Eichner describes neither his original nor modified technique in detail, and he does not state if the presence of the suture was verified in the horns of the 50 percent of animals that were implanted in his second series. Therefore we are unable to compare our data with his.

Additional animals have now been added to the series reported in *Science*, and we have observed no pregnancies or decidual changes. We have also shown recently that, in sutured animals littered and rebred on the postpartum estrus, pregnancy is again unilateral if the suture is still present and bilateral if it is not.

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Metric System of Measurement

The world trend toward adoption of the metric and Celsius systems seems unmistakable, and advanced science courses and graduate schools in the United States have long used them. The adoption by the British of the Celsius system as an alternative to Fahrenheit, the adoption of the metric system by India, and the use of this system in cartography by the 12 Antarctic treaty nations are recent illustrations. However, up to the present time some college biology courses have retained the use of inches, feet, miles, acres, and such units of measurement although they generally use the metric system for objects of small size. They may also use the Fahrenheit system of temperature as well as the Celsius. Some recent botany and zoology texts for college students use a mixture of measurements. If students can think in terms of the metric system for small units, only little encouragement is needed for them to think in terms of meters and kilometers.

When a text in entomology from a western university with many foreign students consistently uses terms like 1/16 or 1/4 inch for lengths, and the Fahrenheit system for temperatures, one wonders why those students are needlessly confused. Proportions here are sometimes in milligrams per kilogram (poison) and sometimes pounds per gallon (insecticides). In this example part of the explanation may be the orientation towards practical United

States agriculture. Advanced biological texts on the whole, however, are consistent in using the metric and Celsius systems. Chemistry texts are similar in this respect, and beginning physics texts are partly oriented towards the engineering student, where industry will force them to use nonmetric systems for an indefinitely long time.

It is suggested that authors and publishers of all college scientific texts be consistent in this respect and use the metric and Celsius systems of measurements in the interests of convenience, uniformity, and what appears to be a world trend. It might also be considered that these growing systems be adopted in secondary school texts since they are tending more towards the college level and clearly designed in many cases for students who enter the science field.

Publishers may also find it to their advantage to use a system already in general use throughout the Common Market, Latin America, and much of Asia, and one might anticipate that the new African countries, like the former French colonies, will use the metric system exclusively.

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The United States president who successfully sponsors full conversion to the metric system will take a mighty step toward global understanding and communication between peoples and nations. Decimal currency, an American innovation in 1792, is understood by all. This largely explains why the dollar is the basic exchange unit of the Common Market, even though none of the member countries use the dollar internally. Just as the invention of zero extended man's comprehension of numbers and improved his ability to count, so decimal systems save his time and extend his grasp.

In 1902 and in 1926, bills to make the metric system mandatory were narrowly defeated in Congress. Lincoln favored metric standardization as a step in reconstruction following the Civil War and there were strong movements afoot at the end of World Wars I and II. The penalty for not going metric grows each year, as do the problems to convert.

Ideally, the British Commonwealth and the United States will set common deadlines for step-wise conversion. England is already well on its way to use of the Celsius temperature scale. Once committed to the decimal monetary

system, Commonwealth countries have begun to calculate what it costs to remain on the old system. Now that Australia has "cast the die," a Sydney paper recently estimated that by cutting man-hours among monetary workers alone, the decimal system will save the country 11,000,000 pounds.

The United States conversion to metric would soon stimulate both U.S. and world economy. Once accomplished, there would develop a more facile relationship between science and industry, also between scientists and nonscientists. For example, the English-speaking public finds it quite impossible to place very small things, such as pesticide residues, in proper perspective. Quantitation of traces is not even attempted by the English system. Comprehension of many problems dealing with traces of biologically active materials is now in the public domain. Understanding the metric system enhances one's sense of measurement from the smallest to the largest, all in multiples of 10, and public understanding is an absolute necessity to progress through the maze of socio-technological problems now before us.

The metric system is either obligatory or permissive in every civilized country and none have abandoned it. Russia, China, Poland, Hungary, and all other Communist countries, including Cuba, converted long ago. Metric conversion will, of course, present more problems to the U.S. than to most other nations who have already changed, but it will confer proportionately more benefits to us. Doctors, pharmacists, and pharmaceutical companies already use the system as much as they can. This is because of its simplicity and nonambiguity in designation of small quantities. The U.S. Army has adopted the meter for linear distances and will, by 1966, use the metric system in all weaponry.

The American Institute of Nutrition last year specified metric system measurement and Celsius temperature scale for the *Journal of Nutrition*. Similar action is under consideration by the Poultry Science Association and the Society of Animal Science. The American Veterinary Medical Association recently adopted the Celsius temperature scale. A resolution favoring the metric system was adopted in 1962 by the Agricultural Research Institute for consideration by the Agricultural Board and the National Research Council, National Academy of Sciences.

A step forward occurs when each

scientific society takes similar action. Trade associations representing entire industries should at least tacitly support this movement. The Nutrition Council of the American Feed Manufacturer's Association voted in favor of the metric system in November 1962. Indeed, such a ground swell among scientists and engineers could conceivably influence Congress to implement conversion by law.

It was estimated in the 1961 hearings on the two metric system bills then before Congress that full conversion would take at least 33 years. The important thing then is to start. But H.R. 269 and H.R. 2049, both to appropriate funds to study the desirability and practicability of conversion, were summarily rejected.

Representative Miller of California, chairman of the House Committee on Science and Astronautics, is expected to introduce a similar bill in Congress this year, but the best way to gain a hearing is to substitute something more satisfying. One way which suggests itself is for educators to stress the metric system, largely excluding the English system and the use of fractions in grade and high school mathematics. The U.S. would soon have a generation, better oriented to science than any heretofore.

This is a national problem which scientists can help to solve by their united action in the adoption of the metric system which would hasten universal acceptance.

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Devaluation of the Dollar

I enjoyed the lucid account of our modern monetary system in James W. Angell's recent article [*Science* **138**, 1071 (7 Dec. 1962)] but I found the author's discussion of how the U.S. should deal with the stubborn payments problem far from persuasive.

Angell is of the opinion that our payments deficit, which in recent times has aggregated 3 or 4 billion dollars per year, can be eliminated by getting our European allies to assume an appropriate fraction of current U.S. expenditures for defense of Europe and aid to underdeveloped countries. Unfortunately, he presents no evidence to suggest that our allies will, in fact, assume this large burden. It is known that they have little sympathy with the