METROLOGY

Centimeters Inch Up

This year legislation has a chance.

Both the House and Senate are girding for the latest round in a political-scientific battle that has been fought in Washington since the time of Thomas Jefferson. The question: How should we measure things?

The opening bell was the introduction, in both Houses, of bills calling for a study of possible switch-over to the metric system from the present inch-pound-quart system. Such a study would look into the costs (enormous, say industry sources) and the benefits (enormous, according to metrists).

After decades of wrangling, such a bill almost became law last session. Passed by the Senate and approved by a House Committee, the bill failed in the House Rules Committee.

Proponents of the study hope for better luck this year.

The legislation definitely will not call for a switch-over to metric measurement, but simply requires a study of three years of what would happen if such a move was made.

Writers have had a lot of fun with the metric system—"I Love You a Hectoliter and a Decaliter. . . ." "I wouldn't touch it with a 3.048 meter pole"—but the possibility of conversion is a deeply serious matter to scientists and to manufacturers.

One strong proponent of setting up metric as the official system in the United States is Dr. Edward Teller, associate director of the University of California's Lawrence Radiation Laboratory. He goes so far as to declare that Russia orbited a satellite before the U.S. because "in 1927 the Russians did away with whatever versts and other absurd units they were using, and, like most of the world, completely adopted the metric system. Also relatively recently, the Hindus and the Japanese have adopted it. But there are still some wild Anglo-Saxon tribes which cherish their traditions above everything else."

In Russia, then, scientists talk to engineers in a common mathematical language—but in America the scientist speaks metric and the engineer speaks another tongue. Laborious translation adds up to costs of millions of dollars a year—some say up to $100 million in the space industry alone.

The United States Army has changed to metric measure in all its weapons—a move to make them compatible with North Atlantic Treaty Organization forces. But the machines that produce the rifles are still calibrated in fractions of an inch—all the specifications must be translated.

Indirect costs are cited too. The metric supporters contend that because the system is decimal—all measures are a tenth or ten times the others—it can be learned by a child in an hour. The brute memory needed to relate 12 inches to a foot, three feet to a yard or fluid 16 ounces to a pint or a different ounce to pounds would be unneeded and valuable educational time freed for other matters.

Further, since most of the world—with the current exceptions of the British and the Canadians—work on the metric system, our trade would improve because our products would be compatible with those of other nations, proponents say.

America, of course, inherited its measurements from Great Britain—although wisely going to a decimal system in currency. Now the British themselves, after elaborate studies, are abandoning the inch-pound system to take up the metric.

On the other hand, conversion costs to industry—recalibrating or replacing machine tools—would be immense. General Motors, for example estimates the total cost to be about $26 billion. For General Electric alone, the company says, $200 million would be needed. A Stanford survey suggests $11 billion for the total cost. Ford Motor Co. has estimated that the change-over would eat up one-fifth to one-fourth of its capital investment.

One industry that has changed over on its own volition is drug manufacturing. Eli Lilly and Co. began the move in 1955 and took four years to complete it. Some 2,500 formulas had to be changed, machinery and instruments recalibrated, and 10,000 employes taught to think in metric terms. The firm's Ralph W. Ernsberger declared: "It is increasingly apparent that the economic advantages far outweigh the difficulty encountered along the way." Many drug and chemical manufacturers have followed suit.

It is certain that a long time would be needed to complete any change. Road signs might be altered from miles to kilometers fairly rapidly, automobile speedometers and odometers would take longer to become widely metric. Some measurements, such as land titles in feet or acres might remain unchanged for generations.