

METROLOGY

Pounds or Grams?

Ninety percent of the world has changed to the metric system of weights and measures. The United States and the British Commonwealth still cling to the complex English system.

By RALPH SEGMAN

NEWBORNS in this country are weighed in pounds or grams, or, often, in both. Each hospital's peculiar custom determines the scale used. From the moment of birth, Americans are caught up in a confusion of weights and measures that makes life more complicated and expensive than it need be.

This problem is confined to the English-speaking world: the United States, Eire and the British Commonwealth. Ninety percent of the earth's population is on the more efficient metric system, almost exclusively.

Ever since George Washington and Thomas Jefferson unsuccessfully urged the Congress to adopt the metric system, advocates have launched sporadic, and losing, campaigns for the cause. A metric bill, the first in nearly 30 years, has recently been introduced in the House by Rep. Overton Brooks (D-La.). Passage of this bill would require the National Bureau of Standards to investigate and report within a year on the practicability of U. S. adoption of the metric system.

Eliminate Fractions

Embraced first by the French in 1799, the metric system eliminates fractions. It is a decimal system based on the meter (little more than a yard), liter (just over a quart), and kilogram (2.2 pounds). To change an amount, say 3.5 kilograms, to a smaller unit, grams, the decimal point is moved three places to the right. The result is 3,500 grams. This is typical of metric conversions, a simple shifting of decimal points. However, to convert $3\frac{1}{2}$ pounds to ounces, it is necessary to multiply the fraction by 16 (or 12, depending on the pound you use).

Adoption of the metric system seems as imperative for the U. S. as a haircut seems to be for a good, sociable human being.

One of the more important reasons for going metric is that virtually every other country in the world operates under that system. As stubborn holdouts, with huge export-import businesses, the U. S. and the British Commonwealth are perpetuating burdens on world commerce as well as on their own. Weights and measures have to be converted from system to system. It is a situation that breeds errors, costs time and money, and sometimes results in hard feelings.

Also, as Lewis L. Strauss pointed out when he was Secretary of Commerce: "It must be apparent to all that the uniformity of measurement systems between Russia and most of the world . . . is an enormous

advantage to the Soviets and a handicap to us."

Although we use what is loosely called the English system, we and the British have not cooperated in eliminating all of its exasperating ambiguities.

This past July, however, the U. S. and five other English-speaking countries did agree on the dimensions of the pound and inch. Still unclarified is the ton, 240 pounds heavier in Britian than in the U. S. The American fluid ounce equals 1.0408 British fluid ounces. The British have not yet abandoned the old stone (14 pounds). And the British pharmacist deals with such a conglomerate of weights and measures that he must close shop for three days every month to straighten his accounts.

Within the U. S., confusion is no less prevalent. Not satisfied with one simple, or even complicated, system, Americans have squeezed themselves into a tangled spaghetti of systems. We use the metric, avoirdupois, troy, apothecaries', and various "splinter" systems. Even scientists, who

would rather use the metric system alone, are forced onto double, triple and quadruple standards.

Why is the metric the preferred system in the world today? One must first look back to the serio-comic standards of the past to appreciate its simplicity. One of the earliest standards was the foot. Called by many names and coming in many sizes, it was "rigidly" controlled by the length of the feet of whomever happened to be chief or king. In intertribal barter, perhaps, the subjects of the king with the smallest feet might have had quite an advantage.

Many of the ancients measured in cubits, the distance from the point of the elbow to the tip of the middle finger. The Romans defined the mile as 1,000 paces. Edward II of England decreed that the inch was the length of three barley corns end-to-end. And one yard lay between the end of Henry I's nose and the tip of his thumb.

85 Weights and Measures

Some of these units have been discarded and others more precisely defined. The Bureau of Standards three years ago published a list of some 85 different weights and measures in general current use in the U. S. Along with feet, pounds, and meters,



SIXTEEN GOOD MEN—This German woodcut from a book on surveying published in 1575 illustrates the preferred method of standardizing the rute (equivalent to the English rod). Sixteen men were selected at random as they came from church and were lined up foot-to-foot. The result was one rute, or the length of 16 average feet.