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DEVELOPING AN ACTUARIAL PROGRAMMING LANGUAGE

by Russell J. Mueller

Editor's Note: This is a summary of a much more extensive paper on the question of a programming language. A limited number of copies of the complete paper are available from Mr. Mueller whose address is Hewitt Associates, Libertyville, Ill. 60048. A bibliography is also available on request. Mr. Mueller compiled the TM2 System Users Manual for the Tablemaker language developed at the National Institute of Health.

Since the beginning of the use of large scale digital computers to solve actuarial problems, there has been distinct evidence of the so-called "communication gap." This communication problem manifests itself in several ways.

A communication gap may occur between the actuary requiring the solution to a problem and the professional programmer or individual enlisted to code the program for a digital computer. This general problem arises from the specialization of each within his own profession and it has been encountered by scientists and businessmen in their attempt to utilize the efficiencies of large scale computing machinery.

Another gap occurs between the actuary coding his own solution and the computer system executing the program. This is generally due to the lack of time for the actuary to completely familiarize himself with the intricacies of computer languages and systems.

It has been stated that "the greatest single obstacle to more widespread use of the computer has been the insufficiency in variety and power of the higher level languages needed, especially by non-professional programmers." The trend has now been set for the develop-

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ABOUT ACTUARIES IN THE PHILIPPINES

by Robert L. Bergstresser

Editor's Note: The author, former Actuary of the United States Life Insurance Company, has been a missionary in the Philippines for the past 15 years, during which time he has actively participated in the Actuarial Society of the Philippines, serving on the Board of Governors, and as President for one term.

In the examination results published in January by the Society of Actuaries, no less than six of the new Associates were from the Philippines. This underscores the close relationship between Philippine actuaries and their American counterparts and warrants a brief report.

From the American regime in the Philippines, we have inherited the "Convention Blank" form of annual statement, and reserve bases like the American Experience, and CSO—CRVM. Probably because of this close parallel between American and Philippine practice, more than half of the Philippine actuaries have taken actuarial courses at the University of Michigan, on the undergraduate or graduate level, and have personal and business contacts with American actuaries.

Organized in 1953 with eight members, the Actuarial Society of the Philippines now has 41 full members (Fellows), plus four non-resident members (Special Members) and 31 Affiliates. Until 1969, the Society did not set its own examinations, but recognized membership in actuarial societies of other countries. In the absence of such membership, the Society prescribed minimum requirements in the areas of college actuarial studies and responsible practical experience, for full member-

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STATISTICS ON 20 YEARS OF THE "ESTABLISHMENT"

by Thomas P. Bowles, Jr.

In this age of protest groups, various words have come swimming to the fore. Notable among these words is the "establishment"—and in most cases, this dignified old cliché has taken more punishment than the second toughest kid in the third grade. In fact, you may have attended a recent conference and listened to a Protestant minister analyze the forces at work in the "movement" on college campuses. There is, he contended, among those who are a part of the movement a vigorous opposition to the "establishment." We bring up this point because from time to time there have been members of the Society who have identified themselves with a movement and have also identified the "establishment."

An actuary has often been described as "a person who can reach any conclusion you give him." This article is not intended to give you conclusions or to make recommendations. Rather, it is to let you form your own opinion: Is an "establishment" good or bad? More importantly, do we have an "establishment" within the Society of Actuaries?

For purposes of discussion (and dissension) let's define the "establishment" as "a group of people who have been in a position of 'running things' or making decisions for an organization for a number of years." If we accept this definition, the "establishment" within the Society of Actuaries is the Board of Governors.

"Change, change, change", we hear. "Younger men. Fresh blood."

Or, you may demand, "What's wrong with experience?" Or . . . "Who says the Board of Governors consists of men

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Conglomerate Management

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nies have set up executive incentive compensation plans tied to profits or return on investment—often by explicit formula. However many different forms this part of the acquisition-management process might take, they all add up to providing an intelligent, vigorous, know-where-you're-going brand of leadership that creates a strong atmosphere for change throughout the entire company as well as a feeling of confidence and enthusiasm among the key executives in the acquired organization.

The third element to which management of successful conglomerates gives attention is that of getting the newly-acquired company to adopt quickly the parent company's approach of planning and control so that the acquisition can establish sound operating objectives and other performance criteria, and so that it can also furnish to the parent company the kind of management information that will enable the later to exercise meaningful control.

This requirement, as I suspect some of you have already found out, poses a particularly knotty problem for most life insurance companies that are about to embark on the acquisition trail. The reason lies in the present condition of the planning and control processes and management information systems in most life insurance companies.

The extremely detailed schedules of the convention statements give life insurance executives the illusion that they possess a fairly extensive system of financial controls. But, the liquidation-accounting approach required by state insurance departments places minimum emphasis on information needed to manage the business. In addition, few if any life insurance companies have identical accounting systems. And so even two life insurance companies in merging find it difficult to consolidate their systems. In light of this fact, it's almost inconceivable that a life insurance company's budgeting and management information systems would be useful for controlling any other form of business.

So it seems clear that one of the most compelling requirements that any insurance company faces in moving into the conglomeration field is that you have to develop a whole new set of plan-

ning and control tools, in many instances far more advanced than those you now use, if you're to maximize the potential from your acquisitions.

Let me—by way of a wrap-up—acknowledge that there's nothing new in the management techniques or approaches that I've outlined. As a matter of fact very little in the area of basic management principles is really new. A top executive of Procter & Gamble expressed this point well when he was asked to explain the reasons behind his company's outstanding and long-sustained leadership in its industry. His reply was this: "In the main, our competitors are acquainted with the same fundamental concepts and techniques and approaches that we follow—and they are as free to pursue them as we are. More often than not, the difference between the level of their success and ours lies in the thoroughness and self-discipline with which we and they develop and execute our plans."

Realistically, we must recognize that there's no secret weapon, no magic formula that will ensure the success of any acquisition program. The ingredient that makes the difference is probably the scarcest of all resources—good management—management which never underestimates the size and complexity of any acquisition and, therefore, never fails to invest the time, imagination and leadership that are the price of success.

In the final analysis, this is the synergistic catalyst that makes two plus two equal five—and not just three or even less, as has been the case with a number of unprofitable acquisition programs. □

Philippines

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ship. Persons with an interest in actuarial work could enroll as non-voting Affiliates, and attend meetings of the Society. Commencing in 1969, the Society plans to have its own educational and examination program leading to Associateship (a new designation) and then to Fellowship.

A period of rapid formation of new life insurance companies in the last 10 years has created a sudden demand for additional actuaries. The financial difficulties of some of the new companies have impelled the Insurance Commis-

sioner to propose a ruling that each company have its own full-time resident actuary, a condition impossible to attain at present. Of the present 41 Fellows, 22 are with life insurance companies, 10 are with the several government insurance programs, one is in the Insurance Commissioner's office, and the others are in various private capacities. Fellows are automatically accredited by the Insurance Commissioner for certifying reserves and other actuarial data in the financial statements.

The actuaries meet quarterly for discussion of current topics, and have an annual convention at which formal papers are presented. The program committee shows a refreshing originality; the 1967 convention was held on an inter-island excursion steamer (attendance at the sessions was 100%!) and the 1968 convention took place in Taiwan (at which, alas, a quorum was not present!) Copies of the *Proceedings* of the Society are sent to the Library of the Society of Actuaries.

A continuous inter-company mortality investigation has been in progress since 1956. In 1966 there was published a graduation of the first-eight years' data covering exposures of 650,257 life-years (P 2,650,000,000) and 2,245 deaths (P 11,300,000). It is interesting to note that at ages below 40, the ultimate death rates are about 15% higher than for Table X-18 (the 1958 CSO Basic Table), but thereafter show a much slower rise, and run about 5 or 6 per thousand below Table X-18 at ages 55 - 65.

Other committees of the Society are gathering data on persistency, expenses, and build, and studying taxation or operations research. These present remarks are submitted on behalf of the new Committee on Foreign Relations, which hopes for an enlargement of our contacts with American actuaries, and extends to you a cordial invitation to visit us, as 10 of you have already done! □

BIBLIOGRAPHIES

The Committee on Research has in preparation Bibliographies on —

Numerical Analysis

Decision Theory

Game Theory and Gaming

These will be prepared in the Fall, and there will be a later announcement of their availability. □