

Parasite Students

Psychology

The parasite student, who slips through college by cribbing information from more industrious or more brilliant students, has at last been made useful. Unknown to themselves, 30 successful cheaters at Colgate University were studied by Herbert C. Brownell and used as laboratory specimens showing the mental and emotional traits of college men who cheat at examinations—and get away with it.

Information about the 30 was obtained by underground and unofficial channels, Mr. Brownell states in reporting his investigation to School and Society. None of these cheaters were officially caught, even by a severe proctoring system.

Eighty per cent. of the group were more psychoneurotic, or emotionally unstable, than the campus average. More than half (*Turn to next page*)

Cold Good for Oats

Plant Physiology

Hardship in youth is good for oats, as it is said to be good for human beings. This grain of the North thrives best and ripens earliest when it is sprouted at a low temperature, experiments by Prof. N. Maximow, noted Russian plant physiologist, indicate.

Prof. Maximow exposed seed grain to temperatures of about 42 degrees Fahrenheit, only about ten degrees above freezing. The stalks from these seeds headed out earlier than those from seeds sprouted at a warmer temperature. This was true even when the early chilling period lasted only for a few days, and the two lots of grain were grown at the same temperature for the rest of their lives. It was found that this treatment held good for all plants that have a late ripening period.

The experiments give scientific point to an old Russian folk saying: "If you want to grow rich fast, sow your oats in the mud." It has long been held by the peasants that the best time for sowing oats is while the fields are still muddy (and hence chilly) from the melting of the winter's snow.

Another striking example of the effect of early influences was obtained by Prof. Maximow, working on the influence of light. He found that the effects of artificially lengthening or shortening the day for plants were just about as pronounced when the treatment was carried on for a short period during (*Turn to next page*)

NATURE RAMBLINGS

BY FRANK THONE

Natural History



Pokeberry

Almost all of our commonest weeds are foreigners; for it seems axiomatic that an ill weed thrives best away from its own home. But one American plant can claim the somewhat doubtful distinction of sometimes amounting to a troublesome weed on its native heath. This is the pokeberry, or pokeweed, also known simply as poke, and as scoke and garget.

Weed though it is, it is not without redeeming qualities. Prof. Liberty Hyde Bailey, who always has the right word when it comes to botanical description, calls it "a robust plant of heavy odor, but of good habit and clean." Right now, with summer flowers one by one folding up against the coming frosts, the pokeweed helps by gauging the corners with stiff bunches of berries that are so purple they are almost black.

Those same berries yield quantities of most amazingly purple juice, which children often make into ink for their own amusement and their mothers' despair. They might do for a dye, but the color has never yet been fixed. It is another case of a possible occupation for a vegetable gone because of aniline competition.

In earlier days, and to a certain extent still, the thick, asparagus-like shoots of the pokeweed furnished pot herbs. They were a trifle rank in taste unless taken in the very flush of their crisp infancy, but in the lack of asparagus would do all right. They were even cultivated once, but that has passed.

The roots of the plant are yellow and intensely bitter, yielding a violent purgative drug. Eaten by accident for horseradish, they have caused serious illness and even death. So that use is gone, too.

Robbed of all its possible occupations, is it any wonder that the pokeberry has become a vagabond and a weed?

Science News-Letter, September 8, 1928

Solomon's Stables

Archæology

One of the great stables of King Solomon has been uncovered by a field party of the Oriental Institute of the University of Chicago, working at Armageddon. Preliminary dispatches had led James Henry Breasted, director of the Oriental Institute, who left recently to represent the United States at the 17th International Congress of Orientalists at Oxford, England, to suppose that the discoveries were Solomon's stables and the formal report just received indicates that he was correct.

The material thus far uncovered reveals the remains of what must have been a magnificent establishment.

"The newly discovered stables," reports Dr. P. L. O. Guy, field director, "where Solomon kept his horses at Megiddo, were laid out very systematically. The stalls were arranged in double rows. The horses therefore stood in rows of twelve, facing each other. Between each two rows of heads was a passage for the grooms and the keepers of the horses to control and feed them. In front of each horse was a stone manger and the rows of mangers were divided into sections by massive stone hitching posts, which still stand, containing the original tie holes for the insertion of the halter rope."

In commenting on Dr. Guy's report, Dr. Breasted said: "Among the many significant finds already made by the expedition, the discovery of the stables of Solomon, whose name is synonymous with the magnificence of ancient Oriental autocracy, is of the greatest historical importance. Few people are aware," continued Dr. Breasted, "that Solomon, true to the instincts of his race, was not only an Oriental sovereign but likewise a successful merchant (*Turn to next page*)"

Films for Color Values

Photography

Amateur photographers with roll film cameras can now take pictures of colored objects in which light red objects appear light, while a dark blue photographs dark. A large British film manufacturing concern is now producing "panchromatic" roll films. These do not take pictures in natural colors, but they do reproduce color values correctly. With ordinary films red photographs black or very dark, while blues appear very light.

Panchromatic plates have been on the market for (*Turn to next page*)

Solomon's Stables—*Cont'd*

whose dealings extended into the neighboring kingdoms about Palestine. Not least of his activities were his enterprises as a horse dealer. His close connection with the Egyptian court gave him inside opportunities for securing the finest breeds of Egyptian horses."

Dr. Breasted went on to quote from the Old Testament, the passages which indicate that the stables uncovered at Megiddo are really those of Solomon. "And the horses which Solomon had were brought out of Egypt; and the king's merchants received them in droves, each drove at a price. And a chariot came up and went out of Egypt for six hundred shekels (10 pounds) of silver, and a horse for a hundred and fifty (2½ pounds); and so for all the kings of the Hittites, and for the kings of Syria, did they bring them out by their means (I Kings X, 28-29).

"Solomon's record also states," said Dr. Breasted, "that he bestowed those horses in the chariot cities and with the kings at Jerusalem. We are told in the old Testament record that one of these chariot cities was Megiddo, and Megiddo is the Hebrew name for the great fortified city which was later known as Armageddon."

The excavating party, according to Dr. Guy, is now investigating a layer in the mound which was covered about 3,000 years ago, at just about the time of Solomon. Besides the interesting discovery of the stables, the clearing of Armageddon is disclosing a coherent, well laid out town, with streets and connected buildings. The Jerusalem of Solomon's time has, of course, completely disappeared and this is the first attempt at restoration of a town plan of his age.

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Films for Color—*Cont'd*

some years, while similar film has been made for use in movie cameras. However, it has never been obtainable before for roll film cameras, which are most commonly used. The film is not very much more expensive than the ordinary kind, however, since a six exposure film in the 3a, or 3¼" by 5½", size costs 75 cents. As the films are sensitive to red light, they cannot be developed with the ordinary red dark room lamp. The manufacturers, however, will develop them. They charge 25 cents for developing the 3a size.

Science News-Letter, September 8, 1928

Multum in Parvo

Biology

GARY N. CALKINS, in *Biology of the Protozoa* (Lea and Feabiger):

In the lower Metazoa the organ systems are less highly specialized; fewer organs are present to perform the same fundamental vital activities and the tissue cells have relatively more kinds of work to do for the organism as a whole. Thus the supporting and covering cells of a cœlenterate combine the functions of respiration, irritability, muscular contraction, excretion and circulation with the primary functions of an epithelium. Each of them is more nearly balanced physiologically than a single cell of the higher types, but it still needs the activities of other cells, and the organism is again the sum-total of all its cellular parts.

In the protozoön, finally, we find a cell which is physiologically balanced; it is still a cell and at the same time a complete organism performing all of the fundamental vital activities within the confines of that single cell. Whitman, in his essay on "The Inadequacy of the Cell Theory" clearly expressed the inconsistencies in the common use of the designation "cell" for this variety of structure.

As organisms the Protozoa are more significant than as cells. In the same way that organisms of the metazoan grade are more and more highly specialized as we ascend the scale of animal forms, so in the Protozoa we find intracellular specializations which lead to structural complexities difficult to harmonize with the ordinary conceptions of a cell. In perhaps the majority of the Protozoa the fundamental vital activities are performed, as in the simpler Amœbæ or simple flagellates, by the protoplasm as a whole and without other visible specializations than nucleus and cell body. In other forms, however, intracellular differentiations lead to intracellular division of labor which in some types becomes as complicated as are many of the organisms belonging to the Metazoa. Thus *Diplodinium ecaudatum*, one of the Infusoria, according to Sharp, has intracellular differentiations of extraordinary complexity. Bars of denser chitinous substance form an internal skeleton; special retractile fibers draw in a protrusible proboscis; similar fibers closing a dorsal and a ventral operculum; other fibrils, functioning as do nerves of Metazoa, form a complicated coördinating system.

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Parasite Students—*Cont'd*

fell below the campus average in intelligence, and the majority belonged to the psychological type known as extroverts; that is, good social mixers and more inclined to activity than to thinking.

"Contrasted with the student body, the cribber becomes a psychological type," Mr. Brownell concludes.

"His low intelligence may make cheating somewhat of a necessity. His extroversion may operate to further this. His emotional instability may make it easier for the spirit to succumb under the twofold necessity."

More than half the college cheating could be eliminated if this psychological type were eliminated. With the general type would go most of the "all-round" college men who shine in team and track contests, glee clubs, dramatic productions and other bookless college activities.

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Cold for Oats—*Cont'd*

the early seedling stage as when it was persisted in to maturity. According to its specific nature, a plant would ripen its seeds early under the stimulus of lengthened or shortened daylight hours, even though that stimulus had been applied weeks before the ripening period and then withdrawn.

Plants are not concerned primarily with the whole of the white daylight when they respond to artificial darkening, Prof. Maximow discovered. He tried cutting off parts of the light supply, and found that when red and yellow light was withdrawn the plants acted as though they were in the dark, so far as their response to the length of day was concerned.

Science News-Letter, September 8, 1928

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A normal three-weeks-old baby can hang by its hands longer than the average adult.

The oldest Latin writing is four words engraved on a gold pin of about 550 B. C.

For the first time, explorers have climbed Mount Sorata, in Bolivia, 21,500 feet high, and have made a careful map of the mountain.