or the use or operation thereof, and against loss of or damage to an automobile."

Pursuant to section 171 of the Act a written signed application, signed by the applicant, must be obtained with respect to all automobile insurance contracts made for a period exceeding fourteen days with one exception, namely, in cases where an automobile is insured against fire only, under a fire insurance policy, the automobile insurance provisions do not apply.

By section 173(3) of the Act the insured is entitled to the policy of automobile insurance or a true copy thereof as will be seen from the following wording:

> "Notwithstanding any agreement, the insurer shall deliver or mail to the insured named therein the policy or a true copy thereof and every endorsement or amendment of the policy or a true copy thereof."

No insurer is entitled to issue or deliver an automobile policy in the province unless such insurer has filed its form of policy with the Superintendent of Insurance (section 176).

Early in 1932, before the so-called Uniform Act became effective, a Committee of Underwriters was appointed by the Superintendent of Insurance to prepare and recommend "Standard" forms of application, policy and endorsement. The Committee consists of eleven members, five members representing companies which are members of the Canadian Underwriters' Association, five members representing so-called non-tariff or independent companies (including Mutuals and Lloyd's) and one member representing The Ontario Fire and Casualty Agents' Association. In addition to the eleven members mentioned, the Superintendent of Insurance is Chairman of this Committee, and the writer Secretary. The Ontario Superintendent is also Chairman of the Standing Committee on automobile insurance legislation and forms of the Association of Superintendents of Insurance, so that when an insurance form is adopted in Ontario, it is automatically adopted in the other provinces (excluding only Quebec, where this Uniform Act is not in force).

Through the recommendation of the Committee of Underwriters, which Committee has held upwards of one hundred and twenty-five meetings of the "full Committee" since inception, some forty forms comprising application, endorsement and policy forms have been adopted as "mandatory Standard" forms in the eight provinces and no insurance company is permitted to use any other forms in substitution for the Standard forms. All companies transacting business in the eight provinces have received these forms and for the purpose of complying with the Act, these forms are deemed to be on file with the Superintendent of Insurance in each of such eight provinces, thereby eliminating the necessity otherwise of companies filing their forms with the Superintendent for approval. Of course, if for some particular reason a company desires to issue a special form not covered by the "Standard" forms, then it becomes necessary for the company to submit its form to the Superintendent for approval.

The advantage of this method is apparent, when one considers that in the eight provinces where the Act is uniform, Standard forms are used by all insurance companies, so that whatever competition arises between companies as regards premium rates, Mr. John Citizen knows that competition generally does not extend to the coverage afforded by his contract.

Section 183*b* of the Ontario Act sets forth the coverage of a driver's policy. Since a car owner cannot obtain a driver's policy very few of these contracts are issued. The owner of a motor vehicle ordinarily is covered against public liability and property damage liability on the owner's form of policy. The coverage in this respect is statutory as will be seen from the following reference: (Ontario section 183*a*.)

"183*a*—(1) Every owner's policy shall insure the person named therein, and every other person who, with his consent, uses any automobile designated in the policy, against the liability imposed by law upon the insured named therein or upon any such other person for loss or damage:

(a) arising from the ownership, use or operation of any such automobile within Canada or the United States of America, or upon a vessel plying between ports within those countries; and

(b) resulting from

(i) bodily injury to or death of any person; or

(ii) damage to property; or

(iii) both.

(2) Any person insured by but not named in a policy may recover indemnity in the same manner and to the same extent as if named therein as the insured, and for that purpose shall be deemed to be a party to the contract and to have given consideration therefor.

An owner may have his policy endorsed to cover the operation of cars not owned called "Drive other cars Endorsement".

Prior to July 1st, 1935, section 183*a* commenced with the words:

> "Every owner's policy shall insure the person named therein, and every other person who, with his consent, uses or is responsible for the use of any automobile designated in the policy. . . ."

By an amendment effective July 1st, 1935, the words given above reading "or is responsible for the use of" were deleted, since these words provided insurance to the employer in cases where the employee owner's insured car was used on the business of the employer or firm with which such employee was employed. If the employer was responsible for the use of the employee's car in his business then the owner's policy covered the owner's or driver's legal liability (such driver operating with the consent of the owner) and, in addition, any liability imposed on the employer under "master and servant". The words "or is responsible for the use of" now being deleted from the statutory coverage, the employer is no longer deemed to be protected by the employee's policy. Such employer should take out a special policy covering the non-ownership liability to protect himself against claims which may arise from automobiles of others being used on his business.

By section 41*a* (2) of The Highway Traffic Act of Ontario the owner or driver of a motor vehicle on a highway is not liable for the injuries sustained by a guest riding in his car or getting on to or alighting from such motor vehicle (provided, of course, that such passenger has paid no compensation). The common law liability in this respect was taken away by the above-mentioned statute but apparently the injured guest of the driver may still sue the employer in certain cases, if it can be shown that the auto-bile at the time of accident (caused by the negligent operation of the driver) was being used on the firm's business. It would, therefore, appear that section 41*a* (2) of The Highway Traffic Act did not take away the common law right to sue the employer under the master and servant rule.

So far as an owner's policy is concerned and the extended insurance to the unnamed driver operating the motor vehicle with the consent of the named insured, it is generally conceded that the insurance contract would be voidable in this respect, except that the Uniform Act is intended to give the person driving with the consent of the named insured the benefit of the insurance protection. Ordinarily, at common law, it may be assumed that an insurance company could not make a contract of insurance with an unknown person who has given no consideration for the insurance protection. The Uniform Act is intended to validate the extended insurance afforded to the driver (not the owner) driving with the owner's consent in the statutory coverage of an owner's policy referred to above and as to the "rights of the unnamed insured" given in subsection (2) of the same section. Also, in the "Interpretation" section "Insured" is defined as a person insured by a contract whether named or not. It should be pointed out, however, that the Superintendent of Insurance may approve a form of motor vehicle liability policy appropriate to insure a limited or restricted use of the automobile and in that case the statutory conditions shall be deemed to be amended so far as is necessary to give effect to the terms and conditions of the policy so approved and the provisions of the sections dealing with the statutory coverage of an owner's policy or a driver's policy shall not apply (Ontario section 174(3)).

Ordinarily the Superintendent would not be expected to approve of a restricted form of motor vehicle liability policy so far as an individual car owner is concerned as these special provisions were enacted to take care of the unusual type of risk.

The Uniform Act in addition provides that an owner's or a driver's policy shall (1) provide additional service to the insured such as investigation of accidents, including negotiations with the claimant; and (2) defend in the name and on behalf of the insured and at the cost of the insurer any civil action which may at any time be brought against the insured on account of loss or damage to persons or property; and (3) pay all costs taxed against the insured in any civil action defended by the insurer and any interest accruing after entry of judgment upon that part of the judgment which is within the limits of the insurer's liability; and (4) in case the injury be to a person, reimburse the insured for outlay for such medical aid as may be immediately necessary at the time.

Six exceptions from liability under owner's and driver's policies are specifically referred to in the Uniform Act (Ontario section 183*d*) the last three of which may be removed or waived by an endorsement on the policy and in consideration of an additional stated premium.

Briefly, these six exclusions from liability are:

(a) liability covered by any workmen's compensation law upon the insured; or

(b) for loss or damage resulting from bodily injury to or the death of the insured, or the son, daughter, wife, husband, mother, father, brother or sister of the insured; or

(c) to any person, not the owner of the automobile, engaged in the business of an automobile garage, repair shop or service station or as an automobile dealer, for loss or damage sustained while engaged in the operation or repair of the automobile; or

(d) passenger hazard liability; or

(e) for loss or damage to property carried in or upon the automobile or owned by, or in the care, custody or control of the insured; or

(f) for loss or damage resulting from bodily injury to or the death of any employee of the insured while engaged in the operation or repair of the automobile.

Concerning the last three exclusions, which as previously mentioned may be removed by endorsement, exclusion (*d*) passenger hazard liability may be removed with respect to a private passenger car owner for $1.00. Since the owner or driver of a motor vehicle is not liable for loss or damage (by express provision of

The Highway Traffic Act) for injuries or death to gratuitous passengers on the highway, the owner of a motor vehicle may still wish to have the so-called passenger hazard protection in case of an accident involving a "guest" passenger occurred outside of Ontario or on private property off the highway in Ontario where the owner or driver might still be liable for damages.

The Uniform Act also requires that owner's and driver's policies shall contain certain conditions to be printed therein known as "Statutory Conditions" which are in the nature of statutory provisions or agreements between the insurer and the insured. Such conditions are usually printed on the third page of the contract.

It must be pointed out that up to the limits of legal liability set forth in the Act as minimum limits of liability, i.e. $5,000 (exclusive of interest and costs) for loss or damage resulting from bodily injury to or the death of any one person and, subject to such limit for any one person so injured or killed, $10,000 (exclusive of interest and costs) for loss or damage resulting from bodily injury to or death of two or more persons in any one accident and $1,000 (exclusive of interest and costs) for legal liability for damage to property of others, owner's and driver's policies are absolute liability policies so far as the claimant is concerned. In this connection the Uniform Act states in part that "no act or default of the insured before or after such event (accident) in violation of the provisions of this Part or of the terms of the contract, and no violation of the Criminal Code or of any law or statute of any province, state or country, by the owner or driver of the automobile, shall prejudice the right of any person, entitled under subsection 1, to have the insurance money applied upon his judgment or claim, or be available to the insurer as a defence to such action".

In case of such violation by the insured, notwithstanding that the claimant is protected, the insured shall be liable to pay or reimburse the insurer, upon demand, any amount which the insurer has paid by reason of the provisions of this section which it would not otherwise be liable to pay.

Experience of Companies:

For 1936, losses incurred to premiums earned amounted to 62½ per cent for all automobile insurance written in the province. In the "Final Report" of the late Hon. Mr. Justice Hodgins, the

Commissioner for the Royal Commission on Automobile Insurance Premium Rates held during 1929 and 1930, is contained the following reference at page 58:

> ". . . there seems to me to be no reason why the companies cannot, for the future, reduce the expense to 45 per cent of the gross premium rate."

Since the above-quoted statement was published an increase of 2 per cent has been made in premium taxes and, if we add this 2 per cent to the 45 per cent referred to, the adjusted provision for expenses will be 47 per cent, leaving 53 per cent of the gross premium as provision for loss-cost. In view of the fact that automobile losses incurred to premiums earned in Ontario were reported for 1936 as 62½ per cent, would indicate that the Canadian Underwriters' Association was reasonably justified in its recent increase of automobile insurance premium rates effective April 1st, 1937 (which revision is reported to produce an increase of slightly less than 5 per cent). Under section 69*a* of The Insurance Act of Ontario all insurers transacting automobile insurance in the province are required to file punch cards of their automobile experience in Ontario with the designated statistical agency monthly prepared from a "Standard" mandatory statistical plan. Such results are tabulated and filed with the Superintendent periodically by the statistical agency and while the Superintendent is required to approve automobile insurance contracts he is not required to approve insurance premium rates. If this situation should ever change the Superintendent is in a position to determine at any time from the experience filed the reasonableness of automobile insurance premium rates promulgated in the province.

It has been argued that if we have standardization of automobile insurance contracts why then should we have such a wide variation in premium rates between various classes of companies? The answer, I think, is that so long as companies are free to quote such rates as they please in such a highly competitive market and with so many companies in the field we can expect little else.

Results for 1936 in the province did not appear to be profitable and only time will tell how the experience will work out in 1937, but if trend means anything one cannot expect the experience to show much better results for 1937 unless something is done to reduce the accident frequency and high average amount of public liability claims.

SOME ASPECTS OF THE RETROSPECTIVE AND SUPPLEMENTARY RATING PLANS

BY

J. J. MAGRATH.

Both the retrospective and supplementary rating plans contemplate the adjustment of workmen's compensation premium rates for the risks so insured on the basis of experience of the assured for the period covered by the premium. The retrospective plan is akin to stop loss or aggregate excess coverage while the supplementary plan is comparable to deductible coverage. The obligation of the employer to provide security for his employees makes it necessary for the company in either case to stand responsible for the payment of the benefits provided in the Compensation Law unless the plans are to be restricted to those that qualify as self-insurers.

Most of the controversy that arose concerning the retrospective rating plan had to do with the propriety of departing from the customary standard of expense loading. In all probability this same subject will be the principal point of difference of opinion with respect to supplementary rating. Let us consider how infallible this standard has been.

Commissions, allocated claims expenses and premium taxes constitute the most important items of expense that may be segregated by lines of insurance but even in these cases the statistics do not show the actual disbursements on business of a particular state. Other important expense items such as general administration, field supervision, unallocated claims expense, inspections and miscellaneous taxes are charged against a line of insurance according to standards which vary by companies.

Local conditions, premium volume, adequacy of rate level, the nature and cost of company facilities and services all affect the question as to what constitutes necessary expense loadings. Until greater refinement and localization of costs is available it is necessary to exercise judgment as to probable differences.

The allowance for production costs in retrospective rating graduates downward, in comparison with the full allowance on a normal premium, as the size of a risk increases. The agents and brokers are directly concerned with this feature of the plan but saw fit not to object to this adjustment. The extent of the contribution to be made by companies toward reducing the expense portion of the premiums written under this plan will probably be adjusted after a reasonable amount of experience has been had with it.

In supplementary rating the feature that appeals the most is the recognition of the principle that normal losses are more indicative of the characteristics of a particular risk and therefor constitute the element most susceptible to self-insurance treatment. Perhaps the adoption of reduced expense allowances in connection with the handling of normal losses and the adoption of an aggregate stop loss feature for normal losses will make the plan more attractive. Excess losses might be allowed some limited reflection in the adjusted premium.

A brief examination of the expenses of doing the business of compensation insurance shows considerable fluctuation in the ratios of these expenses to premiums from year to year. Country-wide results for stock companies show:

That production expenses incurred to direct premiums written dropped from 18.9% in 1932 to 17.2% in 1936.

General administration expenses incurred to earned premiums dropped 11.2% in 1932 to 8.8% in 1936.

Claim adjustment expenses dropped from 12.4% in 1932 to 9% in 1936.

Inspection and bureau expenses dropped from 3.6% in 1932 to 2.3% in 1936.

Taxes alone showed an increase rising from 2% in 1932 to 3.2% in 1936.

The total of these items shows a variation of 7.6% of earned premiums from a total of 48.1% in 1932 to 40.5% in 1936.

During that period premium volume rose 30% and the 1932 underwriting loss of 18% changed to a small underwriting profit for the year 1936.

On March 15, 1930 the then Superintendent of Insurance of the State of New York, Albert Conway, issued a decision in the matter of excess workmen's compensation coverage for self-insurers. The decision is a brief one and reads as follows:

> "Employers who qualify as self-insurers frequently purchase insurance to protect themselves against excessive losses

> resulting from the occurrence of a catastrophe. This form of coverage is legitimate, and reasonable provision should be made for furnishing it. The principal interest of the Insurance Department at this time is that the form of coverage made available should be catastrophe coverage and not a form to be used for competing unfairly with full coverage.
>
> "I therefore rule that all forms of excess coverage, deductible average, stop loss or aggregate excess coverage, etc., other than full coverage or ex-medical coverage, applicable to risks within this State, whether issued by a reinsurance or a direct writing company, shall be submitted to me for approval before they may be used."

The retrospective rating plan is not limited to those who qualify as self-insurers. A fair trial of the plan will disclose to what extent it serves a useful purpose and whether it develops conditions which require a remedy.

FEDERAL JURISDICTION AND THE COMPENSATION ACTS

BY

CLARENCE W. HOBBS

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FEDERAL JURISDICTION AND THE COMPENSATION ACTS

BY

CLARENCE W. HOBBS

I. Federal and State Jurisdiction

The Federal Government is a government, theoretically at least of limited powers. Its jurisdiction is that specifically conferred upon it by the Federal Constitution, and within that jurisdiction its authority is paramount to that of the states. Under the provisions of the 10th Amendment to the Constitution, the powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people. Accordingly, there exists as to every state a certain field wherein, even within its own bounds, state legislation must yield to Federal legislation.

The Workmen's Compensation Acts have been regarded as a proper exercise of the States' rights to regulate the reciprocal rights and duties appertaining to the relation of employer and employee within their bounds. In certain cases, however, the relation of employer and employee is inseparable from the Federal jurisdiction, either by reason of existing on territory over which the United States has jurisdiction, or being incidental to activities which the Federal Government exercises or under the Constitution has a right to regulate. In such cases a conflict of laws may exist, and as above indicated where the employment comes within the Federal jurisdiction, the right of the Federal Government to regulate it is paramount to that of the states.

The discussion which follows seeks to map out the chief jurisdictional fields wherein Federal jurisdiction overlays the State jurisdiction. Two other fields exist. One has already been discussed in the *Proceedings*, namely the authority of the Federal Government under the Full Faith and Credit clause, so called to compel a state to recognize the validity of the compensation act of another state. Another appears likely to develop in consequence of the very considerable *de facto* extension of Federal activities during the past few years. This, however, is not yet ripe for discussion. Its effect on the compensation field is probably nil unless and until Congress shall undertake the formulation of compensation acts applicable as broadly as its acts in regulation of labor disputes. The few fields mentioned here, especially the maritime field, have presented real problems to those engaged in the making or administering of rates and indeed to those vested with the duty of interpreting and applying the compensation acts.

II. Jurisdiction of the United States over its Own Employees

1. *Direct Employees of the United States*

A sovereign state cannot be held liable in contract unless the incurring of the liability is authorized by the constitution or by statute. It cannot be held liable in tort unless it has voluntarily assumed liability.

36 Cyc. 881.

The Federal Government, being within the limits of its jurisdiction a sovereign state cannot be brought before any tribunal without its consent. It may, in consenting specify the tribunal before which it consents to appear.

American Digest. Title, United States. Century Edition, sec. 113; Decennial Editions, sec. 125.

Federal employees cannot therefore be brought within the benefit provisions of state compensation acts, nor can they maintain against the Federal Government the rights of action at law provided by any state statute. None of the state acts apply in terms to the Federal Government as employer, or to Federal employees as employees. One state, North Carolina, has in its compensation act a specific exception of Federal employees; but that is not necessary. Employees of the United States are relegated to the remedies provided by the Federal Statutes.

The Federal Government has a compensation act, originally enacted May 30, 1908, appearing in U.S.C.A., Title V c15, secs. 751-796. This act applies generally to "all civil employees of the United States and of the Panama Railroad Company" (sec. 790). It applies also specifically to employees of the Federal Civil Works Administration (sec. 796). It does not extend to military and naval forces of the United States, nor to "officers" (1917, 31 Op. Atty. Gen. 203). It has been extended by opinion and interpretation to cover seamen of Shipping Board vessels (1925, 34 Op. Atty. Gen. 363) and to employees of the United States Shipping Board Emergency Fleet Corporation (sec. 795 also 1924, 34 Op. Atty. Gen. 120).

2. *Employees of Public Corporations of the United States*

These are not direct employees of the United States. The sovereignty of the United States extends to its public corporations, that is, to corporations created for governmental purposes wherein the United States retains the entire beneficial interest: and so long as these corporations are engaged in purely governmental pursuits, they are not subject to state regulatory laws, nor may they be sued except by consent of government. When, however, the United States has gone into business through a public corporation, it is to that extent divested of sovereignty, and the corporation becomes subject to the rules of law governing private corporations.

14 Corpus Juris, P. 75, and cases cited, note 39.

The list of Federal public corporations is large and has of late years shown a pronounced increase. Some of these are obviously governmental in character: in others, they are without question in business.

In this field, the application of law is not of the clearest, and in some cases there may be a liability of the corporation under more than one law, and cases when the employee may claim the benefit of more than one law. How far the Federal Employees' Compensation Act covers the employees of public corporations is by no means certain from the law itself, which by specifically mentioning some causes an implication of law that others are not included. But a public corporation organized for purely governmental purposes is erected mainly for convenience, and is to all interests and purposes the national government. At all events, these employees cannot claim the benefit of any laws other than those of the United States.

The fact that the last named act included employees of the Panama Railroad Company was held not to bar an action of tort by an employee against the railroad under the Federal Employers' Liability Act.

Panama R. Co. v. Minnix, 282 F. 47.

Under section 791 of the act, however, a person cannot receive compensation under the Federal Act because of an injury or death caused under circumstances creating a legal liability on the part of the Panama Railroad Company unless the right of action is released.

During the war, the Director General of Railroads was held subject to a State Compensation act as employer. Here a presidential order was involved which made him subject to "all Statutes and orders of regulatory commissions" of the several states.

Hines v. Meier, 272 F. 168.

The United States Shipping Board Emergency Fleet Corporation was held subject to the Pennsylvania compensation act: and this holding the Supreme Court declined to reverse on writ of error. Employees of the corporation may, however, also claim under the Federal Employees' Compensation Act.

U. S. Shipping Board, etc. Corp. v. Sullivan, 76 Pa. Super. Court 30, 261 U. S. 146.

Another case, involving the U. S. Shipping Board Fleet Corporation, was a libel in admiralty against a ship operated by that corporation on account of the death of a seaman, alleged to have been caused by a maritime tort. But here a statute (U.S.C.A. Title 46, sec. 742) permitted suits in admiralty against the United States or the corporation in cases where a proceeding in admiralty could have been maintained, had the vessel been privately operated.

Renew v. U. S., 1 F. Supp. 256.

These cases, though few, sufficiently indicate that where a public corporation of the United States is engaged in what is essentially private business, it may be held liable as an employer under the state compensation acts or under any liability laws which may be appropriate and applicable. This principle is presently of considerable consequence in view of the large extensions of Federal activity into fields of private business.

3. *Cases of Indirect Employment*

There are a certain number of cases where question has arisen as to the applicability of state compensation acts to persons in the employ of the United States, but loaned to private persons: or to persons employed by contractors for the United States.

During the war, the army sent a company of drafted soldiers to work with the civilian employees of a lumber company, getting out lumber for the government. One of these soldiers, being injured, was declared entitled to the benefit of the State Compensation Act.

Rector v. Cherry Valley Timber Co., 196 Pac. 654 (Wash.).

Generally speaking, it would seem that contractors for the Federal Government are entitled to none of the government's immunities. Thus state compensation acts have been held to cover the employees of a contractor holding a contract for delivery of United States Mails.

Comstock v. Bivens, 239 Pac. 869 (Colo.).

Also, to cover employees of contractors for the National Forest Service, working on land wholly controlled by the government.

State v. State Ind. Acc. Board, 286 Pac. 408 (Mont.).

Nickell v. Dept. of Labor and Industries, 3 Pac. 2nd 1005 (Wash.).

Also to cover employees of contractor under Federal Contract in connection with a reclamation project.

Samarzick v. Aetna Life Ins. Co., 40 P. 2nd 129 (Wash.).

Also to cover employees of highway contractor obtaining services of trucks and drivers through Federal Reemployment service.

Grundeman v. Hector Construction Co., 261 N. W. 478.

Doubtless the state may not interfere with the performance of the Federal Governmental functions. The Federal immunity, however, does not extend to all its functionaries. They are amenable to the laws of the states in which they are, and the above cases do not appear unorthodox. There is a point involved, however, which will be considered under a later heading, namely the extent to which state laws apply to persons injured upon property of the United States.

4. *Federal Relief Workers*

The matter of relief workers is discussed in connection with the coverage of the Workmen's Compensation Acts. Some of the relief workers were undoubtedly direct Federal employees, and in the Civilian Conservation Corps and the Civil Works Administration, benefits were paid as such, though in the latter case at least on a reduced basis. In so far as relief workers were Federal employees, no other compensation act than that of the Federal Government was applicable. But a deal of the relief problem was handled by state agencies and by contractors for work designed to alleviate unemployment. Federal funds were poured liberally into these enterprises, and various Federal agencies took a hand in planning work and placing relief employees. Some very complicated situations arose thereby, in some of which it was hard to make out who was the real employer. But if employed by one, other than the United States, his remedy, if any, would be under the state laws. Mere furnishing of Federal funds or performance of supervisory functions by the agencies of the United States do not avail to constitute the relief workers employees of the United States.

III. Territorial Possessions and Property Holdings of the United States

Questions have frequently arisen as to the application of laws in case of injury sustained within the bounds of property owned by the United States or under its governmental control.

Such property falls into several distinct classifications. The United States has at different times by purchase, treaty or conquest acquired governmental jurisdiction over considerable land outside the confines of any state, and with that jurisdiction, ownership of any land not held in private possession. Over this it exercises the full power of a sovereign state. It can, and has by act of Congress, erected portions of land so held into states and has in other portions set up territorial governments. In the former case, the government retains only such governmental jurisdiction as is given by the terms of the constitution. In the latter case, it as a matter of practice permits the territorial governments to function, but retains the right to overrule or supersede them.

Congress is given authority under the constitution, Article 1, sec. 8, par. 17.:

> "To exercise exclusive Legislation in all cases whatsoever, over such district (not exceeding ten miles square) as may, by cession of particular states, and the acceptance of Congress, become the seat of the government of the United States, and to exercise like authority over all places purchased by the consent of the Legislature of the state in which the same shall be, for the erection of forts, magazines, arsenals, dock-yards and other needful buildings."

Under the provision of Article IV, sec. 3, par. 2:

> "The Congress shall have power to dispose of and make all needful Rules and Regulations respecting the Territory or other property belonging to the United States."

With respect to the Territories and to the District of Columbia themselves, no question arises different in kind from what arises in any state. The Territories and the District of Columbia have their own codes of law, including a series of Compensation Acts, and those acts and the local liability laws apply as do the laws of the several states within their respective jurisdictions.

The property holdings, that is to say, the holdings of the United States as proprietor are as follows:

(1) Lands acquired under the provisions of the Constitutional authority quoted above.
(2) Lands acquired not in accordance with these provisions.
(3) Such parts of the public domain as has not as yet been disposed of.

The legal situation with regard to these property holdings has been the subject of some little litigation, and has been affected by two different acts of Congress.

1. *Lands Acquired Under Constitutional Authority*

In case of lands acquired under the provisions of the Constitutional authority, i.e., land purchased with the consent of the Legislature for the purposes named therein, the jurisdiction of the United States is exclusive. It is probable that in the absence of Congressional legislation, state laws affecting private rights and duties in force at the time of the purchase remained in effect, but state laws subsequently enacted did not take effect unless adopted by Congress.

(a) *The Act of February 1, 1928, C. 15, 45 Stat. 54, U. S. C. A. Title 16, sec. 457.*

This act provides:

"That in the case of the death of any person by the neglect or wrongful act of another within a national park or other place subject to the exclusive jurisdiction of the United States within the exterior boundaries of any state, such right of action shall exist as though the place were under the jurisdiction of the state—and in any action brought to recover on account of injuries sustained in any such place, the rights of the parties shall be governed by the laws of the state within the exterior boundaries of which it may be."

The effect of this act was to put into force within properties of the United States statutes giving remedy for injuries or wrongful death by way of action at law, but not the State Workmen's Compensation Acts.

Murray v. Joe Gerrick & Co., 291 U. S. 315.
Allen v. Ind. Acc. Comm., 43 P. 2nd. 787.
Utley v. State Ind. Comm., 55 P. 2nd. 764.

Not in accord with these decisions is:

Lynch's case, 183 N. E. 834.

(b) *The Act of June 25, 1936, C. 822, U. S. Statutes at Large*

This act, while not formally amending or repealing the act referred to above, in effect changes the construction given to it in the case of Murray v. Joe Gerrick & Co., cited above. It empowers those in charge of the enforcement and application of state compensation laws to enforce and apply them to "all lands and premises owned or held by the United States of America by deed or act of cession, by purchase or otherwise, which is within the exterior boundaries of any state, and to all projects, buildings, constructions, improvements and property belonging to the United States of America, which is within the exterior boundaries of any state, in the same way, and to the same extent as if said premises were under the exclusive jurisdiction of the state within whose exterior boundaries the same may be."

In view of the language used in the decision of Murray v. Joe Gerrick & Co., it seems probable that this virtual adoption of state compensation acts is within the authority of Congress. Whatever the situation may have been prior to this act, there seems now no question as to the application of state compensation acts to injury occurring on property of the United States.

2. *Lands Acquired with Cession of Jurisdiction by States*

In case of at least some of the National Parks and in some other cases, extensive acquisitions of property have been made by the United States, the state assenting thereto and making final cession of jurisdiction. Where the land is acquired for purposes enumerated in the constitutional power, cession of jurisdiction is immaterial. When not acquired for such purposes the state retains jurisdiction except in so far as it makes cession thereof, and the extent of the jurisdiction depends upon the terms of the cession.

U. S. v. Wurtzbarger, 276 F. 753.
Fort Leavenworth R. Co. v. Lowe, 114 U. S. 531.

The last named case upholds the validity of such cessions. After a cession of jurisdiction, state laws previously in effect for the protection of private rights remain in effect.

Chicago, etc. R. Co. v. Glinn, 114 U. S. 542, 547.

Laws subsequently enacted do not apply, save in so far as they are adopted by Congress for application to the territory.

Arlington Hotel v. Fant, 278 U. S. 439.
Willis v. Oscar Daniels Co., 166 N. W. 496 (Mich.)
Murray v. Joe Gerrick Co., cited above.

Laws enacted prior to cession likewise lose their effect as soon as Congress has enacted legislation covering the same subject matter.

Webb v. J. G. White Engineering Co., 85 So. 729 (Ala.).

The two statutes cited under the preceding heading have application to property of this description. Subsequent to the enactment of the Act of February 1, 1928, it seems tolerably certain that actions could be maintained for injuries received upon property of this description in accordance with the liability laws of the state within whose exterior boundaries the property lay. Since the enactment of the act of June 25, 1936, it seems certain that the compensation act of the state is applicable.

3. *Lands Acquired, without Cession of Jurisdiction*

Entirely apart from the effect of the acts above cited, in cases where property is acquired, not in pursuance of the constitutional authority, and without cession of jurisdiction, it would follow that the states retain jurisdiction. This may happen in several ways:

(a) If the property is acquired other than by purchase.
(b) If the consent of the Legislature is not obtained.
(c) If the acquisition is for purposes other than those named in Article 1, section 8, clause 17, of the Federal Constitution.

In any of these cases, the United States is in the position of an ordinary proprietor. Save in so far as the property is used as a means to carry out governmental purposes, it is subject to the legislative authority and control of the states equally with the property of private individuals.

Fort Leavenworth R. Co. v. Lowe, 114 U. S. 531.

Under this principle, there would seem no reason why a state compensation act should not cover an injury sustained on such property, unless it appeared its application would interfere with the conduct of governmental functions. Thus it has been held that a state regulatory law (in this case an oleomargarine statute) does not apply to the governor of a National Soldiers' Home acting under the direction of the board of managers and by authority of Congress.

Ohio v. Thomas, 173 U. S. 276.

Where no governmental agency is involved, however, it would not seem that the application of a state compensation act would interfere with governmental functions.

IV. Federal Jurisdiction over Interstate Commerce

1. *In General*

Under the provisions of Article 1, section 8, clause 3 of the Federal Constitution, Congress has the power to regulate commerce with foreign nations and among the several states and with the Indian tribes. This power when exercised is sole and exclusive. A state may regulate commerce which is purely intrastate, and may exercise a police jurisdiction over those transacting interstate commerce within its bounds, so long as this does not regulate, prohibit or burden interstate commerce itself. It may, too, with reference to local needs, where the matter regulated is not of a material character and where uniformity is not necessary, make regulations until Congress sees fit to act.

12 Corpus Juris 13-17.

Once Congress acts, this action supersedes all state laws on the subject and also excludes additional or further regulation by the states.

The rights and duties of employees and employers engaged in interstate commerce have been regulated by Congress. The Federal Employers' Liability Act (35 Statutes at Large, c. 149, 45 U. S. C. A., sec. 51 et seq.) applies to common carriers by railroad while engaging in commerce between the several states, the District of Columbia or foreign nations. It gives a right of action in tort, based on negligence, in cases where at the time of the injury both the carrier and the employee were engaged in interstate commerce. It does not apply to carriers not engaged in interstate commerce, to carriers not operating by railroad, nor to employees of carriers engaged in interstate commerce, who were not at the time of injury engaged in interstate commerce.

The broad and general terms of the Workmen's Compensation Acts did not in some cases take cognizance of the fact that they were invading the field covered by the Federal Employers' Liability Act. A New Jersey case (Rounsaville v. Central R. Co., 94 A. 392) took the position that since the Compensation Acts merely added a statutory incident to the contract of service, it might apply to railroads although admittedly it could not bar the remedy provided by the Federal Act. In Winfield v. N. Y. C. & H. R. Co., 110 N. E. 614 (N. Y.) and Erie R. Co. v. Winfield, 96 A. 394 (N. J.) the position was taken that since the Federal act did not cover injuries not due to negligence, the compensation acts might apply to such cases. Connole v. Norfolk & Western R. Co., 216 Fed. 823 indicated that compensation acts elective in form might apply to railroads, and their employees if both elected to be subject thereto. All these points were flatly negatived by the Supreme Court.

N. Y. Central R. Co. v. Winfield, 244 U. S. 147.
Erie R. Co. v. Winfield, 244 U. S. 170.

These cases took the position that since the Federal act had adopted the principle that rights to indemnity for personal injuries were based on negligence, this of necessity precluded the states from setting up any other standard: and that Congress intended the act to be comprehensive of those instances in which it excluded liability as well as of those in which a liability was imposed. It was further indicated that the states might not interfere with the operation of the act, either by putting the carriers and their employees to an election, or by attributing such an election to them through a statutory presumption. Accordingly, any award of compensation must be reversed whenever it appears that the employee is the employee of a railroad engaged in interstate commerce, and was at the time of the injury himself engaged in interstate commerce.

Philadelphia & Reading R. Co. v. Hancock, 253 U. S. 284.

These cases established the principle so definitely that the conflict of laws stopped then and there. Most of the states have modified their acts so as to exclude cases coming within the Federal Employers' Liability Act. Strictly speaking, the exclusion is not necessary.

2. *Employees Engaged in Interstate Commerce*

The court had already held that if an employee were not engaged in interstate commerce, the state act was applicable.

N. Y. C. R. R. Co. v. White, 143 U. S. 188.

The question, when is an employee engaged in interstate commerce, belongs properly to the interpretation of the Federal Employers' Liability Act. This has been extensively litigated, and the compensation cases of necessity follow the principles laid down.

(a) *Operation and Maintenance*

Without going into the interpretation of the Federal Employers' Liability Act very deeply, it will suffice to note that those employees who are actually operating trains or otherwise actually facilitating the transit of goods or persons carried in interstate commerce or maintaining the road bed and equipment used therein are engaged in interstate commerce, and come under the Federal Employers' Liability Act.

Member of train crew—
Phila. & Reading R. Co. v. Hancock, 253 U. S. 284.
Rounsaville v. Central R. Co. of N. J., 101 A. 182 (N. J.).

Operator of switch engine—
Erie R. Co. v. Winfield, 244 U. S. 170.

Switchman—
Paden v. Rockford Palace Furniture Co., 207 Ill. App. 534, 257 U. S. 645.
Runge v. Chicago Junction R. Co., 226 Ill. App. 187.
Ames v. Armour & Co., 246 Ill. App. 118.

Flagman—
Walker v. Chicago I. & L. R. Co., 117 N. E. 969 (Ill.).
Flynn v. N. Y. S. & W. R. Co., 101 A. 1034, 103 A. 1052 (N. J.).

Section hand on interstate track—
N. Y. C. R. R. Co. v. Winfield, 244 U. S. 147.
Matney v. Bush, 169 P. 1150 (Kans.).

Yard employees—
Illinois Central R. Co. v. Ind. Com., 182 N. E. 627 (Ill.).

Machinist's helper making repairs on engine in service—
Saxon v. Erie R. Co., 116 N. E. 983 (N. Y.).

Member of building gang constructing culvert on main line—*C. B. & Q. R. Co. v. Amack, 199 N. W. 735 (Neb.).*

See also—
Miller v. Illinois Central R. Co., 201 Ill. App. 519.
Connelly v. Michigan Central R. Co., 207 Ill. App. 25.
Reilly v. Erie R. Co., 107 A. 736.

(b) *Construction, Repairs and Other Incidentals*

As to those engaged in construction, repairs and other incidental operations, each case must stand on its own facts as to whether the work is part and parcel of interstate commerce or purely incidental.

Thus, compensation acts have been held to apply in case of workmen injured while repairing engines in repair shops.

Ind. Com. v. Davis, 259 U. S. 182.
Kasulka v. L. & N. R. Co., 105 So. 189 (Ala.).

So, too, in case of a millwright, hurt while ripping a piece of timber to be used in repairing a caboose.

Fish v. Rutland R. Co., 189 App. Div. 352 (N. Y.).

So of a blacksmith's helper, hurt while repairing a chisel for work on repair of engine, temporarily out of service.

D. & R. G. W. Co. v. Ind. Com., 206 P. 1103 (Utah).

So of a plumber hurt in the inspection and repair of a railroad station.

Vollmer v. N. Y. C. R. R. Co., 119 N. E. 1084.

Employee inspecting cars on tracks, not in actual service.

Hart v. Central R. Co. of N. J., 147 A. 433, 151 A. 906 (N. J.).

Employee injured while running a reaming machine on a piece of steel designed to be used in repairing a freight car.

Williams v. Carolina C. & D. Ry. Co., 289 S. W. 520 (Tenn.).

Workmen making concrete forms for construction of retaining wall to be used as part of a track elevation plan.

Dickinson et al v. Ind. Acc. Board, 117 N. E. 438 (Ill.).

Workmen unloading gravel from car in railroad yard.

Reed v. C. C. C. St. L. R. Co., 220 Ill. App. 6.

Yard master, injured while lighting a fire in the office.

Benson v. Missouri Pacific R. Co., 69 S. W. 2nd 656.

(c) *Employees to Whom Federal Act Gives no Redress*

The Compensation acts do not apply to employees engaged in interstate commerce, even though the Federal act gives them no redress.

Walker v. Chicago I. & L. Ry. Co., 117 N. E. 969 (Ind.).
Matney v. Bush, 169 Pac. 1150 (Kans.).

(d) *Third Party Remedies Under State Compensation Acts*

The third party remedy available under the Workmen's Compensation Act is not available to employees engaged in interstate commerce.

Schultz v. C. G. & W. R. R. Co., 226 Ill. App. 559.

(e) *Railroads Which Elect to Come Under State Compensation Acts*

A railroad which qualifies under the Massachusetts act as assenting employer is not under obligation to insure employees engaged in interstate commerce.

Armburg v. B. & M. R. Co., 177 N. E. 665, 285 U. S. 234.

(f) *Compensation Jurisdiction*

The question whether an employee is engaged in interstate commerce goes to the Court's jurisdiction.

It should therefore appear on the record that the employee was not engaged in interstate commerce.

Brinsko's Estate v. Lehigh Valley R. Co., 102 A. 390 (N. J.).

A stipulation by parties that both are subject to the compensation act should be construed as meaning that the employee was engaged in intrastate commerce.

Rosandick v. Chicago, N. S. & M. R. Co., 201 N. W. 391 (Wis.).

(g) *Joint Employment*

An employee acting as flagman for both an interstate and an intrastate railroad, and killed by a train of the interstate railroad at the time a train of the intrastate railroad was passing was an employee of the intrastate railroad at the time as to support an award of compensation.

San Francisco-Oakland Terminal Rys. v. Ind. Acc. Com., 179 P. 386 (Cal.).

The above indicates the nature of the problems raised by reason of the jurisdictional line that has been drawn in case of employees. It may be added that the problem, when is an employee engaged in interstate commerce, has been very intensively litigated under the Federal Employers' Liability Act.

3. *Employees Other Than Railroad Employees Engaged in Interstate Commerce*

The Federal Employers' Liability act applies only to railroads engaged in interstate commerce. Interstate commerce is a term far more extensive and includes many employers beside railroads. In default of Federal Legislation, they are, unless excepted or excluded by the state act, employers within their terms.

(a) Carriers by airplane.

These would seem to be within the terms of state compensation acts.

Sheboygan Airways v. Ind. Com., 245 N. W. 178 (Wis.).
(This was, however, an intrastate operation.)

It may be noted that Congress has enacted regulatory provisions over airplanes and has asserted definite jurisdiction over "The airspace over the lands and waters of the United States including the Canal Zone".

49 U. S. C. A., sec. 176.

So far, this has not been coupled with regulations of the relation of employee and employer with respect to personal injuries, though some such regulation in case of interstate aircraft might seem desirable.

(b) Express companies have been held to come within the compensation acts.

Pusher v. Am. Ry. Exp. Co., 183 N. W. 839.
Castagno v. Lavine Express Co., 176 A. 679 (N. J.).

(c) Also Telegraph Companies.

Western Union Tel. Co. v. Byrd, 294 S. W. 1099 (Tenn.).

(d) The same would be true, doubtless of motor-busses. The point has apparently not been pressed. There are a number of cases as to carriers by water, but these properly come under the section devoted to Maritime coverage.

4. *Exclusions in the State Compensation Acts as to Carriers*

Some states make no exclusions of railroads and their employees from the compensation acts. In such cases, the line of separation is that indicated by the Federal decisions, i.e., the state act does not and cannot cover the employee of a railroad if at the time of the accident both the railroad and the employee were engaged in interstate commerce. Other states have made exclusions in varying form substantially in accord with the above rule. Others have made exclusions broader than the rule requires. These states, and the substance of statutory provisions in the last named class listed below.

i. *No Provision*

California, Florida, Massachusetts, Nevada, New Jersey, Pennsylvania, Rhode Island, Wisconsin.

ii. *Provisions Substantially in Line With Rule Laid Down by Federal Court*

Arizona (sec. 1445), Connecticut (sec. 5262), Delaware (sec. 3193 W. W.), District of Columbia (sec. 1), Hawaii (sec. 7537), Idaho (sec. 43-1804), Illinois (sec. 5), Indiana (sec. 19), Iowa (sec. 1417), Kansas (sec. 6), Louisiana (sec. 30), Maine (sec. 2, I, II), Maryland (secs. 33, 34), Michigan (Part VI, sec. 4), Missouri (sec. 3310 a), New Mexico (sec. 11), New York (sec. 113), Ohio (sec. 1465-98), South Dakota, (sec. 9452), Utah (sec. 3155), Vermont (sec. 6508), West Virginia (sec. 10), Wyoming (sec. 124-105), New Hampshire (sec. 1) definitely seeks to bring railroad operations within its act: and probably belongs in the preceding division rather than this.

iii. *Provisions Making Broader Exclusions Than Those Required by Rule*

Alabama (sec. 7543). Excludes "any common carrier doing an interstate business while engaged in interstate commerce".

Alaska (sec. 2201). Excludes "the operation of railroads as common carriers".

Colorado (sec. 4384). Excludes "common carriers engaged in interstate commerce and their employees".

Georgia (secs. 9, 16). Excludes common carriers by steam railroad, whether engaged in interstate or intrastate business.

Kentucky (sec. 4880). Excludes "steam railways or such common carriers, other than steam railways, for which a rule of liability is provided by the laws of the United States".

Minnesota (Part 2, sec. 4268). Excludes "any common carrier by steam railroad".

Montana (sec. 2931). Excludes "any railroad engaged in interstate commerce" except as to railroad construction work.

Nebraska (sec. 48-106). "Provided that railroad companies engaged in interstate or foreign commerce are declared subject to the powers of Congress and not within the provisions of this act."

North Carolina (sec. 14). Excludes "Railroads and railroad employees".

North Dakota (sec. 396a 2). Excludes "any employment of a common carrier by steam railroad".

Oklahoma (sec. 13350). Excludes "operating any railroad in interstate commerce".

Oregon (sec. 49-1815). The act applies to railroads, logging railroads, street railroads and interurban railroads "when not engaged in interstate commerce".

The act applied to carriers by motor truck "when not engaged in interstate commerce". Special provisions for the above to come under the act by election. Secs. 49-1810, 49-1815-2.

South Carolina (sec. 140). Excludes "railroads and railroad employees".

Tennessee (sec. 6856). Excludes "any common carrier doing an interstate business when engaged in interstate commerce".

Texas (Art. 8306, sec. 2). Excludes "any person, firm or corporation operating any steam, electric, street or interurban railway".

Virginia (secs. 9, 15). Practically same as Georgia.

Washington (secs. 7693, 7695). Substantially, this excludes railroads and their employees engaged both intrastate and interstate commerce, except as to railroad construction work. The provisions of the Federal Employers' Liability Act are adopted to cover employees not within that act. Intrastate railroad operations with clearly separable payroll come within the act: also railroad contractors.

Employers other than railroads, and their employees engaged in both intrastate and interstate commerce are within the act only to the extent that the payroll of employees engaged solely in intrastate business is separable from the payroll of employees engaged in both intrastate and interstate business.

V. The Maritime Jurisdiction of the United States

1. *In General*

A sovereign state is generally recognized as having authority to exercise powers of government within its territorial boundaries. This authority may be termed the state's jurisdiction. In case of a legislative body, the term jurisdiction refers to the limits of its legislative authority: in case of a court, to its power to adjudicate rights and administer remedies provided by law.

Under principles of international law, the jurisdiction of a sovereign nation is regarded as extending into the sea to the distance of a marine league from shore, although the reason for setting this limit, i.e., the distance a cannon can cast a ball from the shore, no longer applies. Where the shore is indented, the league is measured from a line drawn from headland to headland. In case of large bays, when the headlands are more than two leagues apart, international jurists are by no means unanimous. The United States, in the North Atlantic Fisheries case contended for a limitation of this rule to cases where headlands were not over two leagues apart, but the Hague Tribunal failed to concur with this, suggesting as a rule the measurement of the league from a line drawn between headland and headland at the first point where they were not over ten miles apart. This can hardly be said to be a rule of international law, however. Larger bays than this have been held within the territorial jurisdiction of a nation.

Scott. Hague Court reports pp. 141, 183.
Direct U. S. Cable Co., Ltd. v. Anglo-American Tel. Co., Ltd., 2 App. Cas. 384, 420 (England).
33 C. J. 406, 407, and notes.

Where a nation abuts on a navigable stream, the boundary, if not defined by treaty, is generally taken as the "Thalweg" or center of the main navigable channel of the stream.

Louisiana v. Mississippi, 202 U. S. 1, 49.

In case of a bound upon inland waters, navigable, but with no defined channel, the boundary, if not defined by treaty, is generally taken as the center. This may, however, be affected by considerations of actual or probable use in the ordinary course.

Minnesota v. Wisconsin, 252 U. S. 273.

The ocean, outside of territorial limits, is known as the open sea or the high seas. It is not within the jurisdiction of any nation. A ship, sailing on the high seas, is generally regarded as part of the nation to which it belongs and as taking its nation's law along with it. This so-called "law of the flag" has, however, no application to prevent a ship becoming subject to the laws of a nation as soon as it enters its territorial waters. This may, however, be modified by treaty.

In case of the United States a peculiar situation exists. The United States is a body of states which are sovereign save in so far as they have ceded their authority to the Federal Government. The Federal Government, by virtue of the so-called "Commerce Clause", and of the provisions of Article III, section 2, defining the powers of the Federal courts as extending to all cases of admiralty jurisdiction has by necessary implication the powers of a sovereign nation to control the navigable waters of the United States and to make laws for the regulation of commerce and navigation therein, and to regulate the rights and duties of individuals within the sphere usually appertaining to admiralty and maritime matters. But while the United States possesses this paramount jurisdiction, territorial jurisdiction over the waters and subordinate right of legislation are vested in the states, and state lines go or may go clear to the limits recognized by international law. There is no territorial zone in navigable waters which can be regarded as completely outside the territorial jurisdiction of the states and completely within that of the Federal Government, save that appertaining to territories and possessions of the United States.

2. *Navigable Waters of the United States*

These include all waters and waterways within the territorial limits of the United States and the several states which are navigable. Navigable waters are those which, by their own depth, width and location are rendered available for navigation, whether actually so used or not. The Common Law of England restricted the terms to tide-waters; but this limitation is not the law in the United States.

State ex. rel. Commissioners of Atchafalaya Levee dist. v. Capdeville 83 So. 421, 252 U. S. 581.

"Navigable water" means water navigable in fact.

U. S. v. Holt State Bank, 270 U. S. 49.

Whether a river is navigable in fact is determined by whether it is used or can be used in its natural and ordinary condition as a highway of commerce, over which trade or travel are, or may be, conducted in the ordinary modes of trade and travel by water.

Oklahoma v. Texas, 258 U. S. 574.
Brewer-Elliott Oil & Gas Co. v. U. S., 260 U. S. 77.

Canals and lakes may be navigable waters of the United States. The question of navigability depends upon the possibility of use, either by themselves or through continuous connections, in interstate or foreign commerce.

33 U. S. C. A., p. 4, c. 1 notes.
1 C. J. 1257, notes 93, 94, 95.

Both the states and Congress have authority to declare streams navigable or non-navigable. The authority of the states is, however, subordinate to that of Congress.

33 U. S. C. A., secs. 21-46.

The maritime jurisdiction of the United States is not confined to navigable waters of the United States, but extends to vessels of the United States on the high seas or even in ports of other nations. It extends to vessels of other nations only when these are within navigable waters of the United States.

Non-navigable rivers and inland waters are not within the jurisdiction of the United States.

3. *The Federal Jurisdiction*

(a) *The Maritime Law*

The maritime law is a system of law which particularly relates to the affairs and business of the sea, to ships, their crews and navigation, and to marine conveyance of persons and property. It is not the law of a particular country, but part of the general law of nations.

36 C. J. 960.

The maritime law is far from being a complete code of rights and duties. Inasmuch as it applies to private rights, and not national rights, it is operative in any country only in so far as it is adopted by the laws and usages of that country.

The Scotland, 105 U. S. 24.

Maritime law is more or less enforced by nations generally, because of the need of a fairly uniform practice in matters international in character. Nations generally can and do modify it by statute in so far as it applies to their own ships or to waters subject to their own jurisdiction. In case of the United States, the constitutional provisions heretofore referred to made the maritime law a matter exclusively of Federal cognizance. The states can add nothing to it, and take nothing from it, and in the field of strictly maritime law, state legislation is ineffective, except as such legislation is adopted by the national will.

The Unadilla, 73 F. 350, 351.

The maritime law takes cognizance of both maritime contracts and maritime torts. It is enforced generally by courts having admiralty jurisdiction. Certain contracts and torts under the maritime law create a maritime lien against a vessel, and these liens are enforced by libel *in rem,* a procedure whereby the vessel may be taken possession of by an officer of the court and upon proper proceedings sold to satisfy the lien. Admiralty courts also take cognizance of actions against persons in the form of libels *in personam.* Procedure in admiralty does not, independent of statute, afford parties the right of trial by jury. In certain cases of contract or tort arising in the Great Lakes, however, the right to trial by jury is given by statute.

U. S. Rev. Sts., sec. 566.
1 C. J. 1336.

In suits *in personam,* however, the jurisdiction of the admiralty courts is not exclusive.

The principal case wherein the maritime law has a distinctive rule as to the liability of the employer for injuries to his employee is in case of seamen. Under the maritime law, if a seaman falls sick or is injured while in the service of the ship, he is entitled to maintenance and cure. "Cure" is used in its original sense of "care". The duty to afford cure and maintenance rests upon the ship, its master and its owner. It is not created by statute but arises from the general maritime law.

56 C. J. 1066, 1067.

The right is coextensive with service in the ship. It is in no way dependent upon any fault on the part of the ship, its master or its owner. It is a quasi-contractual right, arising out of the relation between the seaman and the ship. As such, it is probably not within the terms of a contract of insurance against legal liability only. This right of cure and maintenance generally under the maritime law precluded any right of a seaman to maintain an action in tort to recover damages. To this, however, there was one well-recognized exception. If the injury was caused by the personal negligence or default of the shipowner, such as the unseaworthy condition of the ship and its appurtenances (including in this term incompetence, inefficiency or gross brutality of officers), in such case a suit to recover damages could be maintained.

56 C. J. 1082, 1088-1092.

The maritime law, however, gave no remedy for death of a seaman caused by wrongful act, nor did it give a remedy to a seaman for injuries caused by the negligence of his fellow servants.

56 C. J. 1088, sec. 651, 1093, sec. 665.

On the other hand, in a suit by a seaman, the negligence of a fellow servant was a defense only in case it was the sole and proximate cause of the injury, without any causal connection whatever with the unseaworthy condition of the ship.

56 C. J. 1094, sec. 667.

The maritime law also took cognizance of torts to persons other than seamen, provided the same took place on navigable waters. Generally it is held that the tort must be maritime in character, i.e., having some relation to a vessel, its owners, officers or crew. All cases, however, do not recognize this distinction.

Imbrovek v. Hamburg American Steam Packet Co., 190 F. 229, 193 F. 1019.
The Plymouth, 3 Wall. 20.
The San Rafael, 134 F. 749.
Campbell v. Hackfield, 125 F. 696, 697, 698, 700.

So far as the right to cure and maintenance was concerned, it might exist even though the seaman were injured on land. In case of actions in tort, however, the tort must occur in some degree on navigable water. Admiralty courts had jurisdiction of continuing torts consummated partly on land and partly on the water: also of torts originating on water and consummated on land; but not of a tort originating on land and consummated on water.

1 C. J. 1287-1288.

As in case of suits involving seamen, the maritime law gave no remedy for death caused by wrongful act or negligence on the high seas or navigable waters. This was, it may be instanced, the general rule at common law.

1 C. J. 1289.

Congress has undoubted authority, as in case of other nations, to make statutory modifications of the maritime law within its jurisdiction. The extent to which it has modified the law is hereinafter discussed.

(b) *The Judiciary Act*

In the absence of legislation by Congress as to the procedure in maritime matters, state courts could and did take cognizance of proceedings in admiralty. The first judiciary act, however, passed in 1789, did away with this by declaring the jurisdiction in the courts of the United States of all civil cases of admiralty and maritime jurisdiction to be exclusive of the courts of the several states. The act contained, however, a clause "saving to suitors in all cases the right of a common law remedy where the common law is competent to give it".

28 U. S. C. A., sec. 371, sec. 41 (3).

This act transferred to the district courts of the United States the characteristic admiralty jurisdiction, and in effect wrote the maritime law into the statute books, thereby at once depriving the states of any legislative or judicial authority in the premises. The provision was held constitutional.

The Moses Taylor, 4 Wall. 411, 430.

State laws giving rights to maritime proceedings *in rem* against vessels became forthwith void, except in case of proceedings applicable to domestic vessels only.

The Roanoke, 189 U. S. 185.
Perry v. Haines, 191 U. S. 17.

Such proceedings can, however, be maintained in the Federal courts only, unless the cause of action is non-maritime in character.

The Roanoke, cited above.
Iroquois Transp. Co. v. De Lancy, 205 U. S. 354.
(For other cases as to maritime laws, see 28 U. S. C. A., sec. 371, note 79.)

The effect of the saving clause, however, was to permit common-law courts, state or Federal to entertain actions *in personam* even though the cause of action arose from a tort cognizable in admiralty proceedings.

Crane v. Pacific S. S. Co., 272 F. 204.
Ross v. Pacific S. S. Co., 272 F. 538.

Just how far this saving clause goes has been the theme of no little discussion, and no little variance in the courts. Whether it has the effect of saving merely rights of action at common law, or whether it enables states to provide a remedy broader than the common law and enforce it, is a theme on which courts are not altogether consistent. Thus, it has been held that a sailor, electing to sue for damages is restricted to rights measured by the maritime law.

Chelentis v. Luckenbach S. S. Co., 247 U. S. 372.
Hanrahan v. Pacific Transport Co., 262 F. 951.

So, too, it has been held that in a suit brought by a longshoreman for injuries received while loading a vessel on navigable water, he is bound, as to rules of contributory negligence, acts of fellow servants and measure of recovery, by the maritime law and not the common law.

Kennedy v. Cunard S. S. Co., 139 U. S. 752.

Also, that the statute refers only to remedies for the enforcement of the Federal maritime law, and does not create substantive rights, nor assent to their creation by the states.

Cassil v. U. S. Emergency Fleet Corp'n., 289 F. 774.

On the other hand there are cases holding that the common law remedy saved to suitors is not limited to either the substantive or remedial law as it was in 1789, but, as applied to maritime torts, may be modified by state statutes within reasonable limitations. Thus a provision of the state labor law imposing a duty to provide safe scaffolds has been applied.

Maleeny v. Standard Shipbuilding Corp'n., 142 N. E. 602 N. Y.

In view of decisions involving the Compensation acts, it seems on the whole likely that the latter case is not sound.

There is, however, one well established exception to the rule, namely, statutes giving recovery for death caused by wrongful act.

Apart from statute, no right of action existed at common law for death caused by wrongful act, and this rule was applied in admiralty cases.

1 C. J. 1289, note 62.

The Federal courts, however, did recognize the applicability of state death statutes, or similar remedies provided by laws of foreign nations in cases of deaths occurring in waters of such state or nation, or in vessels of such state or nation upon the high seas.

1 C. J. 1290, sec. 127, note 66.
American Steamboat Co. v. Chase, 16 Wall. 522.
The Hamilton, 207 U. S. 398.
La Bourgogne, 210 U. S. 95.

The application of state death statutes has been greatly limited by the enactment of the Jones Act, relating to seamen on American vessels, and by the Federal Act giving right of action for death on the high seas. But state death statutes still have application in cases not coming under either.

Spencer Kellogg Co. v. Hicks, 285 U. S. 502.

The advent of the Workmen's Compensation Acts raised the question of the state's authority to regulate the relation of master and servant in the maritime field. The acts generally did away with the common law or statutory remedy of action at law for damages in case of wrongful injury to or death of an employee, and substituted a statutory indemnity, annexed as matter of right either to the contract of service or to the relation of employer and employee. The state courts were inclined to hold that the application of these acts to services, maritime in character, was no infringement on the maritime jurisdiction of the United States. The Supreme Court, however, having before it the case of a stevedore, injured while on board a vessel discharging cargo, held that the compensation act of the state had no application. The court took cognizance of the fact that state death statutes had been applied in maritime cases, but took the position that these merely supplemented the maritime law, whereas the compensation acts, so far as they went, abrogated the maritime law altogether, and set up a new remedy of a different character. The court also indicated an opinion that, "where the subject is national in character, and admits and requires uniformity of regulation, affecting alike all the states, and as transportation between the states, including the importation of goods from one state into another, Congress alone can act on it and provide the needed regulations. The absence of any law of Congress on the subject is equivalent to a declaration that commerce in that matter is free". This the court held was a case where the usages of maritime commerce required uniformity.

Southern Pacific Co. v. Jensen, 244 U. S. 205.
Clyde S. S. Co. v. Walker, 244 U. S. 255.
Peters v. Veasey, 251 U. S. 121.

Congress tried to avoid the result of this decision by the Act of October 6, 1917, amending the clause of the Judiciary Act by adding to the saving clause the words "and to claimants the rights and remedies under the Workmen's Compensation law of any state". This, however, the Supreme Court held unconstitutional on the ground that to adopt the acts of the states to cover a field where Congress alone had the right to act was an unconstitutional delegation of authority.

Knickerbocker Ice Co. v. Stewart, 253 U. S. 149.

Congress made a second attempt to legislate on the subject in the act of June 10, 1922, c. 216. This substituted for the clause declared invalid the words now appearing in the law: "and to claimants for compensation for injuries to or death of persons other than the master or members of the crew of a vessel, their rights and remedies under the Workmen's Compensation law of any state, district, territory or possession of the United States".

26 U. S. C. A., secs. 41 (3), 371.

This was declared unconstitutional for the same reasons as in case of the preceding law.

Washington v. W. C. Dawson Co., 264 U. S. 219.
Ind. Acc. Com. v. Rolph, id.

The decisions were by a closely divided court, and while the majority were probably in accord with the general trend of decisions in maritime cases, the admission by the courts of the state death acts into the maritime field created an awkward exception to explain away. Surely there is as much reason for uniformity in case of actions involving death as in compensation cases: and if the courts could without legislation recognize the former, it would seem that Congress might have had authority to recognize the latter. However, such is the law, and in view of the enactment by Congress of the Longshoremen's and Harbor-Workers' Act, such the law is likely to remain.

There remained, however, one further question, namely as to the right of the state to annex incidents to contracts of service maritime in character when performed upon the shore. On this point, however, the Supreme Court held that the contract of employment, though maritime in character, has no particular reference to any dominant Federal rule as to liability. Injuries to maritime workers and even to seamen on land had always been regarded as coming under the laws of the states, and thus it worked no material prejudice to the general maritime law to apply the state compensation acts to injuries of maritime employees on land.

State Ind. Com. v. Nordenholdt Corp'n., 259 U. S. 263.

The effect of the decisions was to raise a question whether the application of state death statutes to maritime cases might not likewise be affected. On this point the Supreme Court held. "The subject is maritime and local in character, and the specified modification of, or supplement to the rule applied in admiralty courts, when following the common law, will not work material prejudice to the characteristic features of the general maritime law, nor interfere with the proper harmony and uniformity of that law in its international and interstate relations."

Western Fuel Co. v. Garcia, 257 U. S. 233.

This reasoning, however, offered a loophole for a limited application of the compensation acts to the maritime field, namely in cases local in character, where the application would not work material prejudice to the characteristic features of the general maritime law. It is now well established that there is a field where the state compensation acts do apply, even though injury is in an employment maritime in character, and injury is sustained on navigable waters of the United States.

Grant, Smith, Porter Co. v. Rohde, 257 U. S. 469.
Millers Indemnity Underwriters v. Braud, 270 U. S. 59.
Lahti v. Terry & Tench Co., 148 N. E. 527, 269 U. S. 548, 273 U. S. 639.

The result is, a line of demarcation between state and Federal jurisdiction, obscure enough to create a host of litigated cases, and capable of clarification only by decisions of the Supreme Court and Congressional legislation. Up to date, Congress has made no attempt to alter the line. While it has passed legislation hereinafter discussed, giving to seamen statutory rights of recovery in the form of suits for damages, (the so-called Jones Act) and a statute giving right of recovery for death by wrongful act on the high seas, and the extremely important Longshoremen's and Harbor-Workers' Act, none of these acts affects cases involving maritime employees cognizable under state compensation acts. Before discussing these acts, it seems proper to insert a section briefly delineating the line between Federal and state jurisdiction, so far as it has been definitely marked out.

(c) *Application of Laws to Maritime Risks*

As has been seen, the Federal jurisdiction over maritime torts was essentially local, extending to torts consummated on a vessel or in navigable waters, and also to torts begun on water and consummated on land. There was some difference of opinion in the courts as to whether it applied to all torts coming within this description, or merely to maritime torts, that is to say, torts connected in some way with vessels, their masters or crews or generally with navigation and commerce, the latter being probably the sounder view.

This line, however, has not been followed with any exactitude in declaring the extent to which compensation acts could cover injuries on navigable waters.

(1) *Injuries on Vessels*

For the purpose of the maritime law, and particularly in connection with the subject of maritime liens, a vessel includes generally every description of water craft or other artificial contrivance used, or capable of being used, as means of transportation on water. If the business or employment of a vessel appertains to travel or to trade and commerce on water, it is subject to admiralty jurisdiction, whatever be its form, size, capacity or means of propulsion.

1 C. J. 1263-64 and notes.

Vessels, for purposes of admiralty jurisdiction have been held to include canal boats, ferry boats, lighters, barges, with or without sails or rudders, floating grain elevators, floating boat houses, a bath house made of boats, house boats, scows, light-boats, wharf boats, floats used as receptacles for oysters, pump boats, pile drivers, or even a floating circus towed by a stern wheel steamer.

1 C. J. 1263-64, notes 74-76, 80-91.

Dredges, when used for purposes of transportation or for harbors and navigable channels are vessels, but not dredges which are used for local purposes or which are stationary.

1 C. J. 1263-64, notes 77-78, 96, 38 C. J. 1203, 1204, notes 8, 9.

Rafts have sometimes been held vessels, but not always.

1 C. J. 1263-64, note 79.

Certain other floating structures, capable of being moved, but from their nature, build, design and use intended to be relatively permanent are not vessels for purposes of admiralty jurisdiction. Thus, floating dry docks, a marine pump, a floating hotel, a gas float, and a floating scow platform, have been held not to be vessels.

1 C. J. 1263-64, notes 93-98.

Also, naturally, dry docks, wharves and floating structures permanently attached to shore.

38 C. J. 1202, notes 90-92.

For purposes of admiralty jurisdiction, a vessel became a vessel sometimes before it was actually put into commission, and continued to be a vessel although temporarily aground, laid up for repairs or undergoing repairs in a dry dock or marine railway. It ceased to be a vessel when wrecked or when otherwise permanently unfitted for navigation.

1 C. J. 1263-64, note 99.

i. *Vessels Generally*

Generally, the state compensation acts have no application to injuries sustained on board vessels by employees engaged in maritime employments.

Thus of seamen injured aboard vessel.

Hartman v. Toyo Kisen Kaisha S. S. Co., 244 F. 567. Seaman.

Barrett v. Macomber & Nickerson Co., 253 F. 205. Seaman.

Knapp v. U. S. Transp. Co., 181 App. Div., 432. Second Mate.

Dorman's Case, 129 N. E. 352 Mass. Mate.

In re Famous Players Lasky Corp'n., 30 F. 2nd 402. Seaman on ship used for taking motion pictures.

McKennon v. Kinsman Transit Co., 270 N. Y. S. 583. Shipkeeper.

London Guarantee & Acc. Co. v. Ind Acc. Com., 279 U. S. 109. "Spare Master".

The same is true of stevedores, longshoremen and other workers employed in loading or unloading vessels. This is true whether they are employed by the vessel, its master or owner or not, and irrespective of whether there is a remedy under the maritime law for the particular case or not.

This has been so extensively litigated in the Supreme Court of the United States as to preclude the necessity of more than casual mention of cases in other courts which are extremely numerous.

Southern Pacific Co. v. Jensen, 244 U. S. 205. Stevedore.

Washington v. W. C. Dawson & Co., 264 U. S. 219. Stevedore.

Ind. Acc. Com. v. Rolph, 264 U. S. 219. Stevedore.

Peters v. Veasey, 251 U. S. 121. Longshoreman.

Alaska S. S. Co. v. McHugh, 268 U. S. 23. Case of a stevedore on ship engaged in coastwise trade.

International Stevedoring Co. v. Haverty, 269 U. S. 549. Stevedore. Noteworthy as an instance of a very broad interpretation of the "Jones Act", extending to stevedores doing the work of seamen the rights conferred by that act on seamen.

Northern Coal & Dock Co. v. Strand, 278 U. S. 142. Stevedores. This reversed a state case which held the state compensation act might be applied when no maritime tort was involved, and therefore, no remedy under the maritime law.

Employers' Liability Co. v. Cook, 281 U. S. 233. Employee injured while unloading vessel. Reversing 31 F. 2nd 497, which held state act applicable, the employment being on a ship used solely for transporting the employer's own products.

The same is true of employees making repairs on vessels or fitting the same by sea. The cases are considered under the subject, ships under repair. As to employees who are only casually aboard ships for particular errands, there is question whether the rule applies, and reason to believe it does not apply to non-maritime employees casually on a ship or as passengers.

Teahan v. Ind. Acc. Com., 292 P. 120. Assistant wharfinger employed by city, injured while going on ship to receive manifest papers. Held under the state compensation act.

Madderns v. Fox Film Corp'n., 143 N. Y. S. 764. Actor injured on boat used in making motion pictures. State compensation act held to apply.

The Linseed King, 48 F. 2nd 311. Shore employees, drowned while returning from work in launch of employer. Held that state compensation act applied. The case was reversed in the Supreme Court. (Spencer Kellogg Co. v. Hicks, 285 U. S. 502) on the ground that since the employer had committed a maritime tort causing the deaths, the employees had rights under the maritime law which could not be affected by the state compensation act.

Heaney v. P. J. Carlin Const. Co., 199 N. E. 16, Aff. 298 U. S. 637.

Dingfeldt v. Albee Godfrey Whale Creek Co., 284 N. Y. S. 858.

Both these cases involved injuries to employees sustained by explosion on boat transporting them to work. Held that state compensation act applied. Case differs from preceding in that boat was not operated by employer.

Haynes v. Luckenbach Gulf S. S. Co., 170 So. 909 (La.) This case seems inconsistent with foregoing. It held state compensation act not applicable to longshoreman injured on shipboard while being transported to work.

Other exceptions are hereinafter discussed, in connection with particular types of craft.

There seems some reason to believe this exception well founded under the rule laid down in Grant Smith Porter Co. v. Rohde and Millers Indemnity Underwriters v. Braud, previously cited.

It would seem that when an employee comes within the maritime law, no agreement between himself and his employer has power to make the state compensation act applicable.

State v. Duffy, 149 N. E. 870 (Ohio).

The state compensation act not being applicable, the employer cannot of course set up any provision of the act to modify his rights under the maritime law.

There is a case holding that when employee and employer have agreed on compensation, the subrogation provisions of the act may apply to transfer to the employer rights to recover for a maritime tort: but this seems of doubtful authority.

Lumbermen's Mutual Casualty Co. v. Thompson, 235 N. Y. S. 646.

ii. *Ships Under Repair, Lying in Navigable Waters*

All employees injured on board vessels in the course of making repairs or installing fittings or machinery on vessels lying in navigable waters are under the maritime law, even if their employment is temporary in nature, and even if the ship is temporarily out of commission.

Alaska Packers Ass'n. v. Ind. Acc. Com., 218 P. 561 (Cal.), 263 U. S. 722.

Kierejewski v. Great Lakes Dredge & Dock Co., 261 U. S. 479.

Messel v. Foundation Co., 274 U. S. 427.

Baizley Iron Works v. Span, 281 U. S. 222.

Thus held with respect to following:

Lee v. W. A. Fletcher Co., 4 F. 2nd 3. Work of scraping and painting vessel tied up to wharf.

Osten v. Brennan, 6 F. 2nd 388. Repairing boilers of ship.

Kantleberg v. G. M. Standifer Const. Co., 7 F. 2nd 922. Caulker.

Alaska Packers Ass'n. v. Ind. Acc. Com.; cited above. Rigger making vessel ready for sea.

Ahern's Case, 142 N. E. 703 (Mass.). Employee of shipbuilding company injured while working on vessel lying in navigable waters.

Doey v. Clarence P. Howland Co., 120 N. E. 53.

Sullivan v. Hudson Navigation Co., 182 App. Div. 152, 248 U. S. 574.

London Guar. & Acc. Co. v. Marine Repair Corp'n., 195 N. Y. S. 492.

Carpenters injured while fitting ship to receive cargo.

Hawkins v. Anderson & Crowe, 164 P. 556 (Ore.) Lining ship.

Kierejewski v. Great Lakes Dredge & Dock Co., cited above. Repairing scow.

Messel v. Foundation Co., cited above. Boilermaker's helper repairing funnel.

Kuhlman v. W. A. Fletcher Co., 20 F. 2nd 465. Ship carpenter.
La Casse v. Great Lakes Engineering Works, 219 N. W. 730 (Mich.) Workman on ship temporarily out of commission.
Dewey v. D. L. & W. R. Co., 143 A. 313 (N. J.). Pipe fitter working on vessel.
Colonna Ship Yards v. Dunne, 145 S. E. 342 (Va.). Acetylene Welder installing boiler tubes.
McClure v. Wilson, 265 P. 485. Machinist repairing launch.
Baizley Iron Works v. Span, cited above. Incidental painter doing work on ship.
Lake Washington Ship Yards v. Brueggemann, 56 F. 2nd 655. Caulker.
Arundel Corp'n. v. Ayers, 175 A. 586 (Md.). Machinist's helper repairing dredge.

There are a few cases the other way, but in view of the Supreme Court cases, these must be taken as overruled. When an employee is injured on land while working at repairing a vessel, it is not generally a maritime case. These cases are discussed later.

iii. *Ships in Dry Dock*

There are two kinds of dry dock, floating and "graven", or attached to land. Neither kind is rated a "vessel" for the purpose of maritime liens.

1 C. J. 1263-64, note 93.
38 C. J. 1202, notes 90, 91, 92.

A vessel in dry dock is however regarded, for the purpose of determining liability of employers, much as if she were in water, and an injury to an employee engaged in repairing her is a maritime injury, irrespective of whether it occurs on the vessel, or by a fall in the dry dock itself.

Gonsalves v. Morse Dry Dock & Repair Co., 266 U. S. 171.
Robins Dry Dock & Repair Co. v. Dahl, 266 U. S. 449.
The Anglo-Patagonian, 235 F. 92.
Gray v. New Orleans Dry Dock & Shipbuilding Co., 84 So. 109 (La.), 254 U. S. 617.
O'Hara's case, 142 N. E. 844 (Mass.).
Danielson v. Morse Dry Dock & Repair Co., 139 N. E. 567 (N. Y.).

Warren v. Morse Dry Dock & Repair Co., 139 N. E. 569 (N. Y.).

Butler v. Robins Dry Dock and Repair Co., 147 N. E. 435 (N. Y.). (Injury in "graven" dry dock.)

March v. Vulcan Iron Works, 132 A. 89, 271 U. S. 682 (N. J.). Fall from ladder loading from dock to vessel on ways.

Baker Tow Boat Co. v. Langnac, 117 So. 915 (Ala.).

Colonna Ship Yard v. Bland, 148 S. E. 729 (Va.).

Watkins v. Jahncke Dry Dock Co., 135 So. 469 (La.).

Dawson v. Jahncke Dry Dock Co., 131 So. 743 (La.).

Dawson v. Jahncke Dry Dock Co., 137 So. 376 (La.). This case involved the death of one inspecting ship in dry dock as preliminary to making a bid for repairs. It was held a maritime injury and not under state compensation act.

Manufacturers Liability Co. v. Hamilton, 222 N. Y. S. 394.

The cases may be noted of Maleeny v. Standard Shipbuilding Corp'n., 142 N. E. 602, N. Y., and Dahl v. Robins Dry Dock & Repair Co., 203 App. Div. 792. These involved the question whether a workman injured repairing a vessel in dry dock might not set up the provisions of the New York Labor Act, relative to supplying safe scaffolding. The court held it could be done, but the decision seems very doubtful.

The case of Shea v. State Ind. Acc. Com., 247 P. 170 (Ore.) holding that a workman injured while working on the keel of a vessel in a "graven" dry dock is under the state compensation act seems erroneous, or at least very much against the great weight of decision.

A question may be raised as to whether a workman on a dry dock, not engaged in work on a vessel is under the maritime law in view of the fact, noted above, that a dry dock itself is not a vessel.

iv. *Vessel on Marine Railway*

Colonna's Ship Yard v. Lowe, 22 F. 2nd 443. This holds that a painter while painting a ship on a marine railway is subject to the state compensation act.

Norton v. Vesta Coal Co., 63 F. 2nd 165 (acc.). But see *Continental Casualty Co. v. Lawson, 64 F. 2nd 802,* which holds worker on vessel on marine railway to be subject to maritime jurisdiction. This is a very well considered case: and it must be conceded that the distinction between a vessel in dry dock and a vessel on a marine railway is very fine-drawn.

v. *Vessel Stranded*

A vessel remains a vessel under the maritime law irrespective of the fact that it is stranded: though not after it became a wreck. The cases thus far developed relate to injuries suffered while endeavoring to launch a stranded vessel.

Payne v. Jacksonville Forwarding Co., 290 F. 936. Injury received while attempting to secure line to stranded vessel. Held under maritime law.

Alaska Packers' Ass'n. v. Ind. Acc. Com., 253 P. 924 (Cal.), 276 U. S. 467. Injury received while on land, or partly on land, partly in water, trying to launch stranded boat. Held compensable under state law.

vi. *Vessel Under Construction*

A vessel under construction did not become a vessel for the purpose of a maritime lien attaching until it reached a certain point of development. It became a vessel for such purpose, however, some time before it was actually put in commission.

On this point, the compensation cases do not follow the lines as to maritime liens. A person working on a vessel, launched but not in commission, comes under the state law, not the maritime law.

Grant Smith Porter Co. v. Rohde, 257 U. S. 469.
Missouri Valley Bridge & Iron Co. v. Malone, 240 S. W. 719 (Ark.).
Los Angeles Shipbuilding & Dry Dock Co. v. Ind. Acc. Com., 207 P. 416 (Cal.).
Gillard's Case, 138 N. E. 384 (Mass.).
Taylor v. Lawson, 60 F. 2nd 165.
U. S. Casualty Co. v. Taylor, 64 F. 2nd 521.

The case of Pacific American Fisheries v. Hoof, 291 F. 306 to the contra must be taken as overruled.

vii. *Dredges*

As previously noted, dredges were not always regarded as "vessels" for purposes of admiralty jurisdiction. Self-propelled dredges, especially when used for transportation or dredging navigable channels have been held "vessels": non-self-propelled dredges, stationary dredges and dredges used for purposes other than in aid of navigation have been held not to be vessels.

1 C. J. 1263-64, notes 77, 78, 96.
38 C. J. 1203, 1204, notes 8, 9.

The application of state compensation acts with regard to dredges shows a similar division, with a tendency to strain a point in favor of regarding them as under the state law.

Under Maritime Law

Zurich General Acc. etc. Co. v. Ind. Com., 218 P. 563 (Cal.). This involved a dredge engaged in deepening navigable channels.

Arundel Corp'n. v. Ayers, 175 A. 586 (Md.). This involved a dredge being repaired in navigable waters, not used for local purposes.

Kibadeaux v. Standard Dredging Co., 81 F. 2nd 670. This involved a dredge engaged in clearing slips in harbor.

Puget Sound etc. Co. v. Dept. of Labor & Industries, 54 P. 2nd 1003 (Wash.). Indicated that dredging operations in navigable waters designed to deepen, widen or construct navigable channels come within maritime law.

Under State Compensation Acts

Southern Surety Co. v. Crawford, 274 S. W. 280, 270 U. S. 655 (Tex.). Dredge, not self-propelled, working on inland harbor channel.

Lindberg v. Southern Casualty Co., 15 F. 2nd 54. Dredge cutting channel from river to lake.

City of Oakland v. Ind. Acc. Com., 244 P. 353 (Cal.). Dredge tender used in connection with dredge used in harbor work.

Toland's Case, 155 N. E. 602 (Mass.). Dredge, not self-propelled, digging out site for dry dock.

United Dredging Co. v. Ind. Acc. Com., 267 P. 763. Dredge operating in navigable water.

Mack v. Portland Gravel Co., 278 P. 986 (Ore.). Dredge digging sand from navigable river for commercial purposes.

Fuentes v. Gulf Coast Dredging Co., 54 F. 2nd 69. Dredge in shallow water, pumping sand on land for filling purposes.

Dourrieu v. Port of New Orleans, 158 So. 581 (La.). Dredge in navigable waters, filling in adjacent lowlands.

Orleans Dredging Co. v. Frazie, 161 So. 699. Dredge, not self-propelled, cutting navigable channel through a point.

Puget Sound etc. Co. v. Dept. of Labor Industries, cited above. Indicated that dredging for purpose of extending shore land, even if in navigable waters comes within state compensation act.

Woods v. Merrill-Stevens Dry Dock & Repair Co., 84 Fed. Supp. 208. Non-self-propelled dredge, used to maintain proper depth of water in private slips where vessels were dry docked and repaired.

La Crosse Dredging Co. v. Ind. Com., 270 N. W. 62 (Wis.). Dredge used in work of cutting through land and into shore line of navigable river.

It is doubtful whether any very consistent line of cleavage can be established: but it seems probable that some dredging risks at least are under the maritime law. If a line be established, it will probably be on the point whether the dredge would be considered a "vessel" for the purpose of a maritime lien. This point was raised in Fuentes v. Gulf Coast Dredging Co., cited above. When a dredge is not self-propelled and used for a purpose strictly local, it may be set down with some confidence as a non-maritime risk.

The case of *State v. Duffy, 148 N. E. 572 (Ohio)* involved the matter of dredges, but on the point of whether dredging risks in connection with contracting work could be covered by the State Fund.

viii. *Fishing Boats*

There has been a tendency in some states to apply the compensation act to fishing boats, especially those which are small, or those used for pleasure fishing. But the United States Supreme Court has ruled even pleasure fishing boats as vessels and subject to the maritime law.

London Guarantee & Acc. Co. v. Ind. Acc. Com., 279 U. S. 109. In accord with this case.

Lesczymski v. Andrew Radel Oyster Co., 129 A. 539 (Conn.). Oyster fishing boat.

Foppen v. Peter J. Fase & Co., 188 N. W. 541 (Mich.). Fishing tug on Lake Michigan.

London Guar. & Acc. Co. v. Ind. Acc. Com., 256 P. 857 (Cal.). Pleasure fishing boat.

Tyler v. Ind. Com., 158 N. E. 586. Net fishermen on Lake Erie.

Maryland Casualty Co. v. Grant, 150 S. E. 424 (Ga.). Fishing boat.

Johnson v. G. T. Elliot, Inc., 146 S. E. 298 (Va.). Fishing boat outside three-mile limit.

Saleens v. Travelers Ins. Co., 171 S. E. 159 (Ga.). Fishing boat operating in navigable water.

Claramitaro's Case, 193 N. E. 4 (Mass.). Fishing boat in navigable waters.

Contra

Travelers Ins. Co. v. Bacon, 119 S. E. 458 (Ga.).

London Guar. & Acc. Co. v. Ind. Acc. Com., 265 P. 825 (Cal.). (Overruled by principal case cited.)

Balestiere v. Ind. Acc. Com., 267 P. 763 (Cal.).

ix. *Barges*

Barges are generally regarded as vessels for purposes of admiralty jurisdiction.

1 C. J. 1263-64, note 80.

The general trend of decisions is that state compensation acts do not apply to workers on barges in navigable waters.

Knickerbocker Ice Co. v. Stewart, 253 U. S. 149.

White v. Jordan W. Couper Co., 260 F. 350.

Lee v. Licking Valley Coal Digger Co., 273 S. W. 542 (Ky.)

Stearns v. Love Drilling Co., 7 La. App. 493 (La.).

Gaines v. Gulf Coast Towing Co., 120 So. 548 (La.).

T. J. Moss Tie Co. v. Turner, 44 F. 2nd 928.

Martinson v. State Ind. Acc. Com., 60 P. 2nd 972 (Ore.).

Comar v. Dept. of Labor & Industries, 59 P. 2nd 1113 (Wash.).

State ex. rel. Kansas City Bridge Co. v. Workmen's Compensation Commission, 81 S. W. 2nd 986.

This last case involved a mat-worker on a barge engaged in making and sinking mats on the river bottom to divert current from the bank.

The case of *Missouri Valley Bridge & Iron Co. v. Malone, 240 S. W. 719 (Ark.)* involved a barge under construction, and it was properly held that injuries to workers were governed by state law rather than maritime law.

State v. Duffy, 148 N. E. 572 (Ohio) involved merely the question whether barges and those employed on them in connection with a construction project could be covered by the State Fund.

It may be noted that barge cases enter into the Longshoremen's and Harbor-Workers' Act under a very different aspect, i.e., whether bargemen come within the exception to the act of "master and members of the crew of a vessel".

x. *Scows*

Scows are vessels for purposes of admiralty jurisdiction.

1 C. J. 1263-64, note 85.

The case of *Kierejewski v. Great Lakes Dredge & Dock Co., 261 U. S. 479* applied the maritime law to the case of an employee drowned while repairing a scow in navigable waters.

Herbert's case, 186 N. E. 554 (*Mass.*) held that the state compensation act applied to a "sweeping scow" used for scavenger work within city limits only. This seems very properly within the principle laid down in Millers Indemnity Underwriters v. Braud, cited previously.

State v. Duffy, 148 N. E. 572 (*Ohio*) treated scows used in local construction projects as properly coverable by the State Fund.

xi. *Lighters*

Lighters are vessels for purposes of admiralty jurisdiction.

1 C. J. 1263-64, note 76.

Employees upon lighters in navigable waters properly come under the maritime law and not the state compensation act.

McDonald v. City of New York, 36 F. 2nd 714.
Boles v. Munson S. S. Line, 256 N. Y. S. 729.

xii. *Car Floats and Car Ferries*

There is little reason to doubt that these are properly "vessels" and that employees on them are under the maritime law. A very curious conflict of law has arisen in case of these, namely as to railroad employees when on car floats or ferries. It would seem they come under the Longshoremen's and Harbor-Workers' Act, rather than the Federal Employers' Liability Act.

Nogueira v. N. Y., N. H. & H. R. Co., 32 F. 2nd 179, 281 U. S. 128.

Buren v. Southern Pac. R. Co., 50 F. 2nd 407.

Richardson v. Central R. of N. J., 253 N. Y. S. 789.

xiii. *Tow Boats*

Held that employees on tow boats are not within state compensation act.

Dworkowitz v. Harlem River Tow Boat Lines, 192 App. Div. 855.

See, however, *State v. Duffy, 148 N. E. 572 (Ohio).*

xiv. *Derrick Barges*

As to these, the cases are not unanimous.

Home Life & Acc. Co. v. Wade, 236 S. W. 778 (Tex.). This held an employee injured on a derrick barge in a river, assisting in loading cranes not subject to state compensation act.

Lumbermen's Reciprocal Ass'n. v. Adcock, 244 S. W. 645 (Tex.). This held an injury to one employed on a "raising float" or boat to which was attached apparatus for raising logs sunk in boom to be subject to the state compensation act.

Cooley v. E. M. Wichert Co., 118 A. 765 (Pa.). State compensation act held to govern case of death of employee on derrick boat in navigable river being used in construction of a wall having no connection with navigation.

See also *State v. Duffy, 148 N. E. 572 (Ohio).*

It seems very likely that when derrick boats are used in connection with navigation and commerce they come within the maritime law. When used for local purposes not connected with navigation they might very properly be classed as non-maritime, as in case of dredges.

xv. *Piledrivers*

Piledrivers have been held vessels for purposes of maritime jurisdiction.

1 C. J. 1263-64, note 91.

The compensation cases are few, and so far evenly divided.

Pfister v. Bergdolt Const. Co., 65 S. W. 2nd 137. Here the compensation act was held not to apply to a "lead man" on a piledriver mounted on a scow moored in navigable water and engaged in maritime work.

McClain v. Kansas City Bridge Co., 83 S. W. 2nd 132 (Mo.). Here state compensation act was held to apply to death by drowning of employee on piledriver mounted on boat, moored in navigable river.

There would seem reason for holding piledrivers matters of "purely local concern", even more strongly than in case of dredges.

xvi. *Launches, Motor Boats, Pleasure Boats and Yachts*

Generally speaking launches are "vessels" and injury to employees on launches properly comes under the maritime law.

Beyerle v. Ind. Acc. Com., 241 P. 894 (Cal.).
McClure v. Wilson, 265 P. 485.
Spencer Kellogg Co. v. Hicks, 285 U. S. 502.

Pleasure boat.

Sells v. Marine Garage, 285 N. Y. S. 51.

Motor boat.

St. Johns v. T. T. & M. T. Thomson, 182 A. 196 (Vt.).

Yacht.

U. S. F. & G. Co. v. Lawson, 15 F. Supp. 116.

There is one case where an employee injured while engaged in upholstering a motor boat in navigable water has been held to come within the state compensation act. Offhand this seems not calculated to prejudice the general structure of the maritime law.

Johnson v. Swonder, 150 N. E. 615 (Ind.).

xvii. *Ferryboats*

Ferryboats are vessels for purposes of maritime jurisdiction when operating on navigable waters.

1 C. J. 1263-64, note 75.

There seems no good reason to question that employees on ferryboats do not come within the terms of the state compensation laws.

Meyers v. Harkins Bros., 5 La. App. 190.

There is, however, one case to the contrary, involving an injury to an employee while the boat was tied to a wharf.

Bockhop v. Phoenix Transit Co., 117 A. 624 (N. J.).

This case seems contrary to the general trend of decisions.

xviii. *Houseboats*

Houseboats are regarded as vessels for the purposes of maritime jurisdiction.

1 C. J. 1263-64, note 84.

. There is one case where the state compensation act was applied to an injury of an employee on a houseboat, but in this case the houseboat was permanently attached to a landing and not intended to be moved about.

Lawton v. Diamond Coal & Coke Co., 115 A. 886 (Pa.)

xix. *Boat*

See *Bell v. West Island Corp'n., 245 N. Y. S. 337* holding that death of employee while operating a boat does not come within the state compensation act. It may be questioned, however, whether mere incidental operation of a small boat in connection with an operation essentially non-maritime is sufficient to bring an employee within the Federal jurisdiction.

Wheeler Shipyard v. Lowe, 13 F. Supp 863.

xx. *Raft*

There are conflicting decisions as to whether rafts are vessels for purposes of admiralty jurisdiction.

1 C. J. 1263-64, note 79.

There is a single case where an injury sustained on a log raft has been held not within the state compensation act.

Beyerle v. Ind. Acc. Com., 241 P. 894 (Cal.).

But operations in preparing logs for transportation by water, breaking up rafts and floating logs to mill conveyor have been held within the state compensation act.

Eclipse Mill Co. v. Dept. of Labor & Industries, 251 P. 130 (Wash.).

And an employee drowned by falling off a log boom comes properly within the state compensation act.

Ketchikan, etc. Co. v. Bishop, 24 F. 2nd 63.

Mere floating platforms used as means for work are not *per se* vessels. Whether the maritime law or the state compensation act would apply to injuries or death of employees on these would appear to depend on whether the work being done were maritime in character.

Lahti v. Terry & Tench Co., 273 U. S. 639.
Kierejewski v. Great Lakes Dredge & Dock Co., 261 U. S. 479.

xxi. *Vessel Used for Taking Motion Pictures*

A vessel does not cease to be a vessel because of being used for this purpose. The terms travel, transportation, commerce are very broadly interpreted, both under the so-called "commerce clause" and for purposes of maritime jurisdiction.

Thus it has been held that seamen injured on a vessel used in producing motion pictures are subject to the maritime law.

In re Famous Players Lasky Corp'n., 30 F. 2nd 402.

An actor, however, is not a maritime employee, and may properly be held within the state compensation act.

Madderns v. Fox Film Corp'n., 143 N. Y. S. 764.

xxii. *Structures in Navigable Waters*

It seems probable that any structure in or on navigable waters which would not be a vessel for the purpose of admiralty jurisdiction, ought to be regarded as within the scope of the state compensation acts, as they are in general essentially local in character. Floating structures which by their nature, build, design and use are intended to be relatively permanent, or which are permanently attached to land come within this designation.

1 C. J. 1263-64, notes 98-99.
36 C. J. 1202, notes 90-92.

There are not many cases involving the application of the compensation act to these.

Burns v. City of New York, 251 N. Y. S. 77. This involved an injury to an employee, on a "float or bridge" attached to land, whose duties were to moor incoming ferryboats to the bridge. It was held that he came within the maritime law, not the state compensation act. The case seems decidedly wrong in principle, and in no way distinguishable from the case of an employee on a wharf.

Sunny Point Packing Co. v. Faigh, 63 F. 2nd 921. This involved death of employee who presumably fell from fish-trap floating in navigable waters. The state compensation act was held applicable.

Dewey Fish Co. v. Dept. of Labor & Industries, 41 P. 2nd 1099 (Wash.). This held that the occupation of constructing and maintaining fish-traps in Puget Sound was within the terms of the state compensation act.

Jeffers v. Foundation Co., 85 F. 2nd 24. This involved injury to a diver inside a coffer dam in the Ohio River. Held, not within Jones Act, as water inside dam had been withdrawn from navigation.

New Amsterdam Casualty Co. v. McManigal, 87 F. 2nd 332. Injury sustained on lighthouse under construction, 12 miles from shore. Held, injury on navigable water within Longshoremen's and Harbor-Workers' Act.

xxviii. *Summary*

The lines laid down in the admiralty law, especially with regard to maritime liens, are not strictly followed as a test for determining the boundaries between the maritime laws and the state compensation act. Generally, an employee injured on a vessel comes within the maritime law rather than the state compensation act. In case of vessels under construction, however, the state compensation act applies even after the vessel is launched: and under the principle laid down in Grant Smith Porter Co. v. Rohde and Millers Indemnity Underwriters v. Braud, the state compensation acts may apply to certain cases where the matter is of local concern and the application of the state law would not prejudice the general structure of the maritime laws. The Supreme Court has, however, been inclined to follow the line of the law of maritime liens with regard to vessels in actual operation. The exceptions if any are confined to vessels which are local in their operations and not used for purposes directly connected with travel, transportation and commerce.

(2) *Injuries on Water, Not on a Vessel*

The case of divers has been the theme of one notable case, very often quoted.

Millers Indemnity Underwriters v. Boudreaux, 245 S. W. 1025, 261 S. W. 137 (Tex.).

Millers Indemnity Underwriters v. Braud, 266 U. S. 628.

This involved the death of a diver working at removing obstacles to navigation. The court held the case compensable under the state compensation act.

This must be taken as superior in authority to a New York case involving death of a diver laying a cable.

De Gaetano v. Merritt & Chapman Derrick & Wrecking Co., 203 App. Div. 259.

It will be noted that the leading case is a particularly strong case, and indicates very clearly the intention of the court to permit the state acts to go out on navigable water to the full extent consistent with preserving the general structure of the maritime laws.

See also

Jeffers v. Foundation Co., 85 F. 2nd 24.

Here the diver was injured in a coffer dam. Held, not entitled to recover under Jones Act as water inside coffer dam had been withdrawn from navigable waters.

(3) *Injuries Partly on Water, Partly on Land*

When an injury is fully consummated on water, there is a presumptive case for the application of the maritime law: when it is fully consummated on land, it is governed by the law of the state. There is an intermediate class of cases where the injury begins on water and is consummated on land, or begins on land and is consummated in water.

i. *Cases where the Employee is Struck on a Vessel and Knocked onto the Wharf, or Struck on the Wharf and Knocked into the Water or onto a Vessel*

When the blow is received on the ship, the injury is maritime in character and governed by the maritime law.

Minnie v. Port Huron Terminal Co., 257 N. W. 831 (Mich.), 295 U. S. 647. Longshoreman struck on deck of vessel by hoist and knocked to the wharf.

When the blow is received on the wharf, the injury is non-maritime and the state compensation act may apply.

T. Smith & Son v. Taylor, 276 U. S. 179.

Scott v. Dept. of Labor & Industries, 228 P. 1013.

Atlantic Coast Shipping Co. v. Royster, 129 A. 668 (Md.).
Rorvik v. North Pacific Lumber Co., 195 P. 163.
Taylor v. Smith & Son, 5 La. App. 284.
Baldwin v. Linde-Griffiths Co., 181 A. 35.

ii. *Cases Where the Employee Falls or is Injured in Passing from Shore to Ship or from Ship to Shore*

There are numerous cases on this subject, and not at all consistent. The best rule appears to be that laid down in the Atna, 297 F. 673, namely, that if one is passing from ship to shore, one is regarded as on the ship till one has safely reached the shore: and if one is passing from shore to ship, one is regarded as on the shore till one has safely reached the ship. This rule was quoted with approval by the Supreme Court in the case of the The Admiral Peoples, 295 U. S. 649.

The decisions, where compensation laws may be involved, are as follows:

Going from Ship to Shore

Merchants & Miners Transp. Co. v. Norton, 32 F. 2nd 513. Machinist drowned after fall from ladder by which he was leaving ship. State compensation law held not applicable.

The Phoenix 3 F. Supp. 1017. Fall of seaman from "Jacob's Ladder" to dock held maritime injury.

Lermond's Case, 119 A. 864 (Me.). Pipe fitter on vessel, thrown by ladder slipping, and falling on bumper log permanently attached to wharf. Held subject to state compensation act.

Gordon v. Drake, 159 N. W. 340 (Mich.). Employee injured, jumping from launch to dock at order of master of launch. Held, not under maritime, but state law.

In re Wolf's Case, 189 N. E. 85. Employee killed by slipping off movable ladder resting on wharf, by which he was leaving ship. Held not under state compensation act.

The Berwindglen, 14 F. Supp. 992. Seaman injured by falling to dock from ladder held cognizable in admiralty.

Going from Dock to Ship

Gillard's Case, 129 N. E. 265. Seaman injured by breaking of ratline while boarding schooner lying at wharf, held, maritime injury.

L'Hote v. Crowell, 54 F. 2nd 212. Longshoreman, riding ship's sling from dock to vessel, striking against side of ship and falling to wharf. Held, maritime injury.

Union Oil Co. v. Ind. Acc. Com., 295 P. 513. Seaman who slipped and fell to wharf trying to board barge, held within jurisdiction of state compensation act.

Egan v. Morse Dry Dock Co., 214 App. Div. 226. Employee climbing from dock to ship, thrown to dock by ladder slipping. Held subject to state compensation act.

Stretkowicz v. William Spencer & Sons Corp'n, 185 A. 371 (N. J.). Stevedore injured by losing control of truck on gangplank and knocked against stanchion of boat. Held, not within state compensation act.

Richards v. Monahan, 17 F. Supp 252. Case of ship's machinist, killed by fall to dock while boarding ship by ladder. Held, injury on navigable water within Longshoremen's and Harbor-Workers' Act.

The Shang Ho, 13 F. Supp. 632. Longshoreman knocked to dock from gangplank he was ascending when vessel moved forward without warning. Held, maritime injury.

It will be noted that the cases are not completely consistent. It is thought, however, that the rule laid down in The Atna holds for injuries received while in use of gangplanks or ladders. Where the injury is due to a defect in ship's equipment or to careless management of its apparatus, there is perhaps reason to hold the injury maritime.

iii. *Cases Where an Injury is Complete on Shipboard, but Death Occurs on Shore*

It seems well settled that admiralty does not lose jurisdiction in this case. The cases are somewhat numerous and are perhaps better discussed under the head of the Federal death statutes. It would seem, however, that in no case could the state compensation act apply, unless it would have applied to the original injury.

Liverani v. John T. Clark & Son, 176 N. Y. S. 725.

Vancouver S. S. Co. v. Rice, 53 S. Ct. 420.

(4) *Injuries Wholly on Land*

The state law applies to all such cases, irrespective of whether the employment is maritime, and, so far as application of the compensation law is concerned, irrespective of whether the injury was caused by the vessel or its apparatus.

Thus the state compensation law has been held to apply in the following cases:

Riedel v. Mallory S. S. Co., 196 App. Div. 194. Ship's watchman falling from pier and drowned.

State Ind. Com. v. Nordenholt Corp'n., 259 U. S. 263. Longshoreman injured on dock.

Netherlands American Steam Navigation Co v. Gallagher, 282 F. 171. Stevedore injured on pier.

Smalls v. Atlantic Coast Shipping Co., 261 F. 928. Longshoreman injured on land, although by defect in vessel's apparatus.

Barry v. Donovan, 151 A. 520. Longshoreman injured on dock by being struck by vessel's sling.

Companile v. Morse Dry Dock Co., 205 App. Div. 480. Ship repairer injured on land.

McBride v. Standard Oil Co. of N. Y., 196 App. Div. 822. Truckman, injured by truck sliding backward and crushing him against vessel's side.

Tracy v. Eastern Loading Corpn's., 202 App. Div. 811. Employee injured while working on dock.

Walsh v. Atlantic Stevedoring Co., 208 App. Div. 822. Employee of stevedore, injured on dock.

Cordrey v. The Bee, 201 P. 202. Longshoreman injured on dock by being struck by fall of ship's sling.

Shear v. Ind. Acc. Com., 247 P. 770. Stevedore injured on dock.

Alaska Packing Ass'n v. Ind. Acc. Com., 276 U. S. 467. Maritime employee, partly on land, partly in water, injured while trying to launch stranded vessel.

White v. J. P. Florio & Co., 126 So. 452. Longshoreman, injured on dock after finishing work on vessel.

Lindh v. Booth Fisheries Co., 2 F. Supp. 19. Injury in fall from dock to ship. (Held not maritime case.)

Powers v. Murray, 254 N. W. 559. Injury to seaman while on land. (Held not maritime case.)

Kulczyk v. Rockport S. S. Co., 8 F. Supp. 336. Injury to seaman standing on dock.

Seeley v. Phoenix Transit Co., 272 N. Y. S. 127. Pilot and master of tug boat, falling through hole in pier.

Esteves v. Lykes Bros. S. S. Co., 74 F. 2nd 364. Seaman standing on wharf, painting vessel.

Rudo v. A. H. Bull S. S. Co., 177 A. 538. Seaman, standing on wharf, unloading coal from truck and putting it into net for hoisting aboard ship. (Not entitled to recover under Jones Act.)

Scott v. Dept. of Labor & Industries, 228 P. 1013. Stevedore, falling from dock to ship's decks.

(5) *Summary*

The line as between the application of the maritime law and the state compensation acts appears to be as follows:

i. Seamen and maritime employees are subject to the maritime law in case of injuries on vessels lying in navigable waters, except in case of ships under construction and except in a few cases held "local in character".

ii. The same would appear to be true of injuries received in navigable water other than on vessels if in connection with a characteristically maritime occupation, except in a case "local in character", i.e., not closely connected with actual conduct of travel, transportation and commerce.

iii. The state compensation act applies to maritime employees with respect to injuries on land, and injuries originating on land, even if consummated on water or on a vessel: and to injuries received on water in cases not subject to the maritime law. It does not apply to injuries originating on a vessel and consummated on water, provided the maritime law is applicable to such cases in the event the injury and its consummation were entirely on water.

iv. The state compensation act applies to non-maritime employees, irrespective of the place of occurence of injury. A non-maritime employee is one whose occupation is not associated with travel, transportation and commerce. There seems no reason why this should not be true, not only on navigable waters within the confines of the state, but elsewhere, in case the law of the state is extra-territorial. The state compensation act cannot, however, render the remedy exclusive in the event the employer commits a maritime tort against the employee.

(d) *Statutory Modifications of the Remedies Available to Seamen Under the Maritime Law*

(1) *The Nature and Extent of Remedies Under the Maritime Law*

"Seaman" is a term which in the old days was practically synonymous with "sailors" or "mariners". The changes in the methods of navigation have brought upon the high seas vessels of great size containing an operating force only a small part of which can properly be termed sailors. The term "seamen" under the maritime law properly includes persons employed in and about a ship as more or less permanent members of the ship's personnel, under contract relations with the ship, its master or owner. Briefly, the term includes officers, although a narrower construction excluding officers is sometimes used. When the term appears in a statute, its meaning must be gathered from the context.

56 C. J. 923, 924 and notes.

Under the maritime law, seamen had two well defined rights with respect to personal injuries sustained in the course of their service.

i. *Care, Cure and Maintenance*

A seaman injured or falling sick while in the service of the ship is, according to principles recognized in the maritime law at a time antedating the Christian era, entitled to maintenance and cure. "Maintenance" properly signifies the provision of food and lodging. "Cure" is used in its original meaning of "care". The two terms together require that the seamen shall receive sustenance and attendance of a suitable character, including everything reasonably possible and necessary to his maintenance, cure and comfort under the particular conditions involved. When the nature of the disability requires it, he should be relieved from duty, removed to comfortable quarters, given suitable food, proper nursing and medical treatment. Medical treatment should be what is ordinary and reasonable, including, if circumstances permit, treatment by physician or surgeon, and hospitalization.

The right to maintenance and cure does not necessarily terminate with the service, but extends for a reasonable time after the termination of the voyage. It does not run for an indefinite period, nor necessarily until actual cure is effected.

56 C. J. 1067-1072.

The right to maintenance and cure extends only to disabilities suffered while in the service of the ship, that is to say, while under the power and authority of its officers. It is not necessarily confined to disabilities arising from acts done for the ship's benefit, nor in the actual performance of duty.

56 C. J. 1067.

It may cover disabilities sustained on shore if the seaman is in fact upon the service of the ship. The right is not lost by the seaman's negligence. It may be lost if the injury is due to the seaman's willful misconduct. It does not cover injuries arising from the seaman's own fault or vice, nor disabilities arising from a diseased condition existing at the time of shipment.

56 C. J. 1068, 1069.

The right is available to anyone who serves the ship as the result of a contractual engagement, and serves the ship in respect to its navigation.

The Buena Ventura, 243 F. 797.

It extends both to seamen paid cash wages, and members of the crew compensated by "lay" or share. It covers seamen on seagoing ships, also those engaged in coastwise trade or in the navigation of lakes, rivers and harbors.

The term "seamen" for the purpose of this right, has been held to include engineers, firemen, fishermen, mates, mates acting as masters, and wireless operators.

It does not include longshoremen and stevedores.

56 C. J. 1077.

The right is contractual or quasi-contractual in nature, being incorporated in the contract of service by rule of maritime law. It exists against the vessel, its master and its owner. It may be enforced in a court of admiralty by a libel *in rem* against the vessel. An action *in personam* may be maintained either in a court of admiralty or in a law court, Federal or state. The right, being contractual is governed as to procedure and as to statutes of limitations, by the rules applicable to actions in contract, not by those applicable to actions in tort.

56 C. J. 1079.

A seaman can in such an action recover any sums spent by him for maintenance and cure, but not prospective expenses. If he has been injured by the failure to supply proper maintenance and cure, he can recover compensation by way of damages.

56 C. J. 1079-1080.

In an action brought to recover damages for failure to provide proper cure, the measure of damages is the consequential injury, including compensation for additional physical injury arising from the neglect, personal loss resulting from inability to earn wages during the period of incapacity caused by the neglect, and pecuniary compensation aside from contract wages for such period as the seaman may have been compelled to work when legally entitled to be relieved from duty. Recovery may not be had for pain and suffering necessarily incident to the disability, but may be had for pain and suffering to the extent that they are due to the neglect or maltreatment.

56 C. J. 1081.

ii. *Rights of Recovery for Personal Injury*

Under the maritime law, a seaman could not maintain an action in tort for an injury, unless it were due to the personal negligence of the shipowner, such as the unseaworthiness of the vessel or its appliances, or the failure to supply medical treatment and attendance. The maritime law has been largely supplemented by statute in regard to requirements upon the shipowner as to the outfitting and equipment of the ship with regard to the safety, comfort and health of the crew: and injuries due to breach of these requirements are actionable. With respect to injuries on the high seas the law to be applied is the law of the flag. With respect to injuries arising from a tort committed in the territorial waters of a nation, the remedy is properly in accordance with the laws of that nation. But the Federal courts, while applying this rule to injuries upon ships of a foreign nation in waters of the United States, are not consistent in applying it to injuries upon ships of the United States in the waters of a foreign nation.

56 C. J. 926, note 11, 927, sec. 12, notes 32-38.

Rights of action in tort under the general maritime law are available to "seamen", generally as in case of rights of action based on the right to cure and maintenance. Actions in tort under the maritime law are within the jurisdiction of admiralty courts and can be enforced by libel *in rem* if the vessel is responsible. Actions *in personam,* based on such torts could be brought in both Federal and state courts.

The maritime law gave no remedy for death caused by wrongful act, and gave no right of actions for injury caused by the negligence of a fellow-servant. Apart from actions of tort based on the violation of specific statutes, the maritime law generally gave right of action in tort only for injuries caused by the unseaworthiness of the vessel.

"Seaworthiness" is a relative term challenging exact definition. "Seaworthiness" implies that the ship is staunch and sound, properly equipped, provisioned and manned, with cargo properly stowed. It implies a competent master and a competent crew. Notorious brutality on the part of an officer is evidence of incompetence.

56 C. J. 1089-1092.

The rule that there could be no recovery for the negligence of a fellow-servant precluded suits based on an act of negligence of any one employed on the ship from the master down. On the other hand, negligence of a fellow-servant could not be set up as a defense in an action based on the unseaworthiness of the ship unless the negligence were the sole cause of the injury.

56 C. J. 1094, sec. 667, 1097 sec. 676.

As previously noted, the Federal courts recognized the applicability of state death statute to cases of death by wrongful act. These applied where the act causing the death occurred in territorial waters of the state, or where it occurred on a ship owned in the state, upon the high seas.

56 C. J. 1083, sec. 636.
La Bourgogne, 210 U. S. 95.
The Hamilton, 207 U. S. 398.

Similarly, a case of death by wrongful act upon a vessel of a foreign nation, or caused by a maritime tort of a ship of such nation might be proceeded on under the statutes of such nation.

La Bourgogne, cited above.
The Hamilton, cited above.

(2) *The La Follette Act*

The Seaman's Act of 1915, U. S. Comp. Sts., sec. 8337a, Act March 4, 1915, c. 153 sec. 20, the so-called La Follette Act, undertook to broaden the rights of action of seamen for injuries received on shipboard by providing that seamen having command should not be considered the fellow-servants of those under their authority. This act did have some effect in enlarging rights of action, but did not change the general rules of the maritime law to the extent of giving the injured seaman rights to recover upon common law principles.

Chelentis v. Luckenbach S. S. Co., 247 U. S. 372.

It is hardly necessary to discuss the scope of this act as it has now been superseded by the Jones Act.

(3) *The Jones Act*

The Act of June 5, 1920, c. 250 sec. 33, 41 Stat. 1007 46 U. S. C. A., sec. 688, the so-called Jones Act, gave a broad right of recovery to seamen by making the provisions of the Federal Employers' Liability Act applicable. The section reads as follows:

"Any seaman who shall suffer personal injury in the course of his employment may, at his election, maintain an action for damages at law, with the right of trial by jury, and in such actions all statutes of the United States, modifying or extending the common law right or remedy in case of personal injuries to railway employees shall apply: and in case of the death of any seaman as a result of any such personal injury the personal representative of such seaman may maintain an action for damages at law with the right of trial by jury, and in such action all statutes of the United States, confining or regulating the right of action for death in the case of railway employees shall be applicable. Jurisdiction in such actions shall be under the court of the district in which the defendant employer resides or in which his principal office is located."

The remedy given by this section is a new remedy by way of action in tort. The remedy is *in personam*, and the election is between this and the rights of action in tort under the maritime law, which as has been seen were restricted in character and enforceable in most cases by a libel *in rem* in an admiralty court. The right to cure and maintenance is not affected by an election to proceed under this section, since that under the maritime law was a contractual remedy and could be had by the seamen in any event, irrespective of any rights of action in tort he might have.

Pacific S. S. Co. v. Peterson, 278 U. S. 130.
Flynn v. Panama R. Co., 201 N. Y. S. 56.
56 C. J. 1106, sec. 701.

But see, *contra.*

Peterson v. Pacific S. S. Co., 261 P. 115.

The jurisdiction of the Federal courts of actions under this section is not exclusive. Such actions may be brought in state courts: but if brought there, the provisions of the Federal Statute, including the statute of limitations are applicable.

Engel v. Davenport, 271 U. S. 33.

While the right of action given by this section may be entertained in a court of admiralty by a libel *in personam*, a proceeding under this section cannot be enforced by a libel *in rem.*

Buzynski v. Luckenbach S. S. Co., 275 U. S. 518.
The Pinar del Rio, 16 F. 2nd 984, 274 U. S. 732, 277 U. S. 151.

The extent to which this act adds new causes of action to those existing under the maritime law is not entirely determined. It does, by reference to the Federal Employers' Liability Act, broaden the remedy, and affect the defences which may be interposed. Accordingly, the negligence of a fellow-servant is not a defence in any case.

Crosby Fisheries, Inc., Pet. 31 F. 2nd 1004.
56 C. J. 1095, note 49.

The defence of assumption of risk is normally available, but must be interpreted with regard to the maritime law. The seaman's occupation is not at all like that of a railway employee. Once he has signed the articles or is on board, he is subject to orders, liable to disciplinary action for disobedience thereto, and is unable to abandon his employment until the termination of the voyage. Hence the defence is more limited than under the Federal Employers' Liability Act, and, in cases where the maritime law or a statute lays a peremptory duty upon the employee, such as to duty to furnish a seaworthy ship, and apparatus in proper condition, cannot be set up at all.

56 C. J. 1097-1102.

Contributory negligence is not a defence in an action brought under the Jones Act; and the doctrine of comparative negligence with apportionment of damages is adopted. This, however, was more or less the case under the maritime law.

56 C. J. 1102-1104.

The right of action for death caused by wrongful act given by the Jones Act would seem to supersede the application of state death statutes to cases of death of seamen by wrongful act committed on navigable waters. As to how far it supersedes the right of action in admiralty given by the Federal Death statute (later discussed) for death by wrongful act on the high seas is a moot question, not yet decided.

Anderson v. Standard Oil Co. of N. J., 209 N. Y. S. 493.

The persons, etc. to which this section applies must be determined from the context of the act, and in particular 46 U. S. C. A., sec. 713, cited as follows:

"In the construction of this chapter, every person having the command of any vessel belonging to any citizen of the United States shall be deemed to be the 'master' thereof; and every person (apprentices excepted) who shall be employed or engaged to serve in any capacity on board the same shall be deemed and taken to be 'seamen'; and the term 'vessel' shall be understood to comprehend every description of vessel navigating on any sea or channel, lake or river to which the provisions of this chapter may be applicable ——."

This indicates that the statute applies to American ships only.

Clark v. Montezuma Transp. Co., 216 N. Y. S. 295, 217 App. Div. 172.

It has been held to apply to American vessels in foreign ports.

Bennett v. Connelly, 202 N. Y. S. 568, 204 N. Y. S. 893.

The kinds of craft which may be regarded as vessels have been discussed under a preceding section. The use of the word "navigating" in the definition quoted would seem to point to vessels in active service, or only temporarily out of service. A court has refused to apply the section to employees on ships of the United States, laid up and permanently unfit for service.

Gonzalez v. U. S. Shipping Board Emergency Fleet Corp'n, 3 F. 2nd 168.

The definition given to "seamen" is very broad and has been broadly construed. It has been held not to apply to laborers on navigable waters, not signed as seamen on the vessel's articles or engaged in navigation.

Young v. Clyde S. S. Co., 294 F. 549.

It has been held to apply to stevedores and longshoremen performing on board ship work of a kind which might be done by members of a vessel's crew.

International Stevedoring Ass'n. v. Haverty, 272 U. S. 50.

It has been held not to apply to injuries sustained within a coffer dam in navigable waters, waters inside the dam having been withdrawn from navigation.

Jeffers v. Foundation Co., 85 F. 2nd 24.

The passage of the United States Longshoremen's and Harbor-Workers' Act, however, would seem to remove all employees not coming within the exception in that statute of "master and members of the crew of a vessel" from the purview of this section.

(e) *The Federal Death Statute*

The Act of March 30, 1920, C 111, sec. 1-7, 41 Stat. 537, 46 U. S. C. A., secs. 761-767 authorizes the bringing of a suit for damages in admiralty in cases where death is caused by wrongful act, neglect or default occurring on the high seas, beyond a marine league from shore of any state, district or territorial possession of the United States. The measure of recovery is "fair and just compensation for the pecuniary loss sustained". The action must be brought within two years from the date of the wrongful act, but it is provided that the right of action shall not be deemed to have lapsed until 90 days after a reasonable opportunity to secure jurisdiction.

The act does not affect the provisions of any state statute giving rights of action for death by wrongful act. It does not apply to the Great Lakes, nor to waters within the territorial limits of any state.

This act was enacted prior to the Jones Act, and the exact effect of the Jones Act upon it in cases of the death of seamen by wrongful act has not as yet been authoritatively decided. The Jones Act gives a right of action *in personam* only. This act gives a right of action in admiralty, and could doubtless be enforced by libel *in rem* in a case where the vessel could properly be held responsible. It seems on the whole probable that the remedy under the Jones Act is elective, as in case of action for damages, and in that case there is no real conflict.

The act undoubtedly has application in cases where the seaman is killed by the tort of a vessel other than his own, and, of course, to cases where another than a seaman is killed. When the tort of a foreign vessel is the cause of death; the vessel can be proceeded against under this statute, or under the law of the country of the vessel.

The Windrush, 286 F. 251.
The Buenos Aires, 5 F. 2nd 425.

The state laws may still be applied in case of death on navigable waters within the state bounds in any case where neither the Jones Act, the Longshoremen's and Harbor-Workers' Act nor a state compensation act is applicable.

O'Brien v. Luckenbach S. S. Co., 286 F. 301.

It seems probable that the act has application when the wrongful act occurs on the high seas, even though death takes place on shore: though this has been questioned.

(f) *The Longshoremen's and Harbor-Workers' Act*

The Act of March 4, 1927, C 509, 33 U. S. C. A., secs. 901 et seq., the so-called Longshoremen's and Harbor-Workers' Act, was passed as a result of Federal decisions heretofore noted, indicating that while Congress could enact a compensation law of its own covering employees within the Federal maritime jurisdiction, it could not make state compensation acts applicable thereto.

The act is a compensation act. It applies generally to injuries or death sustained by any employee on navigable waters of the United States (including any dry dock.) It specifically does not apply.

1. To injuries or death for which compensation may validly be provided by state law.
2. To the master or member of the crew of any vessel.
3. To any person engaged by the master to load, unload or repair any small vessel under 18 tons net.

The act has not up to date produced a considerable volume of decisions indicating its scope. As above indicated, it was intended not to cover all injuries on navigable waters, but only such as could not be validly covered by state acts. It may be noted that the line of application begins, not at the point actually covered by state laws, but at the point to which the state might validly extend its laws.

U. S. Casualty Co. v. Taylor, 64 F. 2nd 521.
Continental Casualty Co. v. Lawson, 64 F. 2nd 802.
U. S. F. & G. Co. v. Lawson, 15 F. Supp. 116.

(1) *"Including any Dry Dock"*

As previously noted, state compensation acts have no application to workers on vessels in dry docks, whether floating dry docks or "graven" dry docks. The act therefore may properly apply to such workers. As to workers on vessels on marine railways, the decisions are in conflict. Two cases held that the phrase quoted does not cover the case of a ship on a marine railway.

Colonna's Ship Yard v. Lowe, 22 F. 2nd 843.
Norton v. Vesta Coal Co., 63 F. 2nd 165.

One case, and a very well considered case, holds that it does. This case involved a vessel hauled upon a dock for repair. The court held the act applicable.

Continental Casualty Co. v. Lawson, 2 F. Supp. 159, 64 F. 2nd 802.

The court cited in support of its position the reasoning in the case of North Pacific S. Co. v. Hall Brothers, 249 U. S. 919. As indicated previously, the distinction between a vessel under repair in dry dock and a vessel under repair on a marine railway is technical, and the considerations which would refuse state compensation acts application in the one case should operate in the other also.

(2) *Vessels Under Repair*

As previously indicated, workers on vessels under repair come under the state compensation acts if injured on land, under the maritime law if injured on a vessel lying in navigable water or on the water. This line of cleavage indicates the application of the Longshoremen's and Harbor-Workers' Act.

Merchants' and Miners' Transp. Co. v. Norton, 32 F. 2nd 513.

(3) *Vessels Under Construction*

As previously indicated, state compensation acts apply to workers on vessels under construction, even after they are launched and lying in navigable waters. To such workers the Longshoremen's and Harbor-Workers' Act has no application.

U. S. Casualty Co. v. Taylor, 64 F. 2nd 779.
(Reversing Taylor v. Lawson, 60 F. 2nd 135.)

(4) *Loading and Unloading of Vessels*

In case of stevedores and longshoremen, a question exists, not as to the line of demarcation separating the application of state acts from the application of the maritime law, but whether, in the maritime field, they come under the Jones Act or the Longshoremen's and Harbor-Workers' Act. As previously noted, certain stevedores and longshoremen were held to come within the term "seamen" as used in the Jones Act. The broad and general terms of the Longshoremen's and Harbor-Workers' Act are inclusive of stevedores and longshoremen, and the exception of master and members of the crew does not apply to them.

L'Hote v. Crowell, 54 F. 2nd 212 (rev., 286 U. S. 512).
Moore v. Christensen S. S. Co., 53 F. 2nd 299.

(5) *Car Floats*

These have raised a peculiar jurisdictional question as to railroad employees working in connection with handling cars on car floats. It would seem to be settled that while so engaged, their rights, in case of injury, are determined, not by the Federal Employers' Liability Act, but by the Longshoremen's and Harbor-Workers' Act.

Nogueira v. N. Y., N. H. & H. R. Co., 32 F. 2nd 179, 281 U. S. 128.

Buren v. So. Pac. R. Co., 50 F. 2nd 407.

Richardson v. Central R. of N. J., 253 N. Y. S. 789.

(6) *Exception of "Master and Members of the Crew of a Vessel"*

The two preceding headings indicate certain classes of employees on vessels which do not come within the exception. The term "master" properly means the officer in command of a vessel, and he does not lose his standing as master, even if he receives a fatal injury, not on his own ship but while starting the engine on another ship owned by the same employer.

Merchants' and Miners' Transp. Co. v. Norton, 32 F. 2nd 513.

The term "crew" properly means all persons on board a vessel who constitute with the master the ship's company.

B. & O. R. Co. v. Parker, 4 F. Supp. 815.

Kibadeaux v. Standard Dredging Co., 81 F. 2nd 670.

There has been a tendency to construe the act broadly, as is to be expected in case of remedial legislation, and consequently to construe the exceptions narrowly.

Thus, the exception has been held not to exclude a third officer, paid off and re-engaged as night watchman on a vessel in dry dock.

Union Oil Co. v. Pillsbury, 63 F. 2nd 925.

Similarly in case of a night watchman on a vessel in winter quarters.

Seneca Washed Gravel Co. v. McManigal, 65 F. 2nd 779.

Similarly in case of painter in shipyard drowned while piloting motorboat for a few hours at employer's direction.

Wheeler Shipyard v. Lowe, 13 F. Supp. 863.

Similarly in case of employee injured while repairing vessel, who expected to become member of crew when vessel was fit for service.

Taylor v. McManigal, 14 F. Supp. 419.

A more peculiar line of decisions appears to be developing in case of employees on barges. A bargeman is properly a seaman, even if he is the sole person on the barge.

B. & O. R. Co. v. Parker, 4 F. Supp. 815.

But a person employed on a barge in stencilling ties is not a member of the crew, within the reasoning of the exception.

T. J. Moss Tie Co. v. Tanner, 44 F. 2nd 928.

And it has been further held that, since "crew" is a collective term, the exception does not apply to the sole employee on a barge.

De Wald v. B. & O. R. Co., 71 F. 2nd 810.
Harper v. Parker, 9 F. Supp. 744.
Diomede v. Lowe, 14 F. Supp. 380, 87 F. 2nd 296.

(7) *Exception of a Person Employed by the Master to Load, Unload or Repair a Vessel Under 18 Tons Net*

The object of this exception is, apparently, to limit the power of the master to burden small vessels with charges. It does not exclude persons employed by the owner.

Continental Casualty Co. v. Lawson, 64 F. 2nd 802.

While the development of a body of decisions as to the scope of the act is not far advanced, it seems unquestioned that the act does not conflict with state compensation acts, but is limited to the maritime field. In that field it seems likely that it will be broadly construed, and that the exceptions will be narrowly construed: even though this trespasses on fields heretofore covered by other liability statutes. It can apply to "seamen" only when they do not come within the designation of "members of the crew", and it of course has no application on the high seas.

4. *The Water Boundaries of States*

This is pertinent to the subject just discussed because of its close relation to the general maritime problem. While in general the states of the Union are sovereign states, and their boundaries are fixed according to principles recognized by international law, this has, in case of the states been highly modified by the circumstances attending their creation, by treaties, both international and between the states, and by the fact of the impermanence of certain of the bounds.

(a) *Boundaries on the Sea*

A state may, in the exercise of its sovereignty extend its bounds one marine league from low water mark and if this is done, the region so annexed is an integral part of the territory of the state.

Manchester v. Massachusetts, 139 U. S. 234.
U. S. v. Newark Meadows Improvement Co., 173 F. 426.
59 C. J. 57, note 19.

This is perhaps true if there is no express extension, provided there is no direct limitation or exclusion of such waters.

Ex parte Marincovich, 192 P. 156 (Cal.).
Ocean Industries, Inc. v. Super. Court, 252 P. 722 (Cal.).

This rule applies, not only to the mainlands, but to islands forming part of it.

Ex parte Marincovich, Supra.
Suttori v. Peckham, 191 P. 960 (Cal.)

The rule as to indentations in the coast line, that is to say, measuring the marine league from a line drawn from headland to headland has been held to apply in case of state bounds.

Thus, the Bay of Monterey, with headlands 18 miles apart, and having a maximum width of 22 miles and depth of 9 miles has been held as wholly included within the State of California.

Ocean Industries, Inc. v. Super. Court, Supra.

Thus Buzzards Bay, which is over one but less than two leagues between headlands, widening out to a greater distance, has been held within the boundaries of Massachusetts.

Manchester v. Massachusetts, Supra.

Certain of the states have, under acts of admission or by constitution, extended their bounds beyond the one league limit.

Thus, Florida has extended its bounds a distance of three leagues from the coast.

Lipscourt v. Kaloroukas, 133 So. 107.
Pope v. Blanton, 10 F. Supp. 18.

Louisiana has extended its bounds three leagues out towards the Gulf, and Mississippi includes islands six leagues from the coast.

Louisiana v. Mississippi, 202 U. S. 1.

(b) *Boundaries on the Great Lakes*

The international boundary between the United States and Canada, also the St. Lawrence, the Great Lakes and the communicating waters was originally fixed by the Definitive Treaty of Peace, concluded at Paris, September 3, 1783, and ratified by Congress January 14, 1784. The Treaty of Ghent, concluded December 24, 1814 and ratified February 17, 1815, provided for a redetermination of this boundary by a commission, which met and agreed as to the bounds from the St. Lawrence to Lake Superior, but disagreed as to the bound from Lake Huron to the Lake of the Woods. The decision was dated June 18th, 1822. The boundary was finally settled by the Webster-Ashburton Treaty, concluded August 9, 1842 and ratified August 22, 1842. The boundaries of the states go out to the international boundary.

Edson v. Crangle, 56 N. E. 647 (Ohio).
Chicago Transit Co. v. Campbell, 110 Ill. App. 366.

The state lines in Lake Michigan, as between Wisconsin and Michigan follow the middle of the lake. Wisconsin was admitted by the Act of August 6, 1846, and the boundary on the lake was fixed by drawing a line from the northeast corner of the State of Illinois to the Michigan line, and following that line north.

Bigelow v. Nickerson, 70 F. 118.

(c) *Boundaries on Rivers*

These have led to a deal of litigation, mainly on the question whether a bound by the "middle of the river" is the mathematical middle or the middle of the navigable channel, the doctrine of the Thalweg. The latter is the rule generally adopted.

See 59 C. J. 52, 53 and notes.

Another series of questions are created by the terms of treaties and conventions, cessions, acts of admission, etc. Among these may be noted:

(1) The Ohio River border of Kentucky extends under the act of cession by Virginia to the United States of the Northwest Territory, to low water mark on the Northwestern side of the river.

Nicoulin v. O'Brien, 248 U. S. 113.
59 C. J. 56, notes 13 (a), (c), (d).

(2) The bound on the Chattahoochee between Georgia and Alabama is dependent on the contract of cession between the United States and Georgia, which carries the Georgia line to the Western bank.

Alabama v. Georgia, 23 How. 505.

On the other hand, the middle of the Chattahoochee determines the bound between Georgia and Florida.

Florida Gravel Co. v. Capital City Sand Co., 170 Ga. 855.

(3) The bound between Georgia and South Carolina on the Savannah and Tugalo rivers is under the Beaufort Convention of 1787, at the middle part of the stream, without regard in the channel.

Georgia v. South Carolina, 257 U. S. 516.

(4) The bound between New Mexico and Texas is the middle of the Rio Grande as it was on September 9, 1850.

New Mexico v. Texas, 275 U. S. 279.

(5) The boundary between Washington and Oregon is the middle of the North Ship Channel in the Columbia River.

Washington v. Oregon, 214 U. S. 205.

(6) The Texas Arkansas boundary is on the southern bank of the Red River.

Oklahoma v. Texas, 261 U. S. 340.

Another series of cases involve changes in the course of a river. The general rule is that a gradual change in channel shifts the boundary line, but that a sudden change or "avulsion" does not. In the states along the Mississippi consequently, and to some extent on other rivers, the boundary originally on the river, may in places no longer be there. The line between Louisiana and Mississippi, Mississippi and Arkansas and Tennessee and Arkansas have been the theme of much litigation: and there are also cases involving the Illinois, Iowa, Missouri, Kansas and Nebraska river boundaries.

59 C. J. 59 and notes.

(d) *Boundaries on Sounds, Bays, Straits, Gulfs and Estuaries.*

The rule of the middle of the channel is generally applied.

(e) *The Water Bounds of New Jersey and New York*

These deserve special consideration because of their importance. The question what law applies is of considerable importance when there is such a notable difference in law, as for instance, in the death statutes of New York and New Jersey.

The New York bound in Long Island Sound has been involved in litigation. The Sound did not figure in the Colonial charters of either New York or Connecticut. There is thus a question as to whether it or any part of it belongs to either state.

The Elizabeth, 8 F. Cas. No. 4, 352, 1 Paine 10.

Probably, however, the line between Connecticut and New York lies in the middle of the Sound and the part of the Sound wholly within the bounds of New York is part of the territory of New York.

Mahler v. Norwich Transp. Co., 35 N. Y. 352.

The line between New York and New Jersey was until 1833 involved in doubt because of the conveyancing of the Duke of York, who by grant in 1660 obtained the territory of both colonies, and thereafter made the New Jersey grant. On account of the wording of that grant, New York claimed that its line ran along low water mark on the New Jersey side all down the Hudson, New York Bay, the waters between Staten Island and New Jersey, and Raritan Bay clear to Sandy Hook, including all islands in the river and bay. The bounds were so expressed in the first statutory declaration of the bounds, and in the Montgomery charter of the city of New York, granted in 1730.

New Jersey, naturally, claimed to the center of the river and of New York Bay, and began suit in the Supreme Court of the United States in 1829 to determine the line. Ultimately, the states agreed to the appointment of a commission, and this commission drafted a treaty, usually referred to as the Treaty of 1833. It was approved by Congress under date of June 25, 1834, U. S. Statutes at Large, volume 4, p. 708. By this treaty, the line was declared to be the middle of the Hudson River, of the Bay of New York, of the waters between Staten Island and New Jersey, and of Raritan Bay to the Main Sea.

The Treaty, however, provided that New York should retain "its present jurisdiction of and over Bedlow's and Ellis' Island, and shall also retain exclusive jurisdiction of and over other islands lying in the waters above mentioned and now under the jurisdiction of that state".

Also, the Treaty stipulated for "exclusive jurisdiction" in the state of New York over all the waters of the Bay of New York and over all the waters of the Hudson River, west of New York and South of Spuyten Duyvil Creek and over the lands covered by said waters.

This was subject to New Jersey's rights of property in the land west of the boundary line, and to its jurisdiction over wharves, docks and improvements on the New Jersey side, and a right to regulate fisheries on its side of the boundary.

As to the waters between Staten Island and New Jersey, "exclusive jurisdiction . . . . in respect to such quarantine laws and laws relating to passengers as now exist or may hereafter be passed" was retained by New York over the Kill van Kull and the sound, as far as Woodbridge Creek.

New Jersey had similar "exclusive jurisdiction of the waters of the Sound below Woodbridge Creek and over Raritan Bay", westward of a line drawn from "the Lighthouse at Pierce's Bay to the mouth of Mattawan Creek".

This was subject to the same rights in New York as were granted New Jersey in case of the upper waters. The territorial boundary established by this line is not difficult until it reaches Raritan Bay. The question was raised in a case involving the location of a wreck: and the court indicated that the "main sea" referred to in the treaty meant the ocean outside a line drawn from Sandy Hook to Coney Island. The treaty line ran to the center of the line thus located, and thence by the center of the shortest lines between the New Jersey coast and Staten Island.

Morris v. Board of Supervisors of Richmond County, 73 N. Y. 393.
Re Devoe Mfg. Co., 108 U. S. 461.

The limits of the jurisdictional field established by the treaty are precise enough. There is, however, some question as to the extent of jurisdiction intended to be conveyed. A number of cases, one in the Supreme Court of the United States involved the point: and there seems to be a question as to whether what the treaty calls exclusive jurisdiction is not merely a restricted jurisdiction designed for police and sanitary purposes and to promote the interests of commerce in the use and navigation of the waters.

People v. Central Railroad of New Jersey, 42 N. Y. 283.
Ferguson v. Ross, 126 N. Y. 459.
Central R. of N. J. v. Jersey City, 58 A. 239, 61 A. 1118, 209 U. S. 410.
Cook v. Weighley, 59 A. 1029, 64 A. 196.
Leary v. Jersey City, 189 F. 419, 208 F. 854.
The Rhein, 204 F. 253.
Carlin v. N. Y., N. H. & H. R. R. Co., 135 App. Div. 876.

This last case involved the application of the New York Death Statutes to a death case caused by a marine accident on the New Jersey side of the river. The court held the act applied. It is not, however, a decision of a court of last resort, and in view of language used in the other cases may not prove the final answer. It is a matter of considerable importance whether the New York Compensation Act and the New York liability acts go by the territorial boundary or the jurisdictional boundary.

Clarke v. Ackerman, 278 N. Y. S. 75.

The boundary line on the other side of New Jersey has also been in controversy, but has recently been settled.

State of New Jersey v. State of Delaware, 54 S. Ct. 407.

The boundary here is peculiar. It follows the center of the main channel, but Delaware owns the river bed within the limits of a twelve mile circle about the town of Newcastle.

The foregoing is not exhaustive. The water boundaries of the several states have been the theme of a deal of litigation, but in proceedings based on personal injuries of an employee, only a relatively few locations give rise to a material number of injuries. The arduous task of mapping out each and every water boundary of each and every state is hardly within the scope of the present undertaking: but it is thought the information above given includes most of what is practically of consequence.

VI. Conclusion

The United States is, among the great nations of the world, the leading exponent of the Federal type of organization. It is a national government of limited powers superimposed upon a group of states, each sovereign save to the extent that governmental powers have been vested in the National Government. Politically, this type of government has certain incontestable advantages. It enables states to act together for national purposes without forfeiting their identity and their powers of local self-government. But the foregoing study points out one concomitant disadvantage, namely the variation in private rights and duties between jurisdiction and jurisdiction, and a most undesirable difficulty in determining those rights and duties in cases which fall at or near the dividing line.

A great deal of the difficulty would disappear if there were a greater degree of uniformity in the laws governing the employer-employee relationship. The problem of conflict of laws as between state and state would not be serious if the states would effect a degree of uniformity in their compensation acts with regard to such matters as employers, employees and injuries covered by the Act, benefit provisions and application to extra-territorial injuries. Such uniformity is by no means probable. Conflict of laws between the states and the Federal jurisdiction would be less serious if the Federal Government made a more extensive application of the compensation principle, bringing masters and crews of vessels and employees subject to the Federal Employers' Liability Act within the terms of a Federal Compensation Law, and if uniformity could be secured between state compensation acts and Federal compensation acts. But this again seems by no means probable.

That the difficulty is of no mean proportion can be seen by viewing the number of cases cited in this study and in the previous study on the extra-territorial application of compensation acts. The remedy, if there be one, must probably be worked out through the Federal government. The Federal government has probably power under the Full Faith and Credit clause to enact legislation defining the proper extra-territorial application of compensation acts. Under recent decisions of the Supreme Courts, its jurisdiction over interstate commerce is far more extensive than had been supposed, and it seems not improbable that it could extend its compensation acts far enough to wipe out the jurisdictional conflicts which have been discussed. That, however, is for the future. Whether the present tendency towards an increase, *de jure* or *de facto,* in the powers of the Federal government will continue cannot at the moment be foretold.

Let it be marked down, however, as a point which will one day require settlement, that rights and duties of employer and employee should be reasonably uniform as between state and state, and as between state jurisdiction and Federal jurisdictions, and that the policy of states and of Federal government alike should be directed towards the avoidance of situations where the rights of the employee may be imperiled or confused by the necessity of determining obscure issues of fact or controverted points of law.

ABSTRACT OF THE DISCUSSION OF PAPERS READ AT THE PREVIOUS MEETING

DEDUCTIBLE AND EXCESS COVERAGES LIABILITY AND PROPERTY DAMAGE LINES OTHER THAN AUTO — JAMES M. CAHILL

VOLUME XXIII, PAGE 18

WRITTEN DISCUSSION

MR. THOMAS O. CARLSON:

As in the paper presented two years ago on Product Liability Insurance, Mr. Cahill has given us in this paper on Deductible and Excess Coverages for Liability lines other than automobile a valuable and needed contribution to the actuarial science set forth in the proceedings of our Society. In the past we have heard several papers which touched this subject, but touched it no more than tangentially, and only from the point of view of theory. This paper for the first time gives us a summary and an enlightening discussion of actual practice in the writing of these coverages.

The paper is essentially a technical presentation, delving only briefly into underwriting considerations. I hope that some other discussion of the paper may approach the subject from the underwriting angle. Having had no underwriting experience myself, however, I feel it will be wise for me to keep to familiar paths; consequently, my discussion will deal primarily with the technical aspects of the subject.

Having had the opportunity to review most of the paper prior to its presentation to the Society last November, I am not in a position to criticise the author for factual errors. There are a few such, however, to which attention should be called, although they are with one exception of minor importance.

> Early in the paper it is stated that the discounts for these coverages are calculated from compilations of losses by size of claim within line of insurance for claims settled in given calendar years. The bulk of the data are reported on such a basis but the reporting companies are given the option of reporting policy year data as of 24 months on an incurred basis, and this option is exercised by certain carriers.

Although the experience on which the current discounts are based was reported by industry group for the Manufacturers' and Contractors' Public Liability line, in the actual determination of discounts applicable to this line all industry groups were combined. There is thus at present only one schedule of discounts for this coverage.

In the section on experience rating it is stated that the Public Liability experience rating plan is applicable on an intrastate basis in three states: Minnesota, New York and Wisconsin. It should be noted that a plan very similar to the plan effective in these three states was made effective in Oregon, January 1, 1935.

In the brief section on aggregate limits, the following statement is made in the description of the coverage afforded: "All of the specified limits of liability—whether per person, per accident or the aggregate liability under the policy—apply to the gross indemnity cost of the claims incurred regardless of the portion of such cost which may be retained by the policyholder under the deductible form coverage". My understanding is that although this type of coverage is afforded by some carriers it is not afforded by all carriers. The alternative is for carriers to specify an aggregate limit applicable to the company's retention under the policy regardless of whether or not there is an aggregate limit applicable to the assured's retention.

The current procedure in the writing of these coverages has changed in two particulars since Mr. Cahill wrote his paper last fall. First, Product Public Liability risks are now rated by formula, using the Product Public Liability experience by size of claim. This experience has been tabulated for the three groups of classifications indicated at the outset of Mr. Cahill's paper, the excess and deductible coverage discounts varying according to the experience of these three groups. One change has been made in the formula, in that provision has been made for an increased allocated claim expense loading; this particular change was made more than a year ago. Secondly, in the Manufacturers and Contractors and Product property damage lines, for certain classifications involving a considerable multiple-claim-per-accident hazard, a distinction is made between the discounts for deductible and excess coverages on a per-claim as compared with a per-accident basis. For other classifications, the distinction between the coverage on these two bases is so slight as to warrant no differential in rates.

Before discussing the controversial elements in the paper I should like to commend the author for the clarity with which a complicated technical presentation has been phrased. In only one place in the paper does further elaboration appear to be in order, in the explanation of the derivation of expected losses in the application of the Experience Rating Plan. At the risk of increasing the difficulties presented by the scientific alignment of rules I shall attempt to explain certain of these rules more simply.

> In effect, the total expected losses are determined by a process of successively eliminating the respective expense and profit items. The variable items of acquisition, tax and profit, equal to 30% of the final deductible rate, are eliminated by multiplying that rate by .70, and the amounts for unallocated claim expense, home administration, inspection and payroll audit (equal to the provisions for these items in the full coverage rate) are then deducted by subtraction. This is the interpretation of the formula, $.70\,r - .19$, used for the Owners, Landlords and Tenants, Manufacturers' and Contractors', Product and Theatre Public Liability lines, for example.
>
> In paragraph (2) on page 32 the author cites the conditions under which the standard limits expected losses shall be considered to be composed entirely of excess standard limits expected losses. Conditions (a) and (c) are obvious, but the reason for condition (b) is not immediately clear. The formulas given thereunder determine the deductible rate below which the total expected losses are equal to or less than the excess standard limits expected losses under full coverage.
>
> Under paragraph (3) on page 33 the rule provides in brief that for the losses under discussion the excess standard limits expected losses on a deductible basis are exactly the same in amount as they would be under full coverage, and the normal expected losses constitute the remainder of the standard limits expected losses on the deductible basis.
>
> Rule (5) on page 34 introduces a slight ambiguity: actually, in the contingency provided against in the second sentence of this rule the standard limits expected losses should be treated in accordance with rule 2(c).
>
> Elaboration corresponding to the foregoing could also be introduced in the subsequent section dealing with the application of experience rating to excess coverage risks.

In the section dealing with the reporting of experience the author recommends that future calls provide for the determination of size of claim by the amount of indemnity alone excluding all medical and allocated claim adjustment expense. Allocated claim expense is already excluded from this determination. To exclude medical also would be wholly impossible for those carriers reporting upon a policy year basis. As noted by the author, medical losses constitute less than 1% of total losses and when the procedure of determining final discounts is considered it is clear that the inclusion of medical losses in all likelihood does not affect any of the final discounts. Even were it possible for carriers reporting on a calendar year basis to exclude medical, the additional expense of doing so would not be justified by greater accuracy in the final discounts.

In the section commenting on the present deductible rate-making method Mr. Cahill rightfully criticises the inadequacy of the current loadings for allocated claim expenses. As has already been noted, for the one line (a)-rated, Product public liability, this inadequacy was corrected in the actual rate-making procedure more than a year ago. Mr. Cahill recommends that revised allocated claim expense loadings be determined from the size of claim data. I believe that such a procedure would result in inadequate loadings for this item generally because those carriers reporting size of claim data on a policy year basis do not carry reserves for allocated claim expenses. This inadequacy is borne out by the fact that allocated claim expense ratios so determined are almost invariably lower than the ratios determined from the Casualty Experience Exhibit. One of the arguments cited by the author against basing these loadings on the indications of the Casualty Experience Exhibit is that they will vary considerably "with the character of the general loss experience, reflecting the effect of a favorable or an unfavorable loss ratio". But the author has indicated in the preceding paragraphs that the allocated claim expense should first be related to the losses including this allocated expense and this resulting ratio applied to the permissible loss ratio. Such a procedure would nullify the argument given by him for not using the Casualty Experience Exhibit data. It seems apparent that the Casualty Experience Exhibit affords the best and most reliable basis for the determination of these loadings.

Mr. Cahill's next criticism is directed against the graduation of the deductible discounts so as to produce an 80% discount for an assured's retention equal to $5,000 per claim. He has omitted the explanation of the reasons for adopting this procedure as well as the derivation of the 80%. This graduation is linked to the determination of proper discounts for excess coverage. Under excess coverage, on a standard limits policy providing for a \$5,000 per claim retention by the assured, the carrier is not liable for any losses; further, since the carrier does not investigate or adjust any claim it is in effect providing no coverage whatsoever. Therefore, it is not reasonable to make any charge for such a policy and the appropriate discount is 100%. It is not reasonable, or, may we say, not practicable from the selling point of view, to leap suddenly from a fairly substantial charge for a \$3,000 or \$4,000 assured's retention per claim to a zero charge for a \$5,000 retention. It becomes necessary to introduce a graduation of discounts which is accomplished approximately by a tangent line similar to that used in experience rating credibility tables with the introduction of a self rating point. By reason of similar considerations of practicability, to produce a consistent relationship between the discount schedules for deductible as compared with excess coverage, it is necessary to graduate the deductible discounts as the assured's retention approaches the standard limit per claim. In order to determine the discount for an assured's retention of \$5,000 per claim a charge was determined which would provide the full coverage amount for the expense of investigating and adjusting claims, and this amount was loaded percentagewise for the other expense items. The resulting charge was 20%, indicating a discount of 80%, which governed the graduation of the deductible schedule of discounts. If adequate loadings for allocated claim expenses are adopted the ultimate discount will be approximately 70% rather than 80%. In fact, for the Product Public Liability line the discount for \$5,000 per claim deductible coverage is 70%, this change having been made by reason of the increase in the allocated claim expense loading. Discounts below that point are graduated along a line tangent to the curve representing calculated discounts. Theory may recommend elimination of this graduation as suggested by Mr. Cahill, but practicability dictates its retention.

AUTHOR'S REVIEW OF THE DISCUSSION

MR. JAMES M. CAHILL:

The writer is deeply appreciative of the kind comments which are interspersed in Mr. Carlson's constructive criticism of this paper on deductible and excess coverages. This discussion is a valuable addition to the material already available in the *Proceedings* on this subject because it includes information on the changes in the rating methods which have been made effective within the last year.

Mr. Carlson has enumerated certain minor points regarding which the paper did not present the complete facts. The writer was cognizant of most of these points but, in dealing with the many details connected with these coverages and in attempting to arrange the material in an orderly manner, he neglected to mention several of the refinements listed by Mr. Carlson.

In order to bring the sections on experience rating up-to-date, it should be added that the Public Liability Experience Rating Plan was introduced in North Carolina on an intrastate basis effective June 1, 1937.

Mr. Carlson's discussion includes a very good explanation of the theory underlying the procedure outlined by the writer to be followed in experience rating risks written on a deductible basis. The material on experience rating included in the original paper was a very technical presentation of the subject. An easily understandable explanation of the derivation of the various formulas was not given. Mr. Carlson's elaboration of this section should clarify the experience rating procedure for those who wish to know the reasons for the various calculations.

It is also brought out in the discussion that consideration has recently been given to correcting the inadequacy of the loadings which have been employed for allocated claim adjustment expense. The reasons given for not calculating the revised loadings for this item from the size of claim data appear to be very logical and incontrovertible. In his paper, the writer stated objections to employing the allocated claim expense ratios reported in the Casualty Experience Exhibit without adjustment. It would appear, however, that the procedure outlined by Mr. Carlson which provides for first relating the allocated claim expense ratio of the Casualty Experience Exhibit to the loss ratio including allocated claim expense as reported in the same exhibit and then applying this resulting ratio to the permissible loss ratio would produce a proper provision for allocated claim adjustment expense to be used in calculating deductible rates. If this adjustment is employed, there should be no objection to employing the data reported in the Casualty Experience Exhibit to determine the necessary provision for allocated claim adjustment expense.

The justification which Mr. Carlson has given for the practice of graduating the deductible discounts so as to produce an 80% discount for an assured's retention of $5,000 per claim has been very ably expressed. Possibly the writer was somewhat amiss when he failed to mention in his original paper the reasons which prompted the introduction of a graduation of the deductible and excess discounts for sizable amounts of assured's retention of liability. A difference of opinion regarding the propriety of this graduation may exist, however, just as it does on other phases of casualty insurance rate-making procedure. The writer is still somewhat dubious as to whether the graduation process produces an adequate provision for company expenses on risks where the assured's retention of liability is a sizable amount.

SMALL RISKS VERSUS LARGE RISKS IN WORKMEN'S COMPENSATION INSURANCE

WRITTEN DISCUSSION

MR. GRADY H. HIPP:

Mr. Kormes' paper deals largely with loss experience by size of risk and the method of calculating loss constants. The paper also summarizes the history of the development of loss and expense constants and points out the reasons why these constants were adopted. The author's discussion of the expense constant is very limited.

The paper should prove to be very valuable not only to students but also to casualty insurance executives who could not otherwise be so conveniently informed regarding the important developments in connection with loss and expense constants. In a comparatively new line of business such as workmen's compensation, it is particularly important to have periodical summaries made of the more important developments in connection with various problems. Many of the developments occur in connection with the work of committees.

The following table shows a summary of the loss and expense constants in effect since they were first adopted to become effective May 1, 1928. The loss and expense constants applied to risks producing annual premiums of less than $400 prior to July 1, 1934 and to risks producing annual premiums of less than $500 on and after July 1, 1934.

Effective Dates	Expense Constant	Loss and Expense Constants by Industry Groups—New York State			
		Manufacturing	Contracting	Federal	All Other
5/1/28 to 7/1/34	$5	$23	$43	*	$ 7
7/1/34 to 7/1/35	5	32	63	*	13
7/1/35 to 7/1/36	5	32	63	$50	13
7/1/36 to 7/1/37	5	42	41	50	18

* Beginning with March 1, 1935 risks in the "Federal" group have been assigned loss and expense constants which differ from the constants applicable to other industry groups.

Note: The loss constant included in each loss and expense constant is calculated to provide a loading of 30.5% for expenses. This smaller expense loading results from excluding the loading for home office and payroll audit expenses from the percentage loading in the constants. The expense constant is designed to take care of fixed expenses which are independent of size of premium. The $5.00 expense constant originally adopted is based on a $3.00 expense fee plus a part of the loading on the average of the loss constants which part it was assumed would be available for the purposes for which the expense fee was proposed. This use of an average of the loss constants resulted in leaving a very low balance for the loss constant in the "All Other" industry group.

In the introduction to his paper, Mr. Kormes states that the fundamental reason why small risks have higher loss ratios than do large risks is that the small risk does not have the same incentive to provide for efficient and extensive accident prevention work. At a later place in his paper he states that Exhibit IV which shows the loss experience on short term policies was prepared in order to demonstrate the fundamental cause of the disparity in loss ratios between large and small risks. While the exhibits attached to Mr. Kormes' paper do not show the loss experience on full term policies, tabulations of loss experience excluding short term policies do show that there is a substantial disparity in loss ratios on full term small and large risks. Even if small risks were given an adequate incentive for accident prevention work, the question arises in my mind whether such work could be made effective on small risks. It may be that small risks are inherently more hazardous than large risks. Regardless of expense, small risks may not be readily susceptible to accident prevention methods.

Mr. Kormes expresses the opinion that it is still a question open for discussion as to whether or not the loss constants are the only and final solution of the situation. He states there are many who believe with a more efficient payroll audit and more careful underwriting, the small risk problem could be corrected without any use of constants. On the one hand such a view implies that small risks are not inherently more hazardous than large risks, and on the other hand the contemplated procedure undoubtedly would involve considerable additional expense on small policies. Any such increase in expenses on small policies should be provided for by modifying the expense constant.

The experience rating plan which applies generally to risks with average annual premiums of $500 and over in New York State constitutes at least a partially effective incentive for accident prevention work on the part of larger employers. It is not generally believed that the loss experience of small risks is indicative of the hazards of individual risks. In my opinion, however, it would be feasible to apply an all debit experience rating plan to small risks for the reason that while the absence of accidents for a small risk may not carry much weight it is nevertheless significant when a small risk has a consistently poor loss experience over a period of years.

The exhibits attached to Mr. Kormes' paper indicate that the loss and expense constants have not yet corrected the disparity in loss experience on small and large risks. In calculating the loss experience shown in his Exhibit I the full amount of the loss and expense constants has been included in the premiums. The disparity in loss experience is actually greater for the reason that the additional premiums due to the expense constant have been included in the calculations. More properly, the additional premiums due to the expense constant should be excluded from the loss experience calculations when making tests of the adequacy of the loss and expense constants. It is recognized, however, that the exclusion of the additional premiums due to the expense constant would necessitate a considerable amount of work which perhaps is not warranted at the present time. If the expense constant is included in the rate-making procedure for the purpose of offsetting the higher expenses on small policies, it would seem to follow necessarily that it should not be included in the loss experience calculations inasmuch as this part of the loss and expense constant was not intended to offset the higher loss experience on small policies.

The exhibits show that the loss experience on minimum premium risks is more favorable than on any other size group of policies. This situation is probably accounted for by the fact that many minimum premium risks do not employ one person on the average during the year, whereas in calculating the minimum premium a payroll of $1,500 is assumed. As business improves this situation may be materially changed.

The loss experience by size of risk clearly indicates the need for annual revision of the loss and expense constants, at least until such time as they may become reasonably stable and fixed.

Mr. Kormes also gives a valuable outline of the method of calculating loss constants.

It may be of interest to note that the symbol M used by the author for the experience modification in the formula corresponds to the experience modification $(1 + M)$ which is shown as a percentage of the rate in the New York Experience Rating Plan.

In calculating the loss constants, the total amount needed for constants is divided by the number of risks under $500 in annual premium size. This procedure involves a degree of error inasmuch as the loss and expense constants are reduced as risks approach $500 in annual premium size. If the loss and expense constant plus the premium exceeds $500 the loss and expense constant under the manual rules is reduced to such a figure as will make the sum equal $500. This error is probably not material.

It should be noted further that in calculating the reduction in the standard expense loading on account of additional premiums due to expense constants, it is also assumed that each risk with a manual premium of less than $500 contributes the full $5.00 expense constant. As explained above, however, on those risks which approach $500 in annual premium size, the constant is reduced. Consequently, a degree of error is involved which, however, is not of any serious consequence.

Inasmuch as the expense constant of $5.00 recommended by the minority report of the "Conference Committee" has not been changed since it became effective May 1, 1928 it would now seem that a re-examination of the problem of expenses on small policies should be undertaken at an early date.

In a paper on "Compensation Expenses per Policy", Volume XXI of the *Proceedings,* Mr. Harmon T. Barber presented a summary of the results of the special study of countrywide compensation expenses which was made by the Pennsylvania Compensation Rating and Inspection Bureau in the summer of 1934. Mr. Barber pointed out in his paper that the amounts of average expense per policy developed from the figures shown in the special study compare closely with the provisions for administration and audit expense contained in the basic $10 expense constant of the National Rate-making Program. It would, therefore, seem that the problem of expenses per policy should be re-examined in New York State, and if necessary, a revision of the expense constant be made in accordance with the results of such a study.

MR. G. F. MICHELBACHER:

The football coach had the chemistry professor on the spot. The university's football star had flunked his chemistry exam and would be lost for the big game of the season. Couldn't something be done? Partisan interest in the game triumphed over official duty. The star was given a special examination, his eligibility was established, he played brilliantly, and the game was won. Later, the coach inquired of his friend just how the football player, whose intellectual attainments were far from extraordinary, had happened to pass his examination. "Well", said the professor, "you know that 50% is a passing grade in cases of this character. I made up my mind to give an oral quiz and to make it simple. Two questions were asked. The first was 'What is the color of anthracite?' and the reply was 'Red', which was wrong. The second question was 'What is the color of chlorine gas?' and the answer was 'I don't know', which was obviously correct. So I gave him 50% and passed him".

I hope that my attempt to discuss Mr. Kormes' paper will be judged in a similarly charitable manner.

I.

That part of Mr. Kormes' paper which describes the methods employed in calculating loss constants for New York creates a valuable, permanent record for future reference. I shall offer no comments with regard to it.

The remainder of Mr. Kormes' paper demonstrates the extent to which New York loss constants have removed the disparity between the loss ratios for small and large risks. The conclusion I reach, after examining this part of the paper, is that the problem has been neither completely nor adequately solved. The loss constants have served a purpose; but the actual experience shows very clearly that disturbing variations persist in the loss ratios by premium-size groupings.

I am glad to note, therefore, that Mr. Kormes does not consider ultimate perfection to have been achieved. Further study of the various phases of the problem will disclose new methods of approach. None of us should be satisfied until risks of all sizes and conditions receive the adequate, reasonable and equitable rating treatment which the law of this state prescribes for them.

II.

The use of loss constants, it should be noted, is merely one link in an historical chain of attempts to revise the rating process so that greater accuracy will be attained in establishing rates for individual risks. This more general problem has engaged the attention of rate-makers since the inception of workmen's compensation insurance, and representatives of stock insurance carriers have been most aggressive in this field of activity. It may be in order, therefore, to examine the reasons for the traditional attitude of stock insurance carriers with regard to this particular subject.

It would be trite to say that stock carrier representatives have been influenced by an intense desire to make the rating process equitable and non-discriminatory. These concepts should be constantly in the minds of competent, scientific rate-makers of every persuasion; although, I must admit, that some of the arguments I have heard our mutual company friends advance in the interests of certain classes of policyholders (most of whom they do not insure) have caused me to wonder whether they clearly understand the meaning of these terms. (Oh, the oceans of crocodile tears that have been shed in the holy name of equity!)

Frankness compels me to say that stock insurance carriers have a special reason for insisting that each risk should pay a proper rate, and that reason arises out of the competitive position in which such carriers find themselves.

If one insurance carrier insured all the risks in a given state, inequalities in rates as between insured risks would not prevent that carrier from collecting an aggregate premium fund "adequate" to meet its requirements. And, viewed in the aggregate, such premiums might be "reasonable" as well. Thus, in the few monopolistic states we find that the emphasis in rate-making is placed upon aggregate results and that scant attention is paid to the fairness of the cost imposed upon individual employers.

But when several insurance carriers occupy the field and compete for business, differences in their methods of operation become important, and broad approximations of the true cost of insurance for individual employers are no longer tenable. Competition forces the business of insurance to recognize equity, fairness and nondiscrimination as criteria indispensable to a successful rating system. Unless each risk is properly rated, the competitive opportunities of different carriers may be impaired. Serious inequalities in the premium accounts of the several carriers may likewise result, for one carrier, by grouping certain risks, may receive an unreasonably excessive premium income while another, through the process of selection, may receive an inadequate premium income upon the risks it writes.

It so happens that stock insurance carriers operating on the nonparticipating plan are at a disadvantage in competing with nonstock insurance carriers issuing participating policies where large numbers of risks, divergent as to hazards and expense requirements, are thrown together in a classification for which an average rate is established. A simple illustration will demonstrate the accuracy of this statement.

III.

Workmen's compensation insurance possesses one fundamental characteristic which distinguishes it from fire insurance and other forms of property insurance. The hazard is multiform; industrial injuries occur with such regularity that a statistical "experience" is soon created with which the individual policyholder becomes reasonably familiar. This tangible indication of cost for the individual risk creates difficulties when large numbers of diverse risks are grouped together in a single classification. Any such broad grouping of heterogeneous risks necessarily produces an average rate that is too high for some risks and too low for others.

Now, assume that two carriers approach the policyholders in this group—one using the average rate of the group as a fixed, guaranteed, initial rate (non-participating insurance), the other using the average rate as an approximate initial rate subject, theoretically, to later adjustment on the basis of actual experience of the risk during the current period of coverage (participating insurance). Since the individual policyholder knows from experience approximately what the cost of insurance for his risk should be, it requires no great intelligence to predict that those policyholders whose costs are below the average will be attracted by the participating plan. This will leave for the non-participating carrier an "adverse selection" of risks whose individual cost is either equal to or greater than the average for the group; and the result will be an inadequate premium income for such carrier.

We know that the "experience" of an individual risk increases in evidential value as the risk increases in size. "Large" employers, therefore, have a better basis for judging whether an average rate fits their particular risks than do "small" employers. That is one reason why stock insurance carriers operating on the non-participating plan are interested in properly rating "large" risks. Their ability to attract the best risks of this type necessarily depends upon the fidelity with which the initial rates they charge reflect the true cost of insurance for the individual risk.

On the other hand, because stock insurance carriers obtain their business through agents located in every town and hamlet, they must necessarily expect to receive the bulk of the business which is produced by intensive solicitation. Look at any Main Street and you will see the type of workmen's compensation insurance risks which stock insurance carriers must absorb in large numbers. Stores, restaurants, garages, hotels, barber shops, markets, theatres, banks, office buildings, sheet metal shops, artisans—a multitude of "small" risks—these constitute the clientele of the average agent. These "small" risks must be written by stock insurance carriers which must make certain that this business fully pays its way by producing premiums sufficient to defray expenses and to pay losses.

It isn't, therefore, so much a question of small *versus* large risks as it is a question of small *and* large risks. At both extremes (and "in between" as well) the same necessity exists for stock insurance carriers to produce rates which strictly treat each risk on its individual merits. Thus, the representatives of stock insurance carriers have been interested in such problems as classification phraseology, underwriting rules which authorize the use of divided payrolls, schedule rating, loss and expense constants, minimum premiums, equity rating, graded expense loadings, retrospective rating—all devices which are designed to permit a more accurate rating of each individual risk.

Unfortunately, carriers operating on the participating plan (principally mutual insurance carriers) have not evidenced a very co-operative attitude in this matter. Obviously, they have an unfair competitive advantage when broad groupings of risks are used as the basis for rate-making and they seem to feel that they possess a vested interest in such a system of rating which they must protect at all hazards. For this reason, they have stubbornly opposed every attempt to introduce refinements in rating. Out west, where I come from, the obstructive tactics consistently employed by non-stock carrier representatives would be characterized as constituting a "dog-in-the-manger" attitude. (Them's fightin' words, pardner—and so intended!)

Recently, this opposition has appeared so frequently and has taken such unreasonable forms that it must necessarily raise a question whether cooperative rate-making as between stock and non-stock insurance carriers has outlived its usefulness and any longer possesses the capacity for successful achievement.

IV.

This conflict in interest is not a matter of recent development. It has always existed and will probably continue to exist. But it should not be permitted to interfere with scientific rate-making!

At the outset, in the 1915 conference, when these two classes of insurance carriers first sought to cooperate in making rates, trouble was anticipated. Representatives of mutual insurance carriers, it was thought, would argue for high rates (so that their dividends would be abundantly assured); representatives of stock insurance carriers, in self-defense, would argue for low rates (so that the compromise, initial rates, which were their final, guaranteed rates, would be at least approximately correct); and no one would seek rates which were actuarially justifiable.

At that time it was felt that a formula might be established which would reconcile opposing viewpoints and ignore everything except actuarial principles. It was agreed that the initial rate was to be calculated by combining a pure premium taken from the aggregate experience of all carriers and a loading based on the expense requirements of stock insurance carriers, with the understanding that this rate would enable participating carriers to pay a dividend equivalent to the difference in actual expenses between the two classes of carriers.

Obviously, the adoption of this formula should have eliminated competitive considerations from the rate-making process and, for a time, it did. Unfortunately, however, this program has not proved permanently workable. Its breakdown has made the situation intolerable for stock insurance carriers.

My suggestion to those who believe that non-partisan rate-making should be continued is that a "new deal" is urgently needed if further attempts at cooperation are to be made. In short, it is my conviction that cooperative rate-making for the future is possible only if it can have one objective—to provide correct rates for each individual risk. Perhaps it is futile to expect the warring factions to reconcile their differences this side of the millennium. If so, the sooner we concede this point the better for all concerned. Here is a project in formula-construction which might well engage the undivided attention of casualty actuaries whose interest in rate-making is, or should be, a purely scientific one.

AUTHOR'S REVIEW OF DISCUSSIONS

MR. MARK KORMES:

The above paper was written with the intention to present a technical and unbiased description of the phase of the Workmen's Compensation rate-making method which deals with the problem of small risks. I am, therefore, greatly pleased with the generous response accorded me by two prominent members of the Society in writing a discussion of this paper.

Mr. Hipp's discussion constitutes a valuable complement to the contents of the paper in that it brings out the importance which should be attached to the consideration of the expense constant. The author has purposely avoided bringing in questions of controversial nature which will serve to explain why the question of expense constants was not treated in the paper to any extent. Furthermore, the excellent paper by Mr. Harmon T. Barber in these *Proceedings* should offer sufficient information to the student and since no additional factual information has developed from the time when Mr. Barber's paper was written, the author thought it wise to refrain from the discussion of this subject. It may not be amiss to state in this connection that the author feels that an expense constant is not necessarily attributable to small risks since if it is based on the theory that there are certain constant expenses per policy it should, in practical application, be charged as a sort of a policy fee on all risks.*

The remainder of Mr. Hipp's remarks serves to clarify and round out the various aspects of the loss constant problem. In particular, the author agrees with Mr. Hipp that in the test showing the disparity of the loss experience as between small and large risks, the expense constant should be eliminated. It may be, therefore, proper to include in this review a short table showing the loss ratios by broad size groups on the basis of premiums exclusive of the expense constant.

LOSS RATIOS BASED ON PREMIUMS EXCLUDING EXPENSE CONSTANTS FOR POLICY YEARS:**

Industry and Premium Size Group	1928	1929	1930	1931	1932	1933
Manufacturing						
Min. Prem. Risks..	49.8	40.5	39.8	46.2	53.2	45.2
Risks under $400..	67.3	70.2	79.5	82.3	84.3	66.0
Risks $400 & Over	66.6	65.4	61.8	60.5	53.9	52.5
Contracting						
Min. Prem. Risks..	67.4	65.4	63.7	67.4	42.0	53.5
Risks under $400..	77.1	78.6	87.1	101.5	69.9	65.4
Risks $400 & Over	70.1	73.6	79.9	77.1	75.9	68.6
Federal						
Min. Prem. Risks..	—	—	—	—	—	49.5
Risks under $400..	—	—	—	—	—	97.8
Risks $400 & Over	—	—	—	—	—	49.3
All Other						
Min. Prem. Risks..	49.8	45.1	53.6	46.8	43.3	47.5
Risks under $400..	63.4	72.2	72.4	72.3	64.5	67.5
Risks $400 & Over	59.2	63.5	61.2	57.1	52.3	54.6

* This idea is actually carried out in New Jersey.

** Policy year 1928 comprises the experience from May to December inclusive. The constants were introduced as of May 1, 1928.

As regards Mr. Michelbacher's discussion, the author is not only surprised but also taken aback. He never dreamed that his paper would ignite the spark of partisan issues and that the discussion of his paper would result in an attack on a certain group of insurance carriers.

There is no question that the rate-making procedure for Workmen's Compensation should be sufficiently refined to provide as accurate rating for various groups of risks as is practically feasible and at the same time in conformance with sound insurance principles. The author is convinced that any opposition developed to a number of quickly conceived schemes will serve to eliminate any ill-advised changes in the rate-making procedure and to develop scientifically sound methods of rate-making which Mr. Michelbacher so desires. While one can hope to achieve some day a rate-making system which, over a period of time, will produce satisfactory results for various groups of risks, one cannot agree that it would be in conformance with the principle of insurance to produce rating methods absolutely accurate for each individual risk. We would then have not insurance but self-insurance with service charges.

While the author is flattered that such a prominent member of the Society has considered it worth his while to write a discussion on this paper, he would have very much preferred that such discussion had been written "sine ira et studio" in accordance with the maxim of the Roman historian Tacitus.

INFORMAL DISCUSSION

Reserves Against the Recurrence of an Unfavorable Loss Ratio in the Bonding Lines

MR. WINFIELD W. GREENE:

This subject cannot be discussed helpfully without some reference to the general topic of reserves for the casualty business, and to the present position of the stock casualty companies. As for the latter, it has improved materially during the past two years and particularly last year. In fact, for the year 1936 the underwriting result was on the positive side for each department of the casualty business, the loss in the health line being more than offset by a profit on the accident business, the small minus figure for glass being overwhelmed by a substantial profit on burglary and even the tiny negative result for machinery being more than offset by a small underwriting profit for boiler. With a net gain from underwriting for all casualty and surety lines of $32,050,134, or 5.8% of earned premiums of $554,818,613, according to the New York Casualty Experience Exhibit as compiled by the National Bureau, the gloom to which we have been so long accustomed is no longer in evidence,—and for this very reason now is the time to revive our all too fleeting recollection of the years that preceded 1936.

Table "A" shows earned premiums and underwriting gain for all lines combined for each of the years 1923-1936. This picture should cure any tendency toward over-confidence on our part. True, we had an underwriting profit of nearly 6% last year, but in 1931 the stock carriers had an underwriting loss of about 9%, and every year from 1929 to 1934, both years inclusive, showed a loss. Only three out of the entire fourteen years showed a profit and the net result for the period was an underwriting loss of approximately 2%.

Table "B" shows earned premiums, loss ratios and underwriting gain (from the source already cited) for each year of the period under review, for the fidelity and surety lines separately, and in combination.

Although during the fourteen-year period the bonding lines accounted for only one-seventh of the premiums, they were responsible for about one-fifth of the total underwriting loss. Furthermore, the results for the bonding lines were tremendously more volatile than were those for the remainder of the casualty business. For example, in 1936, the bonding lines in spite of their minor volume accounted for almost half the entire underwriting profit of the stock casualty companies, and in 1931 their share of the total underwriting loss was also nearly one-half.

The conclusions to be drawn from these tables appear to be, as follows:

1. The bonding business is evidently a major element in the instability of casualty underwriting results.
2. The greatest factor in the variability of the bonding result is the surety loss ratio, which fluctuated between extremes represented by 90.6% for 1932 and 21.4% for 1936.
3. Fidelity, although more stable than surety, is still a contributor to instability, since, though the fidelity business does not occasion the terrific underwriting losses characteristic of surety, its profits nevertheless disappear just at the time when they are most needed.

It should be added that the figures in Table "B" have not been adjusted to take out the effect of the mortgage guarantee business. However, it appears likely that that unfortunate classification was not so important a factor in the published results as one might have expected; for, if the figures for the three companies which were heavily involved in this field are deleted together, the total surety underwriting loss for the period is changed percentagewise only one point, namely from 10.2% to 9.1%.

Just what are the implications of all these rather alarming figures as far as the question of reserves is concerned?

In the casualty business our conception of reserves is simple, being confined in the main to the unearned fraction of the premium, and a loss reserve commensurate with an estimate of our liability for events which have already taken place whether we know about all of them specifically or not. Even from this viewpoint, some companies have gone on the "out of sight, out of mind" principle and therefore have been seriously under-reserved in the past; and this under-reserving has accentuated those violent fluctuations in loss ratio which have put so heavy a strain upon capital structure. However, there is grave question whether in the bonding field this primitive scheme even if faithfully carried out will suffice to see us through. Experience strongly suggests that we need to reserve not merely against a "normal loss" for the remainder of the bond period, and for what has happened to date, but also to some extent against what may happen in the future, both in the current bond period and in later ones, above and beyond what we can reasonably expect future premium revenues to absorb. Anyway, in the fidelity and surety field there is a very smudgy line between what happened before a given date and what happened after it, largely because when we do learn of a loss, more often than not we don't know just when it occurred, and either guess at the "date of loss" or beg the question by making it identical with the "date of discovery". Many serious surety losses do not reveal themselves until two or three years have elapsed, and as for fidelity losses the period of incubation frequently lasts from five to fifteen years. The irrelevancy of when the loss really arose is emphasized by the practice of issuing superseding suretyship riders whereunder liability is wilfully assumed by a company for losses which occurred long before it issued its bond.

Clearly the situation calls for a reserve method which will tend to equalize loss ratios from year to year to a considerable degree, regardless of the precise incidence of loss discovery or even of loss causation; and for this purpose mere coverage of what has happened, known or unknown, will not be adequate. To a great extent the emergence of losses is actuated by the business cycle: and without proposing a specific formula, if we do not impound a substantial portion of the apparent profits of to-day, we shall have naught (but the surplus account, if that can stand it) wherewith to liquidate the losses of to-morrow.

Most suretyships are nominally short term affairs. From the reserve standpoint this is very misleading. For many practical purposes they are long term, analogous to fifteen or twenty year term in life insurance,—even term to age sixty-five in some cases. The clerk or the corporation treasurer is bonded from his first employment till his stewardship ends in honorable retirement or in revealed peculation. The contractor is bonded year after year, job after job, till he defaults, or quits business. Rotten situations came to light during economic crises, and the then surety is tagged with a loss; but the theft, or financial weakness, or incompetency were there all the time. In many cases there was no specific moment of loss occurrence.

A life insurance company collects a yearly premium commensurate with the mean mortality rate for a man's entire lifetime; but it does not deem it has profited because its losses are low as compared to this level premium during the earlier years of life. Instead, it puts the apparent saving into policy reserve, knowing this fund will be needed to liquidate the heavier mortality bound to occur at the higher ages. On surety and fidelity business, the companies should be permitted to follow a similar course. Indeed, it is hard to see why they should not be required to do so. Presumably the specific procedure would bear a close resemblance to that of Schedule "P" for liability business, though the percentage of premiums impounded might on the average be less for the bonding business and the period of impoundment greater, at least for fidelity. It might be desirable to have the percentages impounded reflect the experience of the individual company provided the company has been in the bonding business for a considerable period.

You may ask whether individual companies are not already taking care of this situation voluntarily. I doubt if this is true to any widespread extent. At least, an inspection of the statements of ten companies writing about one-eighth of the countrywide fidelity and surety volume reveals no affirmative evidence of any material change in loss reserve practice. For those particular companies fidelity and surety volume increased about 3% in 1936 and loss reserves in the aggregate remained almost a constant function of premium volume, increasing in almost exactly the same ratio. Only one company showed any material increase in the ratio of loss reserve at the end of the year to premiums written during the year. Some of the companies are now carrying rather substantial voluntary or contingency reserves but in only one case observed (a small company) did the increase in the voluntary or contingency reserve exceed the capital gain from investments for the year; so the impression gleaned (admittedly from slender data) is that voluntary reserves are being used to guard against possible depreciation in investments rather than to cover any other contingency.

Now this already somewhat muddled situation is complicated by a decision of the United States Circuit Court of Appeals, Ninth Circuit, under date of March 29, 1937, in the case of Pacific Employers Insurance Company vs. Commissioner of Internal Revenue. According to a recent bulletin, it was held in this case in affirmation of a decision of the Board of Tax Appeals, that an insurance company, other than life or mutual, is not entitled to a deduction for a reserve for losses based on premiums earned. The Court here was dealing with the statutory formula upon which the Schedule "P" reserve for liability and compensation business is based and the presumable effect of the decision is to require that for Federal Income Tax purposes the reserve is to be based upon case estimates, so-called, instead of upon the difference between a certain percentage of earned premiums and loss and loss expense actually paid.

If this decision is the law, then not only is Schedule "P" out of the running as a tax basis, but the same would presumably apply to my suggested Schedule "Q" for the bonding business. This would be discouraging but not necessarily an absolute impediment to the adoption of a plan which might be a helpful stabilizing factor where one is much needed.

It seems rather unfair that a reserve plan such as the one under discussion cannot be accepted for Federal Income Tax purposes in view of the recent amendments to the Income Tax Law doing away with carry-overs from one year to the next.

A company making $1,000,000 this year and losing $1,000,000 next year pays 15% of $1,000,000, i.e. $150,000 and gets no refund, nor any credit against any future year's tax. Its net tax for the two years is $150,000, in spite of the fact that its net profit for the two years is nothing. Had this "nothing" been divided equally between the two years, there would have been no tax. Obviously, if a company's net income vacillates between plus and minus, as bonding results have vacillated in the past, the result is bound to be a tax greater than 15% of the company's net income over a period of years. Such a result cannot be justified from an equitable standpoint.

I hope I have brought out some reasons why the subject of premium and loss reserves, particularly for the bonding lines, merits early and serious study.

TABLE A.

Countrywide Experience of Stock Companies Entered in New York—Compiled by National Bureau

(Figures Rounded Off)

ALL CASUALTY AND SURETY LINES COMBINED

Year	Earned Premium	Underwriting Gain
1923	$ 351,000,000	—$ 7,400,000
1924	436,000,000	— 12,200,000
1925	479,000,000	— 2,700,000
1926	534,000,000	— 9,400,000
1927	563,000,000	— 7,200,000
1928	588,000,000	+ 14,600,000
1929	623,000,000	— 13,600,000
1930	643,000,000	— 41,500,000
1931	610,000,000	— 56,300,000
1932	530,000,000	— 31,000,000
1933	475,000,000	— 15,300,000
1934	493,000,000	— 8,600,000
1935	517,000,000	+ 10,400,000
1936	555,000,000	+ 32,000,000
	$7,397,000,000	—$148,200,000

TABLE B.

Countrywide Experience on Stock Companies Entered in New York—Compiled by National Bureau from New York Casualty Exhibit

	FIDELITY				SURETY				FIDELITY AND SURETY COMBINED			
Calendar Year	Earned Premiums	Pure Loss Ratio	Underwriting Profit	Profit Ratio	Earned Premiums	Pure Loss Ratio	Underwriting Profit	Profit Ratio	Earned Premiums	Pure Loss Ratio	Underwriting Profit	Profit Ratio
1923	$ 18,028,478	33.4	$ 2,080,851	11.5	$ 31,099,659	39.0	$ *299,495*	*1.0*	$ 49,128,137	36.9	$ 1,781,356	3.6
1924	28,907,831	38.3	2,509,435	8.7	41,472,471	44.7	*1,579,350*	*3.8*	70,380,302	42.1	930,085	1.3
1925	30,456,596	40.7	881,493	2.9	44,471,399	32.1	2,855,042	6.4	74,927,995	35.6	3,736,535	5.0
1926	33,461,438	46.0	*602,987*	*1.8*	49,187,148	27.5	6,926,505	14.1	82,648,586	35.0	6,323,518	7.7
1927	33,027,624	47.4	*874,179*	*2.6*	49,992,009	40.0	434,293	0.9	83,019,633	42.9	*439,886*	*0.5*
1928	35,316,927	39.2	2,024,585	5.7	50,731,096	29.1	5,840,667	11.5	86,048,023	33.3	7,865,252	9.1
1929	39,488,479	47.8	*1,377,464*	*3.5*	51,636,460	42.7	*1,917,375*	*3.7*	91,124,939	44.9	*3,294,839*	*3.6*
1930	41,905,446	54.5	*3,949,657*	*9.4*	51,243,293	62.6	*11,981,965*	*23.4*	93,148,739	59.0	*15,931,622*	*17.1*
1931	42,271,301	50.1	*894,427*	*2.1*	45,523,471	89.6	*24,071,194*	*52.9*	87,794,772	70.6	*24,965,621*	*28.4*
1932	41,201,794	51.7	*634,320*	*1.5*	35,384,008	90.6	*18,689,013*	*52.8*	76,585,802	69.7	*19,323,333*	*25.2*
1933	36,580,371	33.8	5,770,378	15.8	28,454,510	79.4	*13,053,502*	*45.9*	65,034,881	53.8	*7,283,124*	*11.2*
1934	38,793,819	33.4	6,844,668	17.7	32,110,085	70.2	*10,991,469*	*34.2*	70,903,904	50.1	*4,146,801*	*5.8*
1935	38,066,041	25.6	8,983,884	23.6	34,516,527	33.3	1,276,927	3.7	72,582,568	29.3	10,260,811	14.1
1936	37,606,331	23.1	9,296,472	24.7	38,040,845	21.4	5,674,610	14.9	75,647,176	22.3	14,971,082	19.8
Total	$495,112,476	40.9	$30,058,732	6.1	$583,862,981	48.8	$*59,575,319*	*10.2*	$1,078,975,457	45.2	$*29,516,587*	*2.7*

MR. RUSSELL O. HOOKER:

I am inclined to agree with the preceding speaker that something more than the ordinary premium and loss reserves is indicated to protect company surpluses from the effects of cyclical fluctuations in the bonding lines. However, I doubt if the proper remedy lies in a schedule of experience such as Schedule P for liability and compensation business.

As everyone knows, the underwriting experience in the bonding lines is geared quite closely to the business cycle, causing wide and unpredictable fluctuations in loss ratio. Furthermore, there is at any one time a wide variation in experience according to type of bond. It therefore seems evident that the principle of a maximum loss ratio, such as the 60% or 65% of Schedule P, would not work. We also know that reserves set up on the case estimate basis will become insufficient as the curve of business prosperity takes a downward trend.

The above can be summed up in the observation that, until business depressions can be accurately predicted, reserves closely related thereto or intended to hedge against their financial effects will have to be set up empirically. Probably the problem is somewhat similar to that of conflagration reserves in the fire insurance business. Also the analogy to so-called unemployment insurance reserves will occur to some.

In 1921 the National Convention of Insurance Commissioners prescribed what is considered a reasonable underwriting profit for the fire companies—i.e., 5% of earned premiums plus 3% for conflagration reserve, the intention being that this 3% be set aside and accumulated against the conflagration hazard from year to year. Of course the latter stipulation may be difficult if not impossible to enforce. However, it seems to me that here we have the only remotely practicable method of dealing with the shortcomings of the present fidelity and surety reserve system. An additional two or three per cent could be charged in the premium rate for "depression reserve" and accumulated during prosperous years to cushion the disastrous effects of a slump in economic conditions.

The mortgage guaranty business, about which Mr. Greene spoke, has probably been demonstrated to be unsound in any case by its utter collapse in the last depression. However, the financial effects of such collapse would have been less acute had the premiums paid in not been considered as fully earned, but a substantial portion thereof accumulated from year to year as a reserve against the excess claims which a business depression was virtually certain to produce.

Another point I had in mind relates to the first question for discussion. From Parts 5 and 5-A of Schedule P, there may be noted a growing tendency to provide for allocated loss expense in the case basis estimates. In my opinion considerable argument exists for setting up unallocated loss expense here also, as has already been recognized by a few companies and insurance departments. The liability for unpaid investigation and adjustment expenses, as carried on page 5 of the Convention blank for lines other than liability and compensation, is generally based on some formula involving the corresponding disbursements on page 3—commonly the ratio of paid expenses to paid losses applied to unpaid losses. Now the paid investigation and adjustment expenses entering into this formula certainly include items of claim overhead such as rent, salaries and the like; furthermore, items of the same nature make up the unallocated loss expense disbursements reported in Schedule P and entering into the formula reserve.

The above considerations seem to argue for the inclusion of unliquidated expenses of this sort in the liability and compensation case estimates. There is, of course, the school of thought which holds that such items should be disregarded on the theory that they are expenses that a company would have to meet anyway if it continued in business. However, it seems to me that the only sound criterion of what constitutes a liability for statement purposes is whether provision would have to be made therefor should the company wind up as of that particular date. According to this principle, the full cost of claim liquidation (including overhead) should properly be treated as a liability.

MR. CHARLES V. R. MARSH:

Undoubtedly, it would have been beneficial to the Companies writing the bonding lines if, in all of the years in which their bonding pure loss ratio was below a permissible figure of say 40%, they had set up the difference between that ratio and their actual loss ratio on a case basis, as a special contingent reserve against hidden or future losses which developed later due to change in economic conditions, and so to have had a fund accumulated in the good years by means of which the excessive loss ratios in the bad years could possibly have been leveled off to a 40% permissible pure loss ratio, and thus, for all practical purposes, to keep the bonding pure loss ratio at or as near a constant figure as possible.

Due to the peculiarities and dependence of the bonding business on changing economic conditions, to a large extent, we seem to have moved in cycles of about five years of good, fair and bad periods, and as history always seems to repeat itself, the provision for a special contingent loss reserve in good periods to take care of the excessive losses in bad periods would seem to be the logical procedure and thus enure to the benefit of the companies from a rating standpoint as well.

As a concrete example, looking back at our companies' five-year periods, beginning with 1921 to 1925, our bonding pure loss ratio we find amounted to 31.6%, so that under a 40% permissible pure loss ratio basis we would have built up $3,600,000 additional reserve in that good five-year period, and in the next five years (1926 to 1930) with a 36.4% case basis pure loss incurred ratio we would have carried an additional contingent pure loss reserve of $1,900,000 or $5,500,000 over that ten-year (1921 to 1930) subnormal loss ratio period.

The next five years (1931 to 1935) resulted in an actual pure loss ratio on the case reserve basis of 49.3% so that we would then have used $4,100,000 of the previous ten years' contingent reserve of $5,500,000 as above, to level off our current five-year period loss ratio to 40% and which for the fifteen-year period would then have resulted in a balance remaining in the 40% contingent reserve of $1,400,000 at the end of 1935.

The year 1936 resulted in a bonding pure loss ratio of but 23.7% which, on a 40% contingent reserve basis would have meant $1,600,000 additional being added to the $1,400,000 1935 balance, thus making $3,000,000 in round figures in the reserve, and which represents the 2% difference between our pure loss ratio of 38% and the suggested 40% permissible loss ratio basis.

It was not possible for me to secure similar combined Fidelity and Surety figures of other companies writing a large portion of the total bonding business over that same period, but with the exception of the guaranteed mortgage line I presume the other large bonding companies would show about the same results.

The practical operation of the 40% contingent pure loss reserve plan would, of course, have meant that while interest earnings would tend to increase due to the investment of the additional reserves, companies would naturally show less underwriting net earnings, in good years, but in adverse times the plan would seem to operate in favor of the companies and policyholders as a whole and, hence, also to the stockholders' benefit, as it would then tend to increase net earnings in bad years by having the 40% contingent loss reserve built up during good years to draw upon whenever needed to level off excessive pure losses incurred to the 40% permissible loss ratio, and thus help to maintain dividends from current years' net investment earnings, at least for a longer period under adverse conditions.

If the 40% pure loss ratio basis were made a State Insurance Department requirements the same should also become a deduction in the Federal Income Tax as well as proportionately in the various State Income Tax Returns.

MR. CHARLES E. WOODMAN:

In listening to the remarks of Mr. Greene and the others, there have been a few features upon which I have made notes.

I think most of us realize that the original purpose of Schedule P was to withhold a distribution of profits. In other words, where a company, because of favorable experience or because of not appreciating the extent of losses, would have shown a profit on that line, the states adopted a statutory requirement which was based on a percentage of premiums earned, and in that way reduced the earnings and surplus.

On fidelity and surety we have in recent years set up a reserve for unreported losses, based on a percentage of the premiums in force. That, of course, has been carried each year and after it had once been established, the penalty in a year's statement was only due to an increase in the amount of the business in force.

Apparently, for income tax purposes, the reserve for unreported fidelity and surety losses would be considered in the same light as the statutory reserve on liability and compensation, and therefore we could not hope to receive any benefit in our income tax returns.

There is one feature in Mr. Greene's tabulation which perhaps would be somewhat upsetting and may not have received consideration. This is, that salvage is usually developed in a year subsequent to the loss, and as the calendar year data from which Mr. Greene took his figures would reflect a very high loss ratio for the year, the following year or years would be not only benefited by an improved loss ratio for business of that year, but would also be benefited by salvage which had been collected on losses paid during previous years.

Mr. Hooker, I believe, mentioned the subject of future unallocated loss expenses on liability and compensation lines. That has received attention by some of the people auditing statements, but it is rather surprising, in a study of unallocated loss expenses, to find that over two-thirds of such expenses will be incurred at the time a claim arises, or within a very short time thereafter.

Mr. Hooker also mentioned the inclusion in fire premiums of a three per cent charge for conflagration. Now, if the three per cent charge is included in the premiums and is to provide for a conflagration hazard, it would seem that there should appear in the statements of fire companies a constantly growing reserve representing that three per cent as the charge provided for losses which might not occur for several years. I imagine that the income tax authorities might also feel that was an undetermined liability and therefore not subject to consideration in determining the income tax payable.

These are just a few thoughts I have gathered in listening to the two papers.

MR. JOHN A. MILLS:

I might mention that I know of two companies that are adjusting their reserves for incurred but unreported losses under bond business from year to year so as to produce a level loss ratio of 40% for the current ten-year period.

The need for a depression reserve appears to be at least as great on credit insurance as on bond business, as the loss ratio on this line has fluctuated between 81% and —5% during the past decade.

A study of the loss ratios on compensation business shows the need of a "depression" reserve on that line. The increased importance of occupational disease coverage will tend to aggravate the underwriting problems of the next depression.

Liability business on the other hand does not appear to be influenced to a comparable extent by the business cycle.

In the case of bond business it would be a valuable bit of statistical work to analyze the long pull loss ratios of the various types of bonds because certain types will naturally fluctuate more violently than others. If the individual companies had the experience of all companies as well as the experience of their own company for each type of bond to use as a guide in deciding what long pull loss ratio was best suited to their needs, they could perform the task of building up their depression reserve more accurately and more intelligently. I have in mind, for instance, that the company which has an inadequate exposure under some type of bond business might attach partial credibility to its own long pull loss ratio and partial credibility to the all company experience. The company should recognize its own experience within each type in so far as it is dependable, because the influence of good and bad underwriting practices is an important governing factor in determining the proper "depression" reserve.

Some companies have a much better loss ratio on compensation business than others. Those that have a combined loss and loss expense ratio of less than 65% are in effect building up something in the nature of a depression reserve. Those that are not so fortunate will need a depression reserve at least as much. It would be a pious thought for such companies to study their long pull loss ratio on this line and accumulate a depression reserve when their loss ratio falls below their "normal".

Speaking of pious thoughts, it would be a sound idea for the companies that write much bond and credit insurance to avoid investing very much of their assets in common stocks, which naturally tend to drop in value at the very time that the companies are taking a severe licking on their underwriting operations.

I believe this discussion was to cover not only depression reserves, but also methods of building up loss reserves, and I have one or two thoughts that I would like to touch upon, and which I would like to hear discussed more fully by other members at a later date.

I would like to see action taken on the suggestion that has been repeatedly made in the past, namely, to divorce the loss expense reserve from indemnity and medical reserves. At the present time it is the common practice to include liability and compensation loss expense reserves with losses in the underwriting and investment exhibit, but include liability and compensation loss expense payments with underwriting expenses. If loss expense reserves on Schedule "P" lines were set up separately as liabilities as is done in the case of Schedule "O" lines, they could be properly handled in the underwriting and investment exhibit, and this would tend to reduce the swing in the expense ratio between good times and bad times.

Schedule "P" does not make specific provision for setting up a reserve for loss expense and except where a company develops a loss ratio below 60% on liability and 65% on compensation, provision for loss expense, particularly unallocated loss expense, is more often overlooked than not.

The reserve for allocated loss expense can be built up on a case basis, and a considerable number of companies appear to be following that practice. The reserve for unallocated loss expense can be determined by figuring the ratio of unallocated loss expense payments to indemnity and medical payments for the current three calendar years, and by applying this ratio to the reserve for unreported outstanding losses and one-half of this ratio to the reserve for reported losses. This method is predicated on the assumption that roughly one-half of the unallocated loss expense arises in connection with the original recording and investigation and roughly one-half in connection with the subsequent payment and settlement of claims. The accuracy of the results obtained by this method naturally depends upon the proportion of adjusting and legal work handled respectively by the company's own men as against independent adjusters and attorneys.

With the introduction of Schedule "P", Part 5, partial recognition is given to the merits of measuring loss developments on an accident year basis. The accident year basis might well be used throughout Schedule "P" to the exclusion of the policy year basis, except for the fact that the laws of many of our states specify minimum reserve requirements on a policy year basis. In the case of compensation, two accident years with premiums figured on a calendar year basis would produce about the same penalty as is developed under policy year Schedule "P". On liability about two and one-half accident years would produce a comparable penalty.

The accident year basis could be adopted not only on personal injury, but also on property damage lines. The former could be traced for a period of perhaps seven years, whereas the latter could be adequately covered in about three years. A summary of the loss reserve developments on all lines on an accident year basis would be particularly illuminating. Such a record might prove particularly valuable to some of the smaller companies, and it would be much simpler for them to prepare than a policy year record. It would also be much easier for Insurance Department Examiners to audit the figures appearing in Schedule "P" if an accident year method was adopted.

Latest Developments in Connection with Occupational Disease Coverage under Workmen's Compensation Laws

MR. JOHN L. BARTER:

The subject of occupational diseases is so broad that it is difficult to do justice to it in a short space of time. However, I believe that a few statements can be made which will point out the problems which are before us.

Trend as to Definition of Impairment

At the present time the amount of lost time through sickness is many, many times as great as the lost time through accidents (approximately seven to nine times). Labor and certain reformers would like to believe that much of this sickness is of occupational origin and, therefore, believe it to be compensable. Industry for the most part has failed to settle the sickness benefit problem to the satisfaction of labor. Labor, therefore, has been forced to turn to the politicians.

The result is that we have two groups: One whose belief is that the general public, labor included, is best served when restrictions are placed on the compensation laws so that these laws will cover only the losses resulting from strictly occupational injuries. The other group wants health and life insurance and looks upon an extension of the compensation law as the most readily available measure to supply that need.

Now then, when labor and politicians get together, they advance the idea that an occupational disease law to be comprehensive should be undefined—the more vague and uncertain the more satisfactory to those who are the champions of labor.

This leads us to one of the subjects, "The Trend as to Definition of Impairment".

As to the "Trend as to definition of impairment", I do not like to use the word "impairment", because impairment is not used in Workmen's Compensation Laws. Under the Workmen's Compensation Laws we speak of disability, loss from earning full wages, and disability is what we are interested in as respects occupational diseases. For example, medical men and legal men have agreed that a case of first stage silicosis should receive no benefits, because first stage silicosis is not disabling; yet, a first stage silicotic is impaired. To sum up, in my opinion, the trend as to definition of disablement as respects occupational diseases has been to make the definition more vague. Naturally, the more vague, the greater the possibility of benefits being awarded for pathology rather than disability; in other words, the greater the possibility of awards for impairment rather than disability.

Problem of Accrued Liability—Underwriting

No doubt there are thousands of workers in the United States who have been exposed to silica dust or asbestos dust, and certain other materials, over a long period of time who are in the service of one or more employers and who are not as yet disabled and who are still able to work. Naturally, some of these men will become disabled in the future. This, therefore, brings up the problem of accrued liability.

Accrued liability can be underwritten, provided a plan such as is now being followed in New York is adopted. The New York plan with which you are no doubt familiar, provides for a graduated increasing maximum of benefits on the following basis. The maximum total of compensation benefits for silicosis and asbestosis if disablement occurs, or, if there has been no claim for disablement, if death occurs in the first calendar month in which the law became effective, $500. If disablement, or death, occurs during the second calendar month, the maximum total is $550. The maximum total benefits are increased on the basis of $50 each month until a limit of $3,000 is reached.

The advantages of such a plan are obvious. It will result in the honest claimant who becomes disabled following the effective date of the law receiving some small sum, even though his exposure after the law became effective has been so short as to be negligible as a causative factor. On the other hand, it will not penalize the last employer unduly for exposure prior to the effective date of the law to which he may have contributed in but small measure. Such a plan, as you can readily see, is easily ratable.

Underwriting Criteria

The first factor to be considered in the forming of a judgment concerning occupational disease risks is adequacy of rates. Rates to be adequate must provide enough money to meet the requirements of the law—however broad or indefinite the law may be. Until the problems of producing such adequate rates approach solution, a profitable selection of business cannot be made.

In underwriting the occupational disease risk, we have two criteria which have served us in the past in determining the quality of the risk, namely: Experience and physical conditions.

Experience is a valuable indicator of the quality of a risk for compensation which includes those occupational diseases of quick contraction and comparatively quick cure. However, where the disease is progressive and where disability develops slowly over a long period of years and where a single case may be sufficient to put the risk in the red for a long, long time, experience is an exceptionally *poor* indicator.

Physical conditions as an index of the quality of a risk seem more reliable in the latter case. The physical condition of industrial operations which lead to diseases, the causes of which we know and are fully equipped to prevent, is of course, the paramount factor in our judgment. On the other hand, if we do not know much about the causes of a disease, we cannot say, without fear of being wrong, that preventive measures are effective; however, if the fullest precautions are taken by an assured and his employees and these precautions are taken in the light of the latest knowledge concerning causes and the frustration of such causes, and medical examinations of employees indicate that such precautions are effective, then the risk must be classified as average or better than average and as such may be accepted. We must bear in mind that risks to be acceptable must be susceptible of improvement.

Preventive Aspects

Obviously improvement comes through the removal of hazards. We know a little about occupational disease hazards. We also know a little about the curbing of these hazards. We have been working individually and collectively in unmasking the hazard and in prescribing the preventive. We have accomplished a little but we should hope to accomplish more.

What we need in our business to-day in connection with occupational diseases is not a tremendous amount of additional research to determine deleterious actions, the pathology of the disease and standards for control, but mainly the application of what we already know. What we need are more units to put to practical use in industry the results of the work of research, and our problem is to shape these new units into working masses. Occupational diseases can be prevented and the companies would do well to set up the best possible engineering services for prevention.

REVIEWS OF PUBLICATIONS

Vocational Rehabilitation and Workmen's Compensation. Carl Norcross. Rehabilitation Clinic, New York City. 1936. Pp. xvi, 126.

Dr. Norcross' statistical study of 322 New York workmen's compensation compromise settlement cases (non-scheduled award by agreement) will be of interest to casualty men for at least 3 reasons. It summarizes and dramatizes the ways in which claimants spend their benefits, it throws some much-needed light on the therapeutic value of lump sums particularly in neurotic cases, it provides a little case-study on the way rehabilitation and workmen's compensation divisions do and do not work together.

These lump-sum beneficiaries (this investigation excludes beneficiaries receiving lump-sums from schedule awards) do spend their benefits very much as one suspected. Although this is against the very purpose of workmen's compensation, "two-thirds of the men paid debts with part of the settlement money"; of the 59 men entering business 29 had failed entirely at the time of investigation; in all 51 had serious losses averaging $900 apiece out of an average award of $3,700. This is hardly news but that is no warrant for assuming that this study is simply another scientific proof of what everybody very well knows. We all know a lot of things that ain't so. The reviewer, for example, was surprised that not more than 5 per cent. of the total award of nearly a million and a quarter dollars "was spent unwisely". He should have guessed nearer 50 per cent. Allowing for gross underestimate, the showing for lump-sum beneficiaries seems to compare very favorably with that of casualty insurance executives, college professors and other privileged classes.

A considerable section of the report is devoted to determining whether the assumption of the therapeutic value of lump-sum settlement in neurotic cases can be sustained. The answer is a very partial and tentative yes. Of the 64 neurotic cases, "only 14 had made a physical recovery, . . . only 17 were employed". Even on a dubious before-and-after comparison, in the last analysis the only one practicable, there was therapeutic benefit great or small in less than one-quarter of the total cases. One may criticize either of these measures of recovery not to say of the cause of it: men get well despite, as well as because, of what doctors, referees and insurance companies do to them; employment is a very crude test of recovery, particularly for the experience covered by this report (cases closed between July 1, 1930 and August 31, 1933). But a far more significant conclusion is that referees and insurance companies have placed too much emphasis on the neurotic. Eighty per cent. of the 322 non-schedule cases (the investigator ruled out those involving less than $1,000) are *not* neurotic. Yet the entire scheme of compensation-rehabilitation for non-schedule cases in New York rests on the assumption that they are neurotic. It follows that, if most cases are not neurotic and if lump-sum settlement helps neurotics very little, the whole procedure for treating non-schedule cases ought to be overhauled. Dr. Norcross recommends that very thing. Briefly, he suggests that all non-schedule awards be finally made, not as a lump-sum but at so much a week for a specific number of weeks, and a sum representing the whole amount turned over to the State. The beneficiary would receive his biweekly installments from the State, the insurer would be (as nearly as New York law makes it possible) rid of the liability, the plan would combine the psychological advantages of the lump-sum with the protective features of installments paid by a neutral agency. Dr. Norcross does not say definitely but apparently he is recommending a change in the New York law, which already permits but does not protect lump-sums deposited in a bank in the name of the beneficiary. "Compromise cases should be closed regardless of the claimant's wishes". This is the only way to eliminate insurance company pressure on the financially handicapped as well as the sea-lawyer tactics of some injured persons. Rehabilitation is hindered by the present system which gives the rehabilitation division no control over the application for a lump-sum or over the spending of the money.

In general Dr. Norcross and his superior, Dr. R. M. Little, urge more use of the rehabilitation division and its closer cooperation with workmen's compensation. Excellent results have followed from routine investigation by the New York rehabilitation officials of all requests for lump-sum payments on schedule awards of $250 and over. Referees are not bound by the findings but they usually follow them. Dr. Norcross suggests the same routine examination for compromise settlements.

No one can doubt the value of an investigation like this. The author is a rehabilitation officer, but there appears to be no bias in the direction of giving rehabilitation people a bigger place in the sun. I should say that some of the conclusions would be difficult to establish: for example, that on page 78 that "the *settlement* of compromise cases is of major importance. . . . If any therapeutic value follows the lump-sum closure, it is derived from the sheer settlement of the case, not from the lump-sum". (*Reviewer's italics*). For that we must take Dr. Norcross' word because it rests on a study of the individual cases; and I am quite content to. The value of this investigation is precisely that it gets down to cases, not that it covers a statistical universe. The sample is small, but it appears to have been carefully selected. Sometimes the argument seems not to be neatly buttoned up; Chapter 3 covers *"The Physical Condition of Men Following the Settlement"* but the conclusions appear to refer to the effect, not of *settlement* (admittedly difficult to fix) but of the *accident*. The author seems here to have temporarily misplaced his own dictum that "there are no objective tests for determining whether or not there is therapeutic benefit in a final settlement". The final column of Table 10, p. 33, should be headed, not "total men", which is obviously impossible, but "total ways" (of spending money).

Nor is there perceptible bias in other directions. The insurance companies, I consider, have gotten off very lightly. Much harsher words could be inscribed on this point in a state like Pennsylvania, where certain types of compromise cases *are* closed, forever! For a model of understatement, I refer you to this: "lawyers are not always a harmful influence". The claimant himself takes part of the blame. But this is not a muck-raking expose; it is thoughtful attempt at strengthening the third leg of our triple social device for handling industrial accidents. First we preached indemnity; currently we are preaching prevention. Rehabilitation is the third leg, still wobbly even in enlightened New York. The Norcross study will certainly do something to strengthen it.

C. A. KULP.

Law and Contemporary Problems. The Old Age Security and the Welfare Titles of the Social Security Act. School of Law, Duke University, April, 1936, Vol. III, No. 2. Pp. 173-334.

This volume is now over a year old, and the review comes so late that some parts of it are already overlaid by later developments. It is unnecessary to do much more than mention the two excellent articles by Harry Shulman and Charles Denby, Jr., presenting cases for and against the constitutionality of the Social Security Act. The Supreme Court during the current year has seen a great light—and the law of the land as to the extent of the authority of Congress is considerably broader than it was. What the extent of this broadening is, and what the result will be as to the respective functions of the states and of the national government cannot at the moment be stated with any degree of confidence. That the Social Security Act is constitutional can hardly be questioned; though all constitutional points involved have not finally been passed upon.

The symposium includes a number of fine articles, to which justice cannot be done in brief space. The article on Old Age Security Abroad, by Barbara Nachtrieb Armstrong, covers briefly and summarily a very extensive field. The concluding analysis notes that there are two distinct techniques for achieving old age security—contributory annuities and gratuitous pensions. These rest on different philosophic bases and were for long periods deemed mutually exclusive. The latter, however, tend to become relief for the needy rather than reward for the worthy; the former promote self-help and do not discourage it. The foreign schemes tend towards limiting compulsory insurance to wage earners and to include self-employed workers of earning capacity similar to the insured group either by encouraging voluntary participation, or, as in Great Britain, by treating their customers as employers. The tendency is toward rounding this scheme out by a gratuitous pension plan for the needy.

The article on the Development of the Old Age Provisions of the Social Security Act, by J. Douglas Brown, deals with the development of (a) the federal subsidization of state old age assistance programs, (b) the system of contributory old age insurance, (c) the development of this as a national, rather than a state-federal activity, (d) the adjustment to constitutional limitations, (e) the problem of financial administration, (f) the principle of governmental subsidization, and (g) the effect of the system on private annuity programs.

Of these, the financial administration is a point which remains one of considerable importance, and is likely so to remain for a considerable time. Congress ultimately drafted the bill in a form calling for taxation at a rate calculated to build up huge reserves estimated at 36 billion dollars by 1960, 50 billion by 1980. These amounts are grandiose to the point of megalomania and the author in a note indicates his apprehension as to the effect in deflecting funds from consumption to capital expenditure, in disorganizing and possibly demoralizing federal fiscal policies, and his conviction as to the need of a change within the next few years. This reserve is undeniably one of the weak points of the system. A governmental insurance agency has not the same need as a private insurance agency to maintain reserves at all times adequate, although no doubt a system entailing inadequate reserves merely passes the bill on to future generations. But this might be a lesser evil than giving Congress untold billions to play with. If the money were used to buy in the existing debt of the United States, one conceives that it would be a distinct relief to financial institutions, now rather heavily burdened with governmental paper. If, on the other hand, it were used to provide funds to be spent, it would be either a potent stimulation to Congressional extravagance, or a potent inducement to the reduction of other taxation. In either event, the future generation would pay the bill. This is discussed at further length in the article by George M. Modlin, later in the symposium.

The article on Federal Old Age Insurance Benefit Payments and Tax Collection by David F. Cavers, discusses some very practical problems. The points as to coverage are very well taken. The act, by nature, avoids problems of extra-territoriality, such as exist under the state compensation acts; but the definition of agricultural labor, domestic service and casual labor will be necessary as under the compensation acts. Also the distinction between "employee" and employer and such relations as partnership, independent contractor, husband and wife, parent and child, lessor and lessee will remain; and the problem of determining which of several individuals is the employer.

The point as to the need for building up an administrative machinery for benefit claims is likewise well taken. The act at present merely sketches out such a scheme, and requires a tremendous amount of record-keeping due to the basing of benefit payments on wages. The Act is likewise somewhat vague as to court revisions of Board rulings. A system of local hearings on claims is undoubtedly desirable, with suitable provisions to prevent the system from being warped to the benefit of the legal fraternity.

The point as to the practical difficulties in tax collection procedure, and of providing the employee with some sort of a record on which to find his claim is likewise well taken. The difficulty is merely indicated, not solved, and is one likely to occupy the administration for some time to come.

The article on Basis of Cost Estimates of Federal Old Age Insurance by Otto C. Richter is of considerable interest as indicating the extent to which estimates have been based upon assumption. The absolute cost of the system cannot be surely foretold, though the estimates serve as a valuable and fairly accurate test for determining compensation costs between plan and plan.

The article on The Old Age Reserve Account and Its Economic Implications, by George M. Modlin, discusses at length the difficulties entailed by the huge reserves contemplated by the plan. As previously indicated this seems a major difficulty with the plan as it stands. The article on Old Age Annuity Plans and Federal Old Age Insurance, by M. B. Folsom, dwells on one point which ought perhaps to receive further attention by Congress—the need for a more satisfactory reconciliation of the plan with existing annuity plans, though the author thinks a company annuity plan can be operated as a supplement to the federal plan without too great difficulty.

The article on Old Age Assistance, by Marietta Stevenson, is a valuable study of state old-age assistance laws and their operation, and the operation of the federal system of grants in aid. The other articles, by C. C. Carstens on Social Security Through Aid for Dependent Children in Their Own Homes; by Katherine F. Lenroot on Maternal and Child Welfare Provisions of the Social Security Act, by Edgar Sydenstricker on Public Health Provisions of the Social Security Act and by Robert B. Irwin and Evelyn C. McKay on The Social Security Act and the Blind, serve to illustrate different phases of the far-reaching scope of the Social Security Act. That there is an administrative problem in all this, is noted in the article by Fred K. Hoehler on Public Welfare

Administration Under the Social Security Act; and the fact that the public must pay for all this, and how, is very well discussed in the article on Federal Grants and the Problem of Financing Public Assistance by George A. Shipman and Harold J. Saum.

That the general purpose of the Social Security Act is laudible, and that practically everything in it is something that will bring benefit to many may be taken as granted. What its effect will be; how an administration shall be set up to carry these benefits into effect over the United States; how the money shall be raised for it all without creating a burden too heavy for the taxpayer to carry; and what will be the economic effect of removing so much liquid funds from the community, redistributing a portion and holding another portion in huge reserves; and how these reserves are to be invested, and the effect of the investment on the fiscal policies of the United States, are all questions the answers to which will be written large on the pages of the future. We may yet be faced with the paradox that an act designed to furnish social security has become an agency rendering the nation notably less secure.

CLARENCE W. HOBBS.

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CURRENT NOTES

F. STUART BROWN, EDITOR

UNDERWRITING RESULTS

Data published by the National Bureau of Casualty and Surety Underwriters show underwriting results for calendar year 1936. This marks the completion of a seven-year period, beginning with calendar year 1930, including the depression years and the years during which the country has been working out of the depression: and an assembly of underwriting results for these seven years discloses some very interesting facts.

Accident Insurance showed a marked decrease in premium income during the years 1930-1934. Since then it has risen, although the premium volume for 1936 was still much smaller than that for 1930. Substantial underwriting losses were experienced in the years 1930-1932. After that time, profits, steadily increasing, began to appear, reaching in 1936, a 7.4% profit, amounting, for the stock companies reporting to the Bureau, to $2,337,109.

Health Insurance has, during the entire period, shown consistent underwriting losses. 1932, with a loss percentage of 14.7, and 1936, with a loss percentage of 11.7, were the two worst years.

Automobile Liability Insurance has shown during the latter years of the period a large increase in premium volume, 1936 showing $10,000,000 increase over 1935. Underwriting results continued unsatisfactory through 1935, when a loss of 6.6% was experienced. In 1936, however, this was replaced by an underwriting profit of 2.0%. Considerable concern is, however, entertained by underwriters as to the prospects for this business over the next few years. Traffic congestion is on the increase. New and speedier cars are coming on the road in increasing numbers. Juries still tend toward very generous verdicts: and the attempts which have been made to diminish ambulance chasing and accident fraud, while bringing to light the activities of shyster and crook, are as yet too sporadic to serve as a permanent check on a highly pernicious condition. On the other hand, the driving public are gradually being educated in safety practices: great improvements are being made in the lighting of highways and new one-way highways are being developed. All these tend in some measure to offset the other elements, though not sufficiently to produce any spirit of cheery optimism.

Workmen's Compensation Insurance, which during the seven-year period showed for stock companies entered in New York an accumulated underwriting loss of $83,000,000, has during 1936 shown a moderate profit. The rate-making program, however, is providing rapid rate reductions and the greater part of the loss cannot be recouped.

Plate Glass Insurance showed profits in the first six years of the period. In 1936, however, an underwriting loss was experienced.

Burglary Insurance showed substantial profits over all seven years of the period. Other Liability and Automobile Property Damage showed a substantial profit in 1936. The Bonding lines, which were responsible during the early years of the period for substantial losses, produced a good profit in 1936. It is interesting to note, that in the Workmen's Compensation, Liability, Property Damage and Collision lines, the loss ratios (excluding claim expense) of Mutual Carriers, which were in the earlier years of the period generally lower than those of stock carriers are now approximately on a parity, as indicated from the following table, compiled from the countrywide experience of companies entered in New York.

LINE OF BUSINESS	EXCLUDING CLAIM EXPENSE				
	1932	1933	1934	1935	1936
Stock Companies					
Workmen's Comp.....	71.4	73.4	61.9	60.4	58.5
Auto Liab...........	55.6	54.5	58.6	58.6	50.2
Other Liab..........	44.1	46.3	46.3	45.5	40.7
Auto P. D...........	32.3	29.7	32.9	33.8	37.5
Auto Collision.......	43.0	39.5	49.3	52.6	52.3
Other P. D. & Coll....	22.5	20.1	17.5	18.3	21.5
Average	54.6	54.5	54.1	53.7	49.5
Mutual Companies					
Workmen's Comp.....	58.0	63.7	61.3	57.7	58.1
Auto Liab...........	46.3	46.0	53.2	50.9	47.5
Other Liab...........	26.1	34.7	47.2	44.4	42.9
Auto P. D...........	28.2	25.7	30.8	30.9	35.5
Auto Collision.......	42.5	34.0	47.4	47.7	53.4
Other P. D. & Coll....	—7.5	30.0	17.6	32.8	25.9
Average	47.5	49.1	53.8	51.6	51.3

Taxes, Licenses and Fees

The nation-wide tendency toward increased taxation has caused the ratio to premium income for expenses for taxes, licenses and fees to show a pronounced increase during the last few years. The following table indicates the increase.

Lines	Carriers	1930	1931	1932	1933	1934	1935	1936
All	Stock	2.2	2.2	2.2	2.3	2.6	3.0	3.4
Compensation Automobile.	Stock			2.2	2.3	2.4	2.8	3.2
And Other Liability......	Mutual			1.5	1.4	1.7	2.1	2.0

To some extent this is due to increased taxes in connection with the Federal Social Security Act and the State Unemployment Insurance Acts. These taxes will be increased in the future. Income taxes on profits derived from underwriting results in 1935 and 1936 may also have had some effect on these ratios.

Automobile Insurance — Commercial Automobiles

The National Bureau of Casualty and Surety Underwriters has made notable changes in its definitions and rating practices with respect to commercial automobiles.

A "Local Truckman" is defined as one who operates within a 50-mile radius of the principal place of garaging his automobiles, and who neither makes frequent or regular trips outside such zone, nor advertises or solicits outside such zone. "Long Haul Truckman" include all who cannot qualify under the above definition as "Lock Truckman". For rating purposes these classes are established.

(a) Commercial autos, operated over 50 miles but not over 150 miles.

(b) Commercial autos, operated over 150 miles but not over 300 miles.

(c) Commercial autos, operated over 300 miles.

Nine zones have been established, and zone basis rates determined for each. Zone 1 covers a radius of 50 miles around New York City. Zone 2 covers a similar area about Philadelphia. Zone 3 is defined by a 50-mile radius about Boston and a similar radius about Providence. Other cities and areas outside are zoned as indicated on maps prepared for the purpose. When commercial cars operate in more than one zone, the rates are generally, the average of the rates for the two highest rated territories through which the car operates. Cars of class (a) however, receive a discount of 25%. Class (b) cars receive the basic rate. Class (c) cars, in cases where the average rate is less than $450 Bodily Injury and $150 Property Damage, received an added charge of 20%.

Automobile Insurance — Rate Revision

Automobile rates have been revised in about half of the states. Country-wide, the effective change is not great. In the Private Passenger Bodily Injury rate level there is approximately no change. The Commercial Bodily Injury rate level has been increased. Property damage rate levels have been reduced.

Retrospective Rating Plan

Since the last issue of the *Proceedings,* this plan has been adopted in the following states:

State	*Effective Date*
Indiana	January 25, 1937
North Carolina	March 1, 1937
South Carolina	April 1, 1937
Florida	July 1, 1937
Kentucky	July 1, 1937
New York	July 1, 1937
Tennessee	July 1, 1937
Maine	August 1, 1937

The New York plan as approved differs in some respects from the general plan. The most important exceptions are: (a) If a risk operating in New York also operates in other states, the Retrospective Rating Plan is to be applied in conjunction with the plan which is applicable in such other states. Operations in states not having such a plan in effect must, however, be excluded. (b) The plan as approved modifies Section IIIc of the plan as generally in use in providing that actual incurred losses shall be used, *subject to a limit of $10,000, for the combined indemnity and medical cost of any claim.* The plan as approved contains specific instructions as to procedure in the event of cancellation.

In Maine, the Insurance Commissioner has approved a discount of 10% on risk premiums in excess of $2,000. This applies to policies issued on and after April 10, 1937. A change in the retrospective plan, made generally effective, applies to installment policies. The plan provides for the payment of a deposit premium on the basis of the Standard rate, surcharged by a portion of the difference between the standard rate and the maximum retrospective premium. Heretofore the practice has been to collect this surcharge in its entirety, irrespective of whether the policy was issued on an installment basis. Hereafter the standard installment premium rules will be applied to the surcharge as well as to the standard premium. Provision is further made that, on renewal of the rating agreement, the advance surcharge may be modified by an amount not exceeding the extent to which the advance surcharge on the expiring agreement remains unimpaired.

Illinois Assigned Risk Pools

Subsequent to the new Illinois Occupational Disease Act which became effective July 1, 1937, the stock and the Mutual Companies writing Workmen's Compensation Insurance in Illinois have formed pools for the carrying of occupational disease risks which cannot otherwise obtain insurance against the liability imposed by the act and which are assigned to member carriers by the Industrial Commission. The pooling arrangement does not interrupt the operation of the procedure for assignment of risks not having an occupational disease hazard: but when a risk is assigned under the pooling arrangement, the entire risk goes into the pool, which covers not merely its liability under the Occupational Disease Act, but its liability under the Compensation Act as well.

Revised Bubglary Manual

A completely revised Burglary Manual was promulgated by the National Bureau of Casualty and Surety Underwriters, effective May 10, 1937. The principal changes made consisted of the clarification of the rules and the placing of endorsement forms in a separate section. Rate changes involved were not material.

Revised Liability Manual

A reprint of the Liability Manual was issued by the National Bureau of Casualty and Surety Underwriters, effective May 24, 1937. Changes made in the manual were principally in the nature of clarification of risks and classifications.

Personal Notes

William Breiby is now Vice President of the Pacific Mutual Life Insurance Company, Los Angeles, California.

William H. Burhop, Secretary of the Employers' Mutual Liability Insurance Company of Wausau, Wisconsin, was recently advanced to the office of Executive Vice President of the company.

Walter T. Eppink, Assistant Secretary-Assistant Treasurer of the Merchants Mutual Casualty Company of Buffalo, New York, has been made Vice President.

Henry Farrer is now connected with the National Security Fire Insurance Company of New York.

Frederick Richardson, U. S. Attorney and Managing Director of the General Accident, Fire & Life Assurance Corporation, has been advanced to Deputy Chairman of the Board of Directors.

Harry V. Williams, Jr., has been appointed Statistician of the National Council on Compensation Insurance.

H. Lloyd Jones was appointed Deputy General Attorney of the Phoenix of London Group in the United States, and Assistant United States Manager of the London Guarantee & Accident Company.

Joseph J. Magrath resigned his position with the New York Insurance Department recently to become Executive Assistant in the office of Chubb & Sons, New York.

John H. Phillips was recently promoted to the office of Vice President and Actuary of the Employers' Mutual Liability Insurance Company of Wausau, Wisconsin.

Rainard B. Robbins was recently elected to the office of Vice President and Secretary of the Teachers Insurance and Annuity Association.

William F. Somerville has been given the title of Assistant Secretary of the St. Paul Mercury Indemnity Company.

James M. Woolery severed his connection with the North Carolina Insurance Department to accept the appointment of Actuary of the Protective Life Insurance Company of Birmingham, Alabama.

Alan W. Waite was elected Assistant Secretary of the Accident and Liability Department of the Aetna Life Insurance Company.

LEGAL NOTES

BY

SAUL B. ACKERMAN

(OF THE NEW YORK BAR)

AUTOMOBILE

[Dickinson *vs.* Great American Indemnity Co., et al., 6 N. E. (2d) 439.]

A person was injured when an automobile in which she was riding on a public highway was hit by an automobile truck owned by and registered in the name of a school, and negligently operated at the time by the driver of the truck who was in the employ of the school. The person recovered a judgment against the driver in an action for personal injuries resulting from the collision.

The automobile truck was insured pursuant to the compulsory motor vehicle liability insurance law. A subsequent action was brought to reach and apply in payment of the person's judgment against the driver, the obligation of the insurance company under the policy issued to the school.

The main issue before the Court was whether the driver of the truck had implied consent from any person in authority to take and use the truck on the day of the accident outside of the school grounds.

At the time of the collision the employee was driving the truck from the school to a neighboring town. His purpose was the purchase of a pair of gloves for himself. The driver had been drinking for several hours before he left the school grounds. There was no evidence that anyone connected with the school knew of his condition or saw him leave with the truck.

The truck was kept on the grounds of the school in a garage which was also used by a teacher who kept his automobile there. The door of the garage was locked each night and unlocked every morning before the driver came to work. He was the regular operator of the truck but a foreman in the employ of the school at times drove it around the grounds.

The policy provided indemnity and protection against loss only to the insured and to "any person responsible for the operation of the insured's motor vehicle with its express or implied consent".

What are the rights of the injured party?

The Court held that the fact that there was no physical impediment to the operator of the automobile taking the truck during the day while the garage was unlocked, had, in the circumstances appearing, no compelling weight in determining whether the insured impliedly consented to the operation of it on the highway for the driver's own personal purpose on the day of the accident. The Court also was not obliged to find that an opportunity to take the truck was equivalent to the insured's consent to his using it.

The language of the policy prescribed by the statute should be construed liberally to accomplish the humane purpose of the legislature to protect travelers on the highway from injury by motor vehicles. But the language of the policy cannot be construed as including in its indemnity a person who, like the driver in the instant case, lacking the express or implied consent of an insured owner thereto, drives the latter's motor vehicle on a public highway. It is not the mere responsibility for the operation of such a motor vehicle on the highway that, under the policy, gives the right of indemnity to the operator. A responsibility for its operation on the highway to which the insured has expressly or impliedly given his consent must exist before such a right of indemnity arises. Since therefore, in the present case, the operator of the truck did not take the truck upon the highway on the occasion of the accident with the sanction of the insured's express or implied consent he was not a "person responsible" for the operation of the truck within the meaning of the statute. The Court accordingly found that the injured party could not maintain this suit.

Burglary

[Stamey's, Inc. *vs.* Travelers Indemnity Co. of Hartford, Conn. 189 S. E. 775.]

Thieves entered the store of the insured and stole merchandise. There were two screen doors at the back of the store. These doors opened outward and when closed fitted very tightly together but there was no lock, hinge or latch on the doors. The screen doors were opened by inserting a screwdriver or some other instrument between the edges and as a result a hole was made upon the screen doors about half the size of a five-cent piece. The thieves then inserted a pass key into the main door. A provision of the insurance policy reads as follows:

> "To indemnify the Assured for loss not exceeding Two Hundred Fifty Dollars ($250.00), of Merchandise, Furniture, Fixtures and Equipment, occasioned by burglary which shall mean the felonious abstraction of such property from within such premises, by any person or persons making felonious entry therein by actual force and violence when the premises are not open for business, of which force and violence there shall be visible marks made upon the exterior, of the premises at the place of such entry, by tools, explosives, electricity or chemicals."

What are the rights of the insured?

The Court held that the breaking and entering of the screen doors brought the loss within the terms of the burglary insurance contract. Although the main door was opened by a pass key, there were visible marks on the screen doors made by the use of tools, force and violence.

Compensation

[Traders & General Ins. Co. *vs.* Pool, et al., 105 S. W. (2d) 492.]

A workman employed by one Fain Johnston lost his life on the evening of May 1st, 1934. At about 8 P. M. the employee was doing work as a tool dresser at the drilling of a well. Shortly after 8 P. M. a severe electrical storm arose and the workman was directed by Fain Johnston to watch the boiler and maintain the steam so if the storm subsided drilling operations could be resumed. After it began to rain the workman went to his tent, which was 250 yards from the boiler, remained in the tent a few minutes and then emerged in order to loosen the guy ropes which held the tent. Almost immediately after he emerged from the tent he was struck by lightning and he was found a few seconds later at or near the corner of the tent.

The workmen's compensation policy inadvertently stated that the insured was Fain Brothers, partners. However the brothers were not partners and the policy was intended for one brother only, that is Fain Johnston the employer of the deceased workman.

The insurance company contended that the deceased was not working for a named insured. The soliciting agent for the insurance company had authority to take and forward information to the insurer and knew that the policy was intended for one brother only although in point of fact the policy was issued to both brothers, as partners. The insurance agent was also authorized by the company to collect the premiums on the policy. In performing this duty before the death of the workman the insurance agent accepted on behalf of the insurance company two checks at different times. After the employee's death the agent accepted another check. These checks had written upon them a statement in effect that they were for the account of Fain Johnston. Moreover after the death of the workman the insurance company was informed by Fain Johnston that no partnership existed between him and his brother, and that the operations carried on under the policy were his individual enterprises. After receiving this information the insurance company continued to collect the premiums on the policy and treated it as a valid and subsisting contract.

What are the rights of the beneficiaries of the deceased workman?

The Court held that the insurance agent had authority to bind the insurance company in reference to matters pertaining to the taking and forwarding to it of the application, including the name in which the policy was written, and that the policy was written to cover and did cover the employees of Fain Johnston including the deceased. The Court further held that the discrepancy in the writing of the policy in the name of Johnston Brothers instead of Fain Johnston was ratified and waived by the insurance company after it became apprised of the fact in connection with the same, and that the insurance company was estopped from denying liability thereon insofar as these matters were concerned. The Court further held that since the soliciting agent knew that the brothers in this case were not partners and that the policy was inadvertently issued in the name of the brothers as a partnership, that the policy in point of fact was intended for one brother only and the insurance company was liable on the policy even though nominally the deceased workman was not working for named insured. The Court found that the agent was acting within the scope of his authority, and that the insurance company was charged with the agent's knowledge of the insured's identity and of the purposes of the insured.

The Court further found that the defense that the policy was issued in the name of the brothers as a partnership and that the workman was working for one brother only, was untenable as the insurance company waived this defense by accepting premiums after knowledge of the accident out of which the compensation claim arose.

FIDELITY

[Hall vs. Aetna Casualty & Surety Co., 89 F. R. (2d) 885.]

A receiver of a bank brought an action on a bond by which the surety company agreed to indemnify the bank against losses incurred

> "Through any dishonest act wherever committed, of any of the Employees, whether acting alone or in collusion with others,"

The bond provided that

> (1) No losses were covered "resulting directly or indirectly from any act or acts of any director of the Insured, other than one employed as a salaried official. . . ."
>
> (2) "No statement made in the application for this bond or otherwise submitted by or in behalf of the insured shall be deemed a warranty of anything except of the fact that the statement is true to the best of the knowledge and belief of the person making it."
>
> (3) "At the earliest practicable moment, and at all events not later than ten days after the insured shall discover any loss hereunder, the insured shall give the Underwriter notice thereof by registered letter or telegram, addressed to it at its home office, and shall also, within three months after such discovery, furnish to the Underwriter at its home office affirmative proof of loss with full particulars. . . ."

The broker who delivered the bond told the cashier of the bank one DuBois that the bond was delivered with the understanding that an application must be signed and forwarded to the Albany office of the insurance company.

The application for the bond was signed by the cashier. The application contained a representation that an audit of the cash, securities and accounts of the bank had been made on June 18, 1929, and that all accounts were found to be correct and all cash and securities were found on hand or properly accounted for. The application also contained the representation that the losses known to have been sustained from any of the causes against which indemnity was to be given by the bond were $450.00 and the further representation that the present officers and employees of the bank had always, to the best of the bank's knowledge and belief, performed their respective duties faithfully and that:

> "There has never come to the notice or knowledge of the Applicant any act, fact or information indicating or tending to indicate that any of the said officers or other Employees are unreliable, deceitful, dishonest or unworthy of confidence."

The cashier authorized clearing of checks drawn on county funds for the bank's vice-president who was also county treasurer. The cashier also credited interest on the vice-president's accounts which were heavily overdrawn and also was involved in other transactions furthering the vice-president's diversion of county funds.

The insurance company claimed that the acts of the cashier facilitated the misappropriation of the vice-president and that the bank's cashier made material misrepresentations when he signed the application for the bond in stating that an audit had been made June 18th, 1929, that all accounts were then found to be correct, all cash and securities found to be on hand or properly accounted for, that no losses above $450.00 had been sustained and that none of the officers and employees was dishonest and unworthy of confidence.

What are the rights of the receiver?

The Court held that the bank was not bound by the representations of the cashier because when he signed the application for the bond of indemnity in the name of the bank he was making the application so far as he personally was concerned in order to meet a requirement of the by-laws that he should furnish a bond. Under such circumstances the Court decided that the representations in the application were not those of the bank.

The Court stated:

> "We think that the provisions of section 8 of the bond that no statement made in the application 'shall be deemed a warranty of anything except of the fact that the statement is true to the best of the knowledge and belief of the persons

> making it,' do not limit the liability of the surety company. This is because, under the rule of American Surety Co. *vs.* Pauly, the representations in the application so far as they related to the acts or knowledge of DuBois were not those of the bank but only of DuBois himself. To the extent that DuBois was applying for a bond of indemnity against his own acts of dishonesty, his representations were not those of the bank but of himself when engaged in the pursuit of his own ends."

The insurance company further argued that this action did not lie because the bank did not give notice of loss to the insurance company within ten days after discovery of its loss. The Court decided that this was not an adequate defense since the bank did not learn of the dishonesty of the vice-president until the ten-day period had passed after the actual loss, but notice of the loss was given to the surety company as soon as the bank learned of the defalcation.

The insurance company further argued that the loss resulted "directly or indirectly" from the acts of the vice-president who was a director and not a salaried employee, but the Court decided that the acts of the cashier in honoring the vice-president's checks occasioned the losses which were within the provisions of the covenant of indemnity. It held that the vice-president was not acting as a director but only as a depositor when he diverted the funds and his acts would not have resulted in any loss to the bank if the cashier had not participated in the wrong by allowing payment of the vice-president's checks.

Liability

[Grand Union Stores, Inc. *vs.* General Accident, Fire & Life Assur. Corporation, Limited, 295 N. Y. S. 654.]

Certain employees of the grocery store of the insured and a man in no way connected with the grocery store of the insured placed a target for rifle practice in the cellar of the store and fired at it with the man's rifle. This was done without the employer's knowledge or consent. One of the bullets from the rifle passed through a cellar door and struck and killed a pedestrian walking on the sidewalk. Due notice of the accident was given to the insurance company, which declined to assume liability under the policy and stated that it would not defend any action brought against the employer. The employer was sued by the representatives of the person who was killed. The employer retained counsel to defend the suit. After defending of the action successfully the insured demanded reimbursement for expenditures incurred in defending the suit.

Pertinent provisions of the insurance policy provide that:

> (1) The company agrees to defend in the name and on behalf of the Assured any suits, even if groundless, brought against the Assured to recover damages on account of such happenings as are provided for by the terms and conditions of this policy.
>
> (2) The company is not liable for injuries to persons by reason of the manufacture or presence within the premises of any material intended for use as an explosive.

The insurance company contended that the policy did not cover the state of facts and furthermore that the location of the cartridges on the premises constituted the presence of explosives within the premises.

What are the rights of the assured?

The Court held that although the administratrix of the person injured through the accident did not succeed in her suit her claims were plausible, meriting and requiring defense. Two trials held that her action was maintenable and the jury brought in very substantial verdicts. The Appellate Division sustained a verdict. The Court of last resort reversed and dismissed the complaint. In view of this it was held that the insurance company could not justify a refusal to defend in the name and in behalf of the assured the suit even though groundless. The Court further held that the provision with respect to groundless suits should be construed against the insurer and the company should not have the right to decide whether an action, proper and sufficient on its face, is or is not capable of a successful defense, and therefore decided that the insurance company under the conditions of the policy should have defended the assured.

The Court, in referring to the exclusion of the policy, quoted above, stated that the casual and transient location of cartridges, no matter how few or how small or for what purpose transported, cannot as a matter of law be said to constitute presence within the premises of explosives within the meaning of the policy.

LIABILITY

[Robinson *vs.* Globe Indemnity Co., 296 N. Y. S. 257.]

A tenant sustained personal injuries when the ceiling in her apartment fell and struck her. She sued the owner and recovered a judgment. The insurance company had insured the premises but claimed that the accident came within an exception contained in the policy and refused to pay the judgment. The woman then brought an action to recover the amount of the judgment obtained against the owner of the premises.

The policy which the insurance company issued contained the provision that it should not apply to injuries

> "Caused by or through work of making additions to, or structural alterations in, any building, structure, elevator, sidewalk or approach, or caused by any work of construction, excavation or demolition, or work of installation of mechanical equipment, but this exclusion does not apply to the making of ordinary alterations and repairs necessary to the care and maintenance of the said designated premises."

The insurance company contended that the accident was caused by structural alteration work and therefore the company was not liable.

There were two six-room apartments on the first floor of the building. The owners, through their architect, filed plans for the alteration of the two six-room apartments so that each would be converted into two apartments of four and two rooms. One of the alterations made necessary the tearing out of closets and the installation of a bathroom in what formerly had been a passageway and closet. In addition it was necessary, in accordance with the provisions of the Health Department, to install a vent in the two bathrooms to carry off foul air.

The carpentry work and plastering necessary to seal the doorway and convert the passageway into a bathroom had been completed and the apartment had been painted. On the day of the accident, the plumbing contractor with two assistants came into the apartment to look the place over and to prepare it for the installation of the necessary kitchen and bathroom fixtures. One of the men employed by the plumber bored a hole in the flooring so that the lead bend for the toilet bowl could be placed therein at a future time. As a result of boring, the ceiling fell in a room in plaintiff's apartment which was directly underneath the apartment that was being renovated and she was injured.

What are the rights of the injured?

Answer:

The Court held that the alterations were not such as were ordinarily necessary to the care and maintenance of the premises. On the contrary they were structural in character. The plumbing work and the plumbing fixtures to be installed in the bathrooms and the kitchens were integral parts of the conversion of each of the six-room apartments into a two and four-room apartment.

The work thus came within the exception of the policy which provided that the defendant was not to be liable for injuries caused by making "structural alterations", "additions", "work of construction" and "work of installation of mechanical equipment". The changes being made in the premises were not trivial in nature, but were substantial. The work involved carpentry, plastering, painting, and plumbing and effected a complete change in the plan of the two first floor apartments. The Court therefore held that the insurance company was not liable.

Robbery

[Goldberg *vs.* Central Surety & Ins. Corporation, 65 P. R. (2d) 302.]

A proprietor of a store sued for a loss claimed to have been sustained by robbery where the owner was protected by a robbery insurance policy issued by the defendant company.

One Sunday the manager of the store accompanied by a custodian of the store and an errand boy drove to the store in an automobile. The manager left the car and told the custodian to drive the errand boy to his home and return to the store. The manager unlocked the front door of the store and entered for the purpose of working on the books. When he went to the back of the store he was met by the two men armed with a revolver and a sawed-off shotgun. They compelled him to open up the safe and then lie on the floor face down while they went through the safe. After the robbers had taken the money from the safe there was a noise at the front door made by the custodian who had arrived after taking the errand boy to his home. The custodian knocked on the door and rattled it. The robbers told the manager to get up and wave his hands as if everything was alright. He did so and shortly thereafter the robbers ran out of the back door. The custodian meanwhile, after he saw the manager waving his arms in the store waited outside of the store until he saw one of the robbers emerge from the back door.

The insured warranted that he would have a custodian and at least one other employee of the Assured on duty in the premises. The insurance company contended that the robbery did not come within the terms of the insurance policy as no other employee of the Assured was on duty within the premises when the robbery took place.

What are the rights of the proprietor?

The Court held that the evidence showed that there was a robbery. However, the sole question was whether the robbery occurred while the custodian and at least one other employee of the Assured were on duty thereon. The owner of the store insisted that the custodian was an employee of the assured and he was endeavoring to comply with the requirements of the policy when he attempted to enter the building. However, since the custodian did not come to the store for about 10 minutes after the manager entered the store alone and the money had been taken out of the safe when the custodian had arrived at the door the Court could not find that the custodian was on duty within the premises at the time of the robbery. The Court therefore held that no other employee of the Assured was on duty with the manager within the premises when the robbery took place and therefore there was no compliance with the requirement of the policy.

Reference was also made to a paragraph in the policy which reads as follows:

> "If the Assured is unable, because of an unforeseen contingency beyond his control, to maintain any service or perform any act specified in the Declarations, thereby increasing the risk assumed hereunder, this insurance shall not be forfeited but the Corporation's liability in such an event shall be limited to the amount of insurance which the premium charged for this policy would have purchased under the corporation's Manual of Rates in force when this policy was issued, for the actual risk under which the loss was sustained."

The Assured contended that the robbery here was an unforeseen contingency beyond control and therefore claimed that he was entitled to recover under the policy. The Court held that the failure of the manager to take another employee with him into the store although it was the first and only time he had entered the store alone, and although the owner had many times admonished him never to enter alone was not an unforeseen contingency beyond the control of the custodian or the owner of the store. The Court stated there were emergencies which might suddenly cause various employees to leave the store. However, the facts in this case did not indicate such an emergency that caused this manager to be in the store without the custodian. The Court accordingly found for the insurance company.

OBITUARY

CHARLES EDWARD HODGES

1859-1937

Charles Edward Hodges was born in Dorchester, Massachusetts on May 22, 1859.

After two years in the Orient where he was engaged in the tea business and a number of years in general business in the United States, Mr. Hodges entered the employ of the newly organized American Mutual Liability Insurance Company in 1887. He was successively clerk, bookkeeper, Assistant Manager, Treasurer, Vice-President and Manager, and President. In 1935, he resigned as President and was elected Chairman of the Board of Directors.

The American Mutual Liability Insurance Company, which began business in 1887, was the first American company organized to write liability insurance. During his life time, Mr. Hodges witnessed the beginnings, and had a leading part in the development of liability, workmen's compensation, and automobile insurance.

He was active in the organization of the Allied American Mutual Fire Insurance Company and American Policyholders Insurance Company, both closely associated with the American Mutual and of each of which he was President.

Not confining his energies to the companies of which he was chief executive, Mr. Hodges won recognition as a leader and organizer throughout the United States. As Past President of the National Association of Mutual Casualty Companies, he won the designation "Dean of Mutual Insurance in America."

Mr. Hodges was a kindly man, filled with sympathy for the ill and distressed. His patience with those who did not see eye to eye with him was uncommon. He was filled with the spirit of the pioneer. He not only builded a great company but he left a lasting impression on the business in which he spent a long life of leadership.

Born in Dorchester, he early acquired a fondness for the sea, an interest he retained throughout his life. He was an enthusiastic and able yachtsman. On the water, he found time for meditation, consolation and inspiration.

In the death of Mr. Hodges, the institution of liability insurance has lost a pioneer and a builder and those who were privileged to be associated with him have lost a kindly and helpful friend.

OBITUARY

JAMES J. WATSON
1872-1937

Mr. Watson was suddenly stricken by a fatal heart attack Tuesday morning, February 23rd and passed away at his home in Dallas on that day.

Mr. Watson had been engaged in the insurance business about forty years, entering the service of the General Accident Fire and Life Assurance Corporation, Ltd., in the home office at Perth, Scotland. Mr. Watson gradually rose to the position of Assistant Secretary. In 1912 he was transferred to the United States branch then in New York as Secretary of that branch. He resigned from that position in 1913.

Immediately after resigning his position with the General Accident, Mr. Watson became Agency Manager of the American Indemnity Company of Galveston, a position he held for four years. In the fall of 1917, he became Assistant General Manager of the Texas Employers' Insurance Association of Dallas and in 1920, when the Employers Casualty Company was organized by the same interest, he became Secretary of that company. He attended meetings of casualty company organizations in New York as representative of these companies from time to time and became an associate member of the Casualty Actuarial Society in November of 1920.

In 1928 he assisted in the organization of the Traders and General Insurance Company of Dallas. Later he became Resident Vice-President of the American Indemnity Company of Dallas and in 1932 he organized the Casualty Underwriters, a reciprocal of Dallas, and served as Vice-President and General Manager of the Underwriters Agency, Attorney-in-Fact of the Casualty Underwriters, until the middle of 1936, at which time he disposed of his interest. In the fall of 1936 he organized the Allied Underwriters, a reciprocal of Dallas and was President and General Manager of the Allied Underwriters Corporation, Attorney-in-Fact of the Allied Underwriters, which position he held at the time of his death.

Mr. Watson was born on March 1, 1872, at Helmsdale, Sutherlandshire County, Scotland.

OBITUARY

GEORGE GRAHAM
1881-1937

Mr. George Graham, Executive Vice-President of the Manhattan Life Insurance Company, died of a heart attack at the Regent Hospital, New York City, on April 15, 1937. Mr. Graham was fifty-five years of age and his unexpected death was a great shock to his business friends and associates.

A native of Scotland, Mr. Graham was educated at George Watson College. In 1906 he came to the United States and joined the Actuarial Department of the New York Life under Mr. Arthur Hunter. Later, after serving as assistant to Henry Moir with the Home Life and after being Actuary of the Capitol Life at Denver, he served for four years as Actuary of the Illinois Insurance Department. He resigned to become Actuary of the Missouri State Life in St. Louis, soon after being elected Vice-President of that company. Later he was elected Vice-President and then President of the Central States Life. In 1936 he resigned to become the executive Vice-President of the Manhattan Life in New York.

Mr. Graham was elected a Fellow of the Society in 1915 and although because of his business interests lying chiefly in life insurance he took very little active part in the Society's affairs he maintained a continued interest in the Society and had recently expressed his determination to become more active on his return to New York. Mr. Graham was, in addition, a fellow of the Faculty of Actuaries in Scotland, a fellow and past president of the American Institute of Actuaries, an associate of the Institute of Actuaries of England and an associate of the Actuarial Society of America. He was also past president of the American Life Convention.

Mr. Graham is survived by his widow and four sisters.

Particularly in the field of life insurance Mr. Graham's great talents and strong determination to uphold the ideals of the Actuarial profession will be greatly missed.

OBITUARY

WALTER G. VOOGT
1891-1937

Mr. Walter G. Voogt, Treasurer and Director of Associated Indemnity Corporation and Associated Fire & Marine Insurance Company, passed away suddenly at his San Francisco home early Saturday morning, May 8th, as the result of a heart attack. Mr. Voogt had also recently been made a Director of the sole owner of these insurance companies, Associated Insurance Fund, Inc., which he had also long served as Treasurer.

Mr. Voogt was a graduate of the University of California, a former Comptroller of the State Compensation Insurance Fund of California and later Actuary of the New York State Insurance Fund. He became an Associate Member of the Casualty Actuarial Society on November 21, 1919.

Surviving him are his wife, Mrs. Wanda J. Voogt, two daughters, Miss Charmion Voogt and Mrs. F. J. Bernard, also his mother, Mrs. Amelia Voogt.

He was universally loved by his fellow workers and kindness was a natural religion with him. Having been so long associated with the business of casualty insurance on both the Pacific and Atlantic Coasts, he left a wide circle of friends among members of the Society and others in the business who will consider his passing a personal loss.

CASUALTY ACTUARIAL SOCIETY

MAY 13, 1937

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*Terms expire at the annual meeting in November, 1937.
†Terms expire at the annual meeting in November of the year given.

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ABSTRACT FROM THE MINUTES OF THE MEETING

MAY 14, 1937

The semi-annual (forty-eighth regular) meeting of the Casualty Actuarial Society was held at the Westchester Country Club, Rye, Westchester County, New York, on Friday, May 14, 1937.

President Senior called the meeting to order at 10:30 A. M., daylight saving time. The roll was called showing the following forty-three Fellows and twenty-one Associates present:

FELLOWS

AULT	FONDILLER	MOORE, G. D.
BARBER	GINSBURGH	ORR
BARTER	GODDARD	PERRYMAN
BLACK, S. B.	GRAHAM, C. M.	PINNEY
BLANCHARD	GREENE	PRUITT
BROWN, F. S.	HOBBS	SENIOR
CAHILL	HOOKER	SINNOTT
CAMERON	HUNT	SKELDING
CARLSON	KORMES	SMICK
CLEARY	KULP	SMITH, C. G.
COMSTOCK	LINDER	VALERIUS
COGSWELL	MARSHALL	VAN TUYL
CRANE	MASTERSON	WILLIAMS, H. V.
DORWEILER	MATTHEWS	YOUNG, C. N.
	MAYCRINK	

ASSOCIATES

BLACK, N. C.	JONES, H. L.	PIPER, J. W.
CRIMMINS	KARDONSKY	SIBLEY
FITZ	MAGRATH	SMITH, A. G.
FURNIVALL	MALMUTH	SPENCER
GILDEA	MARSH	STOKE
GIBSON, J. P.	MILLS	WOOD, D. M.
HIPP	MONTGOMERY, J. C.	WOODMAN

A number of officials of casualty companies and organizations were also present.

Mr. Senior read his presidential address.

The minutes of the meeting held November 13, 1936 were approved as printed in the *Proceedings*.

The Secretary-Treasurer (Richard Fondiller) read the report of the Council and upon motion it was adopted by the Society.

The President announced the deaths, since the last meeting of the Society of two Fellows, George Graham and Charles E. Hodges, and of two Associates, Walter G. Voogt and J. J. Watson, and the memorial notices appearing in this Number were thereupon read.

The new papers printed in this Number were read.

Recess was taken for lunch at the Club until 2:15 P. M.

Informal discussion was participated in by a number of members upon the following topics:

I. Premium and Loss Reserves for the Casualty and Surety Business —
   (a) In what respects could present methods be improved?
   (b) Should not a reserve be provided against the recurrence of an unfavorable loss ratio in the bonding lines?

II. Latest Developments in Connection with Occupational Disease Coverage Under Workmen's Compensation Laws, including
   (a) Trend as to definition of impairment
   (b) Problem of accrued liability; (1) underwriting, (2) reserves
   (c) Underwriting criteria
   (d) Preventive aspects.

The papers presented at the last meeting were discussed.

Upon motion, the meeting adjourned at 4:40 P. M., daylight saving time.

REPRESENTATIVES OF CASUALTY COMPANIES AND ORGANIZATIONS PRESENT

LOUIS ARBEIT, Woodward and Fondiller, New York.

H. E. CURRY, Actuary, Farm Bureau Automobile Mutual Insurance Co., Columbus, Ohio.

H. W. CHILDS, Indemnity Insurance Company of North America, New York.

G. A. DIERAUF, Secretary-Treasurer, Compensation Insurance Rating Board, New York.

E. A. ERICKSON, Statistician, Utilities Mutual Insurance Company, New York.

J. N. GILBERT, Vice-President, Holborn Agency Corporation, New York.

RAYMOND L. HARDESTY, Assistant Secretary, New Amsterdam Casualty Company, New York.

R. E. HATFIELD, Assistant Manager, Massachusetts Rating and Inspection Bureau, Boston, Mass.

R. A. JOHNSON, Compensation Insurance Rating Board, New York.

F. C. KESSLER, Treasurer, Consolidated Taxpayers Mutual Insurance Company, Brooklyn, N. Y.

F. KIRCHSTETTER, Utilities Mutual Insurance Company, New York.

C. W. LEACH, New Amsterdam Casualty Company, New York.

W. E. LISTER, Secretary, Home Indemnity Company, New York.

HENRY REICHGOTT, Group Underwriter, Equitable Life Assurance Society, New York.

L. W. SCAMMON, Statistician, Massachusetts Automobile Rating and Accident Prevention Bureau, Boston, Mass.

F. B. SCHROETTER, Zurich General Accident & Liability Insurance Company, New York.

J. W. SCOTT (MISS), Mutual Casualty Insurance Company, New York.

JOHN SELLON, American Reinsurance Company, New York.

C. G. VANDER FEEN, Statistician, National Bureau of Casualty and Surety Underwriters, New York.

CHARLES R. WILDER, Vice-President, Liberty Mutual Insurance Company, New York.

H. W. YOUNT, Vice-President and Actuary, Liberty Mutual Insurance Company, Boston, Mass.

B. H. ZIMELS, Vice-President, Consolidated Taxpayers Mutual Insurance Company, Brooklyn, N. Y.

INDEX TO VOLUME XXIII

CASUALTY ACTUARIAL SOCIETY

ORGANIZED 1914

1937 YEAR BOOK

(Addendum to Volume XXIII of the *Proceedings*)

Corrected to February 1, 1937 **No. 16**

FOREWORD

The Casualty Actuarial Society was organized November 7, 1914 as the Casualty Actuarial and Statistical Society of America, with 97 charter members of the grade of Fellow. The present title was adopted on May 14, 1921. The object of the Society is the promotion of actuarial and statistical science as applied to the problems of casualty and social insurance by means of personal intercourse, the presentation and discussion of appropriate papers, the collection of a library and such other means as may be found desirable.

Prior to the organization of the Society comparatively little technical study was given to the actuarial and underwriting problems of most of the branches of casualty insurance. With the passage of legislation providing for workmen's compensation insurance in many states during 1912, 1913 and 1914, the need of actuarial guidance became more pronounced, and the organization of the Society was brought about through the suggestion of Dr. I. M. Rubinow, who became the first president. The problems surrounding workmen's compensation were at that time the most urgent, and consequently many of the members played a leading part in the development of the scientific basis upon which workmen's compensation insurance now rests.

The members of the Society have also presented papers to the *Proceedings* upon the scientific formulation of standards for the computation of both rates and reserves in accident and health insurance, liability, burglary, and the various automobile coverages. The presidential addresses constitute a valuable record of the current problems facing the casualty insurance business. Other papers in the *Proceedings* deal with acquisition costs, pension funds, legal decisions, investments, claims, reinsurance, accounting, statutory requirements, loss reserves, statistics, and the examination of casualty companies. After three years' work the Committee on Compensation and Liability Loss Reserves submitted a report which has been printed in *Proceedings* No. 35 and 36. The Committee on Remarriage Table after four years' work submitted a report including tables, printed in *Proceedings* No. 40. During the past year the Special Committee on Bases of Exposure after two years' work submitted a report printed in *Proceedings* No. 43. New "Recommendations for Study" were also completed, and appear in the same number.

There are two grades of membership in the Society: Fellows and Associates; while admission to either grade is in rare cases by election, in all other cases qualification is by examination, with the additional requirement of satisfactory experience in casualty insurance work. Examinations have been held every year since organization; they are held on the third Wednesday and following Thursday in May, in various cities in the United States and Canada. The membership of the Society consists of actuaries, statisticians, and executives who are connected with the principal casualty companies and organizations in the United States and Canada. The Society has a total membership of 311, comprising 182 Fellows and 129 Associates. The annual meeting of the Society is held in New York in November and the semi-annual meetings are held in May, usually in Baltimore, Boston, Hartford or Philadelphia. The Society twice a year issues a publication entitled the *Proceedings* which contains original papers presented at the meetings of the Society. The *Proceedings* also contain discussions of papers, reviews of books and publications, current notes and legal notes. This Year Book is published annually by the Society and "Recommendations for Study" is a pamphlet which outlines the course of study to be followed in connection with the examinations for admission. These two booklets may be obtained free upon application to the Secretary-Treasurer, 90 John Street, New York.

CASUALTY ACTUARIAL SOCIETY

NOVEMBER 13, 1936

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	WINFIELD W. GREENE	1940
†*Ex-Vice-Presidents:*	RALPH H. BLANCHARD	1940
	CHARLES J. HAUGH	1940
†*Elected:*	ARTHUR N. MATTHEWS	1937
	CHARLES G. SMITH	1937
	CLARENCE A. KULP	1937
	WILLIAM J. CONSTABLE	1938
	HAROLD J. GINSBURGH	1938
	ALBERT Z. SKELDING	1938
	THOMAS O. CARLSON	1939
	RALPH M. MARSHALL	1939
	F. STUART BROWN	1939

*Terms expire at the annual meeting in November, 1937.
†Terms expire at the annual meeting in November of the year given.

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MEMBERSHIP OF THE SOCIETY, NOVEMBER 13, 1936

FELLOWS

Those marked (†) were Charter Members at date of organization, November 7, 1914.

Those marked (*) have been admitted as Fellows upon examination by the Society.

Date Admitted	
*Nov. 21, 1930	AINLEY, JOHN W., The Travelers Insurance Company, 700 Main Street, Hartford, Conn.
*Nov. 13, 1931	AULT, GILBERT E., Assistant Actuary, Colonial Life Insurance Company, 921 Bergen Avenue, Jersey City, N. J.
May 23, 1924	BAILEY, WILLIAM B., Economist, The Travelers Insurance Company, 700 Main Street, Hartford, Conn.
*Nov. 20, 1924	BARBER, HARMON T., Assistant Actuary, Casualty Actuarial Department, The Travelers Insurance Co., 700 Main Street, Hartford, Conn.
*Nov. 18, 1932	BARTER, JOHN L., Assistant Secretary, Hartford Accident & Indemnity Co., Hartford, Conn.
*Nov. 13, 1931	BATHO, ELGIN R., Assistant Actuary, Equitable Life Insurance Company of Canada, Waterloo, Ontario, Canada.
†	BENJAMIN, ROLAND, Treasurer, Fidelity & Deposit Company of Maryland and American Bonding Company, Baltimore, Md.
*Nov. 22, 1934	BERKELEY, ERNEST T., Superintendent, Actuarial and Statistical Department, Employers Liability Assurance Corporation, Boston, Mass.
†	BLACK, S. BRUCE, President, Liberty Mutual Insurance Company, Park Square Building, Boston, Mass.
Apr. 20, 1917	BLANCHARD, RALPH H., Professor of Insurance, School of Business, Columbia University, New York.
May 24, 1921	BOND, EDWARD J., JR., President, Maryland Casualty Company, Baltimore, Md.
May 19, 1915	BRADSHAW, THOMAS, Vice-President and General Manager, Massey-Harris Company, Limited, 915 King Street, Toronto, Canada; President, North American Life Assurance Company of Canada, Toronto, Canada.
†	BREIBY, WILLIAM, Consulting Actuary, Fackler & Breiby, 8 West 40th Street, New York.
*Nov. 18, 1927	BROWN, F. STUART, Comptroller, Fireman's Fund Indemnity Company, 116 John Street, New York.
Oct. 22, 1915	BROWN, HERBERT D., Glenora, Yates County, New York.
June 5, 1925	BROSMITH, WILLIAM, Vice-President and General Counsel, The Travelers Insurance Company and The Travelers Indemnity Company, 700 Main Street, Hartford, Conn.
†	BUCK, GEORGE B., Consulting Actuary for Pension Funds, 150 Nassau Street, New York.
*Nov. 18, 1932	BURHANS, CHARLES H., Standard Accident Insurance Company, 640 Temple Avenue, Detroit, Mich.

FELLOWS

Date Admitted	
Apr. 20, 1917	BURHOP, WILLIAM H., Secretary, Employers Mutual Liability Insurance Company, Wausau, Wis.
*Nov. 23, 1928	BURLING, WILLIAM H., The Travelers Insurance Company, 700 Main Street, Hartford, Conn.
*Nov. 19, 1929	CAHILL, JAMES M., The Travelers Insurance Company, 700 Main Street, Hartford, Conn.
*Nov. 18, 1932	CAMERON, FREELAND R., Assistant Manager, Automobile Department, American Surety Company, 100 Broadway, New York.
†	CAMMACK, EDMUND E., Vice-President and Actuary, Aetna Life Insurance Company, Hartford, Conn.
*Nov. 21, 1930	CARLSON, THOMAS O., Assistant Actuary, National Bureau of Casualty & Surety Underwriters, 1 Park Avenue, New York.
†	CARPENTER, RAYMOND V., Senior Actuary, Metropolitan Life Insurance Company, 1 Madison Avenue, New York.
*Nov. 13, 1936	CLEARY, ARTHUR E., Compensation Insurance Rating Board, 125 Park Avenue, New York.
*Nov. 15, 1918	COATES, BARRETT N., Coates and Herfurth, Consulting Actuaries, 582 Market Street, San Francisco, Calif.
*Nov. 17, 1922	COATES, CLARENCE S., Statistician, Lumbermen's Mutual Casualty Company, Mutual Insurance Bldg., Chicago, Ill.
Oct. 27, 1916	COGSWELL, EDMUND S., First Deputy Commissioner of Insurance, 100 Nashua Street, Boston, Mass.
Feb. 19, 1915	COLLINS, HENRY, Manager and Attorney, Ocean Accident & Guarantee Corporation and President, Columbia Casualty Company, 1 Park Avenue, New York.
*Nov. 23, 1928	COMSTOCK, W. PHILLIPS, Statistician, London Guarantee & Accident Company, 55 Fifth Avenue, New York.
*Nov. 22, 1934	CONSTABLE, WILLIAM J., Resident Secretary, Lumbermen's Mutual Casualty Company, 400 North Broad Street, Philadelphia, Pa.
*Nov. 22, 1934	COOK, EDWIN A., Assistant Secretary, Interboro Mutual Indemnity Insurance Company, 270 Madison Avenue, New York.
†	COPELAND, JOHN A., Consulting Actuary, Candler Building, Atlanta, Ga.
*Nov. 18, 1925	CORCORAN, WILLIAM M., Consulting Actuary, c/o S. H and Lee J. Wolfe, 116 John Street, New York.
†	COWLES, WALTER G., Vice-President, The Travelers Insurance Company, 700 Main Street, Hartford, Conn.
†	CRAIG, JAMES D., Vice-President, Metropolitan Life Insurance Company, 1 Madison Avenue, New York.
*Nov. 19, 1926	CRANE, HOWARD G., Treasurer, General Reinsurance Corporation, 90 John Street, New York.
*Nov. 18, 1932	DAVIES, E. ALFRED, Budget Supervisor, Liberty Mutual Insurance Company, Park Square Building, Boston, Mass.
*Nov. 18, 1927	DAVIS, EVELYN M., Woodward, Ryan, Sharp & Davis, Consulting Actuaries, 90 John Street, New York.
†	DAWSON, MILES M., Consulting Actuary and Counsellor at Law, 500 Fifth Avenue, New York.
†	DEARTH, ELMER H., 1156 Lincoln Avenue, St. Paul, Minn.

FELLOWS

Date Admitted	
†	DEKAY, ECKFORD C., President, Industrial Service Corporation, 84 William Street, New York.
*Nov. 17, 1920	DORWEILER, PAUL, Actuary, Aetna Casualty & Surety Company, Hartford, Conn.
May 19, 1915	DUNLAP, EARL O., Assistant Actuary, Metropolitan Life Insurance Company, 1 Madison Avenue, New York.
*Nov. 24, 1933	EDWARDS, JOHN, Casualty Actuary, Ontario Insurance Department, 91 Arundel Avenue, Toronto, Ontario, Canada.
*Nov. 17, 1922	ELSTON, JAMES S., Assistant Actuary, Life Actuarial Department, The Travelers Insurance Co., 700 Main Street, Hartford, Conn.
*Nov. 15, 1935	EPPINK, WALTER T., Assistant Secretary-Assistant Treasurer, Merchants' Mutual Casualty Co., 268 Main Street, Buffalo, New York.
†	FACKLER, EDWARD B., Consulting Actuary, Fackler & Breiby, 8 West 40th Street, New York.
†	FALLOW, EVERETT S., Actuary, Accident Actuarial Department, The Travelers Insurance Co., 700 Main Street, Hartford, Conn.
†	FARRER, HENRY, Chief Accountant, Insurance Company of North America, 111 John Street, New York.
Feb. 19, 1915	FELLOWS, CLAUDE W., President, Associated Indemnity Corporation, Associated Fire & Marine Insurance Co., Associated Insurance Fund, Inc., 332 Pine Street, San Francisco, Calif.
*Nov. 15, 1935	FITZHUGH, GILBERT W., Metropolitan Life Insurance Co., 1 Madison Avenue, New York.
Feb. 19, 1915	FLANIGAN, JAMES E., Agency Manager, Bankers Life Co., 225 Broadway, New York.
†	FLYNN, BENEDICT D., Vice-President and Actuary, The Travelers Insurance Co., 700 Main Street, Hartford, Conn.
Feb. 19, 1915	FONDILLER, RICHARD, Woodward and Fondiller, Consulting Actuaries, 90 John Street, New York.
†	FORBES, CHARLES S., Treasurer, Smyth, Sanford and Gerard, Inc., Insurance Brokers, 68 William Street, New York; Actuary, Service Mutual Liability Insurance Co., Park Square Building, Boston, Mass.
*Nov. 22, 1934	FULLER, GARDNER V., Secretary, National Council on Compensation Insurance, 45 East 17th Street, New York.
†	FRANKLIN, CHARLES H., Assistant to First Vice-President, Continental Casualty Co., 910 South Michigan Avenue, Chicago, Ill.
*Nov. 18, 1927	FREDERICKSON, CARL H., Actuary, Canadian Underwriters Association, 44 Victoria Street, Toronto, Canada.
Feb. 25, 1916	FROGGATT, JOSEPH, President, Joseph Froggatt & Co., Insurance Accountants, 74 Trinity Place, New York.
†	FURZE, HARRY, 42, Douglas Road, Glen Ridge, N. J.
Feb. 19, 1915	GARRISON, FRED S., Secretary, The Travelers Indemnity Co., 700 Main Street, Hartford, Conn.
*Nov. 20, 1924	GINSBURGH, HAROLD J., Assistant Vice-President, American Mutual Liability Insurance Co., 142 Berkeley Street, Boston, Mass.

FELLOWS

Date Admitted	
*Nov. 21, 1930	GLENN, J. BRYAN, Assistant Actuary, Railroad Retirement Board, Washington, D C.
May 19, 1915	GLOVER, JAMES W., Professor of Mathematics and Insurance, University of Michigan, 620 Oxford Road, Ann Arbor, Mich.
*Nov. 13, 1931	GODDARD, RUSSELL P., The Travelers Insurance Co., 700 Main Street, Hartford, Conn.
†	GOODWIN, EDWARD S., 750 Main Street, Hartford, Conn.
*Nov. 19, 1926	GRAHAM, CHARLES M., Assistant Actuary, State Insurance Fund, 625 Madison Avenue, New York.
Oct. 22, 1915	GRAHAM, GEORGE, Executive Vice-President, Manhattan Life Insurance Co., 654 Madison Avenue, New York.
Oct. 22, 1915	GRAHAM, THOMPSON B., Assistant Secretary, Metropolitan Life Insurance Co., 1 Madison Avenue, New York.
†	GRAHAM, WILLIAM J., Vice-President, Equitable Life Assurance Society, 393 Seventh Avenue, New York.
May 25, 1923	GRANVILLE, WILLIAM A., Director of Publications, Washington National Insurance Co., 1737 Howard St., Chicago, Ill.
†	GREENE, WINFIELD W., Vice-President and Secretary, General Reinsurance Corporation, 90 John Street, New York.
†	HAMILTON, ROBERT C. L., Comptroller, Hartford Accident & Indemnity Co., Hartford, Conn.
†	HAMMOND, H. PIERSON, Actuary, Life Actuarial Department, The Travelers Insurance Co., 700 Main St., Hartford, Conn.
Oct. 27, 1916	HARDY, EDWARD R., Secretary-Treasurer, Insurance Institute of America, Inc., 80 John Street, New York.
Oct. 22, 1915	HATCH, LEONARD W., (Retired), 425 Pelham Manor Road, Pelham Manor, New York.
*Nov. 19, 1926	HAUGH, CHARLES J., Actuary, National Bureau of Casualty & Surety Underwriters, 1 Park Avenue, New York.
Nov. 17, 1920	HEATH, CHARLES E., Vice-President and Secretary, Standard Surety & Casualty Company of New York, 80 John Street, New York.
Nov. 21, 1919	HENDERSON, ROBERT, (Retired) Crown Point, Essex County, New York.
May 17, 1922	HERON, DAVID, Secretary and Chief Statistician, London Guarantee & Accident Co., Ltd., Phoenix House, King William Street, E.C. 4, London, England.
†	HILLAS, ROBERT J., (Retired) 2 Whippany Road, Morristown, N. J.
May 23, 1924	HOBBS, CLARENCE W., Special Representative of the National Association of Insurance Commissioners, National Council on Compensation Insurance, 45 East 17th Street, New York.
Nov. 19, 1926	HODGES, CHARLES E., Chairman of the Board, American Mutual Liability Insurance Co., Allied American Mutual Automobile Insurance Co., American Policyholders' Insurance Co., 142 Berkeley Street, Boston, Mass. (Deceased January 22, 1937.)
Oct. 22, 1915	HODGKINS, LEMUEL G., Secretary, Massachusetts Protective Association and Massachusetts Protective Life Assurance Co., Worcester, Mass.

FELLOWS

Date Admitted	
†	HOFFMAN, FREDERICK L., 7500 Old York Road, Melrose Park, Philadelphia, Pa.
Oct. 22, 1915	HOLLAND, CHARLES H., Room 1406, 9 East 44th Street, New York.
*Nov. 22, 1934	HOOKER, RUSSELL O., Actuary, Connecticut Insurance Department, Hartford, Conn.
Nov. 18, 1932	HUEBNER, SOLOMON S., Professor of Insurance, University of Pennsylvania, Philadelphia, Pa.
†	HUGHES, CHARLES, Auditor and Actuary, New York Insurance Department, 80 Centre Street, New York.
Nov. 19, 1929	HULL, ROBERT S., Field Representative, Social Security Board, 616 Congress Street, Portland, Maine.
†	HUNT, BURRITT A., Assistant Secretary, Accident and Liability Department, Aetna Life Insurance Co., Hartford, Conn.
†	HUNTER, ARTHUR, Vice-President and Chief Actuary, New York Life Insurance Co., 51 Madison Avenue, New York.
Nov. 18, 1921	HUTCHESON, WILLIAM A., Vice-President and Actuary, Mutual Life Insurance Co., 32 Nassau Street, New York.
Feb. 25, 1916	JACKSON, CHARLES W., Consulting Actuary, Woodward and Fondiller, 90 John Street, New York.
*Nov. 19, 1929	JACKSON, HENRY H., Actuary, National Life Insurance Co., Montpelier, Vt.
May 19, 1915	JOHNSON, WILLIAM C., Vice-President, Massachusetts Protective Association and Massachusetts Protective Life Assurance Co., Worcester, Mass.
Nov. 23, 1928	JONES, F. ROBERTSON, General Manager, Association of Casualty and Surety Executives; and Secretary-Treasurer, Bureau of Personal Accident and Health Underwriters, 1 Park Avenue, New York.
*Nov. 19, 1926	KELTON, WILLIAM H., Assistant Actuary, Life Actuarial Department, The Travelers Insurance Co., 700 Main Street, Hartford, Conn.
†	KING, WALTER I., Ganse-King Estate Service, 1 Federal Street, Boston, Mass.
*Nov. 21, 1919	KIRKPATRICK, A. LOOMIS, Insurance Editor, Chicago Journal of Commerce, 12 East Grand Avenue, Chicago, Ill.
*Nov. 24, 1933	KORMES, MARK, Associate Actuary, Compensation Insurance Rating Board, Pershing Square Bldg., 125 Park Avenue, New York.
Nov. 23, 1928	KULP, CLARENCE A., Professor of Insurance, University of Pennsylvania, Logan Hall, 36th Street and Woodland Avenue, Philadelphia, Pa.
Feb. 19, 1915	LAIRD, JOHN M., Vice-President and Secretary, Connecticut General Life Insurance Co., 55 Elm Street, Hartford, Conn.
Nov. 13, 1931	LA MONT, STEWART M., Third Vice-President, Metropolitan Life Insurance Co., 1 Madison Avenue, New York.
*Nov. 24, 1933	LANGE, JOHN R., Chief Actuary, Wisconsin Insurance Department, State House, Madison, Wis.
Nov. 17, 1922	LAWRENCE, ARNETTE R., Special Deputy Commissioner of Banking and Insurance, 1203 Military Park Building, 60 Park Place, Newark, N. J.
†	LEAL, JAMES R., Vice-President and Secretary, Interstate Life and Accident Co., Interstate Building, 540 McCallie Avenue, Chattanooga, Tenn.

Date Admitted	
†	LESLIE, WILLIAM, General Manager, National Bureau of Casualty & Surety Underwriters, 1 Park Avenue, New York.
*Nov. 20, 1924	LINDER, JOSEPH, Consulting Actuary, c/o S. H. and Lee J. Wolfe, 116 John Street, New York.
Nov. 18, 1921	LITTLE, JAMES F., Vice-President and Actuary, Prudential Insurance Co., Newark, N. J.
Nov. 23, 1928	LUNT, EDWARD C., Vice-President, Great American Indemnity Co., 1 Liberty Street, New York.
*Nov. 13, 1936	LYONS, DANIEL J., Chief Assistant Actuary, New Jersey Department of Banking and Insurance, Trenton, N. J.
†	MAGOUN, WILLIAM N., General Manager, Massachusetts Rating and Inspection Bureau, 89 Broad Street, Boston, Mass.
*Nov. 23, 1928	MARSHALL, RALPH M., Assistant Actuary, National Council on Compensation Insurance, 45 East 17th Street, New York.
*Nov. 18, 1927	MASTERSON, Norton E., Vice-President and Actuary, Hardware Mutual Casualty Co., Stevens Point, Wis.
*Nov. 19, 1926	MATTHEWS, ARTHUR N., The Travelers Insurance Co., 700 Main Street, Hartford, Conn.
May 19, 1915	MAYCRINK, EMMA C., Examiner, New York Insurance Department, 80 Centre Street, New York.
*Nov. 16, 1923	McCLURG, D. RALPH, Secretary and Treasurer, National Equity Life Insurance Co., Little Rock, Ark.
*Nov. 15, 1935	McCONNELL, MATTHEW H., JR., Indemnity Insurance Company of North America, 1600 Arch Street, Philadelphia, Pa.
May 23, 1919	McDOUGALD, ALFRED, Ellerslie, Beddington Gardens, Wallington Surrey, England.
*Oct. 31, 1917	McMANUS, Robert J., Statistician, Casualty Actuarial Department, The Travelers Insurance Co., 700 Main Street, Hartford, Conn.
†	MICHELBACHER, GUSTAV F., Vice-President and Secretary, Great American Indemnity Co., 1 Liberty Street, New York.
†	MILLIGAN, SAMUEL, Second Vice-President, Metropolitan Life Insurance Co., 1 Madison Avenue, New York.
†	MITCHELL, JAMES F., U. S. Manager, General Accident Fire and Life Assurance Corporation, Ltd., 414 Walnut Street, Philadelphia, Pa.
†	MOIR, HENRY, Chairman, Finance Committee, United States Life Insurance Co., 101 Fifth Avenue, New York.
*Nov. 18, 1921	MONTGOMERY, VICTOR, President, Pacific Employers Insurance Co., 928 So. Figueroa Street, Los Angeles, Calif.
Nov. 19, 1926	MOONEY, WILLIAM L., Vice-President, Aetna Life Insurance Co., Hartford, Conn.
†	MOORE, GEORGE D., Comptroller, Standard Surety & Casualty Company of New York, 80 John Street, New York.
†	MOWBRAY, ALBERT H., Consulting Actuary, 806 San Luis Road, Berkeley, Calif.
*Nov. 17, 1920	MUELLER, LOUIS H., Director, Associated Insurance Fund, 332 Pine Street, San Francisco, Calif.

FELLOWS

Date Admitted	
†	MULLANEY, FRANK R., Vice-President and Secretary, American Mutual Liability Insurance Co., and Secretary, American Policyholders' Insurance Co., 142 Berkeley Street, Boston, Mass.
May 28, 1920	MURPHY, RAY D., Vice-President and Actuary, Equitable Life Assurance Society, 393 Seventh Avenue, New York.
†	NICHOLAS, LEWIS A., Assistant Secretary, Fidelity & Casualty Co., 80 Maiden Lane, New York.
*Nov. 15, 1935	OBERHAUS, THOMAS M., Actuarial Department, Mutual Life Insurance Co., 34 Nassau Street, New York.
†	OLIFIERS, EDWARD, Actuary and Managing Director, Previdencia do Sul, Caixa Postal 76, Porto Alegre, Brazil.
Nov. 18, 1927	O'NEILL, FRANK J., President, Royal Indemnity Co., and Eagle Indemnity Co., 150 William Street, New York.
†	ORR, ROBERT K., President, Wolverine Insurance Co., Lansing, Mich.
†	OTIS, STANLEY L., Counsellor at Law, Manager, Otis Service, 90 John Street, New York.
*Nov. 21, 1919	OUTWATER, OLIVE E., Actuary, Benefit Association of Railway Employees, 901 Montrose Avenue, Chicago, Ill.
Nov. 19, 1926	PAGE, BERTRAND A., Vice-President, The Travelers Insurance Co., 700 Main Street, Hartford, Conn.
*Nov. 18, 1921	PERKINS, SANFORD B., Assistant Secretary, Compensation and Liability Department, The Travelers Insurance Co., 700 Main Street, Hartford, Conn.
Nov. 15, 1918	PERRY, W. T., Deputy Manager, Ocean Accident and Guarantee Corporation, 36 Moorgate, London, E. C. 2, England.
*Nov. 21, 1930	PERRYMAN, FRANCIS S., Secretary, Royal Indemnity Co., and Eagle Indemnity Co., 150 William Street, New York.
Nov. 19, 1926	PHILLIPS, JESSE S., Chairman of Board, Great American Indemnity Co., 1 Liberty Street, New York.
*Nov. 24, 1933	PICKETT, SAMUEL C., Assistant Actuary, Connecticut Insurance Department, Hartford, Conn.
*Nov. 17, 1922	PINNEY, SYDNEY D., Associate Actuary, Casualty Actuarial Department, The Travelers Insurance Co., 700 Main Street, Hartford, Conn.
*Nov. 13, 1931	PRUITT, DUDLEY M., Actuary and Assistant Treasurer, Pennsylvania Indemnity Corporation, 1511 Walnut Street, Philadelphia, Pa.
May 13, 1927	REID, A. DUNCAN, President and General Manager, Globe Indemnity Co., 150 William Street, New York.
†	REMINGTON, CHARLES H., Room 2707, 90 John Street, New York.
May 23, 1919	RICHARDSON, FREDERICK, U. S. Attorney and Managing Director, General Accident Fire and Life Assurance Corporation, 414 Walnut Street, Philadelphia, Pa.
*Nov. 19, 1926	RICHTER, OTTO C., American Telephone & Telegraph Co., 195 Broadway, New York.
May 24, 1921	RIEGEL, ROBERT, Professor of Statistics and Insurance, University of Buffalo, Buffalo, New York.
*Nov. 16, 1923	ROEBER, WILLIAM F., General Manager, National Council on Compensation Insurance, 45 East 17th Street, New York.

FELLOWS

Date Admitted	
†	SCHEITLIN, EMIL, Treasurer, Globe Indemnity Co., 150 William Street, New York.
†	SENIOR, LEON S., General Manager, Compensation Insurance Rating Board, Pershing Square Bldg., 125 Park Avenue, New York.
*Nov. 13, 1931	SILVERMAN, DAVID, c/o S. H. & Lee J. Wolfe, 116 John Street, New York.
*Nov. 24, 1933	SINNOTT, ROBERT V., Hartford Accident and Indemnity Company, 690 Asylum Avenue, Hartford, Conn.
*Nov. 19, 1929	SKELDING, ALBERT Z., Actuary, National Council on Compensation Insurance, 45 East 17th Street, New York.
*Nov. 19, 1929	SKILLINGS, EDWARD S., c/o S. H. and Lee J. Wolfe, 116 John Street, New York.
*Nov. 18, 1932	SMICK, JACK J., National Council on Compensation Insurance, 45 East 17th Street, New York.
Apr. 20, 1917	SMITH, CHARLES G., Manager, State Insurance Fund, 625 Madison Avenue, New York.
*Nov. 24, 1933	ST. JOHN, JOHN B., Metropolitan Life Insurance Company, 1 Madison Avenue, New York.
Nov. 18, 1927	STONE, EDWARD C., U. S. General Manager and Attorney, Employers' Liability Assurance Corporation, Limited, and President, American Employers' Insurance Company, 110 Milk Street, Boston, Mass.
Feb. 25, 1916	STRONG, WENDELL M., Associate Actuary, Mutual Life Insurance Co., 32 Nassau Street, New York.
Oct. 22, 1915	STRONG, WILLIAM RICHARD, No. 4 "Sheringham," Cotham Road, Kew, Victoria, Australia.
*Nov. 17, 1920	TARBELL, THOMAS F., Actuary, Casualty Actuarial Department, The Travelers Insurance Co., 700 Main Street, Hartford, Conn.
†	THOMPSON, JOHN S., Vice-President and Mathematician, Mutual Benefit Life Insurance Co., 300 Broadway, Newark N. J.
†	TRAIN, JOHN L., President and General Manager, Utica Mutual Insurance Co., 185 Genesee Street, Utica, New York.
Nov. 17, 1922	TRAVERSI, ANTONIO T., Consulting Actuary and Accountant, London Bank Chambers, Martin Place, Sydney, Australia.
*Nov. 23, 1928	VALERIUS, NELS M., Accident & Liability Department, Aetna Life Insurance Co., Hartford, Conn.
*Nov. 21, 1919	VAN TUYL, HIRAM O., Chief Accountant, London Guarantee & Accident Co., 55 Fifth Avenue, New York.
*Nov. 17, 1920	WAITE, ALAN W., Chief Underwriter, Accident and Liability Department, Aetna Life Insurance Co., Hartford, Conn.
*Nov. 15, 1935	WAITE, HARRY V., Statistician, The Travelers Fire Insurance Co., 700 Main Street, Hartford, Conn.
*Nov. 18, 1925	WARREN, LLOYD A. H., Professor of Mathematics, University of Manitoba, 64 Niagara Street, Winnipeg, Manitoba, Canada.

FELLOWS

Date Admitted	
†	WHITNEY, ALBERT W., Associate General Manager, National Bureau of Casualty & Surety Underwriters, 1 Park Avenue, New York.
*Nov. 15, 1935	WILLIAMS, HARRY V., JR., National Council on Compensation Insurance, 45 East 17th Street, New York.
*Nov. 13, 1931	WITTICK, HERBERT E., Secretary, Pilot Insurance Co., 199 Bay Street, Toronto, Canada.
†	WOLFE, LEE J., Consulting Actuary, 116 John Street, New York.
May 24, 1921	WOOD, ARTHUR B., President and Managing Director, Sun Life Assurance Company of Canada, Montreal, Canada.
*Nov. 17, 1920	YOUNG, CHARLES N., Special Consultant, Central Statistical Board, Washington, D. C.

ASSOCIATES

Those marked (*) have been enrolled as Associates upon examination by the Society.

Numerals indicate Fellowship examination parts credited.

Date Enrolled	
May 23, 1924	ACKER, MILTON, Manager, Compensation and Liability Department, National Bureau of Casualty and Surety Underwriters, 1 Park Avenue, New York.
*Nov. 15, 1918	ACKERMAN, SAUL B., Professor of Insurance, New York University, 90 Trinity Place, New York.
Apr. 5, 1928	ALLEN, AUSTIN F., Executive Vice-President, Texas Employers Insurance Association and Employers Casualty Co., Dallas, Texas.
Nov. 15, 1918	ANKERS, ROBERT E., Secretary and Treasurer, Continental Life Insurance Co., Investment Building, Washington, D. C.
*Nov. 21, 1930	ARCHIBALD, A. EDWARD, Actuary, Volunteer State Life Insurance Company, Chattanooga, Tenn. (I, II.)
*Nov. 24, 1933	BARRON, JAMES C., General Reinsurance Corporation, 90 John Street, New York. (I, II, IV.)
*Nov. 23, 1928	BATEMAN, ARTHUR E., Liberty Mutual Insurance Company, Park Square Building, Boston, Mass. (I, II.)
*Nov. 18, 1925	BITTEL, W. HAROLD, Associate Actuary, Woodward, Ryan, Sharp, & Davis, 90 John Street, New York.
Nov. 17, 1920	BLACK, NELLAS C., Statistician, Maryland Casualty Co., Baltimore, Md.
*Nov. 22, 1934	BOMSE, EDWARD L., National Bureau of Casualty & Surety Underwriters, 1 Park Avenue, New York.
*Nov. 23, 1928	BOWER, PERRY S., Great West Life Assurance Company, Winnipeg, Manitoba, Canada.
*Nov. 15, 1935	BRERETON, CLOUDESLEY R., Dominion Department of Insurance, Ottawa, Ontario, Canada.
*Nov. 15, 1918	BRUNNQUELL, HELMUTH G., Assistant Actuary, The Northwestern Mutual Life Insurance Co., Milwaukee, Wis.
*Oct. 22, 1915	BUFFLER, LOUIS, Underwriting Supervisor, State Insurance Fund, 625 Madison Avenue, New York.
*Nov. 20, 1924	BUGBEE, JAMES M., Maryland Casualty Co., Baltimore, Md.
Mar. 31, 1920	BURT, MARGARET A., Office of George B. Buck, Consulting Actuary, 150 Nassau Street, New York.
*Nov. 13, 1936	CARLETON, JOHN W., Fireman's Fund Indemnity Co., 401 California Street, San Francisco, Calif.
Nov. 17, 1922	CAVANAUGH, LEO D., Executive Vice-President and Actuary, Federal Life Insurance Co., 168 N. Michigan Avenue, Chicago, Ill.
*Nov. 18, 1927	CHEN, S. T., Actuary, China United Assurance Society, 104 Bubbling Well Road, Shanghai, China.
*Nov. 18, 1927	CONROD, STUART F., Secretary and Actuary, Western Empire Life Assurance Co., Power Bldg., Winnipeg, Manitoba, Canada.
May 23, 1929	COWEE, GEORGE A., Vice-President, Liberty Mutual Insurance Co., Park Square Building, Boston, Mass.

ASSOCIATES

Date Enrolled	
*Nov. 24, 1933	CRAWFORD, WILLIAM H., Assistant Secretary, Commercial Casualty Insurance Company and Metropolitan Casualty Insurance Company of New York, 10 Park Place, Newark, N. J. (I, II.)
*Nov. 18, 1932	CRIMMINS, JOSEPH B., Metropolitan Life Insurance Co., 1 Madison Avenue, New York. (I, II.)
*Nov. 18, 1925	DAVIS, MALVIN E., Assistant Actuary, Metropolitan Life Insurance Co., 1 Madison Avenue, New York.
*Nov. 24, 1933	DAVIS, REGINALD S., Assistant Comptroller, State Compensation Insurance Fund, San Francisco, Calif. (I, II.)
May 25, 1923	ECONOMIDY, HARILAUS E., Secretary, Lloyds America, San Antonio, Texas.
June 5, 1925	EGER, FRANK A., Secretary-Comptroller, Insurance Company of North America and Affiliated Companies, 1600 Arch Street, Philadelphia, Pa.
*Nov. 16, 1923	FITZ, L. LEROY, Group Insurance Department, Equitable Life Assurance Society, 393 Seventh Avenue, New York.
*Nov. 18, 1927	FITZGERALD, AMOS H., Assistant Actuary, The Prudential Insurance Company of America, Newark, N. J. (I, II.)
*Nov. 16, 1923	FLEMING, FRANK A., Actuary, American Mutual Alliance, 60 East 42nd Street, New York.
Nov. 20, 1924	FROBERG, JOHN, Superintendent, California Inspection Rating Bureau, 114 Sansome Street, San Francisco, Calif.
*Nov. 13, 1936	FRUECHTEMEYER, FRED J., Liberty Mutual Insurance Co., Park Square Bldg., Boston, Mass.
*Nov. 19, 1929	FURNIVALL, MAURICE L., Assistant Actuary, Accident Actuarial Department, The Travelers Insurance Co., 700 Main Street, Hartford, Conn. (I, II.)
Mar. 21, 1930	GALLON, RICHARD W., Vice-President, New Amsterdam Casualty Co., 227 St. Paul Street, Baltimore, Md.
*Nov. 22, 1934	GATELY, JOHN J., General Reinsurance Corporation, 90 John Street, New York. (I, II.)
*Nov. 18, 1932	GETMAN, RICHARD A., Life Actuarial Department, The Travelers Insurance Co., 700 Main Street, Hartford, Conn. (I, II.)
*Nov. 17, 1922	GIBSON, JOSEPH P., JR., President, Excess Underwriters, Inc., 90 John Street, New York.
*Nov. 16, 1923	GILDEA, JAMES F., The Travelers Insurance Co., 700 Main Street, Hartford, Conn.
Nov. 19, 1929	GORDON, HAROLD R., Executive Secretary, Health & Accident Underwriters Conference, 176 West Adams Street, Chicago, Ill.
*Nov. 18, 1927	GREEN, WALTER C., Consulting Actuary, 120 South LaSalle Street, Chicago, Ill.
*Nov. 15, 1935	GUERTIN, A. N., Actuary, New Jersey Department of Banking and Insurance, Trenton, N. J. (I, II.)
*Nov. 18, 1921	HAGGARD, ROBERT E., Superintendent, Permanent Disability Rating Department, Industrial Accident Commission, State Building, San Francisco, Calif.
*Nov. 17, 1922	HALL, HARTWELL L., Associate Actuary, Connecticut Insurance Department, Hartford, Conn.

ASSOCIATES

Date Enrolled	
*Nov. 18, 1925	HALL, WILLIAM D., Actuary, National Automobile Underwriters Association, 1 Liberty Street, New York. (III, IV.)
*Nov. 13, 1936	HAM, HUGH P., British America Assurance Co., 807 Electric Railway Chambers, Winnipeg, Manitoba, Canada.
Mar. 24, 1932	HARRIS, SCOTT, Vice-President, Joseph Froggatt & Co., 74 Trinity Place, New York.
*Mar. 25, 1924	HART, WARD VAN BUREN, Assistant Actuary, Connecticut General Life Insurance Co., Hartford, Conn. (I, II.)
Nov. 21, 1919	HAYDON, GEORGE F., General Manager, Wisconsin Compensation Rating & Inspection Bureau, 715 N. Van Buren Street, Milwaukee, Wis.
Nov. 17, 1927	HIPP, GRADY H., Actuary, State Insurance Fund, 625 Madison Avenue, New York.
*Oct. 31, 1917	JACKSON, EDWARD T., Statistician, General Accident Fire & Life Assurance Corporation, 421 Walnut Street, Philadelphia, Pa.
Nov. 19, 1929	JACOBS, CARL N., President, Hardware Mutual Casualty Co., Stevens Point, Wis.
*Nov. 18, 1921	JENSEN, EDWARD S., Group Underwriter, Occidental Life Insurance Co., Los Angeles, Calif. (III, IV.)
Nov. 21, 1930	JONES, H. LLOYD, Assistant Manager, London Guarantee & Accident Co., 55 Fifth Avenue, New York.
*Nov. 15, 1935	JONES, HAROLD M., Liberty Mutual Insurance Company, Park Square Bldg., Boston, Mass. (I, II.)
*Nov. 21, 1919	JONES, LORING D., Assistant Manager, State Insurance Fund, 625 Madison Avenue, New York.
*May 24, 1935	KARDONSKY, ELSIE, Compensation Insurance Rating Board, Pershing Square Bldg., 125 Park Avenue, New York. (I, II.)
*Nov. 17, 1922	KIRK, CARL L., Assistant U. S. Manager, Zurich General Accident & Liability Insurance Co., 135 South LaSalle Street, Chicago, Ill.
*Nov. 15, 1935	KITZROW, E. W., Underwriting Manager, Hardware Mutual Casualty Co., Stevens Point, Wis. (I, II.)
*Nov. 18, 1932	LEWIS, HOWARD A., 41 Huntington Street, Hartford, Conn.
*Nov. 23, 1928	LIPKIND, SAUL S., Reliance Life Insurance Company, Pittsburgh, Pa.
*Nov. 13, 1931	MACKEEN, HAROLD E., The Travelers Insurance Co., 700 Main Street, Hartford, Conn. (I, II.)
Mar. 24, 1932	MAGRATH, JOSEPH J., Chief of Rating Bureau, New York Insurance Department, 80 Centre Street, New York.
*Nov. 18, 1925	MALMUTH, JACOB, Examiner, New York Insurance Department, 80 Centre Street, New York.
Mar. 24, 1927	MARSH, CHARLES V. R., Comptroller and Assistant Treasurer, Fidelity & Deposit Co. and American Bonding Co., Baltimore, Md.
*Nov. 13, 1936	MAYER, WILLIAM H., JR., Actuarial Department, Metropolitan Life Insurance Co., 1 Madison Avenue, New York.
*Nov. 17, 1922	MCIVER, ROSSWELL A., Actuary, Washington National Insurance Co., 1737 Howard Street, Chicago, Ill.
*Nov. 17, 1922	MICHENER, SAMUEL M., Assistant Actuary, Columbus Mutual Life Insurance Co., 580 East Broad Street, Columbus, Ohio. (I, II.)

ASSOCIATES

Date Enrolled	
*Nov. 13, 1931	MILLER, HENRY C., Comptroller, State Compensation Insurance Fund, 450 McAllister Street, San Francisco, Calif. (I, II.)
*Nov. 21, 1930	MILLER, JOHN H., Actuary, Monarch Life Insurance Co., Springfield, Mass. (I, II.)
*Nov. 15, 1935	MILLS, JOHN A., Secretary and Actuary, Lumbermen's Mutual Casualty Co., and American Motorists Insurance Co., Mutual Insurance Bldg., Chicago, Ill. (I).
*Nov. 19, 1926	MILNE, JOHN L., Actuary, Presbyterian Ministers' Fund for Life Insurance, 1805 Walnut Street, Philadelphia, Pa.
Nov. 17, 1922	MONTGOMERY, JOHN C., Secretary and Assistant Treasurer, Bankers Indemnity Insurance Co., 15 Washington Street, Newark, N. J.
May 25, 1923	MOORE, JOSEPH P., President, North American Accident Insurance Co., 275 Craig Street, W., Montreal, Canada.
*Nov. 21, 1919	MOTHERSILL, ROLAND V., Executive Vice-President and Secretary, Anchor Casualty Co., Anchor Insurance Building, St. Paul, Minn. (III, IV.)
*Nov. 19, 1929	MULLER, FRITZ, Secretary-Treasurer, Agrippina Life Insurance Stock Co., Berlin, W. 30 Motzstr. 3, Germany.
*Nov. 15, 1935	NELSON, S. TYLER, Utica Mutual Insurance Co., 185 Genesee Street, Utica, New York.
*Oct. 27, 1916	NEWELL, WILLIAM, Secretary, Assigned Risk Pool, 1 Park Avenue, New York. (I, II.)
*Nov. 23, 1928	NEWHALL, KARL, Group Department, The Travelers Insurance Co., 700 Main Street, Hartford, Conn.
*Nov. 18, 1925	NICHOLSON, EARL H., Actuary, Equitable Reserve Association, Neenah, Wis.
May 23, 1919	OTTO, WALTER E., President, Michigan Mutual Liability Co., 163 Madison Avenue, Detroit, Mich.
*Nov. 19, 1926	OVERHOLSER, DONALD M., 803 East 35th Street, Brooklyn, N. Y.
Nov. 20, 1924	PENNOCK, RICHARD M., Actuary, Pennsylvania Manufacturer, Association Casualty Insurance Co., Finance Building, Philadelphia, Pa.
Nov. 19, 1929	PHILLIPS, JOHN H., Employers' Mutual Liability Insurance Co., Wausau, Wis.
*Nov. 17, 1920	PIKE, MORRIS, Vice-President and Actuary, Union Labor Life Insurance Co., 570 Lexington Avenue, New York.
Mar. 24, 1927	PIPER, JOHN W., Superintendent of Statistical Department, Hartford Accident & Indemnity Co., 690 Asylum Avenue, Hartford, Conn.
*Nov. 23, 1928	PIPER, KENNETH B., Secretary-Actuary, Life Dept. Provident Life and Accident Insurance Co., Chattanooga, Tenn. (I, II.)
*Nov. 18, 1927	POISSANT, WILLIAM A., The Travelers Insurance Co., 700 Main Street, Hartford, Conn.
*Nov. 17, 1922	POORMAN, WILLIAM F., Vice-President and Actuary, Central Life Assurance Society, Fifth and Grand Avenues, Des Moines, Iowa. (I, II.)
*Nov. 13, 1936	POTOFSKY, SYLVIA, State Insurance Fund, 625 Madison Avenue, New York.
Nov. 17, 1922	POWELL, JOHN M., President, Loyal Protective Insurance Co. and Loyal Life Insurance Co., 38 Newbury Street, Boston, Mass. (I, II.)
*Nov. 15, 1918	RAYWID, JOSEPH, President, Joseph Raywid & Co., Inc., 90 William Street, New York.

ASSOCIATES

Date Enrolled	
Nov. 19, 1932	RICHARDSON, HARRY F., Secretary-Treasurer, National Council on Compensation Insurance, 45 East 17th Street, New York.
*Nov. 18, 1932	ROBERTS, JAMES A., Life Actuarial Department, The Travelers Insurance Co., 700 Main Street, Hartford, Conn. (I, II)
*Nov. 21, 1919	ROBBINS, RAINARD B., Secretary and Actuary for Annuities, Teachers Insurance and Annuity Association, 522 Fifth Avenue, New York. (I, II.)
*Nov. 18, 1927	SARASON, HARRY M., Assistant Actuary, General American Life Insurance Co., 1501 Locust Street, St. Louis, Mo.
Nov. 16, 1923	SAWYER, ARTHUR, Globe Indemnity Co., 150 William Street, New York.
*Nov. 20, 1930	SEVILLA, EXEQUIEL S., Actuary, National Life Insurance Co., P. O. Box 2856, Manila, Philippine Islands.
*Nov. 15, 1935	SHAPIRO, GEORGE I., Examiner, New York Insurance Department, 80 Centre Street, New York. (I, II.)
*Nov. 20, 1924	SHEPPARD, NORRIS E., Lecturer in Mathematics and Mechanics, University of Toronto, Toronto, Canada. (I, II.)
Nov. 15, 1918	SIBLEY, JOHN L., Assistant Secretary, United States Casualty Co., 60 John Street, New York.
*Nov. 18, 1921	SMITH, ARTHUR G., Assistant General Manager and Actuary, Compensation Insurance Rating Board, Pershing Square Bldg., 125 Park Avenue, New York.
*Nov. 19, 1926	SOMERVILLE, WILLIAM F., St. Paul Mercury Indemnity Co., St. Paul, Minn. (I, II.)
*Nov. 18, 1925	SOMMER, ARMAND, Assistant to Vice-President, Continental Casualty Co., 910 So. Michigan Avenue, Chicago, Ill.
*Nov. 18, 1927	SPEERS, ALEXANDER A., Secretary and Actuary, Michigan Life Insurance Co., Detroit, Mich.
*Nov. 15, 1918	SPENCER, HAROLD S., Aetna Life Insurance Co., Hartford, Conn.
Nov. 20, 1924	STELLWAGEN, HERBERT P., Vice-President, Indemnity Insurance Company of North America, 1600 Arch Street, Philadelphia, Pa.
*Nov. 16, 1923	STOKE, KENDRICK, Michigan Mutual Liability Company, 163 Madison Avenue, Detroit, Mich.
*Nov. 21, 1930	SULLIVAN, WALTER F., Associated Indemnity Corporation, 332 Pine Street, San Francisco, Calif. (I.)
Mar. 23, 1921	THOMPSON, ARTHUR E., Chief Statistician, Globe Indemnity Co., 150 William Street, New York.
*Nov. 21, 1919	TRENCH, FREDERICK H., Manager, Underwriting Department, Utica Mutual Insurance Co., 185 Genesee Street, Utica, N. Y. (I, II.)
*Nov. 20, 1924	UHL, M. ELIZABETH, National Bureau of Casualty & Surety Underwriters, 1 Park Avenue, New York. (I, II.)
*Nov. 21, 1919	VOOGT, WALTER G., Treasurer, Associated Indemnity Corporation, 332 Pine Street, San Francisco, Calif.
May 23, 1919	WARREN, CHARLES S., Secretary, Massachusetts Automobile Rating and Accident Prevention Bureau, 89 Broad Street, Boston, Mass.
Nov. 18, 1925	WASHBURN, JAMES H., Actuary, Joseph Froggatt & Co., Inc., 74 Trinity Place, New York.
*Nov. 18, 1921	WATERS, LELAND L., Secretary-Treasurer, National Assurance Corporation, Lincoln, Neb. (I, II.)

ASSOCIATES

Date Enrolled	
Nov. 17, 1920	WATSON, J. J., Vice-President and General Manager, Casualty Underwriters, Republic Bank Bldg., Dallas, Texas. (Deceased, February 23, 1937.)
*Nov. 18, 1932	WEINSTEIN, MAX S., Examiner, New York Insurance Department, 80 Centre Street, New York.
*Nov. 18, 1921	WELCH, EUGENE R., Associated Indemnity Corporation, 332 Pine Street, San Francisco, Calif.
*Nov. 18, 1925	WELLMAN, ALEXANDER C., Vice-President and Actuary, Protective Life Insurance Co., Birmingham, Ala.
*Nov. 21, 1930	WELLS, WALTER I., Supervisor of Applications, Massachusetts Protective Association, Worcester, Mass. (I, II.)
Mar. 21, 1929	WHEELER, CHARLES A., Chief Examiner of Casualty Companies, New York Insurance Department, 80 Centre Street, New York.
*Nov. 18, 1927	WHITBREAD, FRANK G., Assistant Actuary, Great West Life Assurance Co., Winnipeg, Manitoba, Canada.
*Oct. 22, 1915	WILLIAMSON, WILLIAM R., Actuarial Consultant, Social Security Board, Washington, D. C.
*Oct. 22, 1915	WOOD, DONALD M., Childs & Wood, General Agents, Royal Indemnity Company, 175 W. Jackson Blvd., Chicago, Ill.
*Nov. 18, 1927	WOOD, MILTON J., Assistant Actuary, Life Actuarial Department, The Travelers Insurance Co., 700 Main Street, Hartford, Conn.
*Oct. 22, 1915	WOODMAN, CHARLES E., Assistant Manager, Ocean Accident & Guarantee Corporation and Comptroller, Columbia Casualty Co., 1 Park Avenue, New York.
*Nov. 22, 1934	WOODWARD, BARBARA H., Examiner, New York Insurance Department, 80 Centre Street, New York.
*Nov. 18, 1925	WOOLERY, JAMES M., Actuary, Department of Insurance, Raleigh, N. C.
*Nov. 17, 1922	YOUNG, FLOYD E., Actuary, Montana Life Insurance Co., Helena, Montana.

SCHEDULE OF MEMBERSHIP, NOVEMBER 13, 1936

	Fellows	Associates	Total
Membership, November 15, 1935..........	184	127	311
Additions:			
By election..........................	..	..	..
By examination......................	2	5	7
	186	132	318
Deductions:			
By death............................	3	..	3
By withdrawal.......................	1	1	2
By transfer from Associate to Fellow	..	2	2
Membership, November 13, 1936..........	182	129	311

EX-PRESIDENTS AND EX-VICE-PRESIDENTS

EX-PRESIDENTS

	Term
*I. M. Rubinow	1914-1916
James D. Craig	1916-1918
*Joseph H. Woodward	1918-1919
Benedict D. Flynn	1919-1920
Albert H. Mowbray	1920-1922
*Harwood E. Ryan	1922-1923
William Leslie	1923-1924
G. F. Michelbacher	1924-1926
Sanford B. Perkins	1926-1928
George D. Moore	1928-1930
Thomas F. Tarbell	1930-1932
Paul Dorweiler	1932-1934
Winfield W. Greene	1934-1936

EX-VICE-PRESIDENTS

	Term
Edmund E. Cammack	1922-1924
Ralph H. Blanchard	1924-1926, 1934-1936
*Roy A. Wheeler	1930-1932
William F. Roeber	1932-1934
Charles J. Haugh	1934-1936

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*Deceased

DECEASED FELLOWS

Date of Death	
June 4, 1934	BUDLONG, WILLIAM A., Superintendent of Claims, Commercial Travelers Mutual Accident Association, Utica, N. Y.
Mar. 30, 1935	BURNS, F. HIGHLAND, Chairman of the Board, Maryland Casualty Co., Baltimore, Md.
Feb. 4, 1920	CASE, GORDON, Office of F. J. Haight, Consulting Actuary, Indianapolis, Ind.
July 23, 1921	CONWAY, CHARLES T., Vice-President, Liberty Mutual Insurance Co., Boston, Mass.
Jan. 20, 1922	CRAIG, JAMES MCINTOSH, Actuary, Metropolitan Life Insurance Co., New York.
Sept. 2, 1921	CRUM, FREDERICK S., Assistant Statistician, Prudential Insurance Co., Newark, N. J.
June 21, 1931	DAWSON, ALFRED BURNETT, Consulting Actuary, New York.
Jan. 18, 1929	DEUTSCHBERGER, SAMUEL, Actuary, New York Insurance Department, New York.
July 9, 1922	DOWNEY, EZEKIEL HINTON, Compensation Actuary, Pennsylvania Insurance Department, Harrisburg, Pa.
Oct. 30, 1924	FACKLER, DAVID PARKS, Consulting Actuary, New York.
July 25, 1931	FRANKEL, LEE K., Second Vice-President, Metropolitan Life Insurance Co., New York.
Aug. 22, 1925	GATY, THEODORE E., Vice-President and Secretary, Fidelity & Casualty Co., New York.
Oct. 28, 1936	GOULD, WILLIAM H., Consulting Actuary, New York.
Mar. 18, 1932	HINSDALE, FRANK WEBSTER, Secretary, Workmen's Compensation Board, Vancouver, B. C., Canada.
Mar. 10, 1924	HOOKSTADT, CARL, Expert, U. S. Bureau of Labor Statistics, Washington, D. C.
Feb. 11, 1928	KEARNEY, THOMAS P., Manager, State Compensation Insurance Fund, Denver, Col.
Oct. 15, 1918	KIME, VIRGIL MORRISON, Actuary, Casualty Departments, The Travelers Insurance Co., Hartford, Conn.
Aug. 3, 1933	KOPF, EDWIN W., Assistant Statistician, Metropolitan Life Insurance Co., New York.
Dec. 9, 1927	LANDIS, ABB, Consulting Actuary, Nashville, Tenn.
Nov. 29, 1933	MEAD, FRANKLIN B., Vice-President, The Lincoln National Life Insurance Co., Fort Wayne, Ind.
Mar. 27, 1931	MELTZER, MARCUS, Statistician, National Bureau of Casualty & Surety Underwriters, New York.
Jan. 18, 1936	MILLER, DAVID W., Garden City, Long Island, New York.
Aug. 20, 1915	MONTGOMERY, WILLIAM J., State Actuary, Boston, Mass.
Dec. 19, 1929	MORRIS, EDWARD BONTECOU, Actuary, Life Department, The Travelers Insurance Co., Hartford, Conn.
July 24, 1915	PHELPS, EDWARD B., Editor, The American Underwriter, New York.
July 30, 1921	REITER, CHARLES GRANT, Assistant Actuary, Metropolitan Life Insurance Co., New York.
Sept. 1, 1936	RUBINOW, ISAAC M., Secretary, Independent Order of B'nai B'rith, Cincinnati, Ohio.
Nov. 2, 1930	RYAN, HARWOOD ELDRIDGE, Consulting Actuary, New York.

DECEASED FELLOWS—Continued

Date of Death	
Feb. 26, 1921	SAXTON, ARTHUR F., Chief Examiner of Casualty Companies, New York Insurance Department, New York.
May 9, 1920	STONE, JOHN T., President, Maryland Casualty Co., Baltimore, Md.
July 19, 1934	SULLIVAN, ROBERT J., Vice-President, The Travelers Insurance Co., and The Travelers Indemnity Co., Hartford, Conn.
May 25, 1935	THOMPSON, WALTER H., Kemper Insurance Organization, Chicago, Illinois.
Feb. 25, 1933	TOJA, GUIDO, Director General, Institute Nazionale Delle Assicurazioni, Rome, Italy.
May 8, 1935	WELCH, ARCHIBALD A., President, Phoenix Mutual Life Insurance Co., Hartford, Conn.
Aug. 26, 1932	WHEELER, ROY A., Vice-President and Actuary, Liberty Mutual Insurance Co., Boston, Mass.
Dec. 31, 1927	WOLFE, S. HERBERT, Consulting Actuary, New York.
May 15, 1928	WOODWARD, JOSEPH H., Consulting Actuary, New York.
Oct. 23, 1927	YOUNG, WILLIAM, Actuary, New York Life Insurance Co., New York.

DECEASED ASSOCIATES

Date of Death	
Feb. 10, 1920	BAXTER, DON. A., Deputy Insurance Commissioner, Michigan Insurance Department, Lansing, Mich.
Mar. 8, 1931	HALL, LESLIE LE VANT, Secretary-Treasurer, National Bureau of Casualty & Surety Underwriters, New York.
Dec. 20, 1920	LUBIN, HARRY, Assistant Actuary, State Industrial Commission, New York.
June 11, 1930	WILKINSON, ALBERT EDWARD, Actuary, Standard Accident Insurance Co., Detroit, Mich.

STUDENTS

This list includes candidates who have passed one or more parts of the Associateship Examinations during the last three years.

Those who are listed as having passed all four parts have not yet been enrolled as Associates of the Society by reason of the terms of examination rule IV which reads:

> "Upon the candidate having passed all four parts, he will be enrolled as an Associate, provided he presents evidence of at least one year of experience in actuarial, accounting or statistical work in casualty insurance offices, or in the teaching of casualty insurance science at a recognized college or university, or other evidence of his knowledge of actuarial, accounting or statistical work as is satisfactory to the Council."

Upon the completion of the requirements of the Council in respect to each of these candidates, they will be enrolled as Associates.

The numerals after each name indicate the parts of Associateship Examinations passed.

ARNOLD, KENNETH J., 28 East Raleigh Avenue, West New Brighton, New York. (II.)

ARTHUR, CHARLES R., Manufacturers Life Insurance Co., 100 Bloor Street, E., Toronto, Ontario, Canada. (I, II, III, IV.)

BAILEY, ROBERT C., Sovereign Life Assurance Co., Winnipeg, Manitoba, Canada. (I, II, III, IV.)

BAKER, ROBERT W., Manufacturers Life Insurance Co., 100 Bloor Street, E., Toronto, Ontario, Canada. (I, II, III, IV.)

BATHO, BRUCE, Franklin Life Insurance Co., Springfield, Ill. (I, II, III, IV.)

BELL, CODIE D., Benefit Association of Railway Employees, 901 Montrose Avenue, Chicago, Ill. (I, II, IV.)

BOYER, HENRY F., National Council on Compensation Insurance, 45 East 17th Street, New York. (II, III.)

BROCK, STANLEY E., Ontario Equitable Life & Accident Insurance Co., Waterloo, Ontario, Canada. (I, II, III, IV.)

BUCKMAN, ALFRED L., Occidental Life Insurance Company, 756 S. Spring Street, Los Angeles, Cal. (I, II, III, IV.)

CAMPBELL, GEORGE C., Metropolitan Life Insurance Co., One Madison Avenue, New York. (I, II, III, IV.)

CANNON, LESLIE A., Great West Life Assurance Co., Winnipeg, Manitoba, Canada. (I, II, III, IV.)

CHILDRESS, CECIL, Virginia Auto Mutual Insurance Co., State Planters Bank Bldg., Richmond, Va. (II.)

CHODORCOFF, WILLIAM, Assistant Mathematician, Prudential Insurance Company, Newark, New Jersey. (I, II, III, IV.)

COHEN, ABRAHAM J., New York State Labor Department, 80 Centre Street, New York. (III.)

COLEMAN, MARY, (American) Lumbermen's Mutual Casualty Company, Chicago, Ill. (II.)

DANIELS, ARTHUR C., Office of Fackler & Breiby, 8 West 40th Street, New York. (I, II, III, IV.)

ELLIOTT, GEORGE B., Senior Actuarial Statistician, State Workmen's Insurance Fund, Harrisburg, Pa. (I, II.)

EMERSON, JOHN F., Hartford Accident & Indemnity Company, 720 California Street, San Francisco, Cal. (I, II.)

STUDENTS

ENGLAND, ARTHUR W., Coates and Herfurth, Consulting Actuaries, 114 Sansome Street, San Francisco, Calif. (I, II, III, IV.)

FARLEY, JARVIS, Massachusetts Indemnity Insurance Co., 632 Beacon Street, Boston, Mass. (I, II, III.)

FELDMAN, ISRAEL, Metropolitan Life Insurance Co., Ottawa, Ontario, Canada. (I, II, III, IV.)

FISBECK, FRANCES C., 40 Highland Place, Ridgefield Park, New Jersey. (II.)

FOOTE, JEAN VIVIAN, 42 Hochelaga Street, W., Moose Jaw, Sask., Canada. (I, II, III, IV.)

FURSA, CHARLES A., 420 Sheffield Avenue, Brooklyn, N. Y. (II.)

GARRETT, HAROLD E., Compensation Insurance Rating Board, Pershing Square Bldg., 125 Park Avenue, New York. (II.)

GIROUX, PAUL EMILE, Sun Insurance Company, 276 St. James Street, W., Montreal, Canada. (II.)

GLAZIER, RICHARD L., Union Central Life Insurance Co., Cincinnati, Ohio. (I, III, IV.)

GODDARD, DAVID G., The Travelers Insurance Co., Hartford, Conn. (I, II, III, IV.)

GOULD, WILLIAM, Actuarial Division, Metropolitan Life Insurance Co., One Madison Avenue, New York. (I, II, III, IV.)

GOZZI, DANTE, American Mutual Liability Insurance Co., 142 Berkeley Street, Boston, Mass. (I.)

GROSSMAN, ELI, 26 California Road, Mt. Vernon, New York. (II, III, IV.)

GURALNICK, LILLIAN, State Insurance Fund, 625 Madison Avenue, New York. (II.)

HELPHAND, BEN, Student, University of Iowa, Iowa City, Iowa. (I.)

HIBBARD, DONALD L., Group Insurance Department, Equitable Life Assurance Society, 393 Seventh Avenue, New York. (I, II, III, IV.)

HILL, H. EDWARD, Pennsylvania Indemnity Corporation, 260 So. Broad Street, Philadelphia, Pa. (II.)

HUNTON, T. F., Canadian Underwriters Association, 44 Victoria Street, Toronto 2, Ontario, Canada. (I, III, IV.)

JOFFE, SAMUEL W., Student, University of Pennsylvania, Philadelphia, Pa. (II.)

JOHNSON, ROGER A., JR., Compensation Insurance Rating Board, 125 Park Avenue, New York. (II.)

JONES, CHARLES H., Metropolitan Life Insurance Company, One Madison Avenue, New York. (I, II, III, IV.)

KLEINBERG, SAMUEL L., 813 Park Avenue, Brooklyn, N. Y. (I, II, III, IV.)

KNOWLES, FREDERICK, Montreal Life Insurance Co., 625 Burnside Place, Montreal, Canada. (I, II, III, IV.)

KWASHA, HERMAN, The Travelers Insurance Company, Hartford, Conn. (I, II, III, IV.)

LAING, CHARLES B., Prudential Insurance Company, Newark, N. J. (I, II, III, IV.)

LAIRD, W. DARRELL, Great West Life Assurance Co., Winnipeg, Manitoba, Canada. (I, II, III, IV.)

LASSOW, WILLIAM, State Insurance Fund, 625 Madison Avenue, New York. (I, II, III.)

LEARSON, RICHARD J., Associate Actuary, Western & Southern Life Insurance Co., Cincinnati, Ohio. (I, II, III, IV.)

LEHANE, LEO J., Central Life Insurance Co., Chicago, Ill. (I, II, III, IV.)

LEVINE, JACOB, Office of S. H. & Lee J. Wolfe, Consulting Actuaries, 116 John St., New York. (II.)

LEWIS, BARNETT, 3912 Laval Street, Montreal, Canada. (I, II, III, IV.)

STUDENTS

LIVINGSTON, GILBERT R., National Bureau of Casualty and Surety Underwriters, One Park Avenue, New York. (I.)

LLOYD, WILLIAM M., The Travelers Insurance Co., Hartford, Conn. (I, II.)

LOADMAN, ARTHUR E., 665 Elgin Avenue, Winnipeg, Manitoba, Canada. (I, II, III, IV.)

MARKS, MAXWELL, 116 Hart Street, Brooklyn, N. Y. (I.)

McCORMICK, W. S., Aetna Life Insurance Company, Hartford, Conn. (II.)

MILES, JAMES R., Underwriter, Manufacturers' Casualty Insurance Co., 919 Walnut Street, Philadelphia, Pa. (I.)

MOORE, HAROLD P. H., Great West Life Assurance Co., Winnipeg, Manitoba, Canada. (I, II, III, IV.)

MULLANS, G. ROBERT, The Travelers Insurance Company, Hartford, Conn. (I, II, III, IV.)

MUTH, A. F., Actuarial Department, London Life Insurance Co., London, Canada. (I, II, III, IV.)

MYERS, GLEN W., Assistant Actuary, Federal Life Insurance Co., 168 North Michigan Avenue, Chicago, Ill. (I, II.)

NOWAK, L. EDWARD, New York Insurance Department, 80 Centre Street, New York. (II.)

O'KEEFE, RICHARD E., Metropolitan Life Insurance Company, One Madison Avenue, New York. (I, II, III, IV.)

ORLOFF, CONRAD, Prudential Insurance Company, Newark, New Jersey. (I, II, III, IV.)

PRASOW, ROSE, Actuarial Department, Confederation Life Association, Toronto, Ontario, Canada. (I, II, III, IV.)

RINTOUL, JOHN W., Canada Life Assurance Co., Toronto, Ontario, Canada. (I, II, III, IV.)

ROBERTSON, ARTHUR G., Government Insurance Department, Ottawa, Ontario, Canada. (I, II, III, IV.)

ROOD, HENRY F., Lincoln National Life Insurance Company, Fort Wayne, Ind. (I, II, III, IV.)

ROSENQUIST, ROY, The Travelers Insurance Company, 175 W. Jackson Boulevard, Chicago, Ill. (I.)

SAYER, EDWARD D., General Reinsurance Corporation, 90 John Street, New York. (I, II.)

SCHWARTZ, RICHARD T., Actuarial Department, New York Life Insurance Co., 51 Madison Avenue, New York. (I, II, III, IV.)

SMITH, ROSEMARY A., Statistical Bureau, Metropolitan Life Insurance Co., One Madison Avenue, New York. (II.)

SMITH, SEYMOUR E., The Travelers Insurance Company, Hartford, Conn. (I.)

SPELLER, S. I., Illinois Bankers Life Assurance Co., Monmouth, Ill. (I, II, III, IV.)

SUTHERLAND, HENRY M., Sun Life Assurance Company, Montreal, Canada. (I, II, III, IV.)

THOMPSON, EMERSON W., The Travelers Insurance Company, Hartford, Conn. (I, II, III, IV.)

UHLIG, GUSTAV H., JR., Liberty Mutual Insurance Company, 10 East 40th Street, New York. (III.)

URBANEK, JOSEPH P., 35 St. Nicholas Terrace, New York. (I.)

URDAHL, VALESKA, Federal Life Insurance Co., 168 North Michigan Avenue, Chicago, Ill. (I.)

WALL, DEAN, Actuarial Department, General American Life Insurance Co., St. Louis, Mo. (I, II, III, IV.)

STUDENTS

WALSH, JAMES V., The Travelers Insurance Company, Hartford, Conn. (I, II.)

WARD, ROBERT G., Columbian National Life Insurance Co., Boston, Mass. (I, II, III, IV.)

WARTELL, BEN, 2340–63rd Street, Brooklyn, N. Y. (I.)

WHITE, AUBREY, 97 Chaplin Crescent, Toronto, Ontario, Canada. (I, II, III, IV.)

WILSON, JOHN F., Manufacturers Life Insurance Co., Toronto, Ontario, Canada. (I, II, III, IV.)

WOLFE, HERBERT, 314 Pulaski Street, Brooklyn, N. Y. (I, II, III.)

WOLF, LEROY J., 215 Bedford Avenue, Brooklyn, N. Y. (I, III, IV.)

WOLFMAN, MAURICE, 485 Pritchard Avenue, Winnipeg, Manitoba, Canada. (I, II, III, IV.)

WOOD, DONALD M., JR., Childs & Wood, 175 West Jackson Boulevard, Chicago, Ill. (I, II, III.)

WOOD, ERIC H., Equitable Life Assurance Society, 393 Seventh Avenue, New York. (I.)

YATES, J. ARNOLD, The Travelers Insurance Company, Hartford, Conn. (I, II, III, IV.)

YOUNG, WALTER, Prudential Insurance Company, Newark, New Jersey. (I, II, III, IV.)

ZINMAN, ESTHER, State Insurance Fund, 625 Madison Avenue, New York. (II.)

ZOCH, RICHMOND T., United States Weather Bureau, Washington, D. C. (I, II, III, IV.)

CONSTITUTION

(As Amended November 23, 1928)

Article I.—*Name.*

This organization shall be called the Casualty Actuarial Society.

Article II.—*Object.*

The object of the Society shall be the promotion of actuarial and statistical science as applied to the problems of casualty and social insurance by means of personal intercourse, the presentation and discussion of appropriate papers, the collection of a library and such other means as may be found desirable.

The Society shall take no partisan attitude, by resolution or otherwise, upon any question relating to casualty or social insurance.

Article III.—*Membership.*

The membership of the Society shall be composed of two classes, Fellows and Associates. Fellows only shall be eligible to office or have the right to vote.

The Fellows of the Society shall be the present members and those who may be duly admitted to Fellowship as hereinafter provided. Any Associate of the Society may apply to the Council for admission to Fellowship. If the application shall be approved by the Council with not more than three negative votes the Associate shall become a Fellow on passing such final examination as the Council may prescribe. Otherwise no one shall be admitted as a Fellow unless recommended by a duly called meeting of the Council with not more than three negative votes followed by a three-fourths ballot of the Fellows present and voting at a meeting of the Society.

Any person may, upon nomination to the Council by two Fellows of the Society and approval by the Council of such nomination with not more than one negative vote, become enrolled as an Associate of the Society, provided that he shall pass such examination as the Council may prescribe. Such examination may be waived in the case of a candidate who for a period of not less than two years has been in responsible charge of the statistical or actuarial department of a casualty insurance organization or has had such other practical experience in casualty or social insurance as in the opinion of the Council renders him qualified for Associateship.

Article IV.—*Officers and Council.*

The officers of the Society shall be a President, two Vice-Presidents, a Secretary-Treasurer, an Editor, and a Librarian. The Council shall be composed of the active officers, nine other Fellows and, during the four years following the expiration of their terms of office, the ex-Presidents and ex-Vice-Presidents. The Council shall fill vacancies occasioned by death or resignation of any officer or other member of the Council, such appointees to serve until the next annual meeting of the Society.

Article V.—*Election of Officers and Council.*

The President, Vice-Presidents, and the Secretary-Treasurer shall be elected by a majority ballot at the annual meeting for the term of one year and three members of the Council shall, in a similar manner, be annually elected to serve for three years. The President and Vice-Presidents shall not be eligible for the same office for more than two consecutive years nor shall any retiring member of the Council be eligible for re-election at the same meeting.

The Editor and the Librarian shall be elected annually by the Council at the Council meeting preceding the annual meeting of the Society. They shall be subject to confirmation by majority ballot of the Society at the annual meeting.

The terms of the officers shall begin at the close of the meeting at which they are elected except that the retiring Editor shall retain the powers and duties of office so long as may be necessary to complete the then current issue of *Proceedings.*

Article VI.—*Duties of Officers and Council.*

The duties of the officers shall be such as usually appertain to their respective offices or may be specified in the by-laws. The duties of the Council shall be to pass upon candidates for membership, to decide upon papers offered for reading at the meetings, to supervise the examination of candidates and prescribe fees therefor, to call meetings, and, in general, through the appointment of committees and otherwise, to manage the affairs of the Society.

Article VII.—*Meetings.*

There shall be an annual meeting of the Society on such date in the month of November as may be fixed by the Council in each year, but other meetings may be called by the Council from time to time and shall be called by the President at any time upon the written request of ten Fellows. At least two weeks' notice of all meetings shall be given by the Secretary.

Article VIII.—*Quorum.*

Seven members of the Council shall constitute a quorum. Twenty Fellows of the Society shall constitute a quorum.

Article IX.—*Expulsion or Suspension of Members.*

Except for non-payment of dues no member of the Society shall be expelled or suspended save upon action by the Council with not more than three negative votes followed by a three-fourths ballot of the Fellows present and voting at a meeting of the Society.

Article X.—*Amendments.*

This constitution may be amended by an affirmative vote of two-thirds of the Fellows present at any meeting held at least one month after notice of such proposed amendment shall have been sent to each Fellow by the Secretary.

BY-LAWS

(AS AMENDED NOVEMBER 13, 1936)

ARTICLE I.—*Order of Business.*

At a meeting of the Society the following order of business shall be observed unless the Society votes otherwise for the time being:

1. Calling of the roll.
2. Address or remarks by the President.
3. Minutes of the last meeting.
4. Report by the Council on business transacted by it since the last meeting of the Society.
5. New membership.
6. Reports of officers and committees.
7. Election of officers and Council (at annual meetings only).
8. Unfinished business.
9. New business.
10. Reading of papers.
11. Discussion of papers.

ARTICLE II.—*Council Meetings.*

Meetings of the Council shall be called whenever the President or three members of the Council so request, but not without sending notice to each member of the Council seven or more days before the time appointed. Such notice shall state the objects intended to be brought before the meeting, and should other matter be passed upon, any member of the Council shall have the right to re-open the question at the next meeting.

ARTICLE III.—*Duties of Officers.*

The President, or, in his absence, one of the Vice-Presidents, shall preside at meetings of the Society and of the Council. At the Society meetings the presiding officer shall vote only in case of a tie, but at the Council meetings he may vote in all cases.

The Secretary-Treasurer shall keep a full and accurate record of the proceedings at the meetings of the Society and of the Council, send out calls for the said meetings, and, with the approval of the President and Council, carry on the correspondence of the Society. Subject to the direction of the Council, he shall have immediate charge of the office and archives of the Society.

The Secretary-Treasurer shall also send out calls for annual dues and acknowledge receipt of same; pay all bills approved by the President for expenditures authorized by the Council of the Society; keep a detailed account of all receipts and expenditures, and present an abstract of the same at the annual meetings, after it has been audited by a committee of the Council.

The Editor shall, under the general supervision of the Council, have charge of all matters connected with editing and printing the Society's publications. The *Proceedings* shall contain only the proceedings of the meetings, original papers or reviews written by members, discussions on said papers and other matter expressly authorized by the Council.

The Librarian shall, under the general supervision of the Council, have charge of the books, pamphlets, manuscripts and other literary or scientific material collected by the Society.

ARTICLE IV.—*Dues.*

The dues shall be ten dollars for Fellows payable upon entrance and at each annual meeting thereafter, except in the case of Fellows not residing in the United States, Canada, or Mexico, who shall pay five dollars at the time stated. The dues shall be five dollars for Associates payable upon entrance and each annual meeting thereafter until five such payments in all shall have been made; beginning with the sixth annual meeting after the admission of an Associate as such the dues of any Associate heretofore or hereafter admitted shall be the same as those of a Fellow. The payment of dues will be waived in the case of Fellows or Associates who have attained the age of seventy years or who, having been members for a period of at least twenty years, shall have attained the age of sixty-five years.

It shall be the duty of the Secretary-Treasurer to notify by mail any Fellow or Associate whose dues may be six months in arrears, and to accompany such notice by a copy of this article. If such Fellow or Associate shall fail to pay his dues within three months from the date of mailing such notice, his name shall be stricken from the rolls, and he shall thereupon cease to be a Fellow or Associate of the Society. He may, however, be reinstated by vote of the Council, and upon payment of arrears of dues.

ARTICLE V.—*Designation by Initials.*

Fellows of the Society are authorized to append to their names the initials F. C. A. S.; and Associates are authorized to append to their names the initials A. C. A. S.

ARTICLE VI.—*Amendments.*

These by-laws may be amended by an affirmative vote of two-thirds of the Fellows present at any meeting held at least one month after notice of the proposed amendment shall have been sent to each Fellow by the Secretary.

EXAMINATION REQUIREMENTS

SYLLABUS OF EXAMINATIONS

Effective 1934 and thereafter

SUBJECTS

ASSOCIATESHIP:

PART I

Section 1. Advanced algebra
Section 2. Compound interest and annuities certain

PART II

Section 3. Descriptive and analytical statistics
Section 4. Elements of accounting, including double-entry bookkeeping

PART III

Section 5. Finite differences
Section 6. Differential and integral calculus

PART IV

Section 7. Probabilities
Section 8. Elements of the theory of life contingencies; life annuities; life assurances

FELLOWSHIP:

PART I

Section 9. Policy forms and underwriting practice in casualty insurance
Section 10. Investments of insurance companies

PART II

Section 11. Insurance law and legislation
Section 12. Economics of insurance

PART III

Section 13. Calculation of premiums and reserves for casualty (including social) insurance
Section 14. Advanced practical problems in casualty (including social) insurance statistics

PART IV

Section 15. Advanced problems and practical methods of casualty insurance accounting
Section 16. Advanced problems in underwriting, administrative and service elements of casualty (including social) insurance

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To assist students in preparation for the examinations, Recommendations for Study have been prepared. This lists the texts, readings and technical material which must be mastered by the candidates. Textbooks are loaned to registered students by the Society. By "registered students" is meant candidates who have signified their willingness to take the examinations by the payment of their examination fees.

RULES REGARDING EXAMINATIONS FOR ADMISSION TO THE SOCIETY

(As Amended November 14, 1935)

The Council adopted the following rules providing for the examination system of the Society:

1. Examinations will be held on the third Wednesday and following Thursday during the month of May in each year in such cities as will be convenient for three or more candidates.

2. Application for admission to examination should be made on the Society's blank form, which may be obtained from the Secretary-Treasurer. No applications will be considered unless received before the fifteenth day of February preceding the dates of examination. Applications should definitely state for what parts the candidate will appear.

3. The examination fee is $2.00 for each part, with a minimum of $5.00 for each year in which the candidate presents himself; thus for one or two parts, $5.00, for three parts, $6.00, etc. Examination fees are payable to the order of the Society and must be received by the Secretary-Treasurer before the fifteenth day of February preceding the dates of examination.

4. The examination for Associateship consists of four parts. No candidate will be permitted to present himself for any part of the examination unless he has previously passed, or shall concurrently present himself for and submit papers for, all preceding parts. If a candidate takes two or more parts in the same year and passes in one and fails in the other, he will be given credit for the part passed. Upon the candidate having passed all four parts he will be enrolled as an Associate, provided he presents evidence of at least one year of experience in actuarial, accounting or statistical work in casualty insurance offices or in the teaching of casualty insurance science at a recognized college or university, or other evidence of his knowledge of actuarial, accounting or statistical work as is satisfactory to the Council.*

* Candidates who have had no insurance experience, or whose experience is limited exclusively to life insurance companies, or who have not had one year of casualty insurance experience, will not be enrolled as Associates after passing all four Parts, until they have had one year of casualty insurance experience; however, candidates not having one year of casualty insurance experience may, in accordance with a ruling of the Committee on Admissions, be enrolled as Associates upon passing the examination for Fellowship Parts I and II.

EXAMINATION REQUIREMENTS

5. The examination for Fellowship is divided into four parts. No candidate will be permitted to present himself for any part of the examination unless he has previously passed, or is then also presenting himself for all preceding parts. If a candidate takes two or more parts in the same year and passes in one and fails in the others, he will be given credit for the part passed.

6. As an alternative to the passing of Parts III and IV of the Fellowship Examination, a candidate may elect to present an original thesis on an approved subject relating to casualty or social insurance. Such thesis must show evidence of ability for original research and the solution of advanced problems in casualty insurance comparable with that required to pass Parts III and IV of the Fellowship Examination, and shall not consist solely of data of an historical nature. Candidates electing this alternative should communicate with the Secretary-Treasurer and obtain through him approval by the Examination Committee of the subject of the thesis. In communicating with the Secretary-Treasurer, the candidate should state, in addition to the subject of the thesis, the main divisions of the subject and general method of treatment, the approximate number of words and the approximate proportion to be devoted to data of an historical nature. All theses must be in the hands of the Secretary-Treasurer before the third Wednesday in May of the year in which they are to be considered. Where Parts I and II of the Fellowship examination are not taken during the same year, no examination fee will be required in connection with the presentation of a thesis. All theses submitted are, if accepted, to be the property of the Society and may, with the approval of the Council, be printed in the *Proceedings*.

EXAMINATION REQUIREMENTS

Waiver of Examinations for Associate

The examinations for Associate will be waived under Article III of the Constitution only in case of those candidates who meet the following qualifications and requirements:

1. The candidate shall be at least thirty-five years of age.

2. The candidate shall have had at least ten years' experience in casualty actuarial or statistical work or in a phase of casualty insurance which requires a working knowledge of actuarial or statistical procedure or in the teaching of casualty insurance principles in colleges or universities. Experience limited exclusively to the field of accident and health insurance shall not be admissible.

3. For the two years preceding date of application, the candidate shall have been in responsible charge of the actuarial or statistical department of a casualty insurance organization or of an important division of such department or shall have occupied an executive position in connection with the phase of casualty work in which he is engaged, or, if engaged in teaching, shall have attained the status of a professor.

4. The candidate shall have submitted a thesis approved by the Examination Committee. Such thesis must show evidence of original research and knowledge of casualty insurance and shall not consist solely of data of an historical nature. Candidates electing this alternative should communicate with the Secretary-Treasurer and obtain through him approval by the Examination Committee of the subject of the thesis. In communicating with the Secretary-Treasurer, the candidate should state, in addition to the subject of the thesis, the main divisions of the subject and general method of treatment, the approximate number of words and the approximate proportion to be devoted to data of an historical nature.

Library

The Society's library has practically all of the books listed in the Recommendations for Study, as well as others on casualty actuarial matters. Registered students may have access to the library by receiving from the Society's Secretary the necessary credentials. Books may be withdrawn from the library for a period of two weeks upon payment of a small service fee and necessary postage.

The library is in the immediate charge of Miss Mabel B. Swerig, Librarian of the Insurance Society of New York, 100 William Street, New York City.

1936 EXAMINATIONS OF THE SOCIETY

MAY 20 AND 21, 1936

EXAMINATION COMMITTEE

THOMAS O. CARLSON - - - CHAIRMAN

IN CHARGE OF ASSOCIATESHIP EXAMINATIONS	IN CHARGE OF FELLOWSHIP EXAMINATIONS
DAVID SILVERMAN, CHAIRMAN	RALPH M. MARSHALL, CHAIRMAN
MARK KORMES	JAMES M. CAHILL
RUSSELL P. GODDARD	NELS M. VALERIUS
ROBERT V. SINNOTT	
H. V. WILLIAMS, JR.	

EXAMINATION FOR ADMISSION AS ASSOCIATE

PART I

1. (a) Given the equation $x^2 - 20x + 64 = 0$, find a quadratic equation such that one of its roots is the arithmetic mean of the roots of the given equation and its other root is a geometric mean of the roots of the given equation. How many equations fit these requirements?

   (b) Solve for x and y:

$$\left.\begin{array}{r} x - y = 1 \\ \sqrt[3]{x^2 + 2xy + y^2} + 12\sqrt[3]{x^2 - 2xy + y^2} = 7\sqrt[3]{x^2 - y^2} \end{array}\right\}$$

2. (a) Demonstrate algebraically that the first term is the greatest term in the expansion of $(1 - \frac{2}{3}x)^{-3/2}$ when the value of x is $6/7$.

   (b) A certain geometrical progression consists of 43 terms; the initial term is 2 and the common ratio is 5. How many digits are there in the number representing the sum of the progression?

   Given: $\log 2 = .30103$.

3. (a) Out of $3n$ consecutive integers, in how many ways can three be selected whose sum shall be divisible by 3?

   (b) A library has x copies of one book, y copies of each of two books, z copies of each of three books and single copies of w books. In how many ways can these books be distributed if all are out at the same time and each member has one book?

4. A train passes two men, who are walking separately beside the railroad track, in $3\frac{1}{2}$ seconds and $3\frac{3}{5}$ seconds respectively; a second train passes the men in $4\frac{2}{5}$ and $4\frac{1}{2}$ seconds respectively. Both the trains and the men are proceeding in the same direction. Prove that the second train is faster than the first, and will take 36 seconds to pass it.

5. A debt of \$10,000 is payable, with interest at 4%, in 20 equal annual installments. What amount of the 16th installment applies against the principal?

$$\text{Given: } \frac{1}{a_{\overline{20}|}} = .073582, \ v^5 = .821927, \text{ at } 4\%.$$

6. A small hospital will cost \$50,000 to build and \$10,000 per year (payable at the end of each year) to maintain. If the hospital must be rebuilt at the same cost at the end of each 40 years what sum at 5% compounded annually will provide for this hospital permanently?

$$\text{Given: } (1+i)^{40} = 7.040 \text{ at } 5\%.$$

7. Find the purchase price of a $4\frac{1}{4}\%$ \$100 bond with interest payable semi-annually, to be redeemed at par in 18 years, if it is to be purchased at an investment rate of 6% per annum payable annually.

$$\text{Given: } 1.06^{-18} = .35034, \ 1.06^{\frac{1}{2}} = 1.02956.$$

8. (a) A debt of \$20,000 with interest at 5% is to be paid by yearly installments of \$4,000 and one partial payment one year after the last full payment of \$4,000 has been made. Using the values given below determine how many years are necessary to extinguish the debt and find the amount of the last payment.

$$\text{Given: } a_{\overline{5}|} = 4.32948, \ a_{\overline{6}|} = 5.07569, \text{ at } 5\%.$$

(b) Two debts are payable: one for \$500 three years hence, and one for \$1,000 two years hence. What sum, payable six months hence, will discharge both debts if money is worth 4% payable semi-annually?

$$\text{Given: } (1.02)^5 = 1.10408.$$

PART II

1. From the following data compute the coefficient of dispersion on the basis of (a) average deviation from the median, (b) standard deviation. Compare the characteristic features of the two methods and explain the reason for the difference in the answers resulting from the application of these methods.

Item	8	9	10	11	12	13	14
Frequency	2	4	6	9	6	4	2

2. (a) Explain the meaning of skewness and compute the coefficient of skewness from the following data:

   mode $= 15$, mean $= 18$, standard deviation $= 1.6$.

   (b) Explain and discuss fully the meaning and use in statistics of (1) moving averages and (2) curve fitting.

3. Compute the coefficient of correlation and the coefficient of regression from the following associated values of x and y:

x series	4	2	2	1	3	3	5	7	7	9	4	1
y series	3	4	6	6	2	10	9	6	5	2	2	5

4. By the method of least squares fit a second degree parabola to the four points

$x = 1$	2	3	4
$y = 2$	3	7	9

5. (a) Define the following accounting terms: balance sheet, trial balance, subsidiary ledger.

   (b) A gives B a $10,000 mortgage upon A's property and in return receives $8,000 in cash, the bonus being $2,000. What entry is made in B's books for this transaction? What entry is made in B's books when B receives $400 on account of this transaction, half of which represents interest?

6. Explain and discuss fully the significance of the following ratios used in judging the financial condition of a merchandising business:

    (a) Average yearly inventory to cost of goods sold
    (b) Sales to current assets less current liabilities
    (c) Accounts receivable to sales.

7. and 8.

    The following are the balances of the general ledger of A. C. Davis on December 31, 1929:

Cash	$ 1,500.00
Notes Receivable	100.00
Accounts Receivable	3,200.00
Merchandise Inventory, Jan. 1, 1929	2,800.00
Furniture	400.00
Delivery Equipment	800.00
Notes Payable	1,800.00
Accounts Payable	2,200.00
A. C. Davis, Proprietor	5,000.00
Sales	14,400.00
Purchases	9,600.00
Selling Expenses	1,000.00
Salaries	2,000.00
Rent	1,000.00
Taxes	400.00
Insurance	300.00
Interest Paid	100.00
Bad Debts	200.00

The merchandise inventory at December 31, 1929 was $3,800.00. Accrued salaries were $200.00, accrued interest payable $40.00, unexpired insurance $80.00. Depreciation on delivery equipment was estimated at 20%, and on furniture at 10%.

7. Make the adjusting journal entries and prepare a trial balance reflecting the adjusting entries.
8. Prepare a profit and loss statement and a Balance Sheet.

PART III

1. (a) Given $f(1) = (x-2)(x-3)$, $f(2) = (x-7)(x-5)$, $f(3) = (x-10)(x+1)$, $f(4) = 63$, find x assuming that second differences are constant.

   (b) Given the following related values of x and y, find what value of x corresponds to $y = 5.000$.

x	y
56	4.606
57	4.907
58	5.212
59	5.521

2. The first term of a series is 64; the sum of the next two terms is 222; the sum of the next three terms is 1168; and the eighth term is 1177. Assuming third differences constant, find the first six terms of the series.

3. Given the series 1, 2, 4, 8, 17, 40, 104, ... ,

   (a) Find the n^{th} term.

   (b) Find the sum of the first n terms.

4. (a) Develop a formula for the sum of the series

$$u_x + u_{x+1} + u_{x+2} + \dots\dots\dots + u_{x+n-1}.$$

   (b) Using the formula developed in part (a), find the sum of the fourth powers of the first n natural numbers.

5. (a) Find $\dfrac{d^2 u}{d v^2}$, given $\log (u + v) = u - v$.

   (b) Find the area between the catenary $y = \dfrac{a}{2}(e^{x/a} + e^{-x/a})$, the y-axis, the x-axis and the line $x = a$.

6. Find $\int x^3 (\log x)^2 \, dx$.

7. By means of Maclaurin's theorem, expand $\log (1 + x)$ in the form of a power series in x and determine for what values of x the series is convergent.

8. At a distance of 8 feet from a house there extends a wall 27 feet high. Find the length of the shortest ladder which will reach the house if one end rests on the ground outside the wall.

PART IV

1. (a) A deck of 52 playing cards is dealt at random into 4 packs of 13 cards each. The top card of one set is turned up and found to be the ace of spades. What is the chance that the two, three and four of spades are in that same pack?

   (b) Four coins are tossed together. A is to receive \$2.00 if the coins turn up two heads and two tails; otherwise A is to pay \$1.00. Find the chance that he will be even after the third throw.

2. Four dice with faces marked 1 to 6 were thrown, and the sum of the numbers cast was 16. Find the chance that the number shown by each die was 4.

3. (a) If $p_1, p_2, p_3, \ldots\ldots p_r \ldots\ldots p_n$ represent the probabilities that certain independent events will occur, and if the probability that all of the events will occur is $\frac{3}{323}$, what is the probability that the n^{th} event will occur if $p_r = \frac{r^2+2r}{r^2+4r+3}$?

   (b) Twenty persons are arranged at random in a straight line. Find the chance that four given persons out of the twenty occupy consecutive positions in the line.

4. Ten witnesses each of whom makes but one false statement in six, agree in asserting that a certain event took place. If the "a priori" probability of the event is $\frac{1}{5^9+1}$ find the odds in favor of the truth of their assertion.

5. (a) Of two lives x and y, what is the probability that one will die during the n^{th} year from now, the other having died before the n^{th} year?

   (b) Prove that ${}_{n|}a_x = v^n \cdot {}_np_x \cdot a_{x+n}$.

6. Find the net annual premium for a 10 payment life policy issued at age 30.

   Given: $a_{\overline{30}|} = 18.6$, ${}_{10|}a_{30} = 11.3$, rate of interest $= 3\frac{1}{2}\%$.

7. In terms of commutation symbols develop an expression for the value of a life annuity for a person aged x, with first payment at age x, assuming 4% interest for the first 20 years, $3\frac{1}{2}\%$ interest for the next 20 years, and 3% interest thereafter.

8. Establish the identity of the valuations under the prospective and the retrospective methods of an ordinary life insurance policy at the end of n years, the policy having been issued at age x.

EXAMINATION FOR ADMISSION AS FELLOW

PART I

1. (a) State briefly the coverage afforded by each of the following bonds:
   (1) Fidelity
   (2) Contract
   (3) Depository

   (b) Outline the coverage provided and give the basis of premium for the following lines of insurance:
   (1) Manufacturers' and Contractors' Public Liability
   (2) Elevator Public Liability
   (3) Plate Glass
   (4) Sprinkler Leakage

2. (a) State or paraphrase the insuring clause of a Workmen's Compensation insurance policy.

   (b) What data are ordinarily included in the Declarations of a Manufacturers' Public Liability policy?

3. (a) Name five exclusions as to coverage ordinarily expressed in an Automobile Bodily Injury and Property Damage Liability policy covering a private passenger car.

(b) Define "local" and "long haul" truckmen for rating purposes under Automobile Bodily Injury Liability coverage.

(c) Discuss the status of a guest injured in an automobile accident with respect to recovery under his host's Automobile Bodily Injury Liability insurance.

4. (a) What are the standard limits of liability for coverage under
   (1) A Workmen's Compensation and Employers' Liability policy
   (2) An Employers' Liability policy

(b) With reference to Workmen's Compensation Insurance, define "minimum premium" and outline the basis of determination as provided by the basic manual:
   (1) When more than one classification appears on the policy
   (2) If the policy covers two or more states
   (3) In the event of cancellation

(c) Explain the term "Standard Exceptions" as used in the basic manual for Workmen's Compensation Insurance.

5. (a) Explain the coverage provided an assured in connection with his operation of a Cold Storage plant by
   1. A Consequential Damage endorsement to a Direct Damage policy,
   2. A Business Use and Occupancy endorsement to a Direct Damage policy,
   3. A Power Interruption policy,

   pointing out the fundamental differences between each of the three forms of coverage.

(b) What must be known in order to determine the premium for a divided coverage policy on a residence, providing insurance against Burglary, Theft and Larceny?

6. (a) Is the effect on investment problems of the present trend of falling interest rates likely to be as serious for casualty companies as for life companies? Give reasons for answer.

(b) In your opinion, should a casualty company establish a special reserve account to safeguard against a possible future depreciation of its investments? Give reasons for answer.

7. (a) How does New York State regulate the value which an insurance company may place on the capital stock of a subsidiary? What is the reason for this regulation?

(b) What basis for determining values to be included in annual statements as of December 31, 1935 was adopted by the National Convention of Insurance Commissioners for state, county and municipal bonds
1. Not in default
2. In default

8. Name five points in the order of their importance which should be carefully considered in purchasing securities for a casualty company. Give a brief statement as to why each of the points mentioned by you has an important bearing on the desirability of the securities.

PART II

1. (a) What are the essential elements of a contract?
(b) Is a principal liable for any fraud or other wrong perpetrated by his agent in the course of his employment? Explain.

2. (a) Prior to the introduction of Workmen's Compensation legislation, what were the principal common law defenses of an employer for resisting suits for damages arising out of industrial injuries?
(b) A stipulation in a delivered policy stated that the agent was the agent of the insured in filling out the application, in order that the insured could be held responsible for any mistakes the agent might make in so filling out the application. There was such an error and the insurer claimed breach of warranty. Was this device valid? Explain.

(c) A tenant was injured when a landlord wilfully struck him over the head with a cooking utensil. The tenant recovered judgment against the landlord, but found the latter financially irresponsible. The landlord had an insurance policy covering his liability to third parties suffering accidental injury through his negligence as landlord. The tenant therefore tried to recover judgment against the insuring company. Was the company liable? Explain.

3. (a) What constitutes an insurable interest in property?

(b) What is the doctrine of "last clear chance?"

4. (a) Cite the salient points of the New York Security Fund legislation to assure the payment of Workmen's Compensation benefits in the event of the future insolvency of any insurance company licensed in the state. Discuss the advantages and disadvantages of this type of legislation.

(b) An insurance company fails and can pay but 6% of its liabilities. Some of its risks are reinsured. Is the solvent reinsurer liable for the whole amount insured by it, or only for the amount which the bankrupt insurer pays? Give reasons for answer.

5. (a) What control does an Insurance Commissioner have over acquisition costs, and whence is his authority derived?

(b) What limitation on the amount of a single risk to be insured by a casualty insurance company is imposed by the New York Insurance Law?

(c) Explain briefly the purpose and operation of so-called retaliatory laws in connection with the regulation of insurance.

6. (a) Insolvency losses in the United States exceed fire losses. Does this warrant the conclusion that a business man has greater need for credit insurance than for fire insurance? Discuss.

(b) From the point of view of economic theory, discuss the justification of the restrictions imposed by state laws upon the freedom of casualty insurance companies to assume different kinds of risk.

7. In your opinion, what features should be included in a single workmen's compensation law to be applicable in all states? Discuss the advantages and disadvantages from a social standpoint of such a system.

8. Outline the provisions of the Federal Social Security Act with respect to:

   a—Unemployment Compensation
   b—Old Age Assistance

PART III

1. Outline the important differences between the rate making methods employed by the National Council on Compensation Insurance and the Pennsylvania Compensation Rating and Inspection Bureau in the determination of Workmen's Compensation manual rates.

2. (a) Describe the two methods of providing coverage for occupational diseases offered by the Workmen's Compensation manual for the State of New York.

   (b) State briefly the "account current" proposal for experience rating Workmen's Compensation risks and discuss advantages and disadvantages of the scheme.

3. (a) Describe the three methods employed in Schedule P, Part 1, of the Annual Statement for determining the estimated necessary total reserve for unpaid Liability losses.

   (b) Explain briefly the process and purpose of compiling national basic pure premiums for Workmen's Compensation insurance.

4. Discuss the use of an "Indeterminate Reserve Table" for setting up reserves for Workmen's Compensation claims, indicating the theory of such a table and possible applications.

5. (a) Outline the experience data which should be required in a special call for Manufacturers' and Contractors' Public Liability experience to be used as the basis for determining the indicated discounts for deductible liability coverage, the deductible amounts to apply upon a per claim basis.
   (b) It is proposed to vary the manual rates for the Product Public Liability line by territory. What characteristics of this line of insurance must be borne in mind in considering such a proposal? State briefly the arguments for and against the proposal.

6. Draft a punch card (45 or 80 columns) for use by a casualty company writing Automobile Bodily Injury, Property Damage and Collision insurance for recording exposures and premiums for purposes of production records and the reporting of classification experience to rate-making bureaus. Explain the necessity for each field on the card. Explain how you would handle return premiums on canceled policies.

7. If you were establishing a statistical system to furnish the current experience of your company by general agency, for which of the following lines would you arrange to show the experience on an earned premium-incurred loss basis, and for which on a written premium-paid loss basis? Discuss, stating reasons for your answers.
   (1) Workmen's Compensation
   (2) Automobile Bodily Injury Liability
   (3) Automobile Property Damage
   (4) Burglary
   (5) Plate Glass

8. Explain what data are now available which could be used in calculating the benefit costs of a statewide system of unemployment insurance, and outline a possible method of making such calculations.

PART IV

1. Indicate what information is shown in the Underwriting, Investment and Miscellaneous Exhibits of the Annual Statement. What is the purpose of these exhibits?

2. Describe the New York Casualty Experience Exhibit. To what extent can the data shown therein be checked against the Annual Statement?

3. Outline a method for calculating reserves for unpaid unallocated claim adjustment expense for the Liability lines? Where would these reserves be included in the Annual Statement?

4. Outline a method which could be employed by a multiple line casualty company in allocating inspection expenses to line of insurance.

5. The 1934 Workmen's Compensation rate making method of the National Council provides for the collection of loss constants on risks with an annual premium volume of less than $500, in order to equalize the loss ratios of large and small risks. Outline a method of calculating loss constants for the three industry groups of "Manufacturing", "Contracting" and "All Other" from Unit Statistical Plan data.

6. Discuss "man hours" as a measure of exposure and basis for rates for Workmen's Compensation Insurance, citing advantages and disadvantages. What would be the effect on Compensation loss ratios during a depression period if Compensation rates were charged on the basis of "man hours" exposure?

7. (a) When excess coverage is written, the assured investigates, defends and settles all claims not in excess of his retention per claim. The insurance company co-operates in the investigation, defense and settlement of only such claims as necessary in order to protect its interests. Calculate the discount from manual rates indicated for excess coverage on a public liability line with an assured's retention of $500 per claim, having the following information given:

(1) The experience of the liability line shows total standard limit losses of \$10,000,000; total losses amounting to not more than \$500 per claim to be \$6,500,000; and the number of claims in excess of \$500 each to be 3,000.

(2) The breakdown of the manual premium dollar for this line is:

Losses	.473
Allocated Claim Expense	.037
Unallocated Claim Expense	.080
Inspection	.035
General Administration	.075
Production, Taxes, Profit	.300

(b) For several years the Compensation rate making method has provided for the inclusion of a loading factor in the manual rates and for the equivalent of a loading of 3% on actual losses in the Experience Rating Plan in order to offset the effect of the net credit resulting from experience rating in depressing the collectible level below the necessary premium level. The inclusion of these factors has, of course, affected the resulting off-balance. Reflecting this, calculate the necessary loading factor for inclusion in the manual rates, together with the continuation of the 1.03 factor in the Experience Rating Plan, for a state rate revision, having the following information given:

Factor in previous manual rates	1.050
Factor in Experience Rating Plan	1.030
Ratio of collected to manual premiums for all business	.960
Average credibility of risks subject to rating	.500
Per cent of total business subject to rating	.800

8. Discuss the advantages and disadvantages, for a multiple line casualty company, of a system whereby a central service bureau performs all inspection, payroll audit, and claim adjustment work on Workmen's Compensation risks for all carriers in a state or a group of states.

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JAMES S. ELSTON, Editor

The Index to the Proceedings of the first ten volumes (Numbers 1 to 22) comprises a general index of all the papers, discussions and book reviews presented by the members of the Society and an index to the Legal Notes which have been written for the past several years. The contributions of every member are shown in detail and each paper has been cross-indexed by title and by the principal sub-topics. This is the first index issued by the Society and is complete as respects all of the publications of the Society since its organization, Nov. 7, 1914 to Nov. 20, 1924. The index comprises 108 pages and is bound in buckram.

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