

HISTORICAL FILE

ANNUITY AGREEMENTS

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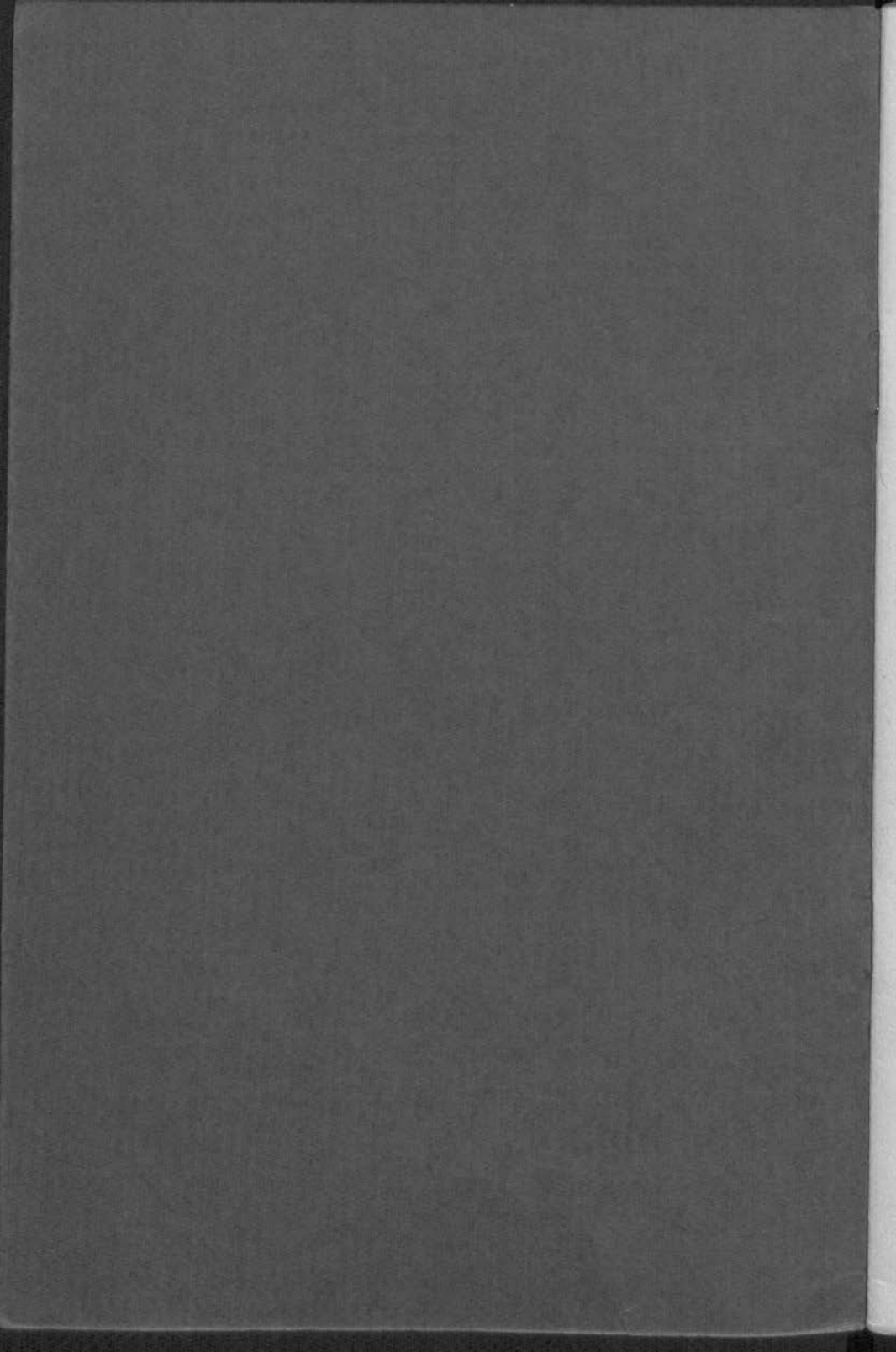
RULES, REGULATIONS AND  
RESERVES

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FOURTH CONFERENCE

WISE PUBLIC GIVING SERIES, No. 38

1931



# Rules, Regulations and Reserves

IN USING

## Annuity Agreements

PAPERS PRESENTED AT A  
FOURTH CONFERENCE ON ANNUITIES  
ATLANTIC CITY, N. J.  
MARCH 17, 1931

*Edited by*

ALFRED WILLIAMS ANTHONY

*for*

THE SUB-COMMITTEE ON ANNUITIES OF THE  
COMMITTEE ON FINANCIAL AND FIDUCIARY MATTERS  
(To Study and Promote Wise Public Giving)

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## P R E F A C E

The papers, here presented, were given at a Conference at Atlantic City, N. J., March 17, 1931. That conference may be termed the Fourth on Annuities, although it was but four months after the preceding conference of November 17, 1930, and was adjourned therefrom. Preceding conferences were held on April 29, 1927, and November 9, 1928. These conferences, while dealing with the same essential matters, are related to each other as a continuing, progressive series, and the booklets which follow, each its conference, are similarly related.

In the issuing of annuity agreements sound economic and actuarial principles must be followed and legal requirements in all the states and in the nation must be strictly observed.

If disaster were to befall any religious, educational or other charitable organization in the use of the annuity method of financing its enterprises, or if scandals of any nature were to arise because of lack of integrity, or because of failure to observe legal requirements, consequences of great harm would reach far and would injure all philanthropic causes.

These conferences and these publications are designed to promote economic soundness, administrative efficiency and ethical integrity.

ALFRED WILLIAMS ANTHONY.

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## THE TREND TOWARD UNIFORMITY

ERNEST F. HALL

*Secretary, Department of Annuities, Presbyterian Board of Foreign Missions.*

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At the conference on annuities held in Atlantic City last November, certain phases of the annuity business appeared as of special importance and the conference requested the Committee on Annuities to make a further study of them and to report with recommendations at this time. This the committee did, and presented those topics for consideration by this conference. The papers dealing with them are herewith given in full.

The mortality trend is to greater longevity. The trend of income from investments appears to be toward lower levels. The trend of legislation is to increased safety for those who place their money in trust with charitable organizations. These trends make the topics under consideration in this conference timely and it is hoped that all organizations will give serious attention to them and will shape their policies and promotional plans accordingly.

The subject of rates is a difficult one because organizations hesitate to change rates which they have been using for several years, unless there are very strong reasons for making a change. The need for uniform maximum rates has been emphasized in all the annuity conferences which have been held recently, because of the confusion that has been produced by the lack of standardization, the maximum rates varying from 7% to 11%. This induces investment bargaining, which is contrary to the basic principles of annuities of charitable organizations. The committee has been studying rates with a view to arriving at a schedule which would be conservatively made, avoiding extreme rates and calculated so that there would be a substantial residuum for the organization and adequate safety with satisfactory income for the annuitant.

The schedule of rates recommended by this conference and printed elsewhere in this report is based on the most approved mortality tables. After careful consideration and much discussion the conference voted to recommend as a

basis for the calculation of annuity agreement rates the following:

American Annuitants' Table of Mortality (Select) with interest at  $4\frac{1}{2}\%$  and a 70% residuum, using the Female Table for Single lives, and the Female-and-Female Table for the Joint Life and Survivorship cases.

According to the vote of the conference, 8% was recommended as the maximum limiting rate.

The schedule of uniform rates which was proposed by the conference can become operative in the standardization of rates only if all organizations using the annuity plan will adopt them. The purpose of standardizing them is to avoid the unworthy and unsound practice of competing for gifts on the part of organizations and treating the making of gifts primarily from the point of view of investment on the part of donors.

All charitable and educational organizations are requested by the committee to study the schedules of rates herewith proposed both for single life and two lives, and to report to the chairman of the committee their decisions in regard to the advisability of standard rates and whether they will adopt the rates proposed if the other organizations will do so. The committee realizes that it will take some time in order to accomplish this standardization because of the procedure which is necessary in order to arrive at a decision. It is therefore urgently desired that all organizations shall consider this matter promptly and report to the committee as quickly as possible.

At the conference on annuities held November 17, 1930, the committee was asked to consider the question of a standard form of annuity agreement for consideration at this conference. The committee submitted for study and consideration forms of single-life and joint-life-and-survivorship agreements, with the understanding that they were submitted merely for study and not as final drafts. The committee will consider the matter further, with a view to recommendations at the next conference that may be held under the auspices of the committee.

The committee would call special attention to the paper of Mr. Marshall, entitled "Legal Reserves", and would urge upon all organizations the importance of acquainting themselves with the laws of their states concerning annuities. It is important that adequate reserves should be maintained

back of annuity agreements so as to give ample protection to annuitants. It has been discovered that some organizations do not have sufficient reserve funds, and that what they have are so tied up that it would be impossible to realize on them in case of necessity. Such is true of some colleges which have put their annuity gifts into campus buildings.

Legislation is being enacted about which it is necessary for organizations to keep fully informed. This is true of both federal and state legislation and has reference both to the conditions under which an organization may conduct annuity business and the specific regulations for doing so. Mr. Darlington has pointed out in his paper some of the legislation which is of current interest and about which information is important to all organizations. The person in an organization who is responsible for the conduct of the annuity business should keep fully informed in regard to changes in both the federal and state laws. It would be well for him to have the co-operation of a lawyer in this matter. The committee will give all possible assistance through correspondence.

It must be evident to all who have given serious consideration to the subject of annuities within the past few years and especially to those who have been present at the conferences on annuities and who have read the reports of those conferences that there is much more to the annuity business than merely receiving gifts and paying the stipulated annuities. Regulations have been prescribed for carrying on the business which must be observed. Otherwise embarrassing situations, if not financial losses, may at some time arise for both the annuitants and the organizations. The Committee on Annuities is studying the situation constantly and is endeavoring to put necessary information in the hands of all organizations.

## UNIFORM MAXIMUM RATES

GEORGE A. HUGGINS

*Consulting Actuary, Philadelphia, Pa.*

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At the Conference on Annuities, held April 29, 1927, under the auspices of the Sub-Committee on Annuities, the subject of the actuarial basis of rates for annuity agreements was considered at length. Toward the close of the Conference, resolutions presented by the Committee on Findings were adopted by the Conference. These resolutions were printed on pages 46 to 48, inclusive, of the report of the proceedings.

Briefly, it may be stated that the Conference went on record that annuity rates should not be used which were higher than those arrived at, according to the basis recommended. This basis was the McClintock Table of Mortality Among Male Annuitants for Single Lives; and Male and Female (Female the younger) for the Joint Life and Survivorship cases, with interest at  $4\frac{1}{2}\%$ , with a residuum of 70%, and with a maximum rate of 9%.

At the Second Conference on Annuities, held November 9, 1928, the action taken by the First Conference on the subject of rates was reaffirmed.

At the Third Conference, held November 17, 1930, it was requested that the Sub-Committee on Annuities re-study the subject of annuity rates and recommend a schedule of uniform, maximum rates, to be submitted to this conference for consideration. Members of your Committee have given this matter considerable thought and have conferred on this subject with others informed on the matter, including leading actuaries.

During the recent years, a great deal of study has been given to the mortality experienced among annuitant lives. The insurance companies located in the United States, Canada and Great Britain have an ever-growing number of annuitant lives under observation, as the volume of annuity business grows, and, therefore, there is being built up more and more data upon which to base tables of mortality among annuitant lives, male and female.

The general trend is toward lower death rates among annuitant lives, or, expressed in other words, greater lon-

evity, or longer periods of expectation of life. Therefore, in considering the question of uniform rates for annuity agreements, we must first consider the newest tables of mortality among annuitant lives and compare them with tables previously in existence and in use.

On page 12 of the Report of the First Conference, there are given brief histories of five (5) leading tables of mortality: The McClintock Table of Mortality Among Annuitants; the British Offices Table of Mortality Among Annuitants; the American Men Ultimate Table of Mortality; the American Experience Table of Mortality (insured lives); the Carlisle Table of Mortality (general population).

In view of the fact that the McClintock Table of Mortality Among Annuitants was recommended as a basis for the limiting rates, we repeat here what was said of that table:

"The McClintock Table of Mortality Among Annuitants has been adopted as the standard for the valuation of Annuity Contracts in many States. It was constructed in the year 1899 by Emory McClintock on the basis of the experience of fifteen American companies."

As to the newer tables, the following may be said:

*Canadian Annuity Table.* This table was prepared to meet the requirements of the new Canadian valuation standards. It was based largely upon the British Offices Table of Mortality Among Annuitants, modified so as to meet the requirements of the Canadian Insurance Act. This table appears in the Transactions of the Actuarial Society of America, May, 1927, Volume XXVIII, Part One.

*American Annuitants' Table.* This table was compiled from data contributed by twenty-five American and six Canadian life insurance companies. It covers the experience of these companies on 22,243 annuities issued on 14,868 lives. The mortality rates among male lives and female lives were derived separately. The results were published in the Transactions of the Actuarial Society of America, October, 1927, Volume XXVIII, Part Two.

*Combined Annuity Table.* This table is based upon the experience among lives covered by policies of group life insurance, graded at the older ages into the experience among annuitant lives, as developed under the American Annuitants' Table. Therefore, it constitutes a table peculiarly adapted to use under group annuity policies, issued by

insurance companies on the lives of persons actively engaged in some group or class of occupations. It has been adopted by the State of New York as a minimum standard for valuing annuities issued on and after January 1, 1931.

*Exhibit A* shows what the comparative rates for annuity agreements would be if calculated for single lives on the basis of a 70% residuum and 4% interest, using male and female rates of mortality among annuitants according to five (5) different tables. This table is designed to show the effect of the different rates of mortality. Throughout, it is noticeable that the rates calculated for female lives are lower than those for male lives. The rates calculated on the American Annuitants' Table (Select), at the younger ages, are the same or higher than those calculated on the Combined Annuity Table, but at the higher ages the rates based upon the American Annuitants' Table (Select) are lower than on the Combined Annuity Table.

It would seem that this is what would be expected from the tables themselves, since the Combined Annuity Table is based upon a considerable number of lives covered under policies of group insurance. As a group they constitute healthy workers in industry, with a resultantly low mortality, but the group experience was largely among younger lives—actual workers—rather than among older lives, who had purchased annuities, so the mortality rate was graded into that of the American Annuitants' Table at the older ages.

On the other hand, the American Annuitants' Table, being based largely on the lives of persons who had purchased annuities from life insurance companies, was based on more complete data in the older ages and less complete data among the younger lives.

It seems quite natural, therefore, that the American Annuitants' Table should give a more favorable rate for annuitants at the younger ages and a less favorable rate at the older ages, when compared with the Combined Annuity Table. In the annuity agreement business, we are confronted with the fact that, in all probability, the majority of the lives covered under annuity agreements will be older persons, therefore, the most conservative recommendation would be to use the American Annuitants' Table as the basis for calculating the proposed uniform, standard, limiting rates.

*Exhibit B* shows comparative rates on single lives, simi-

lar to those shown in Exhibit A, except that they are calculated on an interest basis of  $4\frac{1}{2}\%$ , and they do not include the rates on the Canadian Life Table, which were not readily available on the  $4\frac{1}{2}\%$  interest basis.

*Exhibit C* shows the annuity agreement rates with a 70% residuum and interest at  $4\frac{1}{2}\%$ , where two lives are involved, that is, the joint life and survivorship plan, at specimen ages for two lives, a male and a male; for two lives, a male and a female; and for two lives, both female; on the Combined Annuity Table.

*Exhibit D* shows rates similar to those in Exhibit C, except that they are calculated on the American Annuitants' Table (Select) on the basis of two female lives. Since the rates in Exhibit D are the lowest rates shown by the American Annuitants' Table for two lives, and the residuum is 70%, and the rate of interest  $4\frac{1}{2}\%$ , it would seem conservative for the Committee to recommend these rates as the basis for standard uniform rates involving two lives.

## EXHIBIT A.

## COMPARISON OF ANNUITY AGREEMENT RATES BASED ON SEVERAL STANDARD ANNUITY TABLES

Interest 4%                      Residuum 70%                      Single Life

*Corrected for semi-annual instalment annuity payments*

| Age | McClintock |        | British Annuitants (Select) |        | Canadian |        | American Annuitants (Select) |        | Combined Annuity |        |
|-----|------------|--------|-----------------------------|--------|----------|--------|------------------------------|--------|------------------|--------|
|     | Male       | Female | Male                        | Female | Male     | Female | Male                         | Female | Male             | Female |
| 30  | 4.5        | 4.4    | ..                          | ..     | 4.4      | 4.3    | 4.4                          | 4.4    | 4.4              | 4.3    |
| 40  | 4.7        | 4.6    | 4.6                         | 4.5    | 4.6      | 4.5    | 4.7                          | 4.6    | 4.6              | 4.5    |
| 50  | 5.1        | 4.9    | 4.9                         | 4.7    | 5.0      | 4.7    | 5.0                          | 4.8    | 5.0              | 4.8    |
| 60  | 5.8        | 5.4    | 5.5                         | 5.1    | 5.6      | 5.2    | 5.6                          | 5.3    | 5.6              | 5.3    |
| 65  | 6.3        | 5.9    | 5.9                         | 5.5    | 6.1      | 5.7    | 6.1                          | 5.7    | 6.1              | 5.7    |
| 70  | 7.1        | 6.5    | 6.6                         | 6.0    | 6.8      | 6.3    | 6.7                          | 6.2    | 6.8              | 6.2    |
| 75  | 8.2        | 7.4    | 7.5                         | 6.8    | 7.9      | 7.2    | 7.5                          | 6.8    | 7.8              | 7.0    |
| 80  | 10.0       | 8.8    | 8.9                         | 8.1    | 9.4      | 8.7    | 8.6                          | 7.7    | 9.1              | 8.0    |

## EXHIBIT B.

## COMPARISON OF ANNUITY AGREEMENT RATES BASED ON SEVERAL STANDARD TABLES

Interest 4½%                      Residuum 70%                      Single Life

*Corrected for semi-annual instalment annuity payments*

| Age | McClintock |        | British Annuitants (Select) |        | American Annuitants (Select) |        | Combined Annuity |        |
|-----|------------|--------|-----------------------------|--------|------------------------------|--------|------------------|--------|
|     | Male       | Female | Male                        | Female | Male                         | Female | Male             | Female |
| 30  | 5.1        | 4.9    | ..                          | ..     | 4.9                          | 4.9    | 4.8              | 4.8    |
| 40  | 5.2        | 5.0    | 5.1                         | 5.0    | 5.1                          | 5.0    | 5.1              | 5.0    |
| 50  | 5.6        | 5.3    | 5.4                         | 5.2    | 5.5                          | 5.3    | 5.4              | 5.3    |
| 60  | 6.2        | 5.9    | 5.9                         | 5.6    | 6.1                          | 5.8    | 6.1              | 5.8    |
| 65  | 6.8        | 6.3    | 6.4                         | 6.0    | 6.5                          | 6.2    | 6.6              | 6.2    |
| 70  | 7.6        | 7.0    | 7.0                         | 6.5    | 7.1                          | 6.7    | 7.3              | 6.7    |
| 75  | 8.7        | 7.9    | 8.0                         | 7.3    | 8.0                          | 7.3    | 8.2              | 7.4    |
| 80  | 10.5       | 9.2    | 9.3                         | 8:5    | 9.1                          | 8.2    | 9.6              | 8.5    |



## EXHIBIT C.

JOINT LIFE AND SURVIVORSHIP ANNUITY AGREEMENT  
RATES

## COMBINED ANNUITY MORTALITY TABLE

Interest  $4\frac{1}{2}\%$       Residuum 70%      Semi-Annual Instalments*Male and Male—Age of Second Male*

| <i>Age of First</i> | <i>5 yrs. Older</i> | <i>Equal Ages</i> | <i>5 yrs. Younger</i> | <i>10 yrs. Younger</i> | <i>15 yrs. Younger</i> | <i>20 yrs. Younger</i> |
|---------------------|---------------------|-------------------|-----------------------|------------------------|------------------------|------------------------|
| 35                  | 4.8                 | 4.8               | 4.7                   | 4.7                    | 4.7                    | 4.6                    |
| 40                  | 4.9                 | 4.8               | 4.8                   | 4.7                    | 4.7                    | 4.7                    |
| 45                  | 5.1                 | 4.9               | 4.9                   | 4.8                    | 4.8                    | 4.7                    |
| 50                  | 5.1                 | 5.1               | 5.1                   | 4.9                    | 4.8                    | 4.8                    |
| 55                  | 5.3                 | 5.2               | 5.1                   | 5.0                    | 5.0                    | 4.9                    |
| 60                  | 5.6                 | 5.5               | 5.3                   | 5.2                    | 5.1                    | 5.0                    |
| 65                  | 6.0                 | 5.8               | 5.6                   | 5.4                    | 5.3                    | 5.1                    |
| 70                  | 6.5                 | 6.3               | 6.0                   | 5.7                    | 5.5                    | 5.3                    |
| 75                  | 7.3                 | 6.9               | 6.5                   | 6.2                    | 5.8                    | 5.6                    |
| 80                  | 8.3                 | 7.8               | 7.3                   | 6.8                    | 6.3                    | 5.9                    |

*Male and Female—Age of Female*

|    |     |     |     |     |     |     |
|----|-----|-----|-----|-----|-----|-----|
| 35 | 4.8 | 4.7 | 4.7 | 4.7 | 4.7 | 4.6 |
| 40 | 4.8 | 4.8 | 4.8 | 4.7 | 4.7 | 4.7 |
| 45 | 4.9 | 4.9 | 4.8 | 4.8 | 4.7 | 4.7 |
| 50 | 5.1 | 5.0 | 4.9 | 4.9 | 4.8 | 4.7 |
| 55 | 5.3 | 5.2 | 5.1 | 5.0 | 4.9 | 4.8 |
| 60 | 5.5 | 5.4 | 5.2 | 5.1 | 5.0 | 4.9 |
| 65 | 5.8 | 5.7 | 5.5 | 5.3 | 5.2 | 5.0 |
| 70 | 6.3 | 6.0 | 5.8 | 5.6 | 5.4 | 5.2 |
| 75 | 7.0 | 6.7 | 6.2 | 5.9 | 5.6 | 5.4 |
| 80 | 7.9 | 7.4 | 6.9 | 6.4 | 6.0 | 5.7 |

*Female and Female—Age of Second Female*

|    |     |     |     |     |     |     |
|----|-----|-----|-----|-----|-----|-----|
| 35 | 4.7 | 4.7 | 4.7 | 4.7 | 4.6 | 4.6 |
| 40 | 4.8 | 4.8 | 4.7 | 4.7 | 4.7 | 4.7 |
| 45 | 4.9 | 4.8 | 4.8 | 4.8 | 4.7 | 4.7 |
| 50 | 5.0 | 5.0 | 4.9 | 4.8 | 4.8 | 4.7 |
| 55 | 5.2 | 5.1 | 5.0 | 4.9 | 4.9 | 4.8 |
| 60 | 5.4 | 5.3 | 5.2 | 5.1 | 5.0 | 4.9 |
| 65 | 5.7 | 5.5 | 5.4 | 5.2 | 5.1 | 5.0 |
| 70 | 6.1 | 5.9 | 5.7 | 5.5 | 5.3 | 5.2 |
| 75 | 6.6 | 6.4 | 6.1 | 5.8 | 5.6 | 5.4 |
| 80 | 7.5 | 7.1 | 6.6 | 6.3 | 5.9 | 5.6 |

## EXHIBIT D.

JOINT LIFE AND SURVIVORSHIP ANNUITY AGREEMENT  
RATESAMERICAN ANNUITANTS TABLE [*Select*]Interest  $4\frac{1}{2}\%$       Residuum 70%      Semi-Annual*Female and Female—Age of Second Female*

| <i>Age of<br/>First</i> | <i>Equal<br/>Ages</i> | <i>5 yrs.<br/>Younger</i> | <i>10 yrs.<br/>Younger</i> | <i>15 yrs.<br/>Younger</i> | <i>20 yrs.<br/>Younger</i> |
|-------------------------|-----------------------|---------------------------|----------------------------|----------------------------|----------------------------|
| 35                      | 4.7                   | 4.7                       | 4.7                        | 4.7                        | ..                         |
| 40                      | 4.8                   | 4.8                       | 4.7                        | 4.7                        | 4.7                        |
| 45                      | 4.9                   | 4.8                       | 4.8                        | 4.8                        | 4.7                        |
| 50                      | 5.0                   | 4.9                       | 4.9                        | 4.8                        | 4.8                        |
| 55                      | 5.1                   | 5.0                       | 5.0                        | 4.9                        | 4.8                        |
| 60                      | 5.3                   | 5.2                       | 5.1                        | 5.0                        | 4.9                        |
| 65                      | 5.6                   | 5.4                       | 5.3                        | 5.2                        | 5.0                        |
| 70                      | 5.9                   | 5.7                       | 5.5                        | 5.4                        | 5.2                        |
| 75                      | 6.2                   | 6.1                       | 5.8                        | 5.6                        | 5.4                        |
| 80                      | 7.0                   | 6.6                       | 6.2                        | 5.9                        | 5.7                        |

UNIFORM MAXIMUM ANNUITY AGREEMENT RATES  
CALCULATED ON BASIS ADOPTED BY CONFERENCE

AMERICAN ANNUITANTS TABLE

| Interest at 4½% |             |               | Residuum 70% |             |               | Single Life |             |               |
|-----------------|-------------|---------------|--------------|-------------|---------------|-------------|-------------|---------------|
| <i>Age</i>      | <i>Male</i> | <i>Female</i> | <i>Age</i>   | <i>Male</i> | <i>Female</i> | <i>Age</i>  | <i>Male</i> | <i>Female</i> |
| 20              | 4.8         | 4.8           | 51           | 5.5         | 5.4           |             |             |               |
| 21              | 4.8         | 4.8           | 52           | 5.6         | 5.4           |             |             |               |
| 22              | 4.8         | 4.8           | 53           | 5.6         | 5.4           |             |             |               |
| 23              | 4.8         | 4.8           | 54           | 5.7         | 5.5           |             |             |               |
| 24              | 4.8         | 4.8           | 55           | 5.7         | 5.5           |             |             |               |
| 25              | 4.8         | 4.8           | 56           | 5.8         | 5.6           |             |             |               |
| 26              | 4.9         | 4.8           | 57           | 5.8         | 5.6           |             |             |               |
| 27              | 4.9         | 4.8           | 58           | 5.9         | 5.7           |             |             |               |
| 28              | 4.9         | 4.8           | 59           | 6.0         | 5.7           |             |             |               |
| 29              | 4.9         | 4.8           | 60           | 6.1         | 5.8           |             |             |               |
| 30              | 4.9         | 4.9           | 61           | 6.1         | 5.9           |             |             |               |
| 31              | 4.9         | 4.9           | 62           | 6.2         | 5.9           |             |             |               |
| 32              | 4.9         | 4.9           | 63           | 6.3         | 6.0           |             |             |               |
| 33              | 5.0         | 4.9           | 64           | 6.4         | 6.1           |             |             |               |
| 34              | 5.0         | 4.9           | 65           | 6.5         | 6.2           |             |             |               |
| 35              | 5.0         | 4.9           | 66           | 6.6         | 6.3           |             |             |               |
| 36              | 5.0         | 4.9           | 67           | 6.7         | 6.3           |             |             |               |
| 37              | 5.0         | 5.0           | 68           | 6.9         | 6.4           |             |             |               |
| 38              | 5.1         | 5.0           | 69           | 7.0         | 6.5           |             |             |               |
| 39              | 5.1         | 5.0           | 70           | 7.1         | 6.7           |             |             |               |
| 40              | 5.1         | 5.0           | 71           | 7.3         | 6.8           |             |             |               |
| 41              | 5.1         | 5.1           | 72           | 7.4         | 6.9           |             |             |               |
| 42              | 5.2         | 5.1           | 73           | 7.6         | 7.0           |             |             |               |
| 43              | 5.2         | 5.1           | 74           | 7.8         | 7.2           |             |             |               |
| 44              | 5.2         | 5.1           | 75           | 8.0         | 7.3           |             |             |               |
| 45              | 5.3         | 5.2           | 76           | 8.0         | 7.5           |             |             |               |
| 46              | 5.3         | 5.2           | 77           | 8.0         | 7.6           |             |             |               |
| 47              | 5.3         | 5.2           | 78           | 8.0         | 7.8           |             |             |               |
| 48              | 5.4         | 5.2           | 79           | 8.0         | 8.0           |             |             |               |
| 49              | 5.4         | 5.3           |              |             |               |             |             |               |
| 50              | 5.5         | 5.3           |              |             |               |             |             |               |

## COMMENTS ON RATES

K. B. PIPER

*Woodward, Fondiller and Ryan, N. Y. C.*

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It may be well to focus our attention on a typical annuity contract in order to see the practical effect of the rates which are proposed. One Society which does a large volume of business issues more annuities to women in the vicinity of age 70 than to any other group. This means that if the rate allowed on that group is too high, there must be a substantially greater margin at older or younger ages. Otherwise the total financial results will not be satisfactory.

In determining rates we are concerned with the annuities which will be sold this year. We should know what the results will be on those particular annuities if we follow them for the next thirty or forty years. This prediction involves the rate of interest, the expenses of promotion and administration, and the rate of mortality.

### *Interest*

I know of no satisfactory method of forecasting interest rates. The Equitable Life Assurance Society canvassed the leading financiers of the country about thirty years ago on this question. The replies were almost unanimous that a return of more than 3% was questionable. Some men of affairs expressed the opinion that the rate might decrease to as low as 2½%. You all know how far above these rates the actual return has been.

In the case of annuities, the question loses some of its difficulties because the gift may be invested in relatively long term securities and the society is therefore assured of maintaining approximately the current yield. Let us assume that it is possible for the present to realize 5% interest on sound investments.

### *Expenses*

The proper handling of expenses is a phase of accounting practice which is by no means settled. Necessarily if we are considering the results of the particular annuities sold this year, we should charge against that group the expenses incurred in promoting and administering them.



There is little information available as to these costs and there will naturally be a good deal of variation between organizations.

For illustration, we may assume that 3% of the gift is used for promotional work. Treating this as a loan from the general funds of the organization to be repaid by installments during the annuitant's lifetime, we may say that it represents a deduction of roughly  $\frac{1}{4}\%$  from the interest return. For the particular case of women 70 years old, the deduction would be even greater.

The current expenses of administration and investment are probably at least  $\frac{1}{4}\%$  of the invested funds in addition to the promotion expenses. It follows that with investments yielding 5%, not more than  $4\frac{1}{2}\%$  is actually available to provide annuity payments.

### *Mortality*

The exhibits which Mr. Huggins has given us, show that there is not a great difference between the British Annuitants' Table and the American Annuitants' Table. The Combined Annuity Table is not intended for fixing rates and does not take account of the fact that the woman who buys an annuity is usually in sound health at that time.

All the experience that has been compiled points to one conclusion. We cannot reasonably expect the mortality on annuities now issued to be materially more favorable than the American Annuitants' Select Table.

### *Results*

The following table indicates the average residuum which will be found if our expectations are fulfilled.

#### FEMALE LIVES—AGE 70

| MORTALITY: AMERICAN ANNUITANTS [ <i>Select</i> ]         |                     |
|--|---------------------|
| Interest $4\frac{1}{2}\%$ (After Deducting All Expenses) |                     |
| Annuity Rate<br>(payable semi-annually)                  | Average<br>Residuum |
| 4.5%   | 100%                |
| 6.7*   | 70*                 |
| 7.0  | 65.2                |
| 7.5  | 58.2                |
| 11.7   | 0                   |

\* See Mr. Huggins' paper, Exhibit B, 6th column.

If the organization pays a pro-rata installment at death this will be a further deduction from the residuum averaging three months income.

The residuum does not tell quite the whole story. It is important in deciding the attitude which should be taken toward requests for endowment funds which are to be set up at death; but it does not indicate the value of the gift to the organization at the time the gift is made.

On the assumptions already made, the annuity on a female life age 70 is worth 8.56 years' purchase. If the rate is  $7\frac{1}{2}\%$ , a gift of \$1,000 will purchase \$75 per year. The value of this annuity is 8.56 times \$75, or \$642, and the actual gift is the remainder or \$358 as closely as it can be estimated.

The rates recommended by the Committee would provide an annuity of \$67 with a present value of \$574. Even in this case the actual gift is only \$426, less than half the amount deposited.

In conclusion, it should be said that the stability of the annuity funds and the fact that the annuities are represented as a charity, both require a thoroughly conservative attitude toward rates.

## RESERVE VALUATIONS OF ANNUITY FUNDS

EDWARD W. MARSHALL

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According to recent estimates, it appears that the religious, charitable and educational institutions of this country have obligated themselves under annuity agreements to pay over \$3,000,000 annually to annuitants for life. This obligation necessarily imposes on these organizations a heavy responsibility to see that these annuities are paid, a responsibility which is just as strong as that imposed on life insurance companies under annuity contracts. The promise to pay the annuity is paramount, and adequate safeguards must be set up so that it can be fulfilled.

In most states, the religious, charitable and educational institutions granting annuities have not as yet been required to comply with the laws governing life insurance companies designed for the protection of policyholders. In some cases at least, the law seems comprehensive enough to embrace all organizations which grant annuities, and it may be only a matter of time until the large sums involved in the annuities paid by philanthropic organizations will make governmental supervision advisable.

The organizations back of these Conferences on Annuities have been very farsighted in their endeavors to show the philanthropic organizations granting annuities the great wisdom of keeping their houses in order, so that the highest standards of safety shall be maintained in connection with their annuity funds. Even though there is no statutory annuity law which may apply to these organizations in some states, nevertheless, there is undoubtedly a moral obligation to maintain full safeguards which should not be ignored.

The first safeguard is that every organization shall hold in its annuity fund assets at least equal in amount to the so-called legal reserve and other liabilities with a proper margin of safety in addition. The second requirement is



that these assets shall be invested in certain prescribed investments to yield a rate of interest at least equal to the rate on which the reserve is based. I shall not discuss the administrative or investment problems of annuity funds. This has been done ably during the various conferences of this group. What I have to say is in connection with the desirability of periodic reserve valuations of such funds.

Some reasons why periodic reserve valuations should be made may be summarized as follows:

1. To comply with the law, if applicable.
2. To determine whether sufficient assets are being held for the protection of the annuitants.
3. To find out where the annuity fund is headed, so that financial plans for the future can be more intelligently made.
4. To determine what sums can be released from the annuity fund from time to time.

The legal reserve for annuities issued by life insurance companies is based on McClintock's Table of Mortality Among Annuitants with  $3\frac{1}{2}\%$  interest in a number of states, and according to the new Combined Annuity Table with  $4\%$  interest in New York and Massachusetts on business issued on or after January 1, 1931. This latter table will doubtless be adopted in other states before long, as it is based on more modern annuity conditions. Thus a table of legal reserves on this basis is appended to this article.

As I see it, the annuity funds of philanthropic organizations are not likely to be less than the legal reserve. The reason for this is that the legal reserve is based on the supposition that no residuum whatever will remain, on the average, at the death of the annuitant. The philanthropic organizations granting annuities however, usually fix the return to annuitants at such a level that an average residuum, equal to a large proportion of the original principal, or in some cases all of the principal, is expected to be realized at the death of the annuitant. As a result, the average philanthropic organization granting life annuities should normally have in hand assets considerably in excess of the legal reserve. In such cases, where these assets are invested safely to produce an adequate return, and if there are a large enough number of annuities involved to prevent very unfavorable fluctuations in the mortality among annuitants, the annuity fund should be safe.

This is obviously the case where the philanthropic organization is carrying assets in the annuity fund equal

to the original principal of the annuity. Such a course is possible if the payments promised in the annuity agreements do not exceed the interest earnings realized on the principal. In such an organization, a reserve valuation would not be so necessary because the present and probable future status of the annuity fund would be more or less obvious.

If, however, the organization grants a larger return on its annuities than the interest realized on the annuity principal, then, naturally, the organization must gradually draw on this principal to assist in making the annuity payments. For example, the standard annuity rate adopted by the Conference on Annuities in 1927 was based on the assumption that the mortality would follow the McClintock's Table of Mortality Among Male Annuitants, the interest rate realized would be  $4\frac{1}{2}\%$ , and there would be an average residuum of 70% of the original principal at the death of the annuitant. Thus, if these assumptions as to mortality and interest are exactly realized, 30% of the principal must be used up on the average before the death of the annuitant. Under these circumstances, it is not reasonable to expect the annuity fund to remain at 100% of the original principal. In such cases, a special fund valuation would be very useful, to show where the annuity fund is headed. It would show whether the mortality experienced is following the table assumed, and whether the assets in hand are greater or less than they should be at the present time, compared with the fund which should be in hand according to the program on which the original rates are based.

It is quite possible for an organization to be deceived regarding its annuity experience, if it has been issuing an increasingly large volume of annuities in recent years. Most of its terminated annuities would naturally provide large residual amounts, because they had been in force but a comparatively short time before termination. If the organization should suddenly cease to issue new annuity agreements, the time would come when the annuities terminated by death would produce much smaller residual amounts and, in the long run, there would be a proportion of the cases where there would be no residuum whatever, or possibly an actual loss at time of death. A reserve valuation is important, so that the organization will know how much of the residual amounts obtained on the annuities terminated by death should be retained in the annuity fund

to keep it at a level sufficient to meet reserve requirements for the annuities remaining in force. And equally important, the valuation would show how much of the residual amounts may be considered available for immediate use.

A periodic reserve valuation is just as important to an annuity fund as a comparison of assets in hand and liabilities under deposit accounts would be for a savings fund. In each case the liability is a measure of the obligation assumed by the organization. The financial health of the organization can only be determined by a comparison of assets and liabilities.

The legal reserve is, of course, the very minimum amount which should be held by annuity funds for the protection of annuitants. An annuity fund exactly equal to the legal reserve may be in a very unsafe condition even if the assets are beyond question and yield an adequate interest return. The fluctuations bound to occur in annuity funds, particularly in those of small size, may cause heavy losses. A slight increase in the expectation of life of annuitants due to further conquests of disease might upset all calculations. Unforeseen investment losses may be encountered. A well conducted annuity fund should be considerably larger than the legal reserve, to insure its safety under adverse conditions.

Incidentally, an organization paying a higher return to annuitants than the standard rates proposed by the Conference today, to that extent reduces its residual gains as well as the margin of safety. In fact, it is easy to conceive that some organizations granting relatively high returns to annuitants may discover that their annuity funds have become a source of loss or disappointingly small gain, due to adverse fluctuations in annuity mortality or increase in longevity among annuitants, investment losses, or a decline in interest rates. Furthermore, in the case of annuity funds generally, present trends of interest rates and mortality among annuitants suggest that, all other things being equal, the residual gains to be realized on annuities in the near future may average substantially less than those obtained in the last decade or two.

It would appear that most of the annuity agreements issued by religious, charitable or educational organizations in the United States are surrounded with excellent safeguards. Evidently many of these organizations are fully awake to their responsibilities under these agreements.

MEAN RESERVE FOR COMPLETE LIFE ANNUITY OF \$100  
YEARLY BASIS, COMBINED ANNUITY TABLE  
4% INTEREST

| Attained Age on Contract Anniversary in Current Calendar Year |        | Mean Reserve on December 31st of Current Calendar Year | Attained Age on Contract Anniversary in Current Calendar Year |        | Mean Reserve on December 31st of Current Calendar Year |
|---|--------|--|---|--------|--|
| Male  | Female |  | Male  | Female |  |
| 20  | 24     | \$2,095.30   | 65  | 69     | \$950.70   |
| 21  | 25     | 2,081.40   | 66  | 70     | 919.40   |
| 22  | 26     | 2,067.00   | 67  | 71     | 888.40   |
| 23  | 27     | 2,052.10   | 68  | 72     | 857.70   |
| 24  | 28     | 2,036.70   | 69  | 73     | 827.40   |
| 25  | 29     | 2,020.60   | 70  | 74     | 797.40   |
| 26  | 30     | 2,003.90   | 71  | 75     | 767.70   |
| 27  | 31     | 1,986.50   | 72  | 76     | 738.60   |
| 28  | 32     | 1,968.40   | 73  | 77     | 709.90   |
| 29  | 33     | 1,949.60   | 74  | 78     | 681.80   |
| 30  | 34     | 1,930.10   | 75  | 79     | 654.30   |
| 31  | 35     | 1,909.80   | 76  | 80     | 627.30   |
| 32  | 36     | 1,888.90   | 77  | 81     | 600.90   |
| 33  | 37     | 1,867.40   | 78  | 82     | 575.30   |
| 34  | 38     | 1,845.30   | 79  | 83     | 550.30   |
| 35  | 39     | 1,822.50   | 80  | 84     | 525.90   |
| 36  | 40     | 1,799.20   | 81  | 85     | 502.20   |
| 37  | 41     | 1,775.40   | 82  | 86     | 479.30   |
| 38  | 42     | 1,751.00   | 83  | 87     | 457.20   |
| 39  | 43     | 1,726.10   | 84  | 88     | 435.80   |
| 40  | 44     | 1,700.70   | 85  | 89     | 415.20   |
| 41  | 45     | 1,674.90   | 86  | 90     | 395.40   |
| 42  | 46     | 1,648.50   | 87  | 91     | 376.40   |
| 43  | 47     | 1,621.60   | 88  | 92     | 358.10   |
| 44  | 48     | 1,594.30   | 89  | 93     | 340.60   |
| 45  | 49     | 1,566.50   | 90  | 94     | 323.90   |
| 46  | 50     | 1,538.30   | 91  | 95     | 308.00   |
| 47  | 51     | 1,509.60   | 92  | 96     | 292.80   |
| 48  | 52     | 1,480.50   | 93  | 97     | 278.40   |
| 49  | 53     | 1,451.10   | 94  | 98     | 264.70   |
| 50  | 54     | 1,421.20   | 95  | 99     | 251.80   |
| 51  | 55     | 1,391.00   | 96  | 100    | 239.60   |
| 52  | 56     | 1,360.50   | 97  | 101    | 228.20   |
| 53  | 57     | 1,329.80   | 98  | 102    | 217.40   |
| 54  | 58     | 1,298.70   | 99  | 103    | 207.00   |
| 55  | 59     | 1,267.50   | 100   | 104    | 197.10   |
| 56  | 60     | 1,236.10   | 101   | 105    | 186.80   |
| 57  | 61     | 1,204.50   | 102   | 106    | 176.50   |
| 58  | 62     | 1,172.80   | 103   | 107    | 162.10   |
| 59  | 63     | 1,141.00   | 104   | 108    | 141.50   |
| 60  | 64     | 1,119.10   | 105   | 109    | 115.80   |
| 61  | 65     | 1,077.20   | 106   | 110    | 75.50  |
| 62  | 66     | 1,045.40   |   |        |  |
| 63  | 67     | 1,013.70   |   |        |  |
| 64  | 68     | 982.10   |   |        |  |

Probably a relatively small proportion of the annuity agreements are issued without adequate protection.

Nevertheless it is vitally important that the idea be thoroughly grasped by organizations issuing annuities in an unbusinesslike way, that they are playing with fire. They may not only involve themselves in ultimate loss, but they may become in the position of unworthy stewards who have failed to live up to their trust. Any such organizations unwilling to go the limit in making their annuity funds safe beyond doubt along the lines laid down in these conferences, should without delay reinsure their annuities before discredit is brought upon the entire annuity business of the philanthropic organizations, and before governmental interference becomes necessary.

It is to be hoped, that as a result of these conferences, the standards of all philanthropic organizations issuing annuity agreements will be raised to the highest level, so that the confidence of the annuitants, who have so generously given their funds in return for life annuities, shall be fully justified.

To obtain the approximate reserve for a joint life and last survivor annuity on two lives proceed as follows:

(1) Add together the reserves obtained from the above table for each of the two lives separately.

(2) From this sum deduct the amount obtained as follows:

(a) Consider any female annuitant as a male annuitant of an age four years younger than her true age.

(b) Then find the difference between the ages of the two annuitants and add to the older age the adjustment obtained from the following table.

| <i>Difference in Age<br/>Years</i> | <i>Addition to Older Age<br/>Years</i> |
|------------------------------------|--|
| 0 — 1                              | 9                                      |
| 2 — 3                              | 8                                      |
| 4 — 5                              | 7                                      |
| 6 — 8                              | 6                                      |
| 9 — 11                             | 5                                      |
| 12 — 16                            | 4                                      |
| 17 — 21                            | 3                                      |
| 22 — 30                            | 2                                      |
| 31 up                              | 1                                      |

(c) After making this addition to the older age find the reserve from the above reserve table for a male

of that age and subtract this reserve from the sum of the reserves already found according to (1) above. The balance is the reserve for the joint life and last survivor annuity.

Example: What is the reserve on December 31 for a joint life and last survivor annuity of \$100 yearly payable to a female annuitant aged 67 and a male annuitant aged 61 on anniversary in current year?

The reserve for age 67 female is \$1,013.70, and for age 61 male is \$1,077.20, the sum of these reserves being \$2,090.90.

Assuming the female aged 67 to be a male aged 63, the difference between the ages of the two annuitants is thus two years. We find from the above table for a difference in age of two years, that we should add eight years to the older age, producing age 71, the reserve for which from the above table for males is \$767.70. Subtracting this amount from the above sum of \$2,090.90 produces \$1,323.20, the reserve for the annuity desired.

This rule for joint life and last survivor annuity reserves does not hold where there is a male annuitant under age 36 or a female annuitant under age 40 involved. Such reserves are found by a different method, which need not be described here.

## THE UP-TO-DATE LEGAL SITUATION

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It was the judgment of the Conference of November 17th, 1930, that in certain cases there was need for a statement about annuities to be sent to executors of deceased annuitants. Such a statement was prepared and submitted to a Committee of Lawyers who met in New York on March 6th. This statement was simple and brief and the material made use of was chiefly from Federal Estate Tax decisions. The reason for this was that while the Federal Estate Tax Laws apply only to large estates, the principles laid down therein are apt to be followed by the different states, although each state may differ from the other. It was thought that such a statement would open the question up and if further information was desired by an executor he could then work out his own particular problem in the state in which the annuitant was a resident. The greater part of the statement had to do with the three decisions quoted in my article published in *Wise Public Giving Series*, No. 34, in which the Supreme Court ruled that an irrevocable trust fund in which the settlor retained a life interest is not a gift that passes from the possession or enjoyment or control of the settlor at or after his death. Much was made of the irrevocable nature of annuity agreements issued by religious, educational and charitable corporations. Inasmuch as it appeared from these decisions that irrevocable trust funds were exempt from the estate tax even though the settlor retained a life interest in the same, it was not deemed necessary to distinguish between annuities and trust funds. Confirmation of this belief was given by three decisions of the Supreme Court on March 2nd, 1931, Nos. 535, 581 and 542, but in each of these cases the following significant clause appeared, "there being no question of the constitutional authority of the Congress to impose prospectively a tax with respect to transfers or trusts of the sort here involved."

A copy of these decisions was not before the Committee at its meeting, nor was a copy of the amendment of March 3rd, 1931, embodied in House Joint Resolution 529. This

amended the first sentence of sub-division (c) of Section 302 of the Revenue Act of 1926 by adding as follows: "*including a transfer under which the transferor has retained for his life or any period not ending before his death (1) the possession or enjoyment of or the income from the property, or (2) the right to designate the persons who shall possess or enjoy the property or the income therefrom*".

This amendment was a direct result of the Supreme Court decisions of the preceding day. It was signed by the President on the same day it was introduced in the House with the unanimous approval of both Houses of Congress and of Secretary Mellon. Mr. Mellon is quoted as having said that the three decisions of March 2nd held in effect that "*where property was conveyed in trust by a transferor who reserved to himself for life the income from the property or the right to designate who should enjoy the income therefrom, the value of such property at the date of the transferor's death should not be included in computing his Federal estate tax, the transfer of such property not being 'in contemplation of or intended to take effect in possession or enjoyment at or after his death' within the meaning of the Federal estate tax laws.*"

Representative Garner is reported to have said that the House Resolution was not made retroactive for fear that the Senate would not agree to it, but that he hoped that the matter would be brought up again in the Seventy-second Congress and that a bill would be passed making it retroactive. On the other hand it was the opinion of others that if the bill which is not retroactive was not passed, many such trusts would be created before the next meeting of Congress and that it would not be possible to reach them by any provision, retroactive or otherwise.

This amendment is so new that it is difficult to estimate what its final results will be. There are those who question whether it is constitutional. There are those who not only believe it constitutional but believe that Section 302 (h) may make the present amendment retroactive, although these appear to be in the minority. While it is admitted that small trust funds may not be reached by this amendment because only large estates are taxed under the present Federal Estate Tax Law, it is possible that the limits in the present law may be reduced or that individual states may follow the lead of this amendment. Already on March 10th, the State of New York has amended the first



sentence of Paragraph Three of Section 249 of Chapter 62 of the laws of 1909 by adding the identical amendment given above.

Under such circumstances it is naturally dangerous to attempt to predict just what the future will bring. Any statements that follow, therefore, must be regarded simply as a personal judgment which may or may not be correct. These suggestions, however, are given for what they are worth, and it is hoped that they will be of some value.

### *I. Trust Funds*

Any Trust Funds established after March 3rd, 1931, even if they are irrevocable, will be subject to tax, if the estate of the settlor is large enough to bring it under the Federal Estate Tax Law. This also will become true of any of the forty-eight states which pass similar legislation. If the settlor does not retain a life interest in the trust, the trust may still be taxed if it is made within two years of death and is proved to be in contemplation of death.

### *II. Life Insurance*

It is still uncertain whether the second clause will have any bearing upon life insurance, if a policy has a cash surrender value or if the individual insured can cease paying the premiums or borrow on the policy or change the beneficiary without the beneficiary's consent, then it may be held that the person insured in cases where he is paying the premium on his own life, has in a sense "the right to designate the persons who shall possess or enjoy the property or the income therefrom."

### *III. Annuities*

An annuity is an altogether different thing from a trust fund. The value of a trust fund at the date of the death of the settlor may be more than when the trust was created, if the fund is invested in real estate or stocks. On the other hand, an annuity may be worth nothing at the date of death of the first annuitant, provided the alternate or alternates have died before him. If the annuity is on one life only, the annuitant may die before the first annuity is paid. The estate tax tables appear to measure the value of the trust at death as against the consideration paid when the trust was created. Such a method as applied to annui-

ties has little or no value. If the gift part of an annuity to a religious, educational or charitable group takes effect at the date when the annuity is purchased, then only in the case of an annuity on two or more lives where one or more of the alternates are living at the date of the death of the first annuitant is there any measurable value. If, however, gifts by insurance to relatives or friends are exempt then it is possible that annuities may be also so exempt.

A sharp line should therefore be drawn between trust funds and annuities. This distinction can be made clearer in the following ways:

a. *By the Annuity Agreement Itself.*

This should avoid any terminology that applies to trust funds such as "the net proceeds remaining when the annuity is terminated." It might also provide specifically that no payment will be made from the last annuity date to the date of death. In some states, if this is not specifically in the agreement, it has been held that such a payment must be made, unless the policy is obviously one of insurance. If a donor wishes a fixed income for life and to create a trust fund with what is left after his death, he should probably not be allowed to use an annuity form of agreement at all. A separate trust fund agreement should be used providing for the creation of a trust fund with the net principal remaining upon the death of the donor. If a fixed annual payment is made, the principal of the fund can be diminished thereby if the amount paid is more than the income received. If need be the principal can be rehabilitated upon the death of the donor by accumulating the income for a period of years. Such agreements, however, in the writer's judgment, should be entirely separated from annuities.

b. *Bookkeeping*

There are those who believe in creating a separate ledger account for each annuity. To this they credit the income and debit the annuity payments. On the death of the annuitant, by this method, the balance remaining is made available. This appears to use the accounting methods of trust funds for annuities. The value of such records is questionable because the expenses each year are not deducted from the total income of the fund. Furthermore,

by this method if there was one annuity on which the whole principal was used up, how would it be possible to take funds from other annuities to make up the loss? Is not this method the carrying over of trust fund accounting into an entirely different field? Annuities should be handled in the way that life insurance companies are in the habit of doing. For purposes of conservative administration the whole amount paid by the annuitant should be credited to the annuity account. To the annuity account should be credited the income received on investment of the principal and any profits on securities sold. From this fund should be deducted the annuities paid and the expenses of handling the annuities. These expenses should include promotion expense, postage, care of securities, salaries, cost of bookkeeping, printing, advertising, correspondence, etc. Then the end of each year it is possible to estimate the mortality experience for the year and when justified, amounts can be withdrawn from the annuity account and expended under the General Budget. If an actuarial study is to be made every two or three years, it will probably be just as cheap to have this study made each year. In this way the Board or Society may determine its policy each year on the basis of actual experience.

#### *c. Correspondence and Publicity*

Correspondence and publicity regarding annuities should also draw a sharp distinction between annuities and trust funds. It will be found that the estate tax authorities will require such information in studying any annuity agreements that come into their hands. The use of such words as "interest", "bond", "principal remaining" should be avoided in all correspondence dealing with annuities.

These conclusions are the writer's judgment only and may not be confirmed by future experience. They are submitted for your consideration and study, with the knowledge that future events may require that they be revised or amended.

