At the Annual Meeting of AISI at the Waldorf-Astoria in New York on May 26-27, 1982, the chief executives of the North American steel industry projected for public consumption a generally up-beat "can-do" spirit rather than the atmosphere of doom and gloom that one might expect of an industry that was operating at less than 50% of production capability and with over 100,000 employees laid off. The major concerns voiced were over high interest rates and the virtually unchecked flood of imports of unfairly priced foreign steel that has penetrated to 23.3% of apparent supply of the U.S. market during the last quarter of 1981 and the first quarter of 1982. The General Research Committee announced two new Distinguished Professor Awards, an increased level of support of research at universities, and new activities in cooperative research.

The long-range prospects for the health of the American steel industry were declared to be sound. In his "Industry Address," Donald H. Trautlein, chairman of Bethlehem Steel Corporation, pointed out that the American steel industry has a marked comparative advantage over the rest of the world. We have all of the necessary raw materials — iron ore, limestone, scrap metal, and coal — in abundance. Our infrastructure of communications, transportation, and service industries is on a par with the best and miles ahead of the less-developed nations. We are well positioned with respect to human resources and scientific and technical skills. We have access to the wealthiest source of capital in the world; the problem is to attract it to steel. Finally, we have the world's largest markets for steel at our doorstep. With such natural comparative advantages, the American steel industry can be competitive in the international market.

The Institute scheduled a day of briefing sessions for the press before the General Meeting, among the topics presented being "Changing Technology." Harry Holiday, Jr., chairman and c.e.o. of Armco, Inc., pointed out that there is no "quick-fix" solution to the American steel industry's problems via technological revolution. Steelmaking technology is now international, and "every steel company in the world... is adding newer technology as fast as economic conditions permit." He cited a number of examples of active technological development. Someone made the point that probably the best, most advanced technology in every aspect of steel production is now installed in some steel plant in the United States — but it is not all available in any one place! A number of speakers averred that our problem is not one of technological know-how, but of attracting the necessary capital funds under the low profitability of the steel industry.

An example cited was continuous casting, where Tom Graham remarked that in several new installations, including the J&L Indiana Harbor Works, fourth-generation technology in continuous casting is being employed. Harry Holiday outlined the rate of growth of continuous casting in the United States from only 9% of raw steel production in 1975 to 21.6% in 1981, to a projected 45% by the end of this decade. This represents commendable progress, but it is not overly impressive when compared with 72.2% in Japan in 1981.*

Graham, Holiday, and others decried the frequent allegations that the steel industry has not invested in modernization of its facilities. AISI statistics report expenditures of just over $20 billion on a new plant and equipment during the decade of the 1970s (This translates to over $50,000 per employee based on total employment of 399,000 in 1980), $3.3 billion in 1980, $3.5 billion in 1981, and $5.5 billion projected for 1982. "It was estimated that the industry will have to spend $4.9 billion a year to modernize and keep pace with the expanding domestic market over a ten year period."

FOREIGN IMPORTS

A tidal wave of steel imports, which in January 1982 exceeded one-quarter of apparent domestic consumption, and the apparent inability or unwillingness of the Commerce Department to do anything timely to stem the tide, is a source of exasperation and frustration to the leaders of the steel industry. As pointed out by David M. Roderick, chairman of U.S. Steel Corp., at a briefing session on "America's Trade Problems in Steel," the averages do not convey the full seriousness of the problem in certain geographic areas, such as the Gulf region, where steel imports are 37% of the market, or for product lines decimated by imports, such as tubular products, where almost half of the domestic market has been captured.

He cited specific examples of the restrictive trade practices, unfair government subsidies, and outright dumping of steel to export unemployment from abroad to the United States, as carried out in various ways, specifically by Brazil, Japan, and Belgium, but also by other European and South American countries and Korea.

"Fair trade" is a concept that does not exist in the real world, but only in the minds of some economists, but which foreign trade negotiators would like to apply unidirectionally. High employment costs in the United States were acknowledged to be part of the problem but were not a subject for discussion at this meeting. Inves-

*SPECIAL REPORT

The 90th General Meeting of the American Iron and Steel Institute

William O. Philbrook

new products developed to meet changing demands of customers and cited a number of opportunities for expanding markets of substantial tonnage requirements to offset the decrease in consumption of steel by the automotive industry.

TECHNOLOGY AND INVESTMENT

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tigations initiated by the Commerce Department and suits brought about by U.S. steel companies and the United Steelworkers of America on anti-dumping and anti-subsidies (countervailing duties) charges are working their way through normal channels; their progress is being followed by the daily press, so no more need be said about legal course. To quote Roderick: "... we can compete with foreign companies, but we can't compete with foreign governments."

ENVIRONMENTAL PROTECTION

Reynold C. MacDonald, chairman of Interlake, Inc., presented the Institute's position at a briefing session on "Government and the Environment." The industry is interested in maintaining a healthful environment and is carrying out its responsibilities in that regard. From 1975 through 1981, the steel industry's capital expenditure for environmental purposes was about $4.2 billion in 1980 dollars. In the same dollars, the industry has in place more than $3.5 billion worth of control facilities. In 1980, steel companies spent $870 million to operate environmental control equipment in place, and, under current requirements, the annual operating cost will move up to $1.43 billion by 1984. The present equipment has the capability of removing 95% of particulates from process air emissions and 90% of major pollutants from waste water discharges. Even higher standards are called for.

MacDonald noted, "It has been estimated that we would have to spend another $2.3 billion to remove only one additional percent of particulates and six additional percent of water pollution." It is not possible to accomplish these objectives within the existing deadlines. From the viewpoint of the industry, extension of the deadlines is needed, and the specifications in the clean air and clean water acts should be reviewed to be sure that the goals are necessary and economically sound.

GENERAL RESEARCH COMMITTEE REPORT

Under the leadership of William E. Dennis, AISI vice president - research and manufacturing, and Norman A. Robins, chairman, AISI Committee on General Research, several innovations have been made in the Institute's research activities. Distinguished Professor Awards were made to Dr. John F. Elliott, Department of Materials Science and Engineering at Massachusetts Institute of Technology, and Dr. Alex McLean, Department of Metallurgy and Materials Science at the University of Toronto, both internationally respected for their research and teaching in the metallurgy of iron and steel production. Each award carries an unrestricted cash grant of $75,000 which may be used as the professor finds most productive to support research and the training of graduate students to meet future needs of the steel industry and to attract additional funding from private and public sources for such purposes. Plaques signifying the awards were presented to Professors Elliott and McLean by William J. DeLancy, chairman and c.e.o. of Republic Steel Corp. and chairman of AISI.

Norman Robins summarized the areas of interest and types of research projects at universities that have been sponsored by grants from the AISI Committee on General Research. Over 500 graduate students have been supported over the years. This year, the level of funding per project has been increased, in part by decreasing the number of areas in which support is offered, from five to three. The current university research budget is $944,000 distributed among 37 projects.

Eight cooperative research efforts have been organized as a new type of activity in the last year and a half. Four of these are in the area of "Solid Waste Recycling and Resource Recovery" and four are in the area of "Process Control and Sensor Development." One project of the first category on the recycling of electric arc furnace dust, conducted by Lehigh University and the U.S. Bureau of Mines under sponsorship by the U.S. Department of Commerce, has generated a great deal of fundamental information and is now concluded. Others on recycling of waste acid from stainless-steel pickling, hydrocarbon removal from wastes (deoiling), and sludge dewatering are in various stages of implementation. In the second category, 150 sensor needs have been identified, including detection of internal defects, surface defects, and the analysis of molten metal, and discussions are in progress with the Advanced Research Projects Agency of the Department of Defense and the Instrument Society of America. A cooperative project on the efficiency of power delivery to electric furnaces is under consideration with The Electric Power Research Institute.

Dr. Robins expressed the hope that, with most of the expenditures for non-productive facilities for environmental protection behind them, the steel companies might take a more aggressive approach toward process improvement and innovation to regain some of the position of leadership lost to Japan and western European countries.

CHARLES M. SCHWAB MEMORIAL LECTURE

"The Meaning of Computers for Management and Society" was the subject of the Schwab Memorial Lecture delivered by Dr. Herbert A. Simon, Richard King Mellon Professor of Computer Science and Psychology at Carnegie-Mellon University and recipient of the 1978 Nobel Prize in Economic Sciences. Dr. Simon pointed out that computers have been around for only about 30 years and are at the same stage of development as the automobile and the airplane were in, say, 1934. We are just beginning to understand the vast potential of computers beyond number crunching. Today, computers can solve difficult problems by means-ends analysis - much more sophisticated than feedback analysis. The present generation of robotics can sense their environment and can apply intelligence to solving problems or doing chores. Their biggest contribution may prove to be their ability to do small job lots, i.e., flexibility.

Dr. Simon said that the limiting factor in our growing use of computer intelligence is our own ingenuity in devising the necessary programs. It has been found easier to simulate our own doing than to simulate what a bulldozer operator does. In word processing, spelling has been licked and correction of grammar is well on the way. Amazing progress is being made in management information systems and in knowledge engineering such as medical diagnosis, chemical synthesis, etc. For example, a "Prospector" program at Stanford Research Institute discovered a new ore body. In the thoughtful analysis of a "Bullfrog" program at Carnegie-Mellon University has rediscovered many laws of physics.

Expanding applications of computers promise large increases in productivity, and thus far their use has not caused any major social problems or unrest and no indication of loss in job satisfaction.

OTHER BUSINESS

U.S. Vice President George Bush was the speaker at the Annual Banquet on May 27. He gave a rousing talk extolling the plans and accomplishments of the Reagan administration and sympathizing with the problems of the steel industry and its workers, but promising no quick solutions.

David M. Roderick, chairman and c.e.o. of U.S. Steel Corp., was elected