

CHEMISTRY

Impurities Caused Alleged Astrological Reactions

CLAIMS of Frau L. Kolisko, German astrologer, to have produced chemical reactions that change with the differing aspects of the sun, moon and planets were tested by J. Cecil Maby, and F. A. Baker, the latter a member of the British Astronomical Association.

In a report of their researches to the *Journal of the Association*, it is stated that the effects observed by Frau Kolisko were due to impurities and faulty technique. When careful precautions were taken, no appreciable differences were found and there was no connection with the configurations of the heavenly bodies.

Frau Kolisko's scheme was to mix a solution of silver nitrate with one of ferrous sulphate, which causes a precipitation of finely divided silver, and leaves in the solution sulphate and nitrate of iron. She dipped a strip of filter paper into it while the reaction was taking place. As the paper was wetted by the chemicals, the changes could be followed on the paper surface. The iron sulphate and nitrate are yellow, while the deposited silver is dark. She claimed the shape of the silver deposit varied with the time of day, and other changes in the relative positions of the moon and planets.

The British experimenters have found that these reactions on filter paper are extremely sensitive to slight differences in the purity, strength and temperature of the chemicals, and also to surrounding conditions, such as the moisture in the air. When particular care was taken to keep all these varying factors the same, no appreciable differences were noticed, regardless of the positions of the planets.

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ARCHAEOLOGY

Will Search for Skeletons Of America's First Hunters

HOPE of finding first skeletal remains of America's big game hunters, who shot bison in the West thousands of years ago, will carry Dr. Frank H. H. Roberts, Jr., of the Bureau of American Ethnology, back to Colorado this spring.

The expedition will be joined by Dr. Kirk Bryan, professor of geology at

Harvard University, and one of his graduate students.

Last year, Dr. Roberts opened a new chapter in American ancient history by announcing discovery of what the home life of the mysterious ancient hunters of the West was like. His discovery consisted of a camp site and workshop near Fort Collins, Colorado, where the undiscovered hunters left gnawed and split animal bones, campfire ashes and stone dart points for killing their game.

By such clues as the peculiar weapons, Dr. Roberts identified the campers as "Folsom hunters." This is the name given by scientists to the unknown ancient inhabitants of America who left a trail of their characteristic "Folsom" stone weapons in many parts of this country. Their existence was first detected at Folsom, New Mexico, where the weapons lay with bones of 30 extinct bison—remains of a big hunt perhaps 10,000 or 20,000 years ago.

Bones which Dr. Roberts dug out of the Colorado camp have been examined at the Colorado Museum of Natural History. The verdict is that they include the same two species of extinct bison with large frames and long, uncurled horns which figured in the big hunt at Folsom. This confirms Dr. Roberts' view that the camp must belong to that ancient American hunting culture.

The returning expedition will seek not only traces of the hunters themselves, but also ruins of any houses or shelters they may have built, and evidences showing the geological time when they flourished.

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DENTISTRY

Seminole in Florida Have Teeth Examined

FLORIDA'S picturesque Seminoles who hide in the lonely Everglades of Florida and live on their old-time diets have almost perfect teeth, the Office of Indian Affairs has been informed.

A dental survey of the 600 Seminole Indians in Florida has just been completed by Dr. Weston A. Price of Cleveland.

Those groups of Seminoles who have left the swamp land to live on the fringes of civilization and to enjoy its conveniences present an entirely different dental picture from the "wild" Seminoles, Dr. Price reports. Their contact with ways of civilized men have given them "an atrocious amount of dental decay."

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IN SCIENCE

ZOOLOGY

Fences Now Built Around Thundering Herd of West

THE BUFFALO is back on the Indian Plains in the West. The Crow Reservation in Montana and Pine Ridge Reservation of the Sioux in South Dakota have welcomed back their old familiar animal neighbor.

True, the thundering herd so far consists of fewer than 200 animals transported to the two reservations by modern and prosaic truck.

It is also true that these buffalo—or bison, as zoologists prefer to call them, despite Buffalo Bill and Wild West tradition—are fenced in. Indians at Pine Ridge themselves built the "buffalo fence." It is a long fence, to be sure, enclosing several thousand range acres, but still it is a barrier. Days when thousands of bison could sweep in mass formation across boundless miles of prairie are gone forever, the fence-building seems to admit.

Nevertheless, all the Western picturesqueness is not gone from the Indian and buffalo combination. Both reservations report that the Indians have received their herds with strong approval, and with the old characteristic Indian attitude toward wild animal life.

Said Superintendent Yellowtail of the Crow Reservation, reporting to the Office of Indian Affairs:

"The Crows are justly proud of having these animals on the reservation again and the entire community including the Northern Cheyenne country adjacent to the Crow Reservation, is watching this attempt to re-establish the buffalo in Montana with much interest. . . . It is safe to assume that within five years there will be a 'thundering herd' of buffalo on the Crow Reservation where they used to roam fifty years ago. At that time we can justly say in all proudness that 'the buffalo are here again.'"

At Pine Ridge, a large gathering of Indians witnessed the loosing of the herd in its reservation home.

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E FIELDS

PSYCHIATRY

"Parents Take You Places" Is Child's Definition

PARENTS are people who do things for you, take you places and make things for you. This is the child's view of parents, as explained to the American Orthopsychiatric Association.

These experts on child behavior wanted to know what children think of their parents because many mental and emotional disturbances of grown-ups have been traced by psychiatrists to an overdependence of children on their parents, and much of the unhappiness and rebelliousness of adolescents is due to efforts to break away from parents.

"Mildly pleasant" is the reaction the largest number of children have to their parents, Dr. H. Meltzer, director of the psychological service center, St. Louis, found when he studied the attitudes of 150 children of elementary school age.

"The total percentages of all pleasant reactions," he reported, "including the three degrees classified—very, mildly, and barely—add up to 63.2 per cent. for both parents, 65.5 per cent. for mother and 61 per cent. for father."

Definitely unpleasant reactions, however, added up to only 5.8 per cent. for both parents, 4 per cent. for mother and 7.6 per cent. for father.

Dr. Meltzer found out the children's opinions or reaction to their parents by playing a sort of game with them. They were given certain words, such as table, school, ball park, Washington and Lincoln, and asked to speak out loud the first ten words that came to mind when thinking of these subjects. After gaining each child's confidence and assuring him that neither parents nor teachers would be told what was said, they were then asked to think out loud in this way about mother and then about father.

According to the ten responses most frequently given, father is a person who works and supports you, does things around the house, takes you out places, plays games with you, helps you with homework, participates in outdoor activities, gives you money, has such qual-

ities as sweetness and kindness, participates in indoor activities and trains you to mind.

Mother is a person who does housework, does things for you, works and supports you, has such qualities as sweetness and kindness, takes you out places, plays games with you, helps you with housework, buys food and clothes for you, scolds you when you do wrong and gives you things.

Significant to psychiatrists was the fact that almost two-thirds of all responses given showed some form of dependence of children on their parents. Two out of every hundred were overdependent, almost half were willingly dependent, and about fourteen out of a hundred showed forced dependence. Mother rates twenty-four overdependent responses and father seventeen.

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CHEMISTRY

Heavy Water Tastes Like Ordinary Kind

WHEN the new "heavy water" of science is produced in sufficiently large quantities to be tried in experiments on human beings, the patients will find it tastes just like the ordinary variety.

Prof. Harold C. Urey, Nobel Prize winner in chemistry of Columbia University, and Dr. G. Failla, chief physicist of Memorial Hospital in New York, conclude from recent taste tests that "pure deuterium oxide (heavy water) has the same taste as ordinary distilled water." (*Science*, March 15).

Their test is at variance with recent reports from Oslo, Norway, where Prof. Klaus Hansen on drinking heavy water was said to have experienced a "dry burning sensation."

Prof. Urey, awarded the Nobel Prize for his discovery of the heavy isotopic "twin" of ordinary hydrogen which goes into heavy water, and Dr. Failla made the test by tasting about twenty drops each of ordinary and heavy water.

To obtain an objective test a third person prepared the totally unmarked samples for the scientists.

That the amount of water used was not too small for accurate tasting was shown, report the scientists, by the fact that they both noticed the characteristic "flat" taste of distilled water for both samples.

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PHYSIOLOGY

Individual Disinfecting Plant in Human Intestines

THE UPPER intestinal tract has a natural disinfecting power that, when we are in normal health, kills off most of the germs that come into the stomach by way of the mouth, says Dr. Lloyd Arnold of the University of Illinois. That is the reason why we do not have more diseases of the intestinal tract.

He and his associates have been working for twelve years, determining the bacterial flora of every inch of the digestive tract. The lower intestine is very densely populated with bacteria, he declares, while the upper intestine and the stomach have normally very little bacterial life. The secretions of the stomach and upper intestine are acid in their reaction, while in the lower intestine the reaction is alkaline. There is, however, no "gate" between the upper and lower intestines; it is the line of acidity that determines the height that the bacterial flora will ascend. Consequently, if, for any reason, the acidity of the upper digestive tract is lessened, the bacterial flora of the lower intestine may ascend even as far as the stomach, and the disinfecting power of the mucous lining of the intestine is not able to function properly.

Killing doses of cholera germs were fed to rabbits whose stomach contents were known to be acid. None of these rabbits showed any effect of the germs. The disinfecting power of the upper intestine was able to do its work. The same dose of cholera germs was given to two groups of rabbits whose stomach and upper intestinal contents had been made artificially alkaline. All the rabbits in these two groups contracted cholera and the majority died of the disease. Then a less-than-lethal dose of cholera bacilli was injected intravenously in two sets of rabbits, one with normal intestinal reaction, the other artificially alkalized. The second series became very sick, and most of them died. The other set remained healthy.

Dr. Arnold said that studies they had made showed that in very hot weather the contents of the human stomach were always less acid than in cooler weather. He attributed the prevalence of dysentery and typhoid during the hot months to this cause, and stated that if the acidity of the stomach and upper intestine is maintained at all times, few intestinal diseases can develop.

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