

ASTRONOMY

Sunspot Peak to Come

► THE NATIONAL Bureau of Standards is betting against most of the world's experts in predicting that the peak in sunspot activity is still in the future and did not occur last January.

It takes at least seven and one-half months to find out when sunspots have been at their highest or lowest because of the internationally used mathematical formula by which maximum and minimum are computed.

Those who believe last January was the high point argue that in the period from August to December, 1956, the sun had a substantial number of spots. If the maximum is still to come, solar activity would have to continue to be extremely high during August, and most experts are betting this will not be so.

Scientists at the National Bureau of Standards, on the other hand, believe that the extremely high solar activity during this past June and July will continue, thus pushing the maximum into 1958.

June had the highest monthly "smoothed sunspot number" of the current cycle.

The rise to maximum usually takes from

three and one-half to four and one-half years. The first sunspot of the current cycle was seen in August, 1953. The low point in the solar activity cycle, which takes about 11 years, was reached in April, 1954. The new cycle always starts before the low point of the previous cycle is reached.

Interest in when the maximum occurs is particularly intense in this cycle because the International Geophysical Year, or IGY, was timed to coincide with high solar activity. The IGY, in which 70 nations are cooperating to learn more about the earth as a planet, actually lasts 18 months, beginning July 1 and continuing through Dec. 31, 1958.

The Bureau of Standards station at Fort Belvoir, Va., has been designated as the World Warning Agency for the IGY. Special alerts are broadcast from there whenever unusual solar activity occurs or is expected.

There are some indications the present maximum will be one of the highest ever recorded.

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PSYCHIATRY

Adults Change, Too

► THE WIDESPREAD idea that children are more plastic than adults and that childhood experiences and training have a lasting effect on adult personality are not supported by scientific evidence.

This is the conclusion of Dr. Ian Stevenson, psychiatrist of the University of Virginia Medical School, Charlottesville, Va., on the basis of a review of scientific investigations made over the past 10 or 15 years.

Severe psychological stresses can have a marked effect on a child, Dr. Stevenson says in the *American Journal of Psychiatry* (Aug.). But they can have just as marked an effect on an adult. And, sometimes, the effect can be greater in adulthood than in childhood.

Important personality changes can occur after childhood even without psychiatric treatment and these changes may include the disappearance of marked psychological disorders.

Babies brought up according to "ideal" methods of infant care are no more immune to mental illness than are those who did not receive such care.

Present emphasis on childhood training and relative neglect of adult education and training is relatively modern, Dr. Stevenson points out. The ancient Greeks and Romans were just as much concerned with the training of adults.

It was in the 16th century that St. Ignatius said that if he could have the teaching of a child until the age of six, he did not care who instructed him afterwards. He firmly believed that nothing could undo the

teachings of the early years. Modern parents are also greatly influenced by the old adage that "just as the twig is bent, the tree is inclined."

The most harmful of all experiences, Dr. Stevenson says, seems to be isolation and the deprivation of normal stimuli. This is true of children kept in isolation away from a mother's loving care. And it is also true of grown men in concentration camps or prison camps.

The relative plasticity of children has not been proved scientifically, but, Dr. Stevenson points out, neither has it been disproved. Probably future research will show that adults can change more readily than children in some areas of personality and less so in others.

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PEDIATRICS

Signs of Delinquency Found in Young Children

► CHILDREN under seven years of age should be included in the drive on juvenile delinquency as well as those who are older, Dr. James B. Gillespie, Carle Memorial Hospital, Urbana, Ill., reported to doctors at the Illinois State Medical Society meeting in Chicago.

Fearfulness, tendencies to withdraw from activities with others, excessive lying and an inability to accept authority are to be regarded as potentially serious, Dr. Gillespie warned.

Continuous efforts to attract attention, and

unusual sexual interests and behavior are also potentially serious, he said.

Of even greater importance than these, however, are destructiveness of property, stealing, cheating, bullying and cruelty, and a tendency to take refuge in physical complaints and truancy.

Strangely enough, Dr. Gillespie reported, the very same factors that produce leaders of society under certain environmental circumstances can also produce juvenile delinquents under the same circumstances.

Among these factors are inadequacies and failures of the parents and home, the church, the school and the community in general. These may do their destructive job either singly or in combination.

Many of the characteristics found in the pre-delinquent child are not abnormal in themselves but they become so when they exist in excess. These traits appear in school age children and may forewarn of serious trouble.

Delinquency can not be left up to the law enforcement agencies to handle alone, the pediatrician said. It is a community problem as well.

Just as in the case of cancer, early recognition and aggressive treatment are needed for adequate control of delinquency, he concluded.

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TECHNOLOGY

U. S. Army Has Battery That Can Be Worn as Vest

► THE U. S. ARMY has a battery that can be worn as a vest.

The flexible battery is designed to power a soldier's portable radio receiver and transmitter, particularly in cold regions, where a conventional battery's lifespan is very short.

It is made of two panels each containing a number of dry cells spaced and insulated from each other, but connected to make up the battery itself. The dry cells are heat-sealed in plastic and mounted on the vestlike garment. Each panel can be detached and replaced with a new one.

Polyethylene was chosen as the plastic for sealing in the dry cells because it is waterproof but, at the same time, permits dangerous battery gases to escape. The plastic is also lightweight and flexible enough to permit a G.I. to wear the battery under his outer clothing without feeling restricted in his movements.

The battery vest can be worn under a parka, for example, in areas where the temperature is 65 degrees Fahrenheit below zero or colder. At these temperatures conventional batteries last for about two hours. By using the battery vest and the warmth of the human body and clothing, the wearable power source will last for 20 hours. Batteries from a portable radio can thus be removed and saved, while the radio is plugged into the vest battery.

The flexible battery is the invention of Hermann H. Bly of Wanamassa, N. J. Mr. Bly was granted patent No. 2,798,896 and assigned the patent rights to the United States of America as represented by the Secretary of the Army.

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