

Infant's Dreams Useful

An unborn child may have rudimentary dreams which play an important role in the development of its brain—By Patricia McBroom

► **UNBORN BABIES** may dream. A major investigation into the role of dreaming has been published by three psychiatric researchers. Their central finding, and the basis of a new theory on the purpose of dreaming, is that newborn infants spend far more time in the dream state than adults. There is also reason to believe the unborn child dreams or experiences some kind of rudimentary hallucinations in the womb. As the child matures, dream stage time decreases until it reaches adult levels at adolescence.

In reporting their work, Dr. Howard P. Roffwarg of the College of Physicians and Surgeons, Columbia University, New York, Joseph N. Muzio of the New York State Psychiatric Institute, and Dr. William C. Dement of the Stanford University School of Medicine, Palo Alto, Calif., theorized that the dream state plays a central role in developing the brain before outside sensory experiences are available.

In other words, it could prepare the central nervous system for the onslaught of experience—sight, taste, touch, smell and hearing—coming with birth and maturation.

The fetus and infant probably do

not dream as do adults in images since their visual centers are undeveloped. However, they could very well experience sensory hallucinations in a limited sense. Evidence indicates that dream activity originates in the brain stem and travels upward to the higher cortical centers, therefore acting as a possible stimulus to brain development.

“Dream state” or “dream activity” actually refers to a specific stage of sleep called the rapid eye movement (REM) stage. This has been shown to be a highly active physiological state with darting eyes, increased respiration and electrical discharge from the brain, approximating periods of alert wakefulness at times. Dreaming does not necessarily occur always during REM sleep but the two have been very closely associated.

Newborns will spend on an average 50% of their sleeping time in REM sleep; adults 20% to 25%. Premature infants of seven or eight months, however, will spend almost 100% of their time in the active stage of sleep.

The work was reported in *Science*, 152:604, 1966.

• *Science News*, 89:369 May 14, 1966

MEDICINE

Fewer Doctors Smoke

► **TODAY FEWER** than 30% of physicians are smoking because they have become aware of the health hazards, Dr. Luther L. Terry, former Surgeon General of the U.S. Public Health Service reported.

“In the 1950s more than 60% of the nation's physicians smoked,” Dr. Terry, who is now vice president for medical affairs at the University of Pennsylvania, told the National Interagency Conference on Smoking and Health, meeting at the University of Maryland in College Park.

Individuals and organizations must take the place of financial resources, which are small among the opponents of cigarette smoking, Dr. Terry said.

Balanced against the \$200 million a year spent by the tobacco industry to advertise cigarettes, are the two-million-dollar budget of the Public Health Service's National Clearinghouse for Smoking and Health and the \$3,000 that the National Interagency Council has in the bank, Dr. Terry pointed out. The enactment of the law requir-

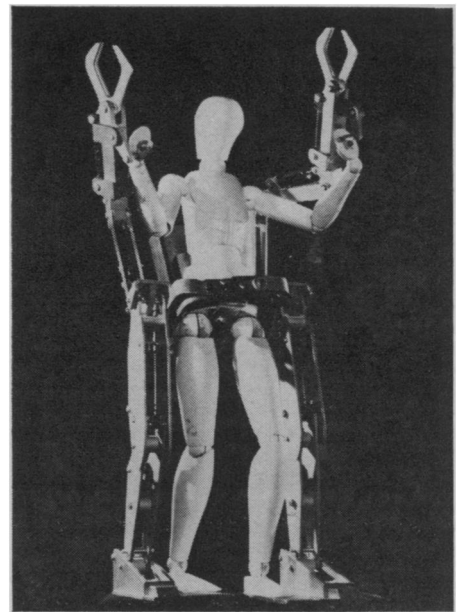
ing health warning on cigarette packages was a step forward, but more research and education are needed.

Warning that “we must be wary of gimmicks and flashy stunts of doubtful value,” Dr. Terry said that to achieve any measure of success, smoking and health programs must be based on well-designed behavioral studies.

There is hope in the fact that youngsters are starting antismoking clubs, making it “smart not to smoke,” he said, but many teen-agers continue to smoke once they have started.

Cigarette sales have declined another two percent in Britain in the past year in spite of the fact that there have been no dramatic events to produce change since publication of the Royal College of Physicians' report in April 1962, and the Surgeon General's Report in January 1964. Dr. Terry held out the hope that when our “program activities have continued for four years, as have those of the British, results will be as promising.”

• *Science News*, 89:369 May 14, 1966



U. S. Navy

MECHANICAL MAN—Among the tremendous steps technology has taken into man's activity is this set of mechanical muscles being constructed to allow a person to lift 1,500 pounds while exerting only 40 pounds of force. The “hardiman” is being constructed for the U.S. Navy by the General Electric Research and Development Center, Schenectady, N.Y.

MEDICINE

Father in Delivery Room Is Support to Mother

► **THE PRESENCE** of the father in the delivery room can support the mother so that less anesthesia and pain killer are needed, an Indiana obstetrician reported.

Dr. Edgar L. Engel, chief of St. Mary's Hospital, Evansville, Ind., told a sectional meeting of the American College of Surgeons meeting in Cleveland, Ohio, that fewer narcotized babies had been born in his hospital since the policy was instituted.

Some essential conditions for the father attending a birth are:

The physician must make the final decision.

There should be indications that the delivery will not be complicated.

Legal aspects should have been explored.

The physical setup should be such that the privacy of one delivery room is not violated by the presence of the father in another.

The mother must want the father present, and he should want to be with her during delivery.

He must remain seated at the head of the table, wearing cap, mask and gown, leaving if a general anesthetic becomes necessary.

Only about one in 20 (48 of 912) fathers availed themselves of the opportunity to see their babies born at St. Mary's during a six-month period last year, Dr. Engel said.

• *Science News*, 89:369 May 14, 1966