in the matter, but objections to organ donations coming from parents, sisters, brothers and children all have to be honored. And many surgeons tell stories of the bribes demanded of them before widows would comply with their dead husbands' expressed wishes.

Two important components of any new law, whether federal or state, should be one to assure that potential donors are not pressured by physicians into willing their bodies, and one to assure that only qualified personnel in authorized hospitals be allowed to remove organs—a measure intended to prevent growth of a black market in human spare parts.

The other major legal question transplant surgery raises is, perhaps, more complicated than the matter of willing organs. It calls for a definition of death. The traditional, but non-legal, idea that death occurs when the heart stops beating is losing relevance as electronic means of keeping the heart functioning improve. And this criterion is a major handicap to transplant surgeons who need to remove the donor organ from the dead man's body before or soon after the supply of oxygen is cut off.

If a body is all but dead, technically alive only because an artificial respirator maintains heart beat, is it homicide to take out a heart or kidney before pulling the plug? The law has no answer, but physicians are urged to err on the side of caution. Legal precedents offer little help.

In one case in England, a man from Newcastle who had fallen backwards and injured his head was connected to an artificial respirator some 14 hours after hospital admission. Twenty-four hours later, with his wife's consent, physicians removed his kidney for transplantation, and the man died as soon as the respirator was disconnected after the operation.

At the inquest, a medical examiner testified that the patient-donor died of cerebral damage from his fractured skull, not from loss of his kidney. The jury acquitted the surgeons of responsibility. "But," Prof. Louisell warns, "this is only one case."

Ethical as well as legal problems emerge. The Hippocratic Oath, the 1947 Nuremberg Code and the 1964 international Declaration of Helsinki all affirm the physician's prime responsibility to his patient is that he must do no harm. And removing an organ from one man to give it to another constitutes harm in most cases, if the donor is alive. But the medical profession and society have to come to some decision about when life ceases. If heart beat is no longer the deciding factor, should brain function be the criterion?

Barbara J. Culliton

# IDEAS OF THE WEEK

An editorial service to readers; more information on items can be secured from the manufacturers.

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Price: \$19.50 Flexbar Machine Corp. 5 Lenox Ave. Farmingdale, N.Y. 11735

# New diaphragm pump

Designed for pressure in excess of 10,000 pounds per square inch, this (see p. 222)



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(Continued from p. 221)

diaphragm pump for clear corrosive liquids can be regulated from zero to five gallons per hour while the pump is operating. The self-lubricating unit is made of steel and corrosive resistant materials and is powered by an explosion-proof electric motor.

Price: Under \$2,000 Keystone Engineering Co. 5310 Sidney, P.O. Box 14666 Houston, Texas 77021

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Price: \$350.00 Inject-O-Meter Manufacturing Co., Inc. Box 1044 Clovis, New Mexico 88101

# Braille typewriter

Operable by anyone who knows how to type, this electric typewriter embosses Braille characters on the paper instead of the usual letters. An entire Brailled cell is formed at a single punch of a key and corrections are made by an erase lever which flattens out the incorrect cell. Both Grade I and Grade II Braille can be typed.

Price: \$490.00 IBM, Office Products Div. 590 Madison Ave. New York, N.Y. 10022

# Noise meter

Fully automatic, this compact instrument registers by direct digital readout the total time of exposure to noise levels in excess of 80 to 110 decibels. Useful for conducting noise exposure surveys of personnel or for unattended monitoring of damaging noise generated by aircraft or other sources, it weighs 20 ounces and is 51/8 x 31/8 x 11/2 inches in size.

Price \$210.00 Union Industrial Equipment Corp. 150 Cove St. Fall River, Mass. 02720

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