

# Dividend

The Magazine of the Graduate School of Business Administration • University of Michigan • Winter, 1975



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Editor:

In the editor's note at the beginning of the article, "How Good Is Gold" (Fall, 1974), you specifically state that you're going to cover the question of how good an investment gold really is. The question is an extremely important one for all Americans and the subject is most certainly a timely one.

Unfortunately, the article amounts to an interview with Mr. Dufey which rambles into a number of entirely unrelated questions and does not answer the question—how good an investment gold really is? You delve into more esoteric questions such as fixed and floating exchange rates and the advantages of each, etc., and avoid the question facing all Americans today—should they purchase gold coins or bars?

In addition, Mr. Dufey has given some extremely misleading answers to several questions. I would certainly disagree with the statement that gold, in the minds of most people, means fixed exchange rates. Most Americans' have never in their lives considered the definition of fixed exchange rates. On the other hand, they have had to face up to an incredibly bad market for virtually all stock and bond investments and have had to face up to very serious personal budgetary problems because of inflation, and because of this, many people have considered gold coins and gold bouillon and are faced with a decision as to what do about these investments at this time. Again I think your article is generally confusing and very misleading with regard to these questions.

Finally, with regard to the question—does it matter whether a currency has a high gold backing, Mr. Dufey has given an incredible answer which is most certainly demonstrably dead wrong.

He stated that it is very important

to realize that for a long time no one has been able to go to any central bank anywhere and demand gold in exchange for paper currency—no matter what the gold backing, so that the percentage of gold backing isn't very meaningful.

I cannot imagine that Mr. Dufey, or anyone else informed in international economics, would make such a statement because it is true that in Switzerland and France and a number of countries, you can go not only to a central bank but any bank and exchange the paper currency of that country for either gold bouillon or gold coins at the free market rates established at the previous fixed rate?

As a matter of fact, there are very few countries which refuse to convert their money into gold. Those few include Soviet Russia and the United States of America—among others.

Mr. Dufey failed to understand the human and moral and ethical question concerning the difference between gold and paper money; which is nothing more than an IOU. Each printed bill has the word "Note" on its face and this means that it is, in fact, an IOU. With regard to IOU's, generally some form of collateral or guarantee is thought of as appropriate for an IOU. Unfortunately our country has no backing for its IOU's and morally and ethically it should and must.

Generally, I think you have done a disservice to your readers on a highly critical problem facing all Americans today and you should run an additional article which addresses itself specifically to whether or not people should consider investing their life savings or a portion of such in gold coins and gold bouillon or gold stocks.

There are also a number of errors of fact in Mr. Dufey's answer with regard to the advantages of holding foreign currencies which I will not

attempt to go into at this time, but suffice to say that anyone who exchanged dollars for Swiss Francs in 1970 has profited handsomely from this transaction without virtually any risk of any kind.

Sincerely,

Lawrence T. Patterson, MBA '59  
Cincinnati, Ohio

*We are sorry you expected an article with a different content than the-one published. Our intent was not to give investment advice on gold (since a great deal of advice of that nature had already been published in commercial and news weeklies) but rather to put gold in perspective in both its monetary and commodity roles. It was this purpose that produced questions on fixed and floating rates. The disagreement between you and Professor Dufey on gold buying and central banks seems to hinge on Dufey's point that one does not "redeem" currency for its gold backing, as contrasted with your point that gold can be purchased on the open market by paying foreign currencies.*

Editor:

My compliments to both *Dividend* and the *University of Michigan Business Review*. Pringle Smith and Patricia Shontz are both to be congratulated for both format and informative, quality, material. Especially enjoyed the account of the new faculty in the Fall, 1974 issue of *Dividend*.

Robert G. Cope, BBA '59  
Mercer Island, Wash.

Editor:

The Fall issue of *Dividend* is the best of a lot of good issues. As a professor at Ferris State College, I find useful information for the classes I teach. It appears the *Dividend* is getting to the basic issues—teaching students to be employable in the shortest time span possible.

Warner Forsyth, BBA '47  
Big Rapids, Mich.

# Dividend

*The Magazine of the Graduate School of Business Administration*

*Volume VI, No. 2*

*Winter, 1975*

My Computer Doesn't Talk to Your Computer 4

*A Dividend Interview*

The complexities of computer technology have made it difficult to transfer data from one computer system to another. Here Alan Merten, associate professor of management science, discusses some of the problems and what his project in data translation is doing to solve them.

The Search for Security and What It Costs 9

*by Charles B. H. Watson*

The author, who visited the School as an Actuary-in-Residence, gives warning that his article consists of "A few random thoughts on isolated areas of concern that may or may not in some fashion bear upon the question of human security, preceded by a lamentation as to the impossibility of analyzing or even defining the topic in the space allotted, and concluding with a cry of alarm at how much the whole thing costs."

Secretary Simon Speaks at Annual Business Conference 13

The sixth annual business conference was especially successful this year. Treasury Secretary William Simon was the featured dinner speaker, and more than 500 businessmen participated in the conference, held at Cobo Hall in Detroit. Here we bring you pictures and captions on some of the executives who were there.

Among Ourselves 18

School building undergoes renovation; Does it pay to get an MBA?; Art Hann dies suddenly; DOR publishes book on medical care industry; U-M students score high on CPA exam.

School Breaks Ground Again! 26

Even though it was a cold and blustery November day, people didn't seem to mind as they turned out to watch Professor William A. Paton break ground for the Paton Accounting Center (see cover). Turning out for the groundbreaking, besides faculty and students, were representatives of major public accounting firms, as well as U-M planners and architects. Here we picture some of the people who were there.

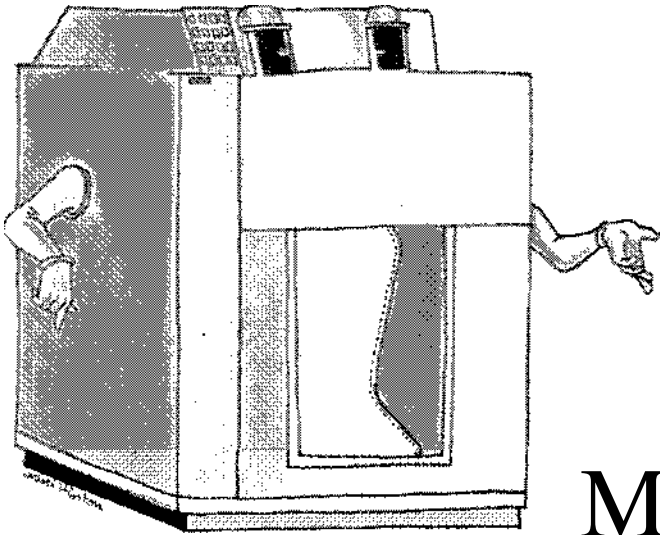
*Cover photograph by Virg Geren*

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*Editor: Pringle Smith*

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# My Computer Doesn't

*Editor's Note:* The Data Translation Project at the Business School is developing a practical method of transferring data (and ultimately programs) from one computer system to another. Dr. Merten, director of the project, has published on information systems design and the transferability and translation of programs and data. In this interview, he explains some of the complexities and problems connected with data translation, and offers some approaches to solutions.

Q. *Why is it that my computer doesn't talk to your computer?*

A. Because of the tremendous increases in technology and the desire of computer manufacturers to maintain a competitive advantage, each computer system has a unique set of characteristics for storing and processing information. This makes it impossible or extremely costly to transfer data. Also computer manufacturers have different approaches to computer design, and differences developed when we moved from generation to generation.

Q. *What do you mean when you say "generations" of computers?*

A. It is generally recognized that there

are three different generations of computers. We now claim we are in the third generation. The first generation began in the early 1940's and lasted until approximately 1957. During this time the primary use of computers was for scientific and military applications. The second generation began around 1957 and went through about 1964. In this generation, computers began to be used for both scientific and business applications—and different technology was needed to support the different applications.

Q. *Would you explain the difference between first and second generation computers?*

A. In scientific applications (the primary use of the first generation computer) the main objective was to use the computer to perform mathematical computations very fast. That is, we might have a small amount of data, but perform many different computations using that data. In business applications, on the other hand, we have large amounts of data, but perform a relatively small amount of computations on each element. For example, in a payroll system, we might have thousands of employees and thousands of characters of information to describe one employee, but each pay period we might want only

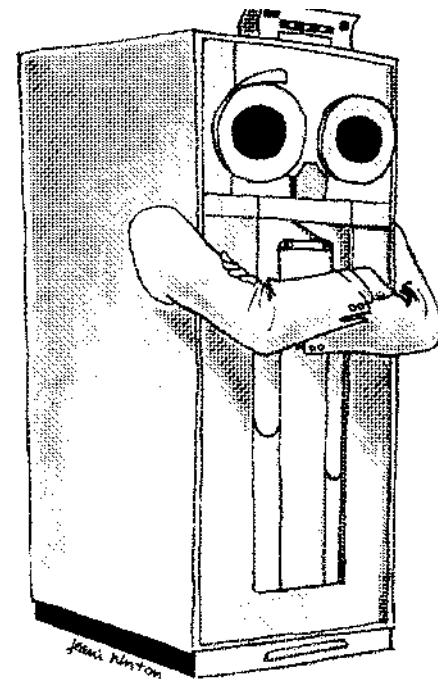
to extract a pay rate and compute a salary. Because of these needs, we began to see technology developing memory devices that could store and maintain large amounts of data.

Q. *Are there different classes of memory devices on computers?*

A. Yes. We normally recognize two. One is the memory in which we must record data and programs before we can actually perform an operation on the data. This is often called "primary" or "executable" memory. The other is the memory on which we store information for extended periods of time—this is "secondary" or "auxiliary" memory. For instance, a payroll file would be stored on the secondary memory during the month, and then when payroll was run, each employee record would be brought from the secondary memory into the primary memory—one at a time. Inside the primary memory there would be a place to store the employee record and there would be the computer program that computes the salary and generates the paycheck. All data must be brought into the primary memory before anything can be done with it or to it. Primary memory is much more expensive than secondary memory. The amount of secondary

*A Dividend Interview with Alan Merten  
Associate Professor of Management Science and  
Director of the Data Translation Project*

# Talk to Your Computer



memory on an organization's computer system far exceeds the amount of primary memory, and there are many different types of secondary memories.

*Q. What do you mean, different types of secondary memory?*

*A.* Some examples are magnetic tapes, magnetic disks or magnetic drums. Each of these has different characteristics in terms of the amount of information that can be stored, the cost of storing one character of information and the speed with which the information can be transferred between the device and the primary memory.

*Q. Is this incompatibility the only reason why machines cannot communicate?*

*A.* No. Over the years, programs written for computers to process data have been written in many different languages.

*Q. What do you mean by computer languages?*

*A.* Early in the first generation of computers, the only way in which a person could describe his or her requirements to the computer was by using sets of ones and zeros, which make up what we refer to as the

machine language. But then machine language programs were developed during the first generation which could convert specifications written in an English-like language into machine language. One such English-like language was called FORTRAN (short for FORMula TRANslation); and while it was a good language to describe scientific requirements to the computer, it was not good for business uses.

*Q. Was there a language developed for business users?*

a group of users, government representatives, and computer manufacturers developed specifications for a business language called COBOL (short for COMmon Business Oriented Language). Many different languages were developed for computers during the first and second generations. FORTRAN and COBOL were the most widely used.

*Q. Once you have a language, what do you do with it? Do you have to have a translator?*

*A.* Yes, you do. The language translators convert a program written in an English-like language, such as FORTRAN or COBOL, into machine language. They are called compilers

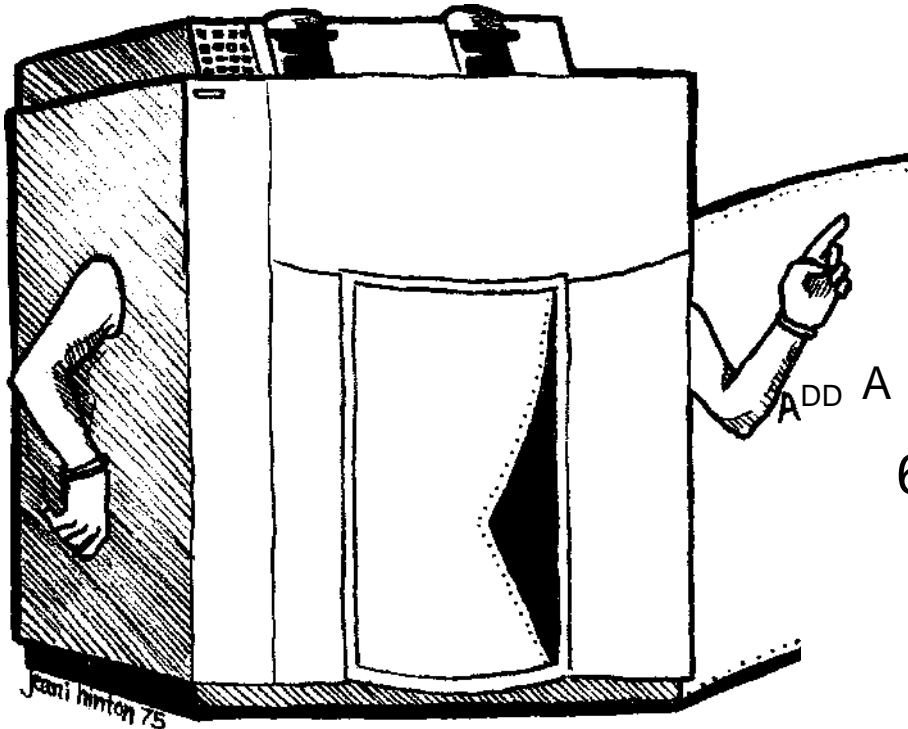
or assemblers too, but for purposes of this interview, we can refer to them as language translators.

*Q. We've talked about English-like languages. Are there other languages used to communicate to the computer besides English?*

*A.* As far as the language translator is concerned, it looks at a program written in a language such as COBOL as just a string of characters. It has a set of rules which convert identified strings of characters into specific machine instructions. Therefore, it's possible to have higher level languages that correspond to any human language.

*Q. What do you mean "higher level" languages?*

*A.* The lowest level language is machine language. FORTRAN and COBOL are referred to as "higher level" languages. The higher we go, the closer we get to the user. The highest level language would be English or German or whatever. But we are a long way from being able to communicate with a machine in such high level languages.



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Q. *What do computer scientists do in non-English speaking countries? Do they use English for computer purposes?*

A. Because most computers were designed and constructed in the United States, the high level languages that are most commonly used are English-like. I am always amazed by the language computer specialists speak in foreign countries. Their language in technical discussions is a combination of their mother tongue, "computerese," and English. Many computer-related technical terms that were developed in the United States have been transported to other languages without change—for instance "input" and "output." I gave a talk in Spain that was simultaneously translated. There were discussions during the breaks concerning whether the translators should attempt to translate some of the technical terms into Spanish, or just pass them on in English.

Q. *Since machines can all have language translators, why can't my computer talk to your computer?*

A. It's not that simple. It's true that most manufacturers built translators for COBOL, because customers (mainly government agencies) refused to buy equipment from a manufacturer unless it included a COBOL translator. But that didn't make all computers "speak the same language."

Q. *Why not?*

A. The problem comes because while we have standardized programming languages, we do not have standardized data formats. As computer technology has developed, manufacturers have provided many different ways of storing data. Even though I may say (in COBOL) the equivalent of "increase salary by six dollars" and COBOL is standardized—the salary of an employee may be stored in different forms in different computer systems. Remember the

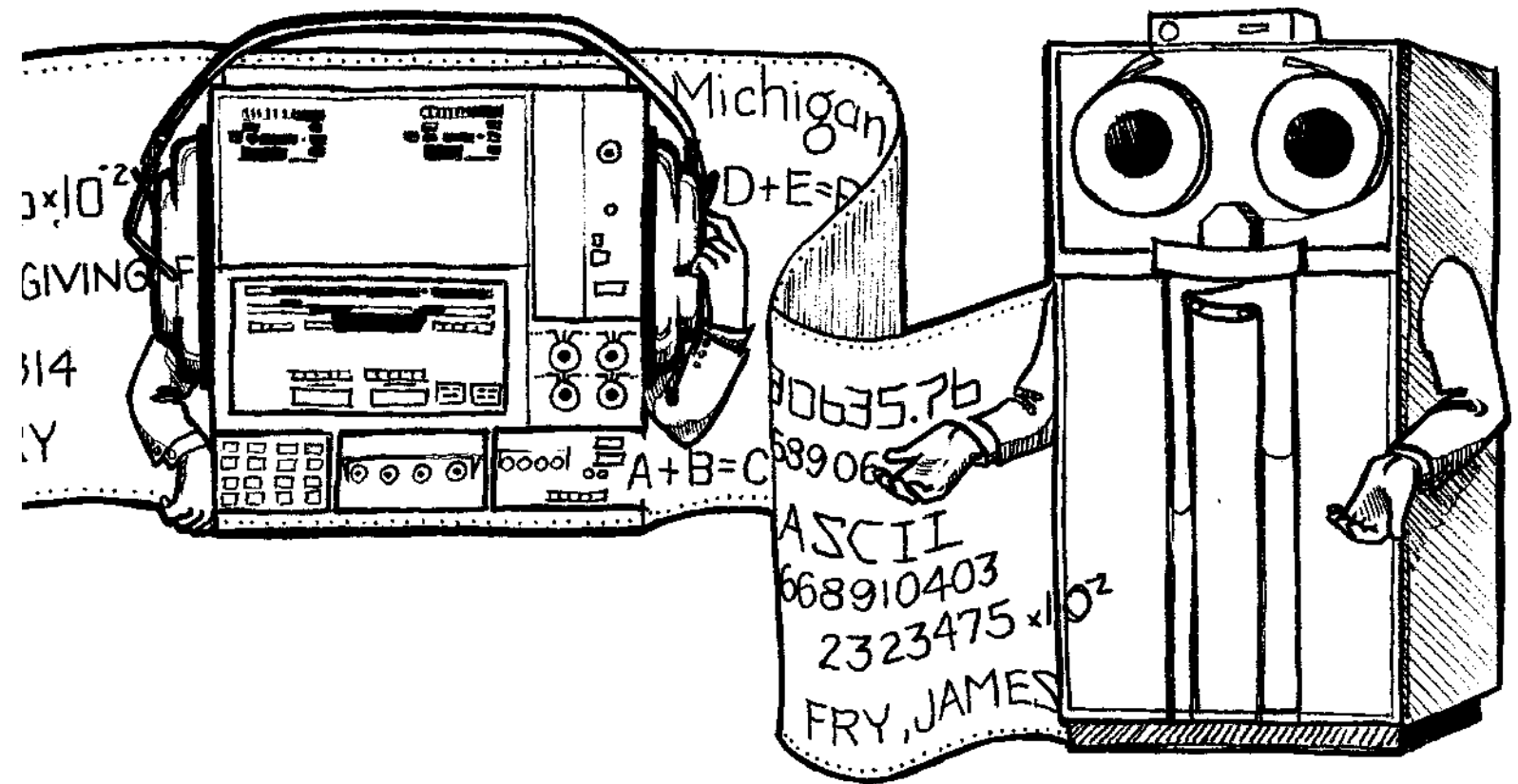
secondary memory devices? The format used to store information on a magnetic tape differs from the format used to store that same information on a magnetic disk. Similarly, formats used on magnetic tapes written by an IBM computer will differ from the formats written on a tape by a Honeywell computer.

A. *i" am beginning to see why computers have difficulty communicating! Could you tell me a little more about generations of computers? We have talked about the first and second generation. But isn't there a third generation?*

A. Yes, we are now in the third generation of computers.

Q. *How do they differ from previous generations?*

A. In the second generation, the most widely used secondary memory device was magnetic tape. This was very useful for performing what we call "batch processing" of information. For instance, it could be used in an



inventory control system in which we record additions and deletions from inventory during the day and at the end of the day convert the information to some machine-readable media and process it in a batch to update an inventory master file. But there are other kinds of processing needs which require a different class of memory devices, most of which were developed in the third generation of computers.

Q. *What different processing needs?*

A. Let's assume, for the purposes of explanation, that the next time you went to the airport to confirm an airline reservation, the clerk told you that you had to wait until about 50 more people came and asked to confirm their reservations, and then all of the requests would be batched together and processed according to the sequence on the master file on which all reservations were kept. Finally a report would be available telling you whether your reservation was confirmed. That type of service and processing would obviously be inadequate for your needs as a cus-

tommer. What that situation requires is a system in which each transaction is processed when it enters the system. In other words, what is needed is the ability to use the computer to perform *random* processing. This ability emerged in the third generation of computers.

Q. *Are there sharp lines of demarcation between each generation of computers?*

A. Not really, although most people say the beginning of the third generation was in 1965, when IBM introduced the 360 series of computers. But the use of the term "generation" implies more of a dramatic change than actually occurred. The process is more of a continual change rather than a dramatic revolution. Third generation computers can cope with random requests without having to scan or search through large amounts of information. Another difference between generations is that third generation computers can run more than one program at the same time.

That is, a computer system can be used in a inventory control operation at the same time it is being used to support a set of terminals which are being used in an order-entry system.

Q. *Does the technology of the third generation of computers add to the communication problem between computers?*

A. Yes, because there are more options in the building of devices such as a disk or a drum than there are in a tape. While the tape has only one method of access (sequential) a disk or drum can access information in many different ways.

Q. *Can we modify second generation computers to make them third generation?*

A. No, the processing and memory technology is such that we need an entirely new set of hardware. However, it is possible to use large capacity storage devices, such as tapes, on all generations of computers. In an effort to reduce some of the conversion

costs, the third generation computer systems have a modular design so that an organization can start small and add components. However, manufacturers usually do not produce software systems which can be easily expanded. In other words, though the hardware is modular, the software is often *not* modular. In addition, we would like to run a program designed for a second generation machine on a third generation machine.

Q. *What is the difference between computer hardware and software?*

A. Hardware is computer equipment on which we store information, perform mathematical and logical computations, and enter and display information. Software tells the hardware what to do. For example, if you wanted to tell an elevator to go to the eighth floor, and you said "eight," there would have to be some device in the elevator that converted your spoken word "eight" in such a way to activate the electronics of the elevator. That thing would be called "software" or "program."

Q. *Can you give me an example of software?*

A. There are three classes of software. The first two operate at the boundary between the machine and the person. The first class is the language translator that we have already discussed. The second class controls the operation of the computer hardware. In the third generation computer system, we can run two or more user programs *at the same time*, thus increasing the capability of the computer. However, in order to keep these various programs from interfering with each other and in order to share all the resources of the computer equally, there is another program in memory which supervises and monitors the user programs. This set of programs provided by the manufacturers is called an "operating system." This kind of software is written by computer specialists and takes into account the complexities of the computer hardware. The third class is called "application software." Examples are the COBOL and

*"Instead of building a separate program for every possible conversion between a source system and a target system, we want to develop one set of software for multiple conversion activities,"*

FORTTRAN programs written at a user's location which perform such operations as payroll and inventory control.

Q. *You have convinced me there are a great many communication problems between computers. But so what? As long as an organization has one functioning computer, why does it matter whether that computer can communicate with another computer?*

A. Let's suppose you are the head of an organization which has a substantial amount of data stored in your computer. The data includes extensive information on inventory, employee files, etc. However, you want to install a new system because it will give you processing and storage capabilities far beyond what you now have as well as allowing you to use the computer in different ways. For example, the new system will allow you to do random processing—whereas now you can only do batch processing. However, the new system and the old system are incompatible—and it will cost you an arm and a leg to convert the files between the two systems.

Q. *Why?*

A. The incompatibilities can come from three different places. First, the hardware devices could be different; second, the techniques used by the operating system to store and maintain data could be different; and third, the language translator used to translate the higher level language programs which access the data could also have different procedures for placing a user's view of information onto a physical storage device. In the past, an organization has been faced with the prospect of a conversion with little or no help from the manufacturer or supplier of the hardware system. It has been faced with the task

of writing a set of special purpose programs for the new machine to assist in transferring the data between the old and the new system. Because of the complexities and high costs of conversion, many users have failed to take advantage of the expanded processing capabilities of new<sup>r</sup> computer systems.

Q. *Is that where the Data Translation Project comes in?*

A. Yes. One of our objectives is to develop a set of computer programs and procedures which can reduce the costs of conversion. Instead of building a separate program for every possible conversion between a source system and a target system, we want to develop *one* set of software which can be used to perform multiple conversion activities.

Q. *And how can you do this?*

A. By building software that is description driven. That is, we design a generalized data translator which accepts the source file and *also* accepts descriptions of the source and target files. That means, it accepts the following information as input: 1) the source data as it exists on the system currently being used within the organization 2) a description of the source data in terms of its content, format, and the method used to store it on the existing equipment 3) a description of the data as it is to exist on the new machine in terms of its content, format and the methods used to store it on the new equipment.

Q. *Have you succeeded?*

A. In the last three years, three versions of this generalized translator have been produced for the contractor.

*Continued on page 25*



*Editor's Note:* This article is excerpted from a talk given to students by Mr. Watson when he was visiting the School as an Actuary in Residence. Mr. Watson entered the field of employee benefit consulting with the Wyatt Company in 1960. From 1968 to 1972, he served as the first executive director of the Society of Actuaries, and in 1972, returned to the Wyatt company as manager of its international division. He is currently a member of the board of directors of the American Academy of Actuaries and the Conference of Actuaries in Public Practice.

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## for Security

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## It Costs

by Charles B. H. Watson, F.S.A.



**A**N actuary has, I fear, a certain reputation to live down in everything he does—a reputation for precision as to factual details; caution, even obscurantism, in interpretation; and humorlessness in everything. With this in mind, I suspect I should entitle this article as follows: "A Few Random Thoughts on Isolated Areas of Concern that May or May Not in Some Fashion Bear Upon the Question of Human Security, Preceded by a Lamentation as to the Impossibility of Analyzing or Even Defining the Topic in the Space Allotted, and Concluding with a Cry of Alarm as to How Much the Whole Thing Costs."

Having given fair warning, I can now go on to state that I intend to present some observations as to what are the concerns of human security, what approaches are taken to insure this security, what are the costs and problems involved in providing such insurance, and where, if anywhere, do we go from here?

In presenting these observations, I intend to take a generalized approach, ranging over the entire spectrum of security coverages and choosing examples from a variety of countries. In so doing, I hope to illuminate the concepts that lie behind the insurance of security and thus facilitate the drawing of general conclusions which may, at the same time, be applicable to the solution of specific problems.

The analysis will take the form of examining in turn certain elements

Although the choice of agency, or rather the allocation of the task among various agencies, is important, I believe that the philosophic dust that can and is raised over this issue often obscures the other, more important elements of security coverages. At this point, I will merely list for reference purposes the various alternative agencies:

- The individual himself, through current earnings, savings or individual insurance.
- A private association, either voluntary (e.g. a mutual aid association) or involuntary (as for example an employer/employee relationship).
- Public or governmental insurance.

Now, the tricky philosophical question that affects the choice of agency is this. Is an individual entitled to a particular type of security coverage as a social right, or only on his own merit?

The answer to this question obviously has a major effect on how the benefit is provided. If, for example, one thinks that security coverage should be earned by merit, then it would be logical for the individual to provide the benefit himself or through some sort of private association which he can join and in which his own merits can be recognized. If, however, the benefit is viewed as a social right, government, or perhaps an involuntary association, becomes the proper medium. But more of this later.

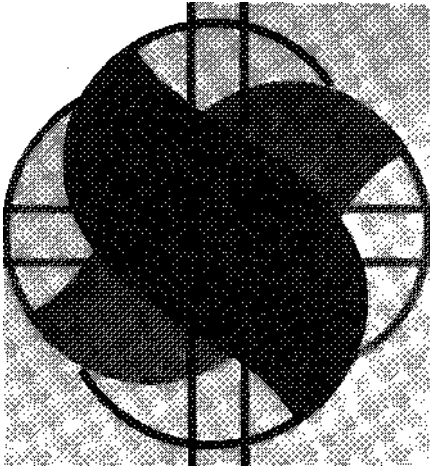
### What Do We Mean by Security?

I intend to restrict myself to the human aspects of security—death, disability, sickness, unemployment, and the problems these present to the individual. I will not discuss the problems that involve property loss, such as fire or windstorm or theft. What are the types of human security coverage that can be offered? Basically, they are: old age pension, death benefit, medical expense coverage, disability benefits, unemployment compensation and, in the view of many outside of the United States, family allowances.

or characteristics that I believe must be defined by all security mechanisms. These are:

- The security risk to be insured against.
- The type and level of benefit to be provided.
- The initiation and continuation of coverage.
- The source of funds,
- The financing method.
- The control of costs.
- The agency to provide the coverage.

It will be noted that I have left to the last definition of the agency providing the security mechanism.



### Types and Levels of Benefits

In simple terms, the type of benefit always falls into one of two main categories—either the benefit replaces lost income (as in a pension plan) or it reimburses the individual for expenses incurred (as in medical expense coverage).

The choice of level of benefit is a more tricky matter. It also depends in part on the philosophic question of coverage by merit or coverage by social right. Under the first approach, the individual's merits, or efforts, control; under the latter, a social decision as to what coverage all individuals are entitled to.

Most importantly, though, it is imperative to take all sources of benefits into consideration. In other words, you cannot just consider one source of coverage, but must set overall levels, from all sources. This means, among other things, that private pension plans should offset social security benefits, and that medical expense plans should allow for other coverages. The total benefit is what counts.

But how do you choose the total level? Should it be a subsistence or a living wage? Should it be bare floor protection, or should you lay a carpet on top of that floor, and how thick should the carpet be? In terms of medical benefits, are you going to provide only catastrophic coverage or do you cover all medical benefits? In my view, either of these approaches—covering medical

catastrophes or covering all medical expenses—is rational. There is only one irrational approach to providing medical benefits and that, naturally enough, is the one most commonly selected in the United States—first dollar coverage. In other words, reimbursement to a seriously ill person of the first \$500 of his medical bills, while allowing the next \$12,000 to go untouched!

Clearly, the goal should not be a 100% benefit—a pension equal to the full working wage, or repayment of all medical expenses. It is imperative that the individual should wish to avoid the risk to his security, or, in the case of medical expenses, to have some interest in controlling the expense of the security coverage.

I do believe, though, that the level of benefit should reflect the economic status of the individual. For example, in Mexico the social security system is designed to give about 90% in pension to the lowest paid persons. Now this sounds like a very high benefit, but when you reflect that the average wage in this lowest category is only sufficient to keep a roof over one's head and food in one's mouth, it seems clear that 90% of that rock bottom minimum wage is not an unrealistic retirement benefit. In Mexico, the percentage grades down as you go up the wage scale. Where you get into trouble is in a country like Italy which chooses to provide 84% of final pay for nearly *everyone*.

### Who Gets Covered?

The first question to be considered about coverage is how does the individual become eligible for it? The answer varies depending on the agency providing the coverage.

In the case of individual insurance, there is no problem. The individual himself decides he wants the coverage and, provided he can pay for it and provided an insurer will underwrite it (two substantial provisos), he can get it.

Similarly, eligibility is not a real problem for coverage provided

through an association. Membership in the association is all that is required, although insurer underwriting may still be a difficulty.

However, definition of the covered group has been a continuing problem for public insurance systems.

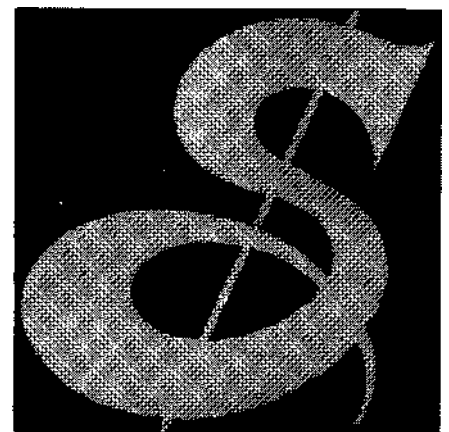
Historically, social insurance began with coverage of employment-related groups and has only very gradually been extended to other groups. Most countries in Europe did not provide social insurance benefits to the self-employed and to unemployed groups until the 1950's, and in many countries of Latin America the social insurance system still does not extend to cover certain employment groups or even certain geographic areas. For example, several Latin American countries proudly announce every year or so that they have now extended their system to another province.

The other question of coverage, of course, is whether the individual can keep it.

Once again, the individual providing his own benefit has no problem if he can keep paying his premiums.

There is usually no real problem under public insurance either; once an individual gets into a covered group, he usually stays there, although this is not as true for women and continuity of coverage can pose a difficulty.

It is in the voluntary association, and particularly the employee/ employer groups, where continuity



of coverage is a very difficult issue. What happens when an individual changes employers? Full coverage can be reinstated fairly easily for death and medical benefits but not too easily for pensions—hence the emphasis given to vesting and portability in current pension plan legislation here in the United States. Moreover, if pensions should be related to the level of earnings at or near retirement, as I ideally believe, how can full past service benefits be preserved if the person changes from one group to another—who would pay for relating a person's pension to his final average compensation, since the final average might include years spent with a company other than his employer at the time of retirement?

#### The Sources of Funds

There are perhaps three plausible sources of funds to pay for a security coverage: (1) most obviously, your current earnings; (2) your savings (which includes the typical insurance policy); and (3) reallocation from the earnings of others. This third source is probably the most important under voluntary associations and certainly under the government systems. That is—someone else's money is used to provide benefits for you. (Whether or not an employer's contribution towards the cost of your security coverages represents reallocation is a nice point; some would view these payments as in the nature of additional wages, but others do not.) Reallocation exists under all coverages when a group premium or contribution is charged, but it is perhaps most evident under medical coverages, at least when they are provided by public insurance. Under a state medical scheme, the benefit cost is typically defined as a percent of payroll, and this bears no relationship to the individual's real cost. Reallocation is one of the most important sources of funds, and I believe its implications in many types of coverages is underplayed.

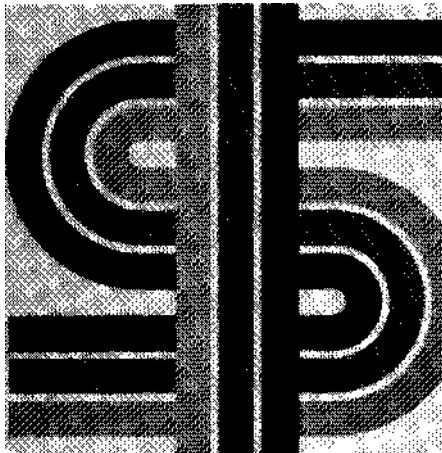
*&6So long as the demography works out, you're all right, but the demography is not working out,"*

There are two general financing approaches: advance funding and pay-as-you-go. Pay-as-you-go—that is paying for today's costs out of today's dollars—is an obvious means of paying for death and medical benefits, although it is often preferable to level out the costs under an individual life insurance policy (which involves advance funding). The situation is more complicated for pensions.

On the surface, advance funding seems to be the best approach as it permits setting aside today the

money to meet the ultimate costs of the benefit associated with today's service, although the question of how to allow for the effects of future inflation is a troublesome one. Funding is, however, viewed generally as being unsatisfactory for public insurance. The concern here is, what are the funds to be used for? For example, when as in Sweden the government decides that funds accumulated to support public pensions will be invested in securities of private industry, it is logical to ask what control will be exercised through these investments. Is this nationalization by the back door?

Pay-as-you-go financing, which is most common for public insurance, does, however, have a potentially serious drawback. As long as population is increasing and as long as earnings are increasing, you can support not only the existing benefits but higher benefits. But this requires a very delicate demographic balance. Tomorrow's generation is to pay for the benefits of today's generation and, so long as the demography works out, you're all right. But the demography is not working out, as we shall see a little later.



#### About the Dollar Signs..

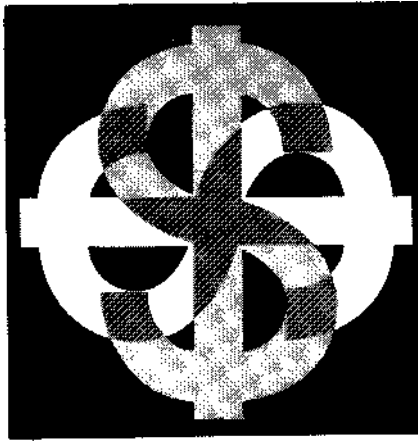
Every issue of *The Tax Adviser*, a publication of the American Institute of Certified Public Accountants, carries the dollar sign on its cover. You might think this would get boring month after month, but it doesn't because every month their ingenious designer, John Vaccaro, thinks up a new way to present the dollar sign. Scattered through these pages are some of the ways he has varied the same old sign. The designs are reprinted by permission of *The Tax Adviser*. All of them graced the cover of the magazine at one time or another.

#### Controlling Costs

One important aspect of controlling costs is an adequate definition of risk. When is a person entitled to a benefit? Under a pension plan, must the person retire? Full retirement is not necessary under many public insurance plans. On the other hand, some countries maintain a means test for pensions—you have to be a pauper to receive the benefit. On unemployment or disability—do you have to be unemployed or disabled with respect

to *your* job or with respect to *every* job? (Any definition of disability or unemployment is difficult to administer.) The problem of cost control becomes most dramatic in the case of medical care. There are two approaches to the provision of medical benefits: a person can either receive medical service free of charge (the service approach), or he can be reimbursed in part or totally for the medical services that he has bought (the reimbursement approach). Both approaches present problems. The problem with the service approach, which is very common under governmental programs outside the United States, is that whoever is providing the service—the doctor, the hospital or what have you—has to be under contract to the agency paying for the service, and the definition of the terms of contract and the conditions under which the benefits are granted can be difficult. Under the reimbursement approach, cost control requires that limits be defined on the amounts to be reimbursed. Hence, either the insured has no guarantee that the reimbursement bears any reasonable relationship to the actual expenses, or some agreement must be worked out between the financing agency and the providers of the service as to a standard level of fees to be charged. In France, 20 years of negotiations were required to work out an agreement for fees under the government program; it took 25 years in Belgium. And in some countries, such fee arrangements have been resisted by the medical profession.

Another important aspect of cost control is the policing of the individual or the organization providing the service, with respect to both cost and quantity of service. Here we have the question of peer review. Doctors in the United States do not like the idea that other doctors can sit down and say what *should* have been charged or what *should* have been provided. In some other countries, however, this works very well. In Germany, for example, there is a centralized administration



agency which reviews what all doctors in the country have been doing in terms of prescribing hospitalization, drugs, etc. If a doctor appears to be out of line he can be reprimanded and to some measure restrained. One result of this is that, despite a very broad gauge medical system, Germany has historically had about the lowest per person cost for a government program.

#### Who Provides the Benefits?

As mentioned earlier, several agencies can supply the benefits—the individual himself, private associations (including the employer), or the government. As mentioned previously, the choice of agency depends on philosophy—who *should* be responsible for providing the benefit—but the type of benefit can influence the choice (an individual can, for example, insure himself against unemployment in only a limited fashion). And of course, union activity has played a strong role, in the United States at least, in transferring security burdens from the individual to his employer.

The historical trend has clearly been in the direction of increased governmental involvement. Nonetheless, it would appear that, in many countries (but not the United States), the argument over the proper role of the government has been resolved, and a mature social insurance system has evolved. The final result is inevitably some sort of amalgam of the efforts of the

individual, private associations, and the government. Switzerland, for example, has incorporated in its constitution the so-called "three pillar" system for providing pensions—the three pillars being government, private pension plans and the individual's savings. If it is intended that the individual and/or private associations have a role to play in providing benefits, government has ways of encouraging it; for example, tax concessions. In almost every country of the world, an employer can claim a tax deduction for his contribution to a private security arrangement. It is strange that the United States, with its fidelity to the private enterprise system, is almost the only substantial country in the world that refuses to allow an employee the same privilege with respect to his own contributions.

#### The Costs to Society

These benefits are expensive. In the United States the total cost of "fringe benefits," as provided by employers and through social insurance, is estimated to be from 25 to 30% of payroll. In Europe, where such benefits are even more diverse and more substantial, these costs typically are in the range of 30 to 50% of payroll.

Furthermore, costs are increasing. For example, in the last five years the contribution of the U.S. government towards the costs of security arrangements and other forms of social welfare has increased from about \$400 per person to about \$700 per person. The costs of medical benefits have obviously been soaring over the last 10 to 15 years—not only because of inflation, but also because of the increasing technological component of medicine. In fact, the costs of medical benefits have been spiraling upward in absolute amount more rapidly than either national revenue or income or anything else costs can be related to, and thus have spiraled upward as a percent of payroll as well.

*Continued on page 24*



Secretary Simon (right) at a press conference held before the reception and dinner. With him is Will Scott (left), vice president, governmental affairs and planning, Ford Motor Company.

ore than 500 businessmen participated in the sixth annual Business Conference sponsored by the Business School in January at Cobo Hall in Detroit.

Secretary of the Treasury William Simon, featured speaker, arrived with a battery of secret service agents in time to be interviewed by reporters and TV commentators at a press conference arranged by the School, before going to a reception in his honor. At dinner, Robert Surdam, Chairman of the Board of the National Bank of Detroit, introduced Secretary Simon. Simon's talk on economic policy was followed by a spirited question and answer period.

The afternoon program preceding the dinner began at 4 p.m. with Dean Floyd A. Bond presiding. Dr. Donald H. Skadden, Arthur Young Professor of Accounting, discussed tax reform. Dr. Skadden has

published widely in the tax field, and currently serves on the tax policy committee of the American Institute of Certified Public Accountants. He is also currently chairman of the Tax Publication Committee and serves as chairman of the Income Tax Instruction Committee of the American Accounting Association.

"Consumer Product Safety—Challenge for Business" was then discussed by Dr. Alfred L. Edwards, Director of the Division of Research and Professor of Business Administration of the Business School. Dr. Edwards served as Special Assistant to the Commissioner, U.S. Product Safety Commission, before coming to the Business School in 1974.

The last speaker of the afternoon was Dr. Patricia Shontz, Director of the Publications Office at the Business

School and Professor of Business Administration. Her talk was entitled "Social Architecture—Sifting Through the Rubble." Dr. Shontz is a director of four major companies, a consultant to the U.S. Treasury, and a member of the U.S. Census Advisory Board. Before coming to the Business School, she was an editorial writer and economist for the *Detroit News* and the author of a nationally syndicated award-winning column on economics.

Pictured on these pages are some of the participants and guests at the Business Conference. A text of the actual proceedings will be published in the March issue of the U-M *Business Review*, available for \$1.50 from the Office of Publications, University of Michigan Business School, Ann Arbor, Michigan. Subscription price for the bi-monthly *Business Review* is \$6.00 per year.



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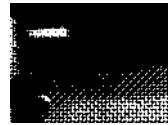
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Above, Secretary Simon with Dean Floyd A. Bond (center) and J. Russell Fowler, president of Jacobson Stores Inc. Top left, Robert Surdam, chairman of the board, National Bank of Detroit. Bottom left, Thomas A. Murphy, chairman of the board, General Motors Corporation, greets Secretary Simon. Below, C. F. Ogden, executive vice-president, administration, Detroit Edison Company (left), and John C. Secrest, group vice-president, staff and international, American Motors Corporation.

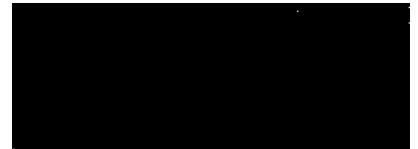




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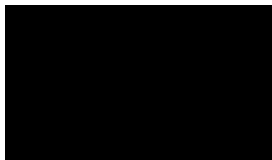
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I op lei I. Paul \\. NhC.racken, Edmund Ezra Day University Professor of Business Administration. Top right, Oscar Lundin (left) vice chairman, General Motors Corporation, and Thomas A. Murphy, chairman of the board, General Motors Corporation. Above, Secretary Simon and Ray T. Parfet, Jr. (center) chairman of the board of the Upjohn Company, and Raymond T. Perring, former chairman of the board, Detroit Bank & Trust Company.



Pictured at the bottom of the page at left, Edmund Whiting of Ex-Cell-O and Joseph Conway of the National Bank of Detroit (center) chat with Philip C. Berry, partner in Ernst & Ernst. Bottom right, Thomas S. Lawton, assistant treasurer of the Chrysler Corporation, listens intently to a point being made by Charles E. Exley, Jr., executive vice-president of the Burroughs Corporation.



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# Among Our <sup>1</sup> S

*An informal collection of items, including news of the faculty, of alumni, and of the school, and assorted other information, opinion or comment that we think will interest you.*

## **School Building Undergoes Renovation**

As you walk through the Business School these days, you are likely to see a jumble of desks, bookcases and filing cabinets piled in the halls to make room for renovation of some of the offices and classrooms. For instance, room 364 has been divided into two seminar rooms, and the large room that used to house the Institute for International Commerce has been divided into separate offices. Carpeting and cubicles have been added around the MTS terminals in the statistics lab, and new ceilings, lights and some subdivision into separate offices is being planned for room 412 and will be used partly by the Office of Publications and partly by the Division of Research.

The final stage of the face-lifting will consist of the construction of new ceilings and lights for all of the classrooms and corridors on the basement, first, second and third floors, and will cause some classes to be shifted to the Education School or the Architecture Auditorium while the work is in progress.

While we are on the subject of buildings, the old headquarters of the Bureau of Industrial Relations (the house on Monroe Street next to the School) was demolished this fall. The building was used by the Bureau for 10 years or so, but had been used primarily for storage since the BIR became part of the Division of Management Education and moved to new headquarters in the Kalmbach Center two years ago.

## **Does It Pay To Get An MBA?**

The Association of MBA Executives has done a study to determine the value of an MBA as an alternative to a bachelors degree. AMBA conducted the study in order to help members make better career choices and maximize the value of their MBAs. They found that the value of the MBA fluctuates from industry to industry. The average MBA who graduated and started work in June, 1974, earned \$3,304 more per year than the June, 1972 holder of a bachelor's degree who by then had two years' work experience. Salary differentials ranged from \$5,269 per year more in banking (the highest) to \$2,608 per year more in accounting. The average starting salary in banking for June, 1974 MBA graduates from the nation's business schools was \$14,614 per year, while it was \$13,894 in accounting.

The study reveals that accounting makes more job offers to MBAs than any other industry. Accounting offers totaled 27.7% of MBA job offers between 1969 and 1974. Banking offers represented 18.24% of the MBA job market, making it the second largest MBA employer. The two industries together account for almost half of the MBA job market.

The salary study, which covers 16 industries, also includes average salaries by year from 1969-1974, and the percentage MBA job offers represent to each industry's total hiring.

## **Liberal Arts Graduates Advised to Take Some Business-Related Courses**

Large American business and industrial companies would be more willing to hire liberal arts graduates if the students took some business-related courses while in college, a University of Michigan study indicates.

Forty-two major companies responded to a U-M questionnaire, and 35 of them said that liberal arts graduates would be more in demand with such preparation. The questionnaire, designed to help students and academic departments meet the requirements of employment markets, was compiled by William R. Audas, associate director in the U-M Office of Career Planning and Placement, and Daniel J. Weintraub, professor of psychology.

Company officials told the U-M researchers that the most desirable courses for liberal arts majors who expect to enter business are accounting, introduction to business, management principles, and economics. Personal skills the companies most often look for include: ability in oral and written communication, supervisory and leadership ability, and motivation. Business-related experiences (such as summer jobs and internships), especially those involving the opportunity to manage people, are considered most valuable, as are extra-curricular activities demonstrating leadership ability.

## Five Wolverines are Business School Students

Five of the 1974 Wolverine football team are students at the Business School. They include:

Gil Chapman, wingback, a senior this year. He was described in the Gridiron Guide as "possibly the most explosive player in Big Ten. He has scored running, receiving, returning punts and kickoffs, and is the key man on all kick returns."

Keith Johnson, end, a junior who did a strong job as starter last year. The Gridiron Guide says "great hands and moves are his best asset."

Jim Czirr, a junior, who plays back-up to Dennis Franks at center. At the Business School, he is majoring in accounting.

Mark Jacoby, wolfman, a senior. He is a steady player who provides experienced depth. He has also played defensive end.

Jeff Spahn, quarterback, a senior. He is described by the Gridiron Guide as "a great competitor, who has a strong arm."

## U—M Students Score High on the 1974 CPA Exam

University students taking the May, 1974 CPA examination fared twice as well as other students taking the test within the state, according to results released by Professor of Accounting Walter Kell. Of the 79 U-M students taking the examination for the first time, 40% passed, compared to statewide percentage of 16%. Below is the table showing the results:

### CPA EXAMINATION RESULTS

May, 1974

| Subject      | U-M Students |        |    | Entire State |        |
|--------------|--------------|--------|----|--------------|--------|
|              | No.          | Passed | %  | %            | Passed |
| Auditing     | 122          | 66     | 54 | 27           |        |
| Practice     | 106          | 69     | 65 | 29           |        |
| Theory       | 102          | 72     | 70 | 30           |        |
| Law          | 120          | 66     | 55 | 30           |        |
| Economics    | 89           | 68     | 76 | 44           |        |
| First-timers | 79           | 31     | 40 | 16           |        |



Arthur S. Hann

## Arthur S. Hann Dies Suddenly

Arthur S. Hann, director of placement, died suddenly in December at his home. A graduate of the University, he received his MBA with distinction in 1941. He held managerial positions in personnel with the Central National Bank of Cleveland, Ohio, and for seven years was manager of office administration with the Lincoln National Life Insurance Company. He came to the University in 1950 as an instructor in the Bureau of Industrial Relations and as assistant to the Bureau director.

Mr. Hann, who was co-author of the book, "Effective College Recruiting," published by the Bureau of Industrial Relations in 1961, edited and published "Focus on Excellence," an annual publication for Business School graduates. He also served as advisor to Alpha Kappa Psi, business and professional student fraternity.

A memorial service was held for Mr. Hann in Hale Auditorium. In addition, the Arthur S. Hann Memorial Fund has been established. Contributions to the fund should be sent in care of Dean Floyd A. Bond at the Business School.

## Professor Mitchell Assumes Directorship of Energy Project of American Enterprise Institute

Edward J. Mitchell, associate professor of business economics, has taken a leave of absence for this year to assume directorship of the National Energy Project of the American Enterprise Institute. The project he directs is chaired by Melvin R. Laird.

Professor Mitchell began the project with a three week trip to Europe and the Middle East investigating world oil problems. He has since published three books on energy policy: *U.S. Energy Policy*, which he authored; *Financing the Energy Industry*, which he co-authored; and *Dialogue on World Oil*, the proceedings of a Washington conference on world oil, which he edited and produced. The Project has published several volumes on energy policy and about 25 to 30 studies are in preparation or contemplated. He has also produced two educational television programs on energy and plans six more during the course of the project.

Professor Mitchell attended the mini-summit on inflation in Dallas and the summit in Washington in September at the invitation of President Ford. Last spring he debated Senator Adlai Stevenson of Illinois before the National Association of Manufacturers Board in Washington on the Senator's proposed consumer energy bill. He has testified four times before U.S. Senate Committees this year. He is a member of the Department of Commerce's Technical Advisory Board on Project Independence Blueprint, a member of the Advisory Committee of the Michigan Energy Industrial Center Complex Study, and a consultant to the Treasury Department on energy matters. He is currently working on a book on oil pipelines and planning a televised conference on offshore drilling in Los Angeles.

## DOE Publishes Book on Medical Care Industry from Economist's Viewpoint

The latest publication from the School's Division of Research is a timely collection of economic evaluations of our present health care system. Entitled *The U.S. Medical Care Industry: The Economist's Point of View*, the 131 page volume is edited by Joseph C. Morreale and comprises six lectures delivered at Western Michigan University by noted authorities (with notably different points of view) on the economics of health care. It deals with some of the major economic issues now before Congress as the question of a National Health Insurance Plan rises toward the top of the country's agenda—such as ways in which public policy can counter the narrowing of availability currently being caused by spiraling costs, elements within our present health insurance system which aggravate the cost spiral, implications of the Health Maintenance Organization Bill recently enacted, and the effect of public policy on the labor market in health care delivery.

In the first of the six papers, Paul Feldstein, professor in the U-M's School of Public Health, concentrates his discussion on measures which should improve the supply side of the medical care market. Citing the dramatic price rises which followed the enactment of Medicare and Medicaid, he asserts that new financing measures "will merely increase prices to everyone." Feldstein advocates policies to improve consumer access to information on performance, quality, and prices and he favors review of state practice acts with the objectives of 1) adding some public representation to boards administering the acts and 2) providing a continual quality check in medical practice (as opposed to a unique licensure examination without reexamination).

Professor Harry Schwartz, Distinguished Professor at SUNY (New Paltz) and long-time member of the *New York Times* editorial board, in the second of the lectures examines and refutes assertions that radical

change in the U.S. medical care system is needed. Two problems which he finds valid and to which he directs attention are maldistribution of physicians and the absence of so-called catastrophic health insurance.

Gerald Rosenthal, Director of the Bureau of Health Services Research, Washington, D.C., like Professor Feldstein focuses on the quality-quantity tradeoff, which, he asserts, medical technology has too often resolved on the side of quality at the expense of access. He advances the view that from a policy standpoint it would be useful to specify a floor of health care that we wish to maintain, and he adds that at least the policy would ascertain what the nation's health needs are.

In an especially provocative lecture Reuben A. Kessel, who is professor of business economics at the University of Chicago Graduate School of Business, reviews the role of the AMA in determining both the supply of physicians in the United States (through its regulation of the standards for medical education and licensure examinations) and the way in which physicians' services may be marketed (through its lobby efforts, control of staff appointments, etc.) Kessel describes feasible ways to relax the current system and lessen costs. He contends that the Association, in its opposition to such measures, has historically been motivated more by economic concern than by concern for quality and he urges that it be "stripped of its power to control medical education."

On the strength of a detailed economic analysis of the market for nurses, Donald Yett urges immediate review of the federal program of subsidies for nurse training. Yett is director of the Human Resources Research Center at the University of Southern California. The analysis he presents in the Western Michigan Lectures was prepared under the

sponsorship of the U.S. Public Health Service but its publication was blocked for two years by the agency's refusal to allow inclusion of certain findings in Yett's report. (Shortly after the Western Michigan speech the Service did assent to commercial publication with disclaimers.)

Professor Yett analyzes the impact of the Nurse Training Act of 1964, the Health Manpower Act of 1968, and the Nurse Training Act of 1971 on the number of nurse trainees, the attraction of marginal candidates, the prevention of dropouts, the construction of new facilities, and the number of nurses in active service. He finds that 1) by these measures the effects of the Acts have been small 2) the policies do not provide actual incentives toward their intended objectives 3) nonetheless, an acute shortage of nurses, predication of which had triggered the three pieces of legislation under review, has not developed. The latter finding he attributes to the enactment of Medicare and Medicaid, which, by increasing demand, he sees as having corrected the market for nurses. Examination of this factor-effective demand—he sees as vital in the formulating of any subsidy program.

The final paper in the book is the work of Herbert Klarman of N.Y.U. In answer to the general question, "What kind of health insurance should the U.S. choose?" Klarman, after noting that a mechanism aimed at financing is very limited as an instrument of policy, develops five criteria for a desirable plan. He recommends that a sound plan should provide: universal coverage, coverage that is both broad and deep, a single system of care for all, terms that are not retrospective and are negotiated for all participants and over a fixed period of time, and finally, ease of compliance for the consumer.

*The U.S. Medical Care Industry. The Economist's Point of View* (Michigan Business Papers No. 60, paper bound, f 5.50) is available now through the Division of Research, Graduate School of Business, University of Michigan, Ann Arbor, Michigan 48104.

## East/West Trade is Topic of March IIC Seminar

A seminar on East/West trade will be given under the co-sponsorship of the Institute for International Commerce of the Business School and the U.S. Department of Commerce, March 17-19 at the Campus Inn in Ann Arbor. The emphasis will be on the business environment and on factors that influence business operations. Among topics to be covered will be international trade, financing trade, servicing sales agreements, and investment possibilities, as well as a political and sociological survey of Eastern Europe and the U.S.S.R.

U.S. trade with East European countries and the Soviet Union is the only account in our balance of payments that shows a favorable balance. Both the balance and the total volume of exports have shown a steady increase, going from \$829 million in 1972, to \$1,702 million in 1974.

Speakers at the seminar, which will consist of a combination of lectures, case histories, case analysis, and group discussion will include economists, business executives, government officials, and Eastern European Trade Representatives.

## Should Life Quality Index Replace Gross National Product?

How about replacing the Gross National Product with a "Life Quality Index" which would be a comprehensive yardstick that reflects the quality of our total human environment, including material, mental, emotional and spiritual aspects?

This is the proposal of Robert C. Juvinal, professor of mechanical engineering at the U-M, who contends that: "Our basic problem is not one of an environment which has degraded marine life in our waters, or plant and animal life on land and in our atmosphere; rather it is that we have failed to develop an environment in which the basic character of man himself grows and strengthens. Thus, the basic objective of our society and its technology should be to develop a continually improved total environment for the promotion of



Several partners of Arthur Young & Company hand Dean Floyd A. Bond (right) a check in partial payment on the \$50,000 that has been pledged for the William A. Paton Center for Accounting Education and Research. The grant consists of personal contributions by University of Michigan partners in the firm and a matching amount from the Arthur Young Foundation. The partners involved in this gift are the same individuals who established the Arthur Young Distinguished Professorship of Accounting at the University of Michigan. Pictured from left are William Shaw, MBA '39; Robert Pell, MBA, '43; Walter Kell, professor of accounting; Edwin Olsen, MBA '41; and Dean Bond. This contribution continues the excellent support provided for the Paton Accounting Center by public accounting firms. Four other national firms—Ernst & Ernst; Arthur Andersen & Co.; Touche, Ross & Co.; and Coopers and Lybrand, have previously made significant contributions to the Center.

man's physical, mental, emotional and spiritual health."

To measure progress toward achieving this objective, Juvinal suggests the LQI concept and offers this preliminary list of factors which it might contain: population control; material well-being, perhaps judged by percentage above poverty level and percentage above a desired "comfortable" level; safety, perhaps judged by crime rates, drug and alcohol addiction rates, accident rates, and rate of success in rehabilitation of criminals; environmental quality, as indicated by air, water, and land cleanliness, and by natural resource availability and management; cultural and educational achievements, as judged by literacy rate, public school quality, percentage attending college among those qualified and desirous, adult educational opportunities, art and music opportunities and motivation; treatment of the disadvantaged, judged by education for handicapped children, success in

integrating handicapped persons into society, care of the aged and assistance to poorer segments of society; equality of opportunity among members of the society, and stimulation of initiative to make the most of available opportunities; freedom of choice and action.

The preceding list is "admittedly a very rough and over-simplified indication of the direction of thought that would be involved in arriving at an appropriate LQI for a given segment of society at a given time," Juvinal observes, "but this is the kind of thinking that must be done. And it must include researching the 'wisdom of the ages' to determine as best we can the conditions which make for full, rich, and deeply satisfying lives. We cannot achieve a desired society without thinking through and coming to some sort of consensus regarding the general nature of what it is we are striving for."

## Faculty News

*William Hall*, associate professor of statistics, is the author of an article entitled "The Uncertainty of Uncertainty in Business Planning" published in *Managerial Planning*, Vol. 23, No. 2, 1974.

*Vern Terpstra*, professor of international business, chaired a session on "International Education for Business" at the American Council on Education's Conference on International Education for the 21st century. In addition, he chaired a session on international marketing at the annual meetings of the Academy of International Business, where he was honored at the annual dinner as a past president of the Academy. In January he addressed the Toledo Council on Foreign Affairs on the subject "The Multinationals in the World Economy."

*Lee Daniehon*, professor of industrial relations, delivered the keynote address at the Edison Electric Institute's annual Roundtable Conference held in Chicago. The topic was "Corrective Discipline vs. the Humanistic Approach to Employee Relations." He also addressed the American Society for Personnel Administration's Caribbean Conference on "Changes in Organization Structure" and gave a talk in December to the Young Engineers Forum of the Western Society of Engineers.

*Dick Leabo*, professor of statistics and director of the Ph.D. studies program in the Business School, was invited by the European Institute for Advanced Studies in Management to be a participant-consultant to the Conference on Doctoral Education in Management held in Brussels in November. He is co-author, with Richard Rogalski, Ph.D. '74 of an article, "Warrant Price Movements and the Efficient Market Model," which will appear in the March issue of the *Journal of Finance*. He also served as chairman of a session on "Econometric Models and Strategic

Planning," at the 6th annual meeting of the American Institute for Decision Sciences held in Atlanta in November.

*Raymond Hill*, associate professor of industrial relations, has been awarded a Rackham research fellowship for the summer of 1975 to study the relationships between interpersonal style and management occupation. He is also the author of an article entitled "Interpersonal Compatibility and Work Group Performance" to appear in the April issue of the *Journal of Applied Behavioral Science*.

*Carl Fischer*, professor emeritus of insurance and actuarial mathematics, was elected vice-president of the Conference of Actuaries in Public Practice at their October meeting in Montreal.

*Karl Pearson*, professor of business administration, published an article entitled, "Times Are Changing for Realtors" in the September-October issue of *The Ohio Realtor*; one entitled "Aims and Objectives of Real Estate Education" in the November issue of *The Detroit Realtor*; and gave many speeches on various aspects of real estate. They included speeches on "Real Estate Education" to the National Association of Realtors; on "Estate Planning and Real Estate" to the Grosse Pointe Board of Realtors; on "Setbacks for the Environmentalists" to the Illinois Association of Realtors; and on "Condominiums" to the Alabama Association of Realtors.

*Thomas Schriher*, professor of statistics, is the author of *Simulation Using GPSS*, published by John Wiley & Sons, Inc. in July, 1974. The 533 page book provides a comprehensive treatment of GPSS, a widely used simulation modeling language

developed by IBM, and available on a variety of IBM and non-IBM computers. Professor Schriber's book was the main selection of The Library of Computer and Information Sciences for July, 1974. It contains 27 case studies, and over 300 problems for practice.

*James Wheeler*, associate professor of accounting, has recently published a 260 page research study and report entitled "An Appraisal of Interperiod Income Tax Allocation." The report was prepared by Wheeler and co-author Willard Galliard (currently a visiting associate professor of accounting at the Business School) for the Financial Executives Research Foundation. Professor Wheeler is also the co-author with Donald Skadden, professor of accounting at the Business School, of an article entitled "Teaching the Measurement of Federal Income Taxes for Accounting Purposes," published in *The Journal of Accountancy* in March, 1974. He is the author of a chapter entitled "Understanding the Tax Shelter Concept" to be published in the *Financial Analyst's Handbook* by Dow Jones-Irwin, Inc.

*Arthur Southwick*, professor of business law, spoke on "Hospital Organization and Management" at the annual meeting of the American Society of Hospital Attorneys. More than 300 physicians, hospital administrators and trustees heard him speak at the Mid-America Hospital Medical Staff Conference in Wisconsin on the topics "The Medical Staff in Legal Perspective" and "Legal Aspects of Professional Standards Review Organizations." He also spoke to the Professional Standards Review Institute on "PSRO Developments and Conflicts with Existing Hospital Law" and to the Hospital Medical Staff Conference sponsored by Southeastern Hospital Conference on "Legal Aspects of Professional Standards Review Organizations."

## Professor Emeritus L. Clayton Hill Dies

By *John W. Riegel*  
*Professor Emeritus of  
Industrial Relations*

L. Clayton Hill, professor emeritus of industrial relations, died on October 8, 1974 at the age of 84 years. He was appointed to his professorship in 1948 and was retired in 1959.

He graduated from the University of Michigan in 1911 with a bachelor of engineering degree and was successively employed by the Packard Motor Car Company, the Society of Automotive Engineers, The Murray Corporation of Detroit and the Eagle Pencil Company in New York City. He served as a director and vice-president of the Murray Corporation from 1939 to 1942 and was works manager of the Eagle Pencil Company when he left industrial employment to begin a teaching career at New York University.

He served as vice-president and director of the Manufacturing Division of the American Management Association and as chairman of the Personnel Advisory Committee of the National Industrial Conference Board. He was manager of the Murray Corporation plant when blue collar workers there formed a local union of the United Automobile Workers. His experience in collective bargaining led to his appointment as a member of the Atomic Energy Commission Advisory Committee on labor-management relations.

Each winter while he held his professorship he planned and conducted ten conferences in Detroit on current problems pertaining to the management of personnel or to management-union relations. These meetings were addressed by nationally-known speakers. Each series attracted several hundred executives. Mr. Hill edited the reports of the addresses and subsequent discussions at these meetings. The reports had a wide distribution.

He was eminently fitted for his varied responsibilities. His progress from draftsman to vice-president in



*L. Clayton Hill*

charge of manufacturing gave him both authority and flexibility. From his experience he acquired sympathetic insight into the work, the needs and the capacities of employees in the various branches and ranks of industrial organizations. He was equally persuasive with students and with the executives who attended seminars in the Business School. His warm and genial personality made him popular as a lecturer and occasional speaker before management groups.

Throughout his years in business he was a student of the practice of management. He was meticulous in his preparation for any meeting or class which he was to conduct. He could illustrate and make meaningful for students the results of academic research pertaining to employee and executive behavior. He could verbally and realistically portray a personnel problem confronting an executive or supervisor. He preferred to teach by the Socratic method, using reports of such problem situations as the basis of class discussions. He was devoted to his subject and to his students, and he regarded his services to his Alma Mater as the crowning and most satisfying portion of his career.

## C. Merle Crawford Named Marketing Educator of the Year

C. Merle Crawford, professor of marketing, was named 1974 Marketing Educator of the Year by Sales and Marketing Executives International. The award, which was created several years ago by SMEI to recognize outstanding academic leaders in sales and marketing management, was presented last fall.

On receiving the award, Professor Crawford said: "Beyond my personal appreciation, I want to thank you for your interest in the educational wing of today's marketing system. I only wish that every marketing professor could be up here with me now, because the award you have presented me is really your expression of appreciation for the work that our entire group does." He urged SMEI to establish an International Task Force on Manpower Supply Analysis to answer questions about marketing manpower for the future.

Professor Crawford joined our faculty in 1965 from a product management directorship at Mead Johnson & Co. He is active in the Business School's executive development programs and has served the Ann Arbor Chamber of Commerce as director and member of its executive committee. He served as program chairman for the 1968 World Congress on Marketing. He spent three and a half years on the Senate Advisory Committee on University Affairs (SACUA), the University's faculty executive committee, and has served for five years on the executive committee of the University of Michigan Press.

Finally, I would like to look briefly at a few current problems with respect to security coverages.

One which gets a lot of publicity, but which I think is ultimately of lesser importance than some of the others I will mention, is sex discrimination. In the United States, even-handedness towards both sexes has recently become an important question. However, achieving such even-handedness may lead to unexpected, even undesirable, results.

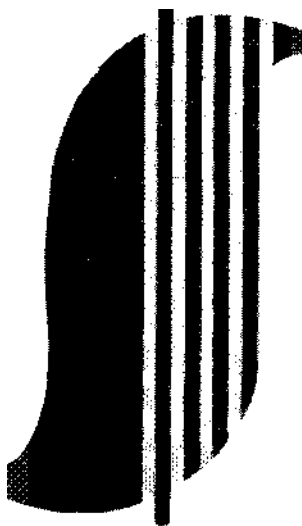
Many pension programs have provided survivor pensions only to widows or dependent widowers. Clearly this is discriminatory. The question is, should the program be changed so as to provide pensions to all widows and widowers, or alternatively to limit pensions to dependent widows and dependent widowers? If the latter course is chosen, benefits are reduced—for widows. Another important area is maternity benefits. Sweden no longer provides maternity benefits as such; parents' benefits are paid for a limited period to the individual who is staying home to take care of the new child. In any event, sex discrimination and its elimination are problems, and the solutions can be expensive.

Another problem is the question, when should a person retire? The correct answer, obviously, is when he is physiologically ready for it, and not just at a "fixed age," but when is that? At age 50? At age 70? If a person retires at 60 instead of 65, the cost per dollar of pension almost doubles. Who is going to pay for this? Here the problems of means tests and post-retirement income tests become important. In many European countries, by the way, benefits can be collected without retiring.

As was mentioned earlier, pay-as-you-go plans present a serious demographic problem. In France, it is anticipated that within the next 5 or 10 years the ratio of active employees to retired employees will fall from 5.8 active to one retired to

4.5 active to one retired. This means one thing for the French governmental and quasi-governmental programs—bankruptcy. Not immediately, but bankruptcy in the long run. Unless, of course, contributions are increased enormously, with profound political implications. The costs of the most recent U.S. Social Security amendments were based on an assumed birth rate of 20 per 1000. The birth rate has now hiccupped downwards to 15 per 1000. If it persists at this level, the simple mathematics shows that within the next 75 or 80 years the required contribution will go from 11.7 percent of payroll to 30 percent of payroll!

Another problem is adjustment of benefits in course of payment.



What do you do for a man who retires and after 20 years he is still receiving the same amount of pension but in the meantime inflation has been raging at the rate of 10 to 15% a year? Inflation is not the only consideration. In some countries, Israel, for example, pensions in payment are increased not only to allow for cost of living increases but also to reflect general changes in the wage level, in order to allow a retiree to share in the advances of the social community. How do you pay for this? Needless to say, it's very expensive.

Finally there is the more general question of where to set the level of benefits? Is it possible to provide all the benefits wanted without raising the costs to an unacceptable level? For example, in 1972 Congress

introduced a provision into the Social Security system which amounts to governmental subsidization of kidney dialysis treatment. This was done without any real estimate of the costs involved. If you project ahead the population that can receive treatment by kidney dialysis machines, and you go down the road for a few years and build up a stable population, the annual cost begins to mount over a billion dollars. Was this really contemplated? Is that the best allocation of a billion dollars out of the limited amount of money that is presumably available to pay for health care? Can we really afford, for example, to provide a heart transplant for every person who wants it, even if there were enough hearts available? I am not certain of the answer, but I am certain that the question merits serious consideration.

In examining any security system, one must ask at least two fundamental questions, namely, what is the benefit level to be, and what agency is to provide the benefit? The answers to both these questions are profound in their implications for the kind of society we want to live in. And the experience of others is not always valid. I vividly remember talking in Norway to an American doctor who was an expert in trauma and emergency care. He told me how excited he had been to see how successfully the Norwegian hospitals and public health system had solved their emergency care problems, until he reflected that the total number of persons in Norway who each night needed emergency care were fewer than the number who needed it in one night in the city of Milwaukee. And then he began to wonder whether the Norwegian experience really could be carried over to a different type of society.

In trying to determine what we want, we must make decisions that are related to our own society. We have to be willing to look at the experiences of others, but we also have to take into account the peculiarities of our own situation. But we must be willing to make decisions.



## *My Computer Doesn't Talk to Your Computer*

*Continued from page 8*

Q. *Who is the contractor?*

The basic research is supported by the Air Force Office of Scientific Research which required that technical papers in this area be published in various data processing journals. The Joint Technical Support Activity of the Defense Communications Agency has supported the development of prototype and operational software that can test some of the ideas we have had on how a generalized file translator should be designed and constructed. Each year the scope of the software has been expanded.

Q. *How has the scope been expanded?*

A. We have been able to expand the class of data files that the generalized translator can accept and also to expand the class of files that it can produce as output. We have also developed procedures and software to help an organization perform complex restructuring, reorganization, or re-formatting of data when moving a file from one machine to another. This last is particularly important because usually one reason an organization wants to move from one system to another is to take advantage of expanded capabilities of the new system. For instance, an organization might have two separate files—one for payroll and one for personnel—on its old system, and want to combine these on the new system.

Q. *Can you tell me what the ISDOS Project is?*

A. Data translation research was initially supported under the ISDOS Project. A few years ago for administrative purposes, we decided to separate this specific research task and to carry it out under a new project, the Data Translation Project. James Fry, the senior research associate, and I direct the activities of the Data Translation Project. The ISDOS Project is directed by Dr. Daniel

Teichroew, professor of industrial and operations engineering, and myself. The initials ISDOS stand for Information Systems Design and Optimization Systems.

Q. *What does that really mean?*

A. ISDOS is now primarily concerned with research and development on communicating users' requirements to assist in the development of computer-based information systems. We are developing languages for specifying requirements. These are not computer languages which describe the detailed logic of a computer program, but instead are specifications languages which give the user a way to

***"An organization should demand that its computer programmers and analysts fully document all programs and files that are built on a computer system."***

describe what he would like the information system to perform. Another activity of ISDOS is to attempt to use the computer itself in the analysis of requirements for information systems.

Q. *Who provides support for ISDOS?*

A. It is supported by 15 sponsors who receive the software developed by the project along with technical reports that describe the research and development activities. Because of the active support of these sponsoring organizations, versions of the formal specification languages and procedures for analyzing requirements for information systems have been proposed, constructed, and tested. Many of the sponsoring organizations have used these tools and have helped us to refine and extend the research.

Q. *What are some of the other problems the Data Translation Project is addressing?*

A. Besides being interested in the conversion between a third generation and a fourth generation machine, we are also addressing problems connected with two computers communicating in both directions with each other. We now see the development of computer systems in which there is a network of computers, each computer on the network communicating with the other computers on the network and the other computers responding. In a network of computers, the inventory file might be stored on one computer system and the customer file on another. If those computers are different, we again have a communication problem.

Q. *Will computer systems of the future be built in such a way as to reduce the costs and problems of conversion?*

A. Hopefully, research activities such as ours are producing technical results and prototype software which manufacturers can use to develop facilities which ease the costs of conversion.

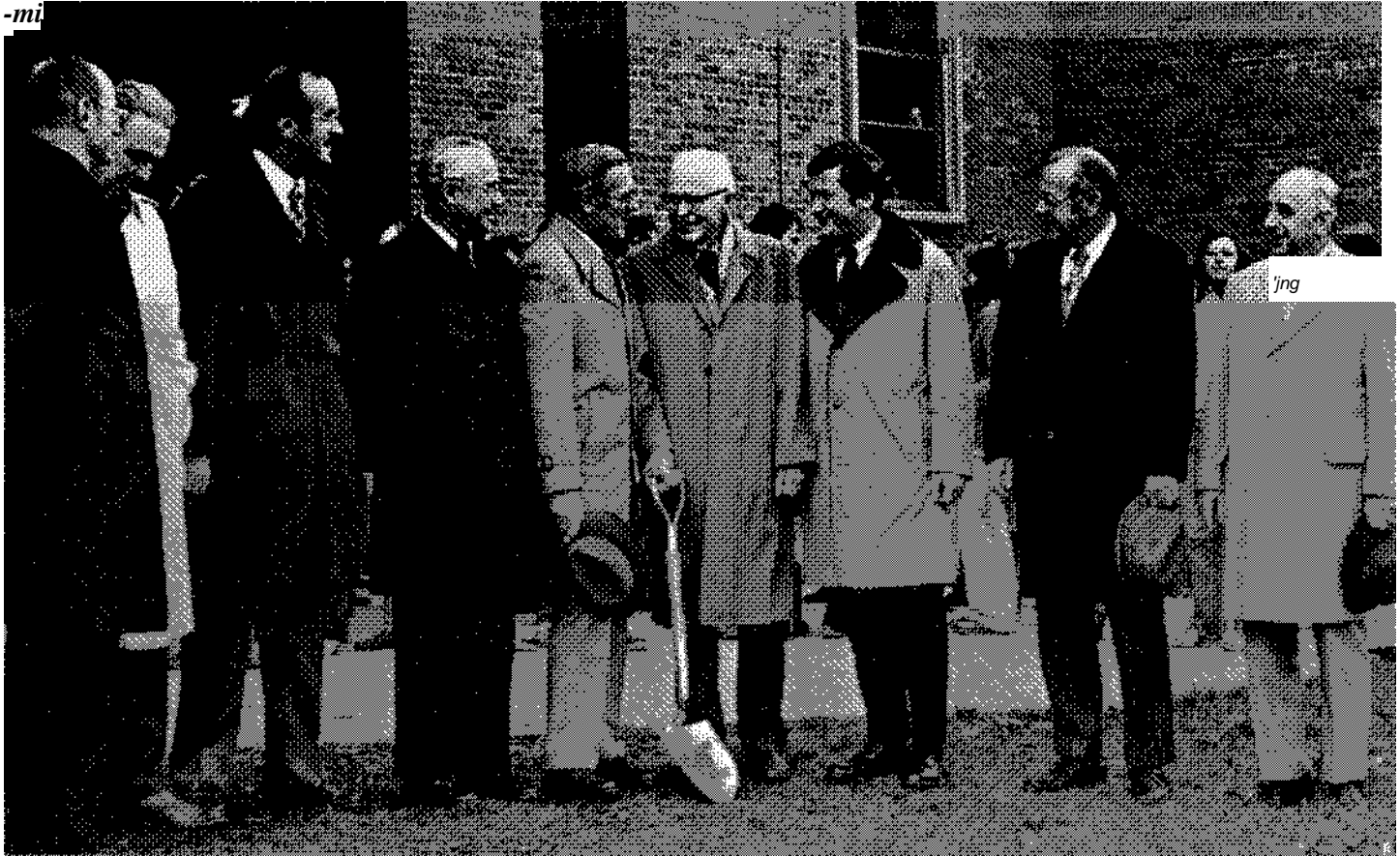
Q. *Is there anything that companies can do to reduce costs of conversion?*

A. The first thing they should do is recognize that conversion is a continuing activity and that it is costly. When a set of computer programs and files are initially designed, they should be designed with conversion in mind. For example, an organization should demand that its computer programmers and analysts fully document all programs and files that are built on a computer system.

Q. *Why?*

A. Remember that the people who designed and wrote the programs and files will probably not be around when you are trying to convert these programs and files. Thus, we might have a program written in COBOL

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Professor Paton poses with some of the members of the public accounting firms who came to Ann Arbor for the ground-breaking. From left to right, they are: James A. Carty, partner, Arthur Andersen & Co.; M. G. Tammen, director of recruiting, Arthur Andersen & Co.; Ronald J. Korn, partner, Peat, Marwick, Mitchell & Co.; Louis A. MacKenzie, partner, Haskins & Sells; Jack L. Otto, partner, Ernst & Ernst; Professor Paton; Paul K. Geiger, partner, Ernst & Ernst; Edwin G. Olsen, partner, Arthur Young & Company; Charles E. Stilec, retired partner, Ernst & Ernst.

*uCiLOOl JjTQdkS {j'TOUTlCl JjiffCLITl!*

"We are pleased to break ground today for the construction of the School's Accounting Center which we will name in honor of Professor Emeritus William A. Paton," Dean Floyd A. Bond told an audience of well-wishers who had gathered for the occasion. "It is good that the architect and the contractor, who are the same as for the Assembly Hall, are able to join us on this important day in the history of our School."

After introducing the architect, Carl Luckenbach of the Birmingham, Michigan architectural firm of Q'Dell, Hewlett & Luckenbach, and the contractor, R. T. Mitchell of the Ann Arbor construction company bearing his name, Dean Bond thanked others for coming on such a cold November day: the partners from several accounting firms; faculty, staff and students; University officials, and the

members of the Building Committee.

He then called on Professor Paton for a few words. Professor Paton was happy to oblige. "Back on the farm," he began, "we never broke ground in November." He then warned Contractor Mitchell with a smile, but with a firm voice, not to let the cement freeze: "By next year I may be strumming a harp in the clouds somewhere, but I'm going to keep an eye on you and the minute the cement freezes, I'm going to get you!" The audience responded to each quip, for which he is famous, with laughter and applause.

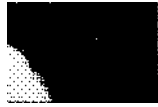
He then threw off his winter coat, despite the temperature and his 85 years, and he was ready to break ground. He did so with vigor! See picture on cover.

As the editor of the student paper reported: "There was not a question in anyone's mind who this day be-

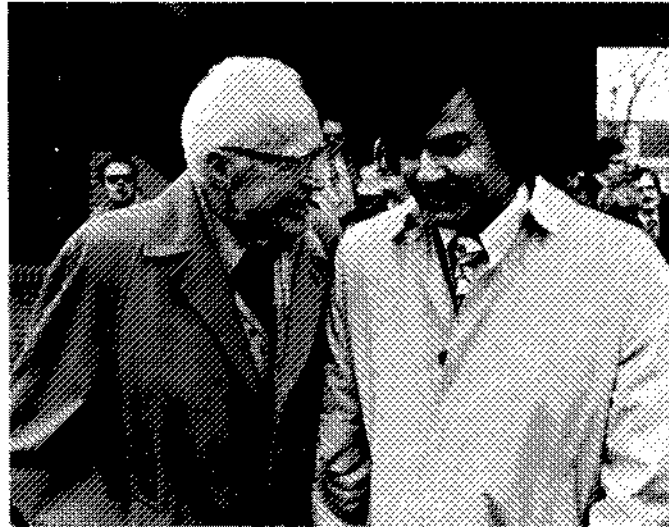
longed to . . . The white-haired gentleman raised the "M"-emblazoned shovel over his head to acknowledge the applause of the nearby crowd of well-wishers. He turned and shot a smile to the photographer and then briskly walked over to shake the Dean's hand."

"This may be the latest addition to our Business School Complex," he told the audience, "but don't you dare think that it's the least important."

Funds for the building are being provided entirely by private gifts. A financial campaign by Dean Bond and Walter Kell, professor of accounting, is underway to raise the remaining \$400,000 needed for the \$1,200,000 structure which will be located adjacent to the Assembly Hall on Hill Street. Contributions are tax deductible.



Pictured below, Professor Paton with Jagdish C. Janveja, manager of construction engineering, U-M. Pictured at the bottom of the page are, from left to right, Robert M. Chance, senior architect, U-M; Walter Kell, professor of accounting; R. T. Mitchell of the R. T. Mitchell Construction Co., the company that will build the Paton Center; Carl Luckenbacli of the architectural firm of O'Dell Hewlett & Luckenbach which drew the plans for the Paton Center; Paul Spradlin, director, plant extension, U-M; William Moller, assistant to Dean Floyd A. Bond; and A. W. Swinyard, associate dean of the Business School.



### *My Computer Doesn't Talk to Your Computer*

*Continued from page 25*

or FORTRAN or some other language, but it's not possible to determine from the program exactly what processing is being carried out. That is, we might have the program's implementation (in COBOL or FORTRAN) but without proper documentation of what the program was written to do (the user's requirement) it is very difficult to modify or convert.

Q. *What do you see as the future of research and development activities in these areas?*

A. We still have not addressed the effect that these new procedures and computer software may have on various functions within the organization. For instance, maybe an organization shouldn't take advantage of new processing capabilities because the effect of the processing change on people within the business functional areas would be too great or too expensive. Research should be done in this area. We are also developing techniques which make it easier for organizations to develop large *integrated* information systems. In these systems, we can relate information from many different functional areas of the organization. For ex-

ample, we do not have to store data on products and personnel more than one time. Another advantage is that we can use information from different areas of the organization to do certain planning activities and produce certain projections.

Q. *Are there disadvantages to this kind of integration?*

A. Yes, particularly in the area of information. Many organizations have not addressed the issue of security over data on its personnel, products and customers. What does the company not want other people to know—and, in general, who has the right to know and who has the need to know? In order to address the research questions relating to integration of systems, we feel it's necessary to bring together students and faculty from many other areas of the Business School, particularly organizational behavior and accounting. We hope to write research proposals jointly with some of these other business functional areas. Sponsoring agencies have given us money, and that's very important, but they have also given us the problems to investigate and to test our research results. This is also a very important type of support.

Q. *What will the fourth generation of computers give us?*

A. The fourth generation will provide larger and faster primary and secondary memory devices. They will also provide processing capabilities which will allow us to perform numerical calculations at the speed of a billion calculations a second (we now are at about a million per second).

Q. *And will these computers be able to solve nearly any problem?*

A. Over the last three generations, we have noticed that the problems organizations attempt to solve on computers are always slightly greater than the processing and storage capability of the machine. As technology advances, we will be tempted to address even larger and more integrated problems in an organization. This will bring even bigger communication problems unless we address these two problems of conversion: first, the accurate transmission of a user's requirements to the computer analysts and programmers; and second, the efficient conversion of large data bases between two different computing systems.