

IN addition to the customary gifts to the Yale Alumni Fund and to gifts made during the year for buildings as already announced, the university has received by gift and bequest several new endowment funds totaling about \$475,000 since the report made by the president to the alumni at commencement a year ago.

FRANK A. HITCHCOCK, physicist of the U. S. Bureau of Standards, has been appointed professor of civil engineering at George Washington University.

DR. ARTHUR G. BILLS, of the University of Chicago, and Dr. William T. Heron, of the University of Kansas, have been appointed assistant professors of psychology in the University of Minnesota.

DR. FREEMAN WARD, state geologist of South Dakota and professor of geology at the university, has been appointed head of the department of zoology at Lafayette College, to succeed the late Professor Peck.

DR. A. L. MELANDER, for twenty-two years entomologist at the State College of Washington and head of the department of zoology, has been appointed professor of biology and chairman of the biological faculty at the College of the City of New York.

DR. WILLIAM T. RICHARDS, son of Dr. Theodore W. Richards, of Harvard University, after two years spent abroad (at Cambridge, London, Copenhagen, Paris and Göttingen) as fellow in science of the International Education Board, has been appointed instructor in chemistry at Princeton University.

PROFESSOR A. J. CLARK, of University College, London, will succeed the late Professor A. R. Cushny in the chair of materia medica at the University of Edinburgh.

## DISCUSSION

### THE TERM PSYCHOZOIC

FACETIOUS undergraduates have more than once suggested that the familiar geologic succession of the Cenozoic, of Eocene, Oligocene, Miocene, Pliocene and Pleistocene might be fittingly concluded by the term Obscene for the Recent—an idea doubtless suggested by either the modern novel or the modern psychology.

The problem of just how we shall round out the upper end of the geologic time table is much like the similar problem of how we shall start it at its beginning—one not easily decided satisfactorily. To be sure, we live in the present, at least some of us hope that we do, and the past is behind us—I have even heard it said of some that their future was also behind them.

It is probably good philosophy to commence earth history with a hypothetical Archeozoic era, but is it

equally good philosophy to terminate earth history with a Psychozoic era? No one would probably gainsay the magnitude and multifarious effects of human activity, but these are scarcely of geologic magnitude, and I can conceive of many past events as being of much greater importance than the advent of man, if viewed with a certain degree of detachment. Such, for example, as the origin of life itself, or the transfer of the main theater of organic operations—both animal and plant—from the water to the land. It might be conceivable that the first mammal or the first flowering plant (Angiosperm) was more of an event than the first man. Man becomes impressive as one of a gang, and the necessity for these weakest of mammals, among their contemporaries of the Old Stone age, to hunt in packs, was doubtless the inception of that nationalistic impulse of which we see such a strong recrudescence at the present time.

It seems to me that a Psychozoic era is not only a false assumption, but altogether wrong in principle, and is really nurtured as a surviving or atavistic idea from the holocentric philosophy of the Middle Ages—typified by our contemporary ancestors of the south.

There can be no objection to speaking of the present as the Age of Man—or Woman, for that matter—but this is a quite different thing from setting up Psychozoic as a formal era. For this the term possesses no qualifications, either with respect to the time involved, the sediments deposited or the distinctness of a lower boundary—either stratigraphic, faunal or floral.

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### THE WEST FORK OF THE GILA RIVER

MENTION is made of Mr. T. T. Swift's contribution in reference to Mr. Kirk Bryan's article "Date of Channel Trenching (Arroyo cutting) in the Arid Southwest."<sup>1</sup> Like Mr. Swift, the writer's knowledge of the Gila River region has extended over a period of twenty-five years, of which nineteen have been spent in the Forest Service, but this experience has been confined to the upper reaches of that stream near its sources. In all probability, the first white man to invade the fastness of the upper Gila was James Pattie with a party of Kentuckians on a beaver-trapping expedition in the midwinter of 1825. Fortunately, Pattie left an intensely interesting account of his wanderings in the southwestern wilderness of one hundred years ago. Pattie's "Personal Narrative" throws some illuminating light on conditions in the vicinity of the Gila River and its adjacent terrain, before the white man brought his so-called civilization into the region. Pattie and his party first encountered what is now known as the West Fork of

<sup>1</sup> SCIENCE, October 16, 1925.

the Gila, in December, 1825. He says: "The next morning accompanied by another man I began to ascend the bank of the stream to explore . . . the first day we were fatigued by the difficulty of getting through the high grass which covered the heavily timbered bottom." If Pattie could only see it now!

This same West Fork of the Gila, where Pattie first set foot, is now, within a brief one hundred years, a boulder-strewn stream, where countless cattle have lived and wandered and died since the white man first brought his herds of domestic cattle, in the early eighties. There is now scarcely a vestige of grass for miles, in what Pattie described as the "heavily timbered bottom" and even the cottonwoods and willows have been eaten off or trampled under foot by the constantly moving cattle. The innumerable canyons and arroyos which are tributary to the west Fork of the Gila are deeply scoured by flood waters due to the grazing off of the adjacent hillsides.

Twenty-five years ago, when the writer first saw the West Fork, conditions were worse, if anything, than they are now. The irreparable damage was done when cattle were first crowded on to the range between the years 1885 and 1895. Nat Straw, an old-time prospector and trapper, informed the writer that on his first visit to the region in 1876 (a period of only fifty-one years after Pattie), trout could easily be taken where now there is a sluggish and unshaded stream, filled from bank to bank with flood waters during the summer rainy seasons. The pity of it is that the West Fork of the Gila River is still within an unsettled and undeveloped region. The damage has been done, not by extensive cultivation or by stock owned by many settlers or farmers but for the most part by individual owners of large herds. The Forest Service has long been attempting to better conditions by reducing the size of the herds and by better distribution, but the damage has been done and the remedy, if effective, will never bring the West Fork back to its pristine glory.

TUCSON, ARIZONA

FRED WINN

#### SIZE INHERITANCE

THE inheritance of quantitative characters, particularly of plants, has been explained frequently on the basis of independently inherited, cumulative factors, each of equal weight in determining size. In this hypothesis it is usually further assumed that each factor has one half the effect in the heterozygous condition that it has in the homozygous condition.

Such a hypothesis may be tested directly by determining the correlation between the size character of the  $F_2$  and the  $F_3$  generations. Irrespective of the number of independent, cumulative factors involved in the inheritance of a particular quantitative char-

acter, the correlation coefficient between the  $F_2$  and the  $F_3$  generations for that character will be approximately  $+0.816 \pm E_r$ . This is based on the assumption that the  $F_2$  individuals tested in  $F_3$  truly represent a random sample of all possible combinations in  $F_2$  and further that each  $F_2$  tested is represented in  $F_3$  by the same number of individuals. The number of individuals necessary in  $F_3$  will, of course, depend on the number of factors involved.

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#### FUNDAMENTALISM IN NORTH CAROLINA

ON May 4 a semi-political organization of fundamentalists called "The Committee of One Hundred" (one hundred counties in the state) met in Charlotte and passed a lengthy resolution from which the following paragraphs are taken:

We are unalterably opposed to the union of church and state.

Inasmuch as our state supported schools are not permitted to teach the Bible we are strongly opposed to their teaching any doctrine which tends to destroy the faith of our people in the scriptures as the authoritative word of God. We want to emphasize the fact that we are not seeking to cripple any of our state schools but to strengthen them and thereby inspire our people with confidence in said institutions as safe places for our boys and girls.

We hold that it is not sufficient for a teacher to justify himself in his disbelief that the Bible is the word of God upon the ground that he does not teach this in his class, inasmuch as education is by life as well as by lip and by example as well as by precept.

This organization has nothing to do with either denominational schools or those that are privately owned, inasmuch as they are supported by voluntary contributions.

We do not question the right of freedom of thought or research. "We believe in freedom by the truth," and in freedom to search for the truth, but we challenge the right of those in charge of our state schools to employ teachers who hold views fundamentally contrary to the simple teaching of the Bible and force the taxpayer to pay the bills.

The duties of the directors will be to endeavor by conference with proper authorities and by treaty to correct the abuses complained of. In case of failure to accomplish the desired results by conference and treaty it is incumbent upon us to avail ourselves of our constitutional rights and apply to the legislature for redress of our grievances.

The boards of trustees and the administrations of the three state institutions, the University of North Carolina, the North Carolina College for Women and the North Carolina State College, now face a mod-