

by intelligent beings, have been confirmed by independent astronomers, including Schaeber, Campbell, Hussey and recently Trumpler at the Lick Observatory.

Photographs of the planets in different lights, by the use of colored screens, have given valuable additional information concerning the nature of their surface markings, and more will be gained by new methods and patient observation than by increased size in telescopes, Dr. Slipher contends.

As an instance he cites the proof of the presence of water and oxygen in the atmosphere of Mars, given by the "absorption spectrum" of Mars as compared with that of the moon, when in the same position in the sky, and the confirmation of the average temperature of 48 degrees Fahrenheit by radiometric measurements carried out at Flagstaff, Ariz.

The reason why astronomers have sometimes differed as to the existence of certain markings upon the surface of Mars, is easily understood if we admit the presence of clouds and other atmospheric disturbances which may considerably affect the appearance of the planet within a relatively short time. Dr. Slipher produced many photographs showing clearly the variation in the appearance of the Martian disc at different times.

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Electric welding has practically done away with riveting in German naval shipyards.

It is believed that ancient traditions of certain fine swords being sent from heaven can be explained by the fact that they were made from meteoric iron.



CHEMISTRY IN DAILY LIFE

an address by

Dr. C. M. A. Stine

Vice President, E. I. du
Pont de Nemours &
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To be given Friday, July
14, at 1:45 p. m. Eastern
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PSYCHOLOGY

Punishment Isolates Children From Parent Who Disciplines

Students Tell of Resentment After Youthful Whippings Others Report Respect for Lenient Elders

WHEN FATHER takes you to the woodshed or mother gets out her slipper, you may be sorry and resolve to do better or you may become sullen and defiant—but in any event you become mentally isolated from the authority that brings down punishment on your head.

Inquiry into the effects of punishment in 200 families showed that one result always follows, and that is a certain degree of isolation of the punished from the punisher, Dr. Ellsworth Faris, of the University of Chicago told scientists attending the Conference on Research in Child Development, held under the auspices of the National Research Council.

Punishment of children, and adults as well, is an accompaniment of the development of civilization—paradoxical though that may sound.

"Punishment did not always exist in human society," Dr. Faris said. "The origin of punishment was relatively late in racial experience being, perhaps, contemporaneous with civilization. The practice of punishing children arose long after the punishment of adults came into society. The effect of punishment on children has a disruptive tendency on the group to which children belong. The resulting isolation results in an increase of the 'social distance' which tends to lessen the control of the adults over the attitudes of the children in the group."

Dr. Faris quoted from the statements of college students who had been punished severely in their youth and those who had not.

One un-punished student wrote: "Discipline excellent . . . obeyed every rule . . . I worshipped my father," and another, "Never whipped . . . seldom scolded . . . I just seemed to know what mother and dad wanted me to do or not do."

In contrast are the following from those who were punished:

"Father whipped so hard I prayed I might die. There was bitter hatred for

my father. I rebelled and practiced deceptions and did not regret it. I would remain sullen and not talk for days. He never allowed us to explain."

"Step-father would take the buggy whip to me . . . when I was thirteen I ran away."

"Punishment . . . whipping by mother. Severe scolding by father which hurt worse and lasted longer . . . rebelled against the punishments and practiced deceptions to keep from getting caught. Never lied except on a few occasions."

"Discipline by mother scolding and whipping . . . evaded punishment till father came home . . . he never spanked . . . scolding made me resentful and sulky . . . father talked until we were ashamed. Father expected obedience and got it . . . no fear of him . . . respected and adored him . . . never resented father, rebelled against mother . . . deceitful to mother to evade punishment . . . never with father."

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ARCHAEOLOGY

400,000-Year-Old Tools Found in Sand Beds

BONE TOOLS made by primitive dwellers in the Rhine valley 400,000 years ago, before even the low-browed Neanderthals lived there, have been discovered and described by Dr. Otto Schmidtgen, director of the Mainz Museum of Natural History.

When they were first found, even their discoverer was skeptical of them, because it has always been held that the first bone implements were made by the much later men of the Crô-Magnon type, who lived in the Aurignacian period. However, so many of them have now been unearthed in the sand beds at Mosbach near Mainz that there seems to be no further doubt of their antiquity.

The materials used were bones of horses and elephants, and they were shaped into borers, scrapers and points.

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