Grads Face 'Intellectual Industries'

SOUTHFIELD

The 1973 college graduates will enter a quickly changing business world which is being paced by the emerging "intellectual industries."

Graduates finding jobs will note that rapid change of pace and can discover the direction of change by watching closely the intellectual industries.

That was the advice given by Ray W. Macdonald, president of the Burroughs Corp., to the 480 graduates of Lawrence Institute of Technology in Southfield.

Macdonald was the speaker for the 41st annual commencement at LIT on June 3. Besides addressing the graduating class (list of local graduates has been published by Observer Newspapers, Inc.), Macdonald also received an honorary doctor of science degree in industrial management.

An honorary doctor of engineering degree also was presented to Professor Hans Erneman who has retired as director of the school of engineering at LIT.

Macdonald defined "intellectual industries" as those whoch are characterized by invention and discovery, and by rapid application of those discoveries to new products.

As an information processing industry, Macdonald commented, Burroughs is a classic example but others include aerospace, electronic components, electronic entertainment, communications, and the emerging marine sciences.

Any graudate, whether he enter business, industry, or a profession, cannot avoid being influenced by these intellectual industries, he added.

The major shift in industry was prompted by invention of the electonic computer at the University of Pennsylvania at the end of World War II, Macdonald noted.

The years since WWII can be divided into three phases, each considerably shorter than the previous one.

With 1945 as a base year, the 15 years to 1960 represent a period of research and development in electronics and applications in the information processing industry.

During this period, early computers began to emerge but the dominant products continued to be traditional mechanical products such as accounting machines, punched card and tabulating equipment.

From 1960-70, electronic products emerged as major products increasingly displacing traditional mechanical machines. The two lines of products which developed were the new all-electronic equipment, and mechanical products with electronic modifications.

The third, and current period, sees almost all of the products being basically electronic. Although some still have mechanical functional parts, the heart of the product is electronic.

These shifts have altered significantly the manufacturing structure and sales procedure, Macdonald stressed.

During the traditional era, products were made extensively of metal and required a great deal of fabrication and assembly work with more than 90 per cent of the components for a plant's unique product produced under one roof. The individual plant would be responsible for every step in the production process.

The traditional products had a long production life expectancy. "It wasn't unusual for a plant employe to spend his entire job lifetime of 40 years or more working on the same basic product or, at the most, two or three very similar products."

The manufacturing structure consisted of large plant organizations with high ratios of semi-skilled workers, usually 85 per cent semi-skilled and 15 per cent skilled workers such as toolmakers, management and engineers.

During the 1960s, Macdonald continued, specialized electronics plants were built and existing plants converted to the manufacture of electronic products.

The increasing rate of technical innovation accelerated rapidly, thereby shortening active product life cycles from 40 years, down to 20 years, to today's three to five years.

"With the transition to electronics and shorter product cycles came profound changes in the profile of the manufacturing force. From a ratio of about nine to one semi-skilled and skilled workers versus engineering and management personnel, we now have a ratio of about three to one."

At Burroughs, Macdonald continued, the most sophisticated electro-mechanical accounting machine of the 1950s had 12,500 parts, most made in one factor. The current Burroughs minicomputer has fewer than 3,000 parts which are now produced in specialized "feeder" plants.

"Thus, our industry's manufacturing organization has changed from one of high labor intensity to one of even higher design engineering and research intensity."

As an example, Macdonald pointed to Burroughs' Micro-Components Organization in Rancho Bernardo, Calif., which has an employment ratio of about two production employes to one employe engaged in engineering, research or management.

He noted that the Plymouth plant operations are being reorganized to accommodate three distinct largely electronic product-line programs, where five years ago it was only one organization.

Opportunities provided because of these changes, Macdonald noted, include: more rapid advancement of management personnel; closer association between plant management and production employes; and greater involvement of plant managers in research and development and in knowledge of the marketplace.

"Whereas, at one time, product innovations emanated from highly centralized research organizations, today product design ideas are developed at the plant level."

Macdonald also noted that Burroughs' sales force in the U.S. is recruited from college graduates, with 24 per cent having master's degrees. In Belgium, he added, 100 per cent of the sales force has master's degrees.

"Today, 64 per cent of all our employes, including manufacturing personnel, have the equivalent of an associate or higher degree. Among the 1,100 employes we added last year, 94.6 per cent had bachelor's degrees and 22 per cent had advanced degrees.

"We have truly moved from an industrial, labor-intensive type of business to an intellectual business.

"Intellectual industries are playing an important role by providing a source of stimulating and challenging jobs for these highly motivated, bright young people, and the number of opportunities within these intellectual industries will continue to increase."

Macdonald concluded by saying: "I submit that the true impact of the intellectual industries ... is that they are setting the pace for this change and are pointing the direction that other industries will follow."

Regional Affairs

Great Scott Adds Outlet

Continuing a record-breaking expansion program, Great Scott Supermarkets, Inc. opened its 48th modern supermarket in Livonia. It was the second new store opening in less than 30 days.

These openings are part of a constant growth program which has contributed in making Great Scott the No. 1 publicly held food chain in the nation in sales per square foot, and fourth in the nation in average weekly sales per store, stated Nathan Fink, president and board chairman.

Located in Newburgh Plaza at 37399 W. Six Mile and Newburgh Road, the supermarket covers 29,500 square feet, maintains 10 checkout counters and has parking available for 800 cars.

"We are gratified that the Great Scott name and merchandising philosophy of passing savings on to the consumer already is well known in the Livonia area, a fact which should accelerate and expand future growth in this area," announced Fink.

Additional new store openings are scheduled for Lapeer, Rochester, Utica and Southfield in 1973.

During opening ceremonies, Fink announced, "We have designed our new outlet to provide the Livonia housewife with a one-stop shopping experience. Here she may shop in climate-controlled temperatures year round for any item the average household may need."

"It is also significant," Fink concluded," that we have created 100 new jobs in this fast growing suburb.

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Looking for someone who can make good use of those valuable items stacked everywhere in your storage area? Place a low cost Observer Classified Want Ad to turn those items into usable cash.
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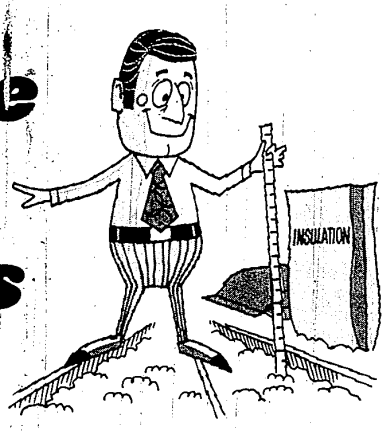
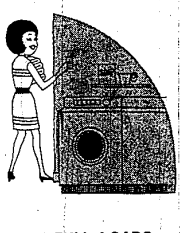
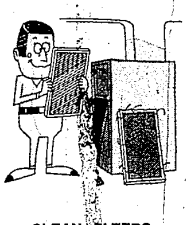


CHECK INSULATION
For comfort and economy, install at least 6 to 8 inches of high quality insulation in your ceilings. Weather-strip and caulk doors and windows. One of the biggest wastes of energy (and costliest for you) is the loss of heated or cooled air through wall, ceilings and floors.

SET AND FORGET YOUR THERMOSTAT
Find a comfortable setting and leave your thermostat alone. Turning the thermostat up and down causes wear and tear on your equipment and an increased use of energy.



PUT FULL LOADS IN YOUR DRYER
Save time and money by waiting for a full load of clothes. Don't overdry your clothes. Make sure your dryer is well-vented to the outdoors. Cleaning the lint filter after each use assures maximum drying efficiency and cuts dryer time, too.



CLEAN FILTERS REGULARLY
Clean or replace filters in your heating and cooling equipment at least three times a year. Clogged filters overwork your heating and cooling systems. Clean filters mean cleaner air in your house.

PLAN MENUS FOR ECONOMICAL COOKING
Time your baking for multiple uses. Prepare a complete oven meal or an all-broiler meal. Bake two casseroles and freeze one. Cook food in tightly covered pan and adjust flame to fit the size of the pan.

REPAIR LEAKY HOT WATER FAUCETS
A leak of one drop per second for one year will pour over 1300 gallons of hot water down the drain. (You pay money for wasted water and energy.)

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