

HOLD FOR DELIVERY

AUTOMATION

An Address By

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I am delighted to be here tonight to honor Keith-- a great American who has already left an indelible imprint on our nation's economy. The dramatic increase in the number of American shareholders and the growth of the New York Stock Exchange during his 16-year tenure as President have been unprecedented. More than any other person, he has been responsible for bringing Wall Street to Main Street. He has helped to develop a prosperous Exchange community--a community to which most of our nation's largest corporations look to provide the capital markets so essential to the development of our economy. He has played an important role in the maintenance of a market place in which the public places its trust and confidence.

While we have had our differences, I believe I can say we have always come away from our "discussions" as friends. I am sure everyone in the securities industry joins me in saying that we will miss Keith at the helm of the world's largest securities exchange.

There is no point in my listing Keith's accomplishments. His words and his deeds as head of an important self-regulatory body endowed with a measure of public responsibility and as a leader in community affairs are familiar to all of you. Instead, I would like to speak tonight of his efforts at the Exchange in one specific area--the use of electronic data processing equipment. All of you who were affected in one way or another by the recent curtailment of trading hours must be now, if you were not before, extremely sensitive to the importance of the developments in the field of automation as they apply to your industry. In the perspective of history it is possible that the pioneering work accomplished under Keith's leadership in this field may one day be considered his greatest contribution to our nation's securities markets. Continuing this work will, I believe, be one of Bob Haack's greatest challenges.

Man's invention and development of machines has, until recently, enabled him mainly to do more or better physical work than he could accomplish with his unaided muscles. That primitive man who first used a lever to move an inconveniently located boulder, obtained a mechanical advantage over those of his neighbors who used only their bare hands. Modern man can now move mountains and otherwise change the topography and the geography of our globe by using hydrogen bombs. But the difference between the two is solely one of degree.

The digital computer breaks with this tradition. Its primary function is to provide a mental advantage. I hasten to make clear that I do not mean these machines can "think." They can perform only very simple logic-operations. But, by performing these operations on astronomically large amounts of data at speeds too fast for most of us to comprehend, they enhance and multiply that which man can accomplish with his unaided brain. The importance of this--if I may borrow a phrase from the younger generation--"mind expanding" function has, I believe, been perceived only dimly by too many businessmen who can obtain great advantages from it.

We are, however, beginning to nibble away at the vast possibilities these machines offer to the securities markets. Both the New York and American Stock Exchanges, for example, are using computer equipment to drive their ticker tapes. Information about price and volume enters the computer directly from the floor and is transmitted by the computer to the ticker. The information is stored in the machine and is used to calculate up-to-the-minute market averages and provide information about the number of stocks that are moving up or down. Almost as a by-product of this input, the exchanges are able to use the computers to maintain a "stock watch" program. This program is designed to detect unusual market activity which may require prompt regulatory action to protect the public.

I am sure you have all seen, and have probably used, the quotation devices which now provide many brokers and their customers with up-to-the-minute stock price and volume information on a TV-like screen by the mere push of a few buttons. These, of course, were made possible by computers and advanced communication devices and procedures.

Computers have long been used for stock clearing. And the New York Stock Exchange's Central Certificate Service has already started its work. When this Service is fully operational--which, I understand, should be next spring--it is expected that it will substantially eliminate the need for physical handling of stock certificates.

The new system will operate somewhat like a checking account. Clearing members will place their stock certificates on deposit with the Service. If one firm wants to transfer securities to another, it will no longer be necessary to deliver the securities physically to the other firm. The firm will merely instruct the Central Certificate Service to decrease the number of shares in its account and increase the number of shares in the account of the firm to which it intends to make delivery. The transfer will be made electronically. The system is expected to eliminate up to 75% of the physical handling of certificates. This will not only mean less cost to broker-dealers but also less cost to corporations which would otherwise have to issue new stock certificates. Work is also underway to automate the handling of odd lots as a means of increasing efficiency and improving service on the exchange.

A great many people in the securities industry have recognized the efficiency and cost cutting potential of using computers to perform the repetitive detail work of back office accounting and billing work. Unfortunately, only a few firms have felt that they had the necessary capital resources to acquire such equipment on their own. Soon, however, the advantages of the computer will be available through a sharing arrangement, of a type pioneered by the Midwest Stock Exchange,

which will be offered to all New York Stock Exchange members through the Exchange's newly formed subsidiary, Central Computer Accounting Corporation.

Through this facility, the Exchange will be able to provide a full range of computerized back-office accounting services at what is expected to be a substantially lower cost per trade than is possible using present manual operations. Other exchanges have similar programs in effect or in the planning stage to bring the advantages of automation to their members.

I hope that all segments of the industry will recognize the need for, and desirability of, cooperating in the development of these programs in the interest of efficiency. We cannot afford to let pride interfere with cooperative activity which will produce savings of money and effort to all.

I have mentioned only a few of the present applications of computers to the exchange markets and their members. There are, of course, many others.

Wide use of computers may also be feasible in the over-the-counter markets. The NASD is now considering the feasibility of using computers and related communication devices to provide up-to-the-minute market information concerning securities traded in the over-the-counter market. We understand the basic objective of those now evaluating the possibilities is to make it possible for qualified market-makers to enter bid and asked quotations into the computer. Brokers across the country would have interrogation devices like those now used to obtain market data on listed securities. By pushing a few buttons the broker would have on a TV-like screen the names of all the market-makers in a particular security and their latest quotes or those with the best quotes on one side of the market. The broker could scan the list of market-makers and then call the one with whom he wanted to negotiate.

In this way the basic negotiated character of the over-the-counter market would be preserved but the process by which traders are brought together would be vastly improved and speeded up.

Although the system is largely a communications system, it has many potentials. In addition to providing up-to-the-minute bid and asked prices it could be used to provide high-low, last sale and volume statistics as well as certain facts about the issuer of the security. With the development of the system now being considered by the NASD, important data now available only from a stock exchange could be made available on a real time basis to the entire securities community. The potential for business development is fantastic.

The system could also provide as a necessary by-product important information to provide a more up-to-the-minute stock watch program than is now possible to protect public investors.

In addition to the technical problems, there are many legal and regulatory problems which remain to be solved before the proposed NASD system can be operational. For example, there is a question whether this system falls under the jurisdiction of other regulatory agencies. Another question is who will own the system and who will be responsible for operating and supervising it. One of the simpler questions may be how to define a market-maker who is to be allowed to enter quotations into the system. I am confident, however, that these problems can and will be solved and that they will not stand in the way of expeditious adoption of a system which has so many obvious advantages to the OTC market.

The SEC is now carrying out a surveillance activity on its own computer. By spotting unusual price movements, or activity in long dormant securities, we are able to provide a measure of protection to investors that heretofore had been virtually impossible due to budget and manpower limitations. But our techniques in this area are not as fully developed as they will be.

There is no doubt that progress is being made in the use of automation in the securities industry. But significant

as this progress has been, it is only a beginning--and only a bare beginning. Much work remains to be done before the securities industry and its customers--the investors--obtain the full benefits of the well-planned use of EDP equipment. While I do not wish to introduce any note of impatience tonight, it is important to emphasize that this work must proceed at a much faster pace than has heretofore been the case if the securities industry is to maintain the rate of growth that it has achieved in the past two decades.

I adverted earlier to the recent difficulties of Exchange members in handling the back office work flowing from a volume which has become the order of the day but which just short months ago was projected for the securities markets in the 1970's. The need to shorten the trading hours and the initiation of other stop gap measures undoubtedly surprised many of you. We are already pushing to the danger point the ability of the Exchange and its members to handle an accelerating volume of trading by antiquated manual methods or a hesitant and limited use of a computer technology and recent communications developments.

The ability of the new ticker to provide price and volume information for the New York Stock Exchange community has already passed the straining point. It was only three short years ago that the New York Stock Exchange adopted the 900-character-per-minute tape. It was then believed that this tape would be adequate to report the anticipated volume of transactions for a long time to come. It is no exaggeration to suggest that this ticker may already be obsolete.

Apparently, the tape itself cannot be speeded up. It is now running about as fast as the human eye and mind can comprehend. A new method of reporting price and volume is needed--one that is fast enough to keep up with the volume of trading and still inexpensive enough to be within the reach of members.

I cannot stress too strongly the seriousness of these problems. They are even now not only limiting the growth of the New York Stock Exchange and the business of its members, but also the ability of the market place to provide the liquidity that is so necessary to the millions of investors who, directly or indirectly, have invested and who will invest in the securities of publicly owned companies.

The time for action is now. We cannot afford the luxury of a leisurely approach to the implementation of advances in electronic data processing. Nor can we allow the shortsighted views of a few to impede progress that is in the immediate interest of all. We must find solutions to the problems and we must find them soon.

The effective implementation of an automated system capable of handling not only today's volume of business, but also that which may reasonably be anticipated in the future, will demand the full effort and cooperation of a large number of people. Preliminary work has begun. For example, the American Bankers Association Committee on Uniform Security Identification Procedures--called CUSIP--has already begun the vital work of preparing a common language for the identification of the various segments of a securities transaction. The New York and American Stock Exchanges are engaged in the development of a uniform order format so that an order placed at any branch office of a member can be transmitted directly to the floor of the Exchange without any physical handling. These are but two of the areas in which coordinated effort is required.

The Commission, of course, has certain responsibilities to assure that automation in the securities industry is conducted in an orderly manner and in the public interest. Needless duplication of equipment and a proliferation of non-compatible systems can only operate to the ultimate detriment of the industry and the public by burdening the brokerage community with unneeded costs. I pledge the cooperation, the help and the support of the Commission in bringing together

all the interested or affected parties to discuss the problems and to devise appropriate solutions.

I know that stepped up efforts to achieve the benefits of automation may mean some temporary additional sacrifice on your part as well as on ours at the Commission. But, I firmly believe that we must make these sacrifices. The capacity of the present systems have been tested and found wanting. Too much is at stake to allow the liquidity of our market places to deteriorate or the services to a veritable army of investors to suffer.

It will do no good, however, to devise and to acquire new and intricate machines if we do not train men and women to run them. There is already an acute shortage of people with sufficient knowledge of both the securities markets and computer and communications technology. This shortage threatens to become even more acute unless we take the necessary steps to meet these shortages. It may be necessary to send high level people trained in the securities industry to school to learn the intricacies of the computer and to take people versed in the new technologies and train them in the intricacies of the securities markets.

Our most important job, however, is to recognize and to meet the challenges of the growth which lies ahead for the securities business and its institutions. The securities industry and the market liquidity which it provides is central to the process of saving and investing on which the growth of our total economy is predicated. I cannot overemphasize the importance of cooperative and coordinated effort by all of us.

Long ago Keith recognized these problems and laid some of the ground work for their solution. Further development will be an extremely important task that now falls on the shoulders of Bob Haack who must lead the way for the New York Stock Exchange community. It is a tremendous task and an extraordinary challenge. He has the Commission's full support; he must also have the industry's.