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STUDY FINDS INCREASE IN AUTOMATIC CONTROL IN INDUSTRY

The widespread introduction of measurement devices and automatic control instruments in industry has speeded up production, improved the quality of products, reduced costs and increased the productivity of labor. This is shown by a report entitled "Industrial Instruments and Changing Technology" which was prepared by the National Research Project of the Works Progress Administration and released today by Administrator Harry L. Hopkins.

Although industrial instruments have in some instances served to displace labor, Corrington Gill, Assistant Administrator in charge of WPA research, pointed out in his letter of transmittal that they have also played an important role in the development of such new services or products as air conditioning, radio, plastics, automobiles, and airplanes.

Instruments make for precision control of processes and for efficiency in the use of raw materials, machinery and equipment, the report states. Many modern manufacturing plants employ several hundred instruments in their production processes and some of the larger concerns use thousands. Such industries as petroleum refining and automobile manufacturing, for example, rely heavily on instruments. In the heat-treating of steel, it is pointed out, skilled craftsmen used to judge the temperature of the steel by its color. The introduction of the pyrometer, an instrument which measures and indicates temperature, eliminated the need for this skill but the operation still required manipulation to regulate the temperature. The subsequent development of a temperature controlling apparatus made the heat-treating process almost entirely automatic. The report states that instruments incorporating automatic control features are gradually superseding simple indicating and recording types. Instruments permit economies by the reduction of

waste through maintenance of uniform operating conditions and by the use of cheaper raw materials. Inferior materials can be made into products equal in quality to those based on more expensive raw materials.

"Instruments in some instances serve as direct substitutes for labor," the report continues. "Relays, switches and other mechanisms which transfer the actions of an instrument into automatic operations of a machine have eliminated manual workers. Inspection and handling operations are particularly susceptible to automatic control in mass production industries. A wide variety of automatic devices has been applied in these industries to mechanize handling and visual-inspection tasks."

The report also points out that the installation of industrial instruments sometimes results in changes in the specifications for available jobs. "The judgment of a trained workman is frequently made unnecessary by an instrument which indicates a condition so precisely that an unskilled operative can give the process the necessary attention. Where a new skill is introduced it is likely to be of a different sort, for instance, one requiring an ability to read meters and perform calculations."

The report is published as a booklet of 148 pages, illustrated, and with numerous charts and tables. It was prepared by George Perazich and associates as one of the reports of the National Research Project on Reemployment Opportunities and Recent Changes in Industrial Techniques directed by David Weintraub.

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