THRESHOLDS OF INDUSTRY

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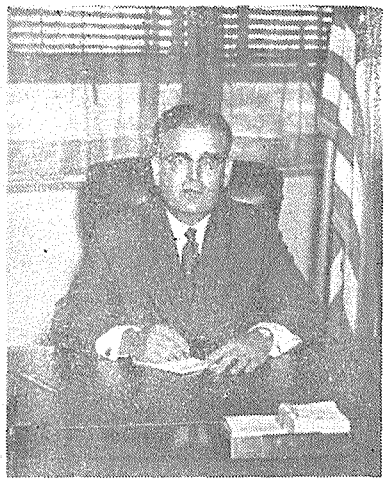

You have asked me to say something about, or maybe to Korean scientists and technologists. Because I have been here such a short time, I must refer to an experience in our own industrialization in America which is basic to all industrial progress.

As the scientist discovers and organizes facts and information about our physical environment and the technologist(usually an engineer) applies this organized knowledge toward the improvement and growth of industry. certain disciplines begin to appear as being patently more important than others.

While it is not at all apparent at first sight, standardization is the threshold to better products and services for everyone, at lower prices. Intelligently drawn standards, properly defined by specifications, effectively propagated and used, minimize waste of both materials and manpower and this applies, even in labor intensive industries.

For example. handmade item, finished according to vague and incomplete specifications, is a low value, high cost item, i.e. not worth even a low price Of course, the value added to a product by manufacturing it according to proper specifications increases percentagewise as the manufacturing process becomes more capital intensive and more mechanized, automated otherwise organized in the direction of mass production and assembly lines. In fact, the greater this development, the greater the need for more sophisticated(close tolerance) specifications, which must be rigidly held in any market where competition is relatively free.

Standardization programs may range from those establishing true and correct weights and measures in a nation's markets, to the setting up of specifications for codes for buildings and building materials, electrical wiring, steam boilers, laws for safeguarding foods and drugs, public buildings or homes, sewerage, etc. Therefore, public health may be, and the public interest is always, involved. Standards thus become the kind of measure which Lord Kelvin made a prerequisite to the usefulness of all material things. They are the foundation for intelligent buying and selling by the government or in the private sector. Governments have fallen

and private enterprises have failed for the lack of this foundation.

Finally, standards are the key to the benefits benefits flowing from what has been called the most important accomplishment of the industrial revolution, namely, replaceable parts, i.e. the whole concept of spares, uniformity and interchangeability. In the West, we think of this development in terms of tools and dies, jigs and fixtures, gaging and instrumentation. In any event, it all comes to the same focus, standardization. It is not possible to make a jig that positions four holes, each of the same size and in the same position for use as a guide to drilling these holes in what is to become a replaceable part of a final product, unless specifications are at hand to define the exact diameters of the holes and their distances apart. And only in this way will this part and all other parts made with the same jig fit exactly the same end product

We have in Korea institutions which are properly identified in name and officially designated function to provide these essential services to industry, both in the fact-finding and fact-application processes. Most important of all, however, is the continuing need for these institutions and their staffs to "sell" these services to an industry that is often unaware of its own need for them, to maintain the kind of communications with that industry that will be a continuous "read-out" of the real problems in the industrial plants and to provide realistic and economical solutions to these problems.

To the scientific community of Korea I Should say, therefore, that your responsibllity to your country is very great and I wish you every success in meeting the challenge.

Henry J. Costanzo