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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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The "Establishment"

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no have served more than their allotted time?"

Well, just hold it my good Fellows, and we shall see what the facts show. (Just the facts, Fellows.)

Yes, indeed! But remember the statistics you are about to read pertain to the Society of Actuaries from its birth in 1949, an offspring of the merger of the Actuarial Society of America and the American Institute of Actuaries, to the fiscal year ending with the Fall meeting in 1969. This odd number of Board years is derived from the fact that during each of the fiscal years beginning in 1949 through 1959 there were 27 Board members except for 1950, when there were 28. In the years beginning in 1960 through 1968 there were 29 Board members in each year. Add them up, 559. Based on the individual's status at the beginning of each fiscal year, the distribution of these 559 membership years among type of employer at beginning of year of service is as follows:

Board Years

Type Employer	U.S.	Canadian	Total
Stock Life	147	46	193
Mutual Life	253	29	282
Consulting	35	3	38
Government	17	4	21
Teaching	4	0	4
Retired	5	0	5
Other	11	5	16
Total	472	87	559

Facts: The 559 Board membership years have involved 103 people. On an average each person was on the Board for 5.4 years. There were 60 people who had membership less than the average and 43 who had more than the average. Conclusion, please?

Breaking it down into people years, the chart reads like this:

1 — 3*	52
4 — 6	14
7 — 9	20
10 — 12	8
Over 12	9
	103

*One year includes, for example, any Board member elected in 1968, not having served before, because

ACTUARIAL MEETINGS

- May 6, Actuaries Club of New York —Senior Branch
- May 8, Baltimore Actuaries Club
- May 19, Chicago Actuarial Club
- May 20, Twin Cities Actuarial Club
- May 22, Actuarial Club of Indianapolis
- May 22, Actuarial Club of the Pacific States
- May 22, Nebraska Actuaries Club
- May 22, 23, Middle-Atlantic Actuaries Club
- May 22, 23, Actuaries Club of the Southwest—Spring Meeting
- May 23, Actuaries Club of New York —Annual Outing—Joint Meeting
- May 25-28, Casualty Actuarial Society, Tamiment, Pa.
- May 26, Wisconsin Actuaries Club—Spring Meeting
- May 28, Seattle Actuarial Club
- May 28, Actuaries Clubs of Boston and Hartford—Joint Meeting

Board membership years are reckoned only to the Fall of 1969.

Case for the yeah-sayers: Note that 52 people (of the 103) served on the Board for only 1—3 years.

Of the 103 people who have served on the Board, 62 achieved Fellowship prior to 1935 and 41 in 1935 or later. For this latter group the following table gives the number of years following Fellowship when the individual first became a Board member:

No. of Years FSA When First Elected	No. of People
7 — 9	3
10 — 14	11
15 — 19	13
20 — 24	11
25 and over	3
	41

A tongue-in-cheek observation: For this group, the average number of years as a Fellow when a person first became a Board member was 17.3 years.

Whereas the average number of years served on the Board is 5.4, the average number of continuous years served on the Board is 4.4. Continuous membership involves the longest period of con-

tinuous membership. A distribution of continuous service is as follows:

No. of Continuous Years	No. of People
1 — 3	64
4 — 6	16
7 — 9	18
10 — 12	2
13 and over	3
	103

Now, about the present Board: Each non-officer Board member is usually elected for a term of 3 years. The present Board, 29 people serving from the Fall of 1968 to Fall of 1969, may be distributed by number of years since attaining Fellowship, number of years on Board and number of continuous years of service:

No. of Years Since Fellowship	No. of People
10 — 15	3
16 — 20	15
21 — 30	3
31 and over	8
	29

(Average number of years since fellowship: 23.8)

No. of Years on Board	No. of People
1 — 3	12
4 — 6	8
7 — 9	3
10 — 12	2
13 and over	4
	29

(Average number of years on Board 5.5)

No. of Continuous Years on Board	No. of People
1 — 3	19
4 — 6	5
7 — 9	5
	29

(Average number of continuous years on Board: 3.5)

You be the judge: Is the "establishment" in reality composed of a pride of lions? Or is it a status symbol that a Fellow attains for longevity in the Society? Or, really, is there an "establishment?" □