TRANSACTIONS OF SOCIETY OF ACTUARIES
1952 VOL. 4 NO. 10

DISCUSSION OF PRECEDING PAPER

SEYMORE A. FENICHEL:

The concept of "work life expectancy," described by Mr. Smith and Mr. Griffin, was very interesting to me, as were the other bases underlying their measure of damages in death actions brought under the Federal Employers Liability Act. It was a pleasure to learn that so scientific an approach to this problem was not only acceded to by counsel, but was also permitted to be fully developed by the Court.

Not long ago, our firm was called upon to provide actuarial guidance to a railroad company involved in death actions resulting from a pair of tragic train wrecks in which many lives were lost. These wrecks occurred in New York State and the actions were therefore brought under the New York law. It is with the thought that our experiences under the New York law may afford a natural and interesting supplement to the authors' experiences under the F.E.L.A., that this discussion is being offered.

All told, we provided defendant's counsel with life expectancies and annuity values for some thirty cases. I was in court for most of these cases, and was actually called to the witness stand in about a dozen of them. Another member of our firm testified in two cases, and the balance were either privately settled or else the defendant's counsel did not use an actuary by choice or, sometimes, by ruling of the Court. Where I was not sent to the stand by counsel's choice, it was ordinarily because the desired testimony had been elicited from the plaintiff's actuarial witness under cross-examination. Most of the cases were tried in a Federal Court, although several were tried in various State Supreme Courts, which are not the highest courts of the State.

All these actions were brought under the New York Death Act, Section 130 of the Decedents' Estate Law. This Act provides, in substance, that any duly appointed executor or administrator of a decedent whose death was caused by another's negligence or wrongful act, may maintain an action to recover damages if the decedent had a surviving husband, wife or next of kin. Section 132 of this law, entitled "Amount of Recovery," further states, in part, as follows:

> The damages awarded to the plaintiff may be such a sum as the jury upon a writ of inquiry, or upon a trial, or where issues of fact are tried without a jury, the court or the referee, deems to be a fair and just compensation for the pecuniary injuries, resulting from the decedent's death, to the person or persons, for whose benefit the action is brought.

This Section also states that all medical expenses incident to the injury causing death, and the funeral expenses, may properly be included in the damages. Furthermore, it is provided that interest, at an unspecified rate, from the date of death to the date of final judgment, shall be added to the sum awarded.

This, then, is the sum total of the statutory explanation of how to evaluate such "pecuniary injuries," and I would offer a hearty "amen" to the authors' hope for the recognition and acceptance of standard tables for application in such cases.

It is true that there were voluminous cases on record to serve as precedents, but some of these were contradictory to one another, and very few were enlightening as to the actual methods of valuation, so that the judges in our cases frequently used their own discretion, rather than feeling bound by such inconclusive precedents. The principle expressed in the 1915 case of *Emens* v. *Lehigh Valley R.R. Co.*, that "no strict or definite rules for the measure of such damages can be laid down by the court," was pretty consistently adhered to, as was also that expressed in the 1936 case of *Weir* v. *Cosmopolitan Carriers*, "fixing of pecuniary damages in a death action is peculiarly within the province of a jury."

The 1939 case of *Dimitroff* v. *State* yielded the following:

> In awarding damages for death, nothing can be allowed for sentiment, grief, or suffering, even when death was not immediate. . . . Elements to be considered in awarding damages for death are the age of the decedent, his health, habits, qualities, expectation of life and expectation in life, earning ability, income, the number, age, sex, situation and condition of those dependent on him for support and his disposition to support them well or otherwise, and the like.

The 1920 case of *Lewis* v. *State* held that, in computing the amount of damages for wrongful death, annuity and mortality tables may be considered, while the 1933 federal case, *Briscoe* v. *U.S.*, upheld the propriety of computing damages on the basis of the present value of an annuity based on the earnings of the decedent, although his prospects of advancement might also be taken into account. In short, there was good legal basis for using life annuity values.

Our firm urged, from the outset, that the defendant's arguments and our computations should be based on the work life expectancy concept, as advocated by the authors. However, counsel did not follow our suggestion, except in one case, because there were other fundamental points to be won. Shortly before we were brought on the scene, damages had been determined in a case by a jury, by multiplying the decedent's gross annual income at date of death by the life expectancy at his age at death. Clearly, both factors were improper. In the first place, the gross income should have been diminished by the amount of federal and state income taxes payable, and also by some reasonable estimate of the decedent's personal expenditures, in order to arrive at the pecuniary loss suffered. This, however, was not a problem with which the actuary was concerned. In the second place, the use of the life expectancy, instead of a life annuity, took no account of the element of interest. This was an important matter, and both counsel and ourselves felt that we should devote our chief effort to establishing firmly the correctness of using some interest rate. For this reason, counsel elected to forego the matter of "work life expectancy." Practically all of these early cases were held in the Federal Court, and all the judges were following each case closely, so we knew that whatever principles were established early would have far-reaching effects.

For the early cases, we furnished counsel with life expectancies and immediate annuity values, based on the Actuaries', American Experience, U.S. Life (1940) and 1937 Standard Annuity tables, using interest rates from 2% to 5% at ½% intervals. These were prepared on the single life basis, based on the age of the decedent at death, and also on the joint life basis, considering also the age of the widow (the usual claimant) at the date of death. The expectancies were complete, the annuity values were based on annual payments and computed per $1,000 of annual annuity, and the ages were taken nearest birthday. The amount of net annual contributions to be assumed was not considered to be in the actuary's domain. For the later cases, the Actuaries' Table was omitted, and only the interest rates from 2½% to 4% were used in the calculations. It may be of interest to give a brief discussion of each of the elements involved in the calculations, and how they fared in court.

Mortality.—The Actuaries' and American Experience tables, of course, gave the most favorable results for the defendant. Furthermore, defendant's counsel felt that there was some statutory basis for use of these tables, even though no table is prescribed in the New York Death Act. This was because Rule 30 and Rule 243 of the New York Rules of Civil Practice, and Section 17 of the Decedents' Estate Law, in quite other connections, all prescribe the use of the American Experience table and 4% interest, while Section 249 of the New York Tax Law similarly prescribes the Actuaries' Table and 4%. With these laws, there are actually included tables of immediate annual annuities, as well as life expectancies. The courts generally did admit these tables in evidence, and in one or two cases charged the jury to use the American Experience table. The 1937 Standard Annuity table was included because plaintiff's counsel almost invariably felt that this was the proper table to use, and he introduced it, either through his own actuarial witness, or through cross-examination of me. The U.S. Life Tables were included because we felt, apart from statutory considerations, that they were the most suitable tables available, and eventually plaintiff's counsel came to agree.

Interest.—Our counsel strove for the use of 4%, on the basis of the above-mentioned statutes, and he also frequently quoted to the jury higher yields available on various corporate stocks and bonds. Plaintiff's counsel generally thought that 2% was proper, in view of the basis underlying certain life insurance companies' annuity rates. In any event, we did succeed from the very beginning in establishing the "present value" concept, and this was never seriously challenged. On an average, I would say that juries used figures based on 3% interest.

Company Annuity Rates.—In the earlier cases, we were always plagued with the introduction of single premium annuity rates currently being charged by the life companies. We felt strongly that such gross rates were entirely inappropriate for several fairly obvious reasons. One of the longest discourses I was called upon to make from the witness stand was an explanation of why I considered such rates to be improper for use in the case at hand. The various plaintiffs' attorneys were keeping in close touch with all the cases, and since we were all undergoing an education, including the judges and the actuaries, the companies' annuity rates soon disappeared from the picture, although the 1937 Standard Annuity table survived somewhat longer.

Joint Life Values.—From the outset, we agreed with counsel that we should seek to have joint life values accepted as proper. The State courts had established no clear-cut principles on this score, although there was some vague implication, in some older cases, that it was proper to use the life expectancy of the deceased or of his widow beneficiary, whichever is shorter—a rather useless criterion, since in none of our cases was the widow older than the decedent. However, the important case here was the *Briscoe* case, mentioned earlier, tried in the Circuit Court of Appeals of the same Circuit as our Federal court. In this case, the court stated in very clear language:

> The commissioner apparently based his calculation upon the life expectancy of the decedent alone, and refused to consider annuity tables based on the joint lives of the decedent and his widow. In this we think he was mistaken. The wife could no more recover pecuniary benefits from her husband if he had lived after her own death than she could after he himself had died. *Sider* v. *General Electric Co.*, 238 N.Y. 64, 143 N.E. 792, 34 A.L.R. 158. The New York Courts have held that the widow's own expectancy is an important factor in determining the damages which she should receive under the statute for the wrongful death of her husband. *Wilkinson* v. *Boehm*, 231 App. Div. 295, 247 N.Y.S. 343. Since the

death of either husband or wife would terminate the possibility of the latter's receiving pecuniary benefits from the former, tables based upon the joint lives of the two should have been used.

In spite of this clear and forceful language, it was always a battle to get joint life values even admitted in evidence. We never did succeed in any of the State Courts, and achieved, perhaps, 60% success in the Federal Court.

We did not entirely see eye to eye with our counsel about what consideration was to be given any surviving children. We felt that they should be taken into account until the youngest child reached his majority, as did Mr. Smith and Mr. Griffin. However, counsel insisted that the children can properly be disregarded, where a widow survived, insofar as the annuity calculation was concerned, and there was some case precedent to support this argument. I believe that the jury was free to add any lump sum which it considered to be a reasonable monetary equivalent of the loss, to the children, of the decedent's advice and guidance.

Under direct examination, I would generally be asked to define an actuary, life expectation, present value of an annuity, joint life tables and joint life annuities, and then be asked to give the appropriate joint life annuity value, per $1,000, on the American Experience table and 4% interest, possibly also at $3\frac{1}{2}\%$. Occasionally, I was asked to multiply by various amounts that represented estimates of the decedent's net annual contributions to his surviving family. Then would come a usually lengthy cross-examination, frequently followed by a redirect and a recross-examination. Under cross-examination, I would normally be asked to quote values on various mortality and interest assumptions. Of course, the American Experience table was often attacked as being outmoded, with which I readily agreed although, most curiously, I was never asked, while on the stand, for my opinion as to which mortality table was the most suitable. There was one case where the judge approved of the American Experience table, with the agreement of both attorneys, on the grounds that it is annually brought up-to-date! At the time, I was not on the stand and was helplessly squirming in the background. I must say that this was the first time that I was working with this particular defense attorney, and we had had no earlier discussion; also, the judge later learned of his error and reversed his stand.

We resisted the defendant's urgings that we testify as to probable future yields on investments, and we suggested, in vain, that a financial expert be obtained for this purpose. In spite of the position we took, I unhappily found myself often forced to discuss this aspect.

We were well aware of the pitfall in speaking of an annuity for the period of the life expectancy, and we urged counsel repeatedly, with only mediocre success, to be careful of his language in this regard. Plaintiff's counsel was even less fussy, and he occasionally directed his actuarial witness to quote the annuity certain figures. In spite of advance preparation, I found it a difficult matter to explain, in nontechnical terms, why the "obviously correct" annuity certain value is not correct.

We had computed annuity values on an annual basis because this was the basis used in the statutory tables. This was occasionally attacked, and I readily furnished adjusted monthly values on request. The whole concept of the present value of an annuity was also attacked once or twice because it was maintained that, unlike the purchase of a commercial annuity, there was no assurance that both principal and interest would be exactly dissipated by the end of the expectancy period.

If there is any central thing that we gleaned from our experiences with these death action cases, it is this. There should very definitely be a broad and full understanding between the actuary and the attorneys as to the nature and potentialities of the actuarial testimony, and all aspects should be discussed and ironed out in advance. Where several trial attorneys are involved, they should all have been fully briefed before the trial dates. A half hour's discussion just prior to the trial is not sufficient where planned rebuttals may be anticipated. With such advance preparation, a situation will not arise where your counsel will talk to the jury about "the purchasing power of a dollar" when he is referring to the present value of an annuity, although, I must confess, it may be that I was the only one who was disturbed by this substitution.

W. RULON WILLIAMSON:

Mr. Smith and Mr. Griffin have added another subject to the already broad canvas: "What the practicing actuary ought to know." They have combined longevity with job-retention, recognized the withholding of taxes, and the deferred compensation in anticipated pensions. They add consideration of the catastrophes of accidental death and dismemberment or disablement. Their illustrations come from an industry where seniority and persistency of the job are much stressed.

For the general workers of the country, the Bureau of Labor Statistics has recently announced that 20% of the workers held the same job for 9 years. Putting that in reverse, it seems to say that 80% of the workers changed jobs, or got the first one within the last 9 years. The contingencies that face men are more complex than the assumption they persist in the same job. If the inspection is being made of one job only, still another decrement and another increment might be needed to bring out the progress of these open-end employment situations.

One of the most interesting considerations of earnings, employment and family responsibilities appeared years ago in the Canadian "Great Table," included in the "Memorandum of the Dominion Bureau of Statistics re the Earning Power of Canadian Male and Female Workers; by Ages." It was based on data collected at the Census of 1931 and from the Annual Reports on Vital Statistics. It carries a caution: "This compilation is not intended to serve actuarial purposes."

The methods of that table are worth examining. Among other excellencies, today, it avoids the overstressing of work-termination at a retirement age as *normal*. It evidences the opportunity for continued earnings beyond the 65 boundary. In the table, earnings reach a maximum at age 50, then fall off to 82% at age 65, 47% at age 70, and 5% at age 85—these for men.

I got a sample of married male centenarians for analysis—102 of them—from the 1940 Census data. About half of them reported themselves to be "working."

Many years ago the State of Wisconsin tabulated some data on the additional jobs held. This is also present in U.S. Census and in the forms filed yearly with the Bureau of Internal Revenue. We actuaries who pick up these extra job fees might as well know that even railway men do the same. Some extra for the anticipation of supplementary employment could be used arbitrarily.

Finally, any annuity terminable by death, or pension other than the employer's formal grant, belongs in the account of financial losses through premature death. One man has told me that he has left comprehensive instructions for his presumptive widow as to how she can push the employer for maximum damages.

A. EDWARD ARCHIBALD:

There is a lack of actuarial literature on the role of the actuary in damage suits involving the loss of earnings. In consequence the Society is especially indebted to the authors for their valuable and timely paper. I will leave to others discussion of the methods and tables presented. My discussion will be limited to comment on damage suit testimony by the actuary employed by the plaintiff's attorney.

The authors rightly condemn the combination of "life expectancy" method with unrealistic interest rates and mortality tables, but I wonder how general is the practice they condemn. Quoting from the paper: "In practice, the plaintiff's attorney usually employs an actuary by whom he establishes the plaintiff's expectation of life according to some mortality table, such as the 1941 CSO, the 1939–1941 United States Life and Actuarial Tables or the American Experience Table of Mortality. Plaintiff's actuary (upon direction of counsel) will then compute, as of the day prior to the date of accident, the present worth of an annuity certain (for a term certain equal to the expectation of life), computed at a low rate of interest such as $1\frac{1}{4}\%$, $1\frac{1}{2}\%$ or 2%."

This raises a fundamental question. Does the actuary testify as a mere computer who goes through some fancy arithmetic in the manner spelled out by plaintiff's counsel or does the actuary testify as a professional man?

My experience in court cases is limited. However, it does appear that the actuary employed by the plaintiff's counsel will, as a professional man, largely control the nature of his own testimony except for the cross-examination by defendant's counsel. In consequence, I wonder why the actuary would use the annuity certain for a term equal to the expectation of life. I wonder why he would use a very low interest rate. *Why* wouldn't the actuary use the correct life annuity value either for the whole of life or for a normal working lifetime to age 65 or 70? *Why* wouldn't he use a reasonably modern mortality table such as one of the 1939–1941 United States Life Tables? Why wouldn't he use an interest rate of 3% or even 4%, an interest rate that will not appear unduly low to an intelligent jury?

If the actuary uses the correct annuity value (instead of the expectation of life method) and uses a modern mortality table and a reasonably high interest rate, his testimony cannot so readily be made to look foolish by defendant's counsel.

Another approach which has been used may be of interest. The plaintiff's attorney has established the rate of earnings at date of the accident and has projected the monthly or annual loss of earnings. He asks the actuary what the present value of such a life income is. The actuary states that a reasonable measure of the present value of such a life income is the price you would have to pay for it on the open market. Most life insurance companies sell life annuities and the prices are published. The current price of a life income of the stated amount is a specific named amount in a particular named company. A number of other life insurance companies have identical or almost identical prices. Another group of companies has somewhat higher prices.

If this approach is used, you don't have to establish the reasonableness of assumptions as to mortality table or interest rate. You just quote the competitive market price of the life income.

This still leaves the question of income for entire life instead of normal working life. A satisfactory answer is available if temporary life annuity rates are known for several well-known life insurance companies. If such rates are not available, the percentage for the part beyond 65 can be calculated on the same basis as the whole life annuity.

WILLIAM F. WARD:

Mr. Smith and Mr. Griffin are to be commended for their skillful presentation of an approach to the difficult question of setting a fair and reasonable value for the loss of the earnings of a wage-earner due to death or disability. In cases such as those discussed in the paper, involving railroad company employees subject to a specific retirement plan and adequate statistics with respect to disability and retirement rates, the method suggested has a great deal to commend it. The approach, however, particularly in the cases cited in the paper, is somewhat biased in favor of the defense, which is normally seeking to keep the value as low as possible.

The applicability of this method for use in state courts depends, of course, upon the law of the particular state involved. It is my understanding that this varies considerably. In many states compensatory damages in a case involving wrongful death are determined by the pecuniary loss to dependents. In South Carolina, however, a broader rule applies and a jury may consider mental shock and suffering, grief and worry, loss of companionship, deprivation of the use and comfort of the decedent's society, and other intangible factors not at all subject to actuarial valuation. In Alabama and Massachusetts the statutes are entirely punitive in nature, and damages are fixed with reference to the defendant's culpability.

Even in cases in which the basic approach suggested in the paper may be proper, it is very questionable that the disability and retirement rates derived from the Annual Report of the Railroad Retirement Board are appropriate. These disability rates are too high for general use. The proper retirement rates for any case would vary considerably, depending upon an individual's circumstances.

Although I have presented values at the request of a plaintiff's lawyer based upon an annuity certain for a term equal to the life expectancy, I do not hold that such a value has much merit except as a rough guide. At the younger and middle ages the total valuation reached by this method may not be too far from the truth when we take into account that the value is based on present earnings and ignores probable increases. Ignoring of disability and retirement probabilities is at least partly offset by the fact that, in the event of disability or retirement, income in at least a modified form would be continued. There is a further intangible element which must usually be ignored in that the value of the services in the home of the wage-earner cannot be measured in dollars, but certainly in many cases the actual work by a husband should be given some value. In the event of retirement, particularly if the retirement income is low, it should be assumed that the husband would at least get part-time employment and supplement the lower income. It is difficult to take all factors into account in any valuation such as this, but as I see it the actuary is responsible to produce not the highest amount which can be justified for the plaintiff nor the lowest amount which can be developed for the defense, but a reasonable estimate to serve as a guide for the jury.

The table "Determination of Earnings Lost Based on Interest at 3% and Mortality According to the Railway Employees Mortality Table" on page 587 does not make allowance for income which may be expected after disability or retirement nor does the work life expectancy take into account probable future increase in earnings or improvement in mortality. If the valuation for work life expectancy were adjusted for these factors, the differences would not be great except for the higher ages.

I agree with the authors that it would be very helpful to have "standard" tables established for general use. The last published census tables for total males and total females are probably the best general basis for mortality in the absence of a more specific table for persons of the class involved. This basis has been readily accepted in New Jersey courts for cases involving healthy lives and is readily defended when compared to any other table. When the person has had a history of medical impairments before death, no general table may be used. In such cases medical testimony must establish the appropriate mortality level before any valuation may be logically supported.

The question of appropriate standard disability and retirement tables is much more complex. To be acceptable such tables must necessarily reflect average rates which may be said to be typical. Because of the wide variation in actual experience depending on many factors, I do not believe any satisfactory single set of tables can be found.

In Illustrative Case No. 4, I do not agree with the division of the monthly wage into proportions depending upon the attainment of majority by each of the four minor children. I believe that as each child attains majority, assuming that no further support will be needed from the father, the amount available would still be split among the surviving dependents. The mother certainly had an expectation of receiving the benefits of the full income with the father after all the children had attained their legal majority. I can understand that the railroad company would content itself with assuming a contribution that would reduce in the future, but it does not seem to me to be at all realistic.

LENARD E. GOODFARB:

This paper provides us with a workable method of computing the damages that the defendant should be liable to pay for causing the death or disability of a wage earner, according to his expectation of life, with some consideration given to temporary disability, lay-offs, and advancement according to seniority.

The purpose of this discussion* is to throw some light on situations and people not covered by the paper.

These classes of people and situations are as follows: (i) Children, (ii) Substandard Risks, (iii) Disability, (iv) Rate of Interest, (v) Professional People, (vi) Business People, (vii) Unemployed, (viii) Salary Continuance Plans and Life Insurance and Disability Insurance, (ix) Salesmen, (x) Husbands and Wives.

i) *Children*

Parents may recover for loss of anticipated earnings during minority, and most courts do not allow the defendant in fatal cases to deduct anything for the expenses that would have been incurred for the support of the child. In the event of disability the child, and not the parent, can recover for anticipated earnings of the child after majority.

ii) *Substandard Risks*

Although the mortality tables are compiled from the experience of life insurance companies and based upon the lives of healthy persons eligible for life insurance, most courts will admit them in all cases (even substandard risks or uninsurable risks) for what they are worth. However, a recent Pennsylvania decision recognizes a discretion in the trial court to exclude evidence of the plaintiff's expectancy under the life tables if the plaintiff's health at the time of his injury was such as to prevent him from being a normal risk.

iii) *Disability*

If the plaintiff (in nonfatal cases) can show a probable shortening in the life span (even though there is present capacity to earn a livelihood), it seems that he should be entitled to compensation for the loss of earning power in the years which will be cut off.

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iv) *Rate of Interest*

The practice that the United States Supreme Court suggests is that, regardless of the legal rate of interest, the rate should be adopted which, under the evidence, corresponds to the yield which persons without financial skill could safely secure on their investments.

v) *Professional People*

If the plaintiff was engaged on his own behalf as a doctor, lawyer, or in some other profession, evidence of his past earnings comes in to show the value of the time lost.

vi) *Business People*

Serious difficulties arise where the person injured was or is in business for himself. It is only where the profits of the business are chiefly dependent on his own efforts and not upon capital invested or the labor of employees that the courts will permit evidence of the past profits and their diminution during plaintiff's absence from business to be used to show the value of the time lost. In practical effect, this limits such proof to cases where the business is a small enterprise where little money is invested and where the plaintiff himself does most of the work.

vii) *Unemployed*

If the plaintiff were out of employment at the time of the injury, resort must be had to a claim for loss of the value of his time rather than for interruption of current earnings.

viii) *Salary Continuance Plans and Life Insurance and Disability Insurance*

If the plaintiff's employer continues to pay the plaintiff his wages or salary during his disability, as a gratuity, the plaintiff could hardly be said to have lost any wages, but this generosity ought not to lessen the amount which the wrongdoer should pay, and in these cases the courts have insisted that it is the "value" of the plaintiff's time that is a measure of recovery.

Similar principles would seem to apply to gratuities to the widow or family in the event of the death of the employee, and also to the fact that the injuries caused some of the plaintiff's insurance policies to become payable.

ix) *Salesmen*

Even where the compensation is based upon commissions upon the amount of business done, the average past earnings offer a fair index of the earning power.

x) *Husbands and Wives*

For damages for the loss of husband and father the courts are not so materialistic as to limit compensation entirely to the said loss of purely tangible contributions of money, property, shelter, and food. The evidence may show that the father would have bestowed upon his children care and attention directed toward training, of practical and financial value which, however difficult to estimate in money, is allowed if proven.

The widow, likewise, if she can show that, in addition to the protection and companionship of her husband, which are usually excluded from recovery, she has received valuable help and advice from him in the management of her separate estate or the conduct of a business of her own, would presumably be entitled to show this as a "pecuniary" loss. It would seem that, in estimating the value of the claims of the wife and children for the loss of the father's support, contributions, and training, the life expectancy of the claimants as well as that of the deceased would be material, but it is not ordinarily proven or considered, since they would usually be expected to live longer than the father, and consequently his life expectancy furnishes a fair criterion of the duration of the probable benefits.

The husband's power to recover for the loss of his wife's services, past and future, in the household, or of a domestic character, has not generally been impaired by modern statutes. Such assistance cannot be appraised upon a commercial basis, and the proof of market value of the services of the wife in the household is unnecessary, and the jury may assess their worth in the light of common experience. The fact that the family is one of means, rendering it unnecessary for the wife to perform any manual household work, does not rob her services of substantial value.

(AUTHORS' REVIEW OF DISCUSSION)

THOMAS C. SMITH AND FRANK L. GRIFFIN, JR.:

The gentlemen who have discussed this paper have added a great number of interesting sidelights and instructive comments on this problem of establishing a reasonable measure of damages in accident cases.

We are grateful particularly to Mr. Fenichel for relating some of his varied experiences in cases of the kind described in the paper, a narrative which readily indicates the patience and fortitude so frequently demanded of an actuarial witness. Actuaries interested in this particular subject will derive much benefit from reading his discussion. It illustrates the practical problems involved in testifying on a technical subject, as well as the struggle in the courtroom between realism and self-interest, on the one hand, and theory and sentiment, on the other.

We are grateful also for the remarks of Mr. Williamson, who has pointed out some of the obstacles to an accurate assessment of a financial loss which depends upon many contingencies, and for the remarks of Messrs. Archibald and Ward, who have raised additional questions. Some of these questions we shall attempt to answer. For others there probably is no completely satisfactory reply.

Both Mr. Williamson and Mr. Ward have indicated that pension rights attributable to the injured or deceased person's employment, either lost or diminished by reason of the injury, might be considered in measuring "earnings lost." This point was not ignored in our preparation of the paper; on the contrary, our illustrations for death cases include such an allowance. The reason why we rejected this factor in personal injury cases was not, as Mr. Ward's comments would seem to imply, to obtain a lower value for the defendant, but on the proper grounds that the railroad employees for whom the computations were made were already in receipt of a disability pension of greater value than a deferred old age pension. In all fairness to the court, and in clarification of any misunderstanding which Mr. Ward may have, it should also be said that mention of such disability pension was not allowed in evidence, lest it prejudice the jury *against the plaintiff*.

Under other circumstances, in injury cases where no pension of commensurate value is payable upon disability and in death cases, a good argument can be made for evaluating the old age pension lost by reason of terminated employment. When this factor is considered, however, it will not generally have a very great effect at the younger ages where the probability of remaining in service until retirement is quite small.

Another point which has been raised is the possibility of considering future advances in pay in obtaining a measure of loss. To the extent that such advances result from reasonably determinable merit increases or changes in job classification, the point is well taken. However, it has even been suggested, outside of this formal discussion, that allowance be made for continued inflation as well as merit increases. Surely the idea of capitalizing future depreciated dollars for a present cash settlement in terms of the "better" dollars of today is completely foreign to the concept of equity because of the corresponding decline in future purchasing power of the dollar. It would have been better to suggest measuring these higher future earnings in terms of purchasing power after taxes and inflation, which would be every bit as reasonable a theoretical approach and just as impossible in practice.

In the paper we have attempted to make allowance for all factors which it is practicable to consider in computations of this kind, and we believe that those which have necessarily been ignored will not result in any substantial, demonstrable bias in favor of either the plaintiff or the defendant. If anything, as stated in the paper, the ignoring of certain periods of time lost from work automatically favors the plaintiff who, being the injured party, may be considered by many as deserving of the benefit of the doubt. We do not subscribe, however, to the type or degree of bias in favor of either party which is inherent in actuarial testimony frequently adduced by plaintiff's counsel, through the use of improper tables, abnormally low interest rates, annuities-certain, and other incorrect methods.

This leads us naturally to a question posed by Mr. Archibald relative to the role of the actuarial witness. He has inquired why the actuary for the plaintiff should testify on the basis of incorrect methods or unrealistic assumptions even if so requested by plaintiff's counsel. The answer probably is that counsel would seek out such witnesses until he found one who *would* testify to his questions without inquiring into their purpose or propriety. A truly professional actuary will not often accept such a role. As a result, some "actuarial" witnesses in cases of this kind are, or have become, mere computers, to use Mr. Archibald's phrase. On the other hand, it would be ridiculous to conclude that counsel for either side is an unprincipled scoundrel merely because he fights for his client with all the weapons at his command.

We will close this reply with one further comment. Our paper sets up methods which could be applied more generally than to the railroad industry alone, for which our particular tables were prepared. In order to apply these methods elsewhere, however, other tables based on appropriate statistics would be needed. While mindful of the difficulties of doing this for many diverse groups, we believe that a standard table introduced through statute, which would stand as prima facie evidence (in the absence of evidence to support a different choice), would be a boon to the courts and to the legal profession.