

# Current U.S. Patents

A computer that teaches itself to read, and "learns" a language by first determining the frequency with which characters appear, can be used with almost any language.

► A METHOD by which any digital computer can teach itself to read a book was granted a patent by the U.S. Patent Office.

Jacob Rabinow, president of Rabinow Electronics Inc., Rockville, Md., assigned rights to patent 3,237,161 to Control Data Corporation, Minneapolis, Minn.

He told SCIENCE SERVICE that the method worked in this way:

The computer scans the first letter in the first paragraph, storing this information in its memory. It then looks at the second character, also storing in its memory the information as to whether this one is the same as or different from the previous one. It continues to do this for the first one or two paragraphs.

By then the computer should have a good count of how frequently any one letter appears. If the text is in English, for instance, the computer would know which characters were "e," which "s," or any other character from such a frequency count.

By the end of the first page or two, the computer would be able to form the characters into words. After that, it can read words. If the computer were wired with a connecting dictionary, it could consult that to clear up any ambiguities.

Mr. Rabinow noted that this method was similar to one cryptographers use to break coded messages. Because his method is one in which the computer both teaches itself and programs itself, the machine can read any language for which the frequency count is known.

## Quick, Simple Pregnancy Test

One method of making the quick, simple pregnancy test using the red blood cells from sheep, variations of which are now routine in many doctor's offices around the country, earned patent 3,236,732 for Dr. Edward R. Arquilla of Pasadena, Calif.

The test is based on an immunological reaction that is specific for pregnancy, determined by the presence or absence of significant amounts of the hormone chorionic gonadotropin in a body fluid such as urine. Only one drop of water and one of urine is needed.

The immunological detection method can be carried out by an unskilled person, such as a receptionist, and still give accurate results.

## Other Interesting Patents

A method for obtaining the information carried by a laser light beam used for communications was awarded patent 3,237,011. Dr. Fred Sterzer of Princeton, N.J., assigned patent rights to Radio Corporation of America. He

told SCIENCE SERVICE that one application of the "optical heterodyne demodulator" might be in radar systems that use light beams to track very fast moving objects.

Ford Motor Company was assigned rights to patent 3,236,540, for a safety harness having both a lap belt and a shoulder strap for automobile passengers. Each is buckled separately and fastened to the car frame independently, according to the inventors, Roger J. Berton of Dearborn Heights, Mich., and Robert H. Fredericks of Southfield, Mich.

Harry E. Thomason of District Heights, Md., has come to the aid of those who would like to have a sun-heated or sun-cooled house, yet have no basement for the equipment. He was granted patent 3,236,294 for his "basementless solar home."

A system for making visible the patterns produced by ultrasonic waves earned patent 3,236,944 for Dr. John Edward Jacobs of Evanston, Ill., who assigned rights to Northwestern University, also in Evanston. The method is particularly useful for studying biological tissues since ultrasound does not destroy such specimens as X-rays or gamma rays might.

• Science News, 89:173 March 12, 1966

## TECHNOLOGY

### Hippocratic Oath For Engineers Urged

► THERE should be an oath for engineers similar to the Hippocratic oath for doctors, that would pledge them to dedicate their work to the increase of human happiness, said Prof. M. W. Thring, head of the department of mechanical engineering, Queen Mary College of London University, England.

The problem, he said, is to ensure "that the bulk of the work on technology is done for the real benefit of mankind, as opposed to the provision for war or political gimmicks like the space race."

Prof. Thring mentioned machines the engineer could develop, in order of their moral value. Listed first were the machines to help invalids, blind and crippled people, machines for medicine and surgery and educational machines.

"The use of technology to improve the destructive power of an army, typified by the first use of nuclear fission, is undoubtedly a misuse of the skill and brain of the technologist, just as clearly as would be the use of doctors to produce improved means of torturing human beings."

• Science News, 89:173 March 12, 1966

## Do You Know?

"Instant" packaging of airplane parts is possible with a foam which shoots on like pressurized shaving cream and hardens into a protective coat in three minutes.

Several geochemical analytical methods permit advances in prospecting for gold by searching for associated elements such as silver, mercury and arsenic.

Timed pesticide capsules which would release an insecticide at regulated intervals during the growing season are under development at the U.S. Department of Agriculture.

The inner ear, located inaccessibly, cannot be examined during life.

• Science News, 89:173 March 12, 1966

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