

Birth control pills: More controversy

The largest study on the effects of birth control pills yet has been completed by Britain's Royal College of General Practitioners. It began in 1968 and has so far examined 46,000 case histories submitted by family doctors. How the study should be interpreted is open to controversy.

The study concludes that "while it is evident that there are disadvantages associated with the oral contraceptives, the risk of serious side effects is small and the benefits to be expected from the associated reduction in menstrual disorders, iron deficiency anemia and fibroadenosis [benign tumor] of the breast, are worthy of careful consideration." However the study found that strokes and fatal blood-clotting diseases occurred at rates five or six times higher in pill users than in nonusers. This level of risk cannot be said to contradict the overall sevenfold increase in the risk of serious clotting diseases found by British scientists in 1968. These are no small figures.

Philip A. Corfman, director of the U.S. Center for Population Research of the National Institute for Child Health and Human Development, argues that the study does not permit reliable analysis of certain risks, particularly cervical cancer, the long-term consequences of elevated blood pressure, liver tumors and diabetic effects. The study conclusion, Corfman charges, "seems to balance rather serious events, such as strokes, against rather trivial events, such as menstrual disorders."

Blindness: An autoimmune disease?

Diseases of the retina cause about a third of all blindness. Retinal blindness may be an autoimmune disease, Vernon Wong, an ophthalmologist at Georgetown University Medical School, believes.

Wong removed retinas from the eyes of healthy monkeys. He isolated the outer segment layer that contains rods and cones and the molecule rhodopsin. Rhodopsin traps light as it comes into the eye and sends impulses to the brain to produce sight. Wong then inoculated other monkeys with the isolated retinal outer segments. These monkeys developed retinal blindness. Apparently immunization prompted the animals' immune systems to turn against their retinas—an autoimmune response.

"The data," Wong concludes, "would support the suspicion that degenerate and/or inflammatory diseases of the retina may be autoimmune in nature."

Phoning medical emergencies

Emergency medical care in the United States is shamefully inadequate. Some 115,000 persons die in the United States from accidents each year and more than 50 million are injured. More than half of the 700,000 victims of heart disease fatalities die before reaching a hospital. So the Robert Wood Johnson Foundation in Princeton, N.J., is providing \$15 million to set up a telephone system to summon emergency care for accident, heart attack, poison and other victims of life-threatening conditions.

The system will be established in 32 states and Puerto Rico. Two-thirds of the area the system will service is rural. Under the system, a victim, family member or passerby can call a designated phone number any time of the day. The dispatcher taking the call will order a properly equipped and staffed ambulance. Once the ambulance has picked up the victim, its staff will phone the dispatcher. The dispatcher will direct the ambulance to the appropriate hospital.

Climate, man and buffaloes

Everyone knows that the great buffalo herds on the Great Plains in the mid-1800's were nearly wiped out by indiscriminate slaughter by white hunters. Right? But that is apparently not the only reason for their near-disappearance.

Climatologist Reid A. Bryson of the University of Wisconsin points to climatic evidence suggesting that the bison herds would have diminished by 50 to 75 percent, even without overhunting. The culprit was dwindling precipitation over the western United States, which reduced the size and quality of grassland available for feeding. Meteorologists E. W. Wahl and T. L. Lawson have found that the high plains and Rockies were 20 percent wetter for the whole year and 20 to 30 percent wetter in summer in 1850 than in 1870.

This is one example used by Bryson in an article in the May 17 *SCIENCE* to emphasize that a climatic change does not have to be large in absolute numbers to be important. A still larger point, supported by many examples, is "to emphasize the small magnitude of the variations in climatic causal factors needed to make significant, though small, climatic changes."

Sun's magnetism and earth's winds

Meteorologists have squabbled regularly in the past decade about whether there is evidence that magnetic disturbances on the sun cause changes in the circulation of the earth's atmosphere. Some studies said yes, others no.

Now two meteorologists previously on the negative side of the controversy have changed their minds. By extending their previous investigations and isolating out some ordinary meteorological factors that obscured the detection of solar effects, they have discovered strong evidence of a relationship between solar geomagnetic disturbances and changes in atmospheric pressure that cause greater east-west winds.

Harold L. Stolov of the City College of the City University of New York and Ralph Shapiro of the Air Force Cambridge Research Laboratory found the pressure effects. They are such that in winter, four days following a disturbance of the earth's magnetic field caused by solar events, there is a significant increase in the mean east-west flow of the atmosphere in northern mid-latitudes. At its strongest, the effect corresponds to a 7 percent increase in westerly flow. In summer, a less prominent but statistically significant increase in the flow is found two days earlier.

"Although no acceptable physical mechanisms are available to explain the observations," the authors say in the May 20 *JOURNAL OF GEOPHYSICAL RESEARCH*, "further statistical studies may lead to a better physical understanding and hopefully may contribute one day to weather forecasting."

Experimental buoys for weather data

The sixth of a series of huge experimental buoys to automatically gather data on ocean and weather conditions was to be anchored into place this week 300 miles off the coast of Oregon.

The 35-ton buoy, EB-02, is the first to be deployed in the deep ocean off the Northwest. It will transmit weather and ocean data every three hours to the National Weather Service for dissemination over U.S. and international weather data networks. Similar buoys are in place in the Atlantic (two), Gulf of Mexico (two) and Gulf of Alaska.