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RADIOACTIVITY LABELS EARTH MORE THAN 1,250,000,000 YEARS OLD

Exploding atoms, changing uranium into lead, are giving geologists a clew to the age of the earth. Science is beginning to learn how to read the radioactive time clock that is contained in many of the rocks of the earth's crust.

An age of at least 1,250,000,000 years has been assigned to the earth by experiments reported to Prof. A. C. Lane of Tufts College, chairman of the National Research Council committee on estimation of geologic age by atomic disintegration, which is carrying on extensive investigations. Dr. H. V. Ellsworth of the same committee and of the Canadian Geological Survey, Ottawa, has made chemical analyses of the original crust of the earth in the Canadian region, and the relative amount of the radioactive elements and the lead decomposition products indicates that those minerals date back a billion and a quarter years in that region. Prof. Lane in a report to the Canadian Mining Institute called attention to this method as about the only way of safely matching beds and determining their order in the early days before there were any well marked fossils, in the ages which he calls "collozoic" because the animals may have been but jelly. Of course even these immense stretches of years do not go back to the time when the earth was molten, and Dr. T. C. Chamberlin of Chicago has doubted if it ever was. But Dr. Lane has pointed out a possible way of figuring how long ago it was, if it was.

The lead derived from radium, while indistinguishable in every other way from ordinary lead, is slightly lighter, the weight of its atom being 206 while that of ordinary lead is 207.18. On the other hand, thorium also yields lead which has a little greater weight, say 208. Now why should not lead from different places have more range in weight? Dr. T. W. Richards of Harvard, the famous chemist and Nobel prize winner, has suggested that ordinary lead dates back to a molten earth, and it was the mixing that then took place which makes the atomic weight so uniform, generally speaking. Kirsch, the geologist, has suggested that both thorium and radium are produced from uranium but at different rates.

Dr. Lane has figured that if Kirsch and Richards are right, some 240 million years earlier than the earliest known mineral cited by Kirsch the uranium must have contained the atoms changing to thorium and to uranium in such proportions that they would give ordinary lead, so that if ordinary lead was formed that way the molten condition of the world antedates the ancient granites of Moss in South Norway about a quarter of a billion years.

Even these are not the earliest minerals known, yet, making some allowance for lead not so derived, it is assumed that they are 900 million years old. Thus geologists can say that there is no reason to believe the earth crusted over less than 1,100,000,000 years ago.

On a recent trip to Europe, Dr. Lane secured chemical analyses which show that the Katanga region of Africa which is now producing radium and copper at low cost is twice as old as the last time of geologic upheaval in the Appalachian region of the eastern United States and half as old as some Canadian rocks. He believes that radioactive methods of setting the ages of rocks will unravel the structure of ore depositing intrusive rocks in Canada which now lead the world in silver and nickel production and are overtaking the Rand in gold.

MICROORGANISMS MADE OIL, GEOLOGIST TELLS CONFERENCE

Most of the vast oil pools of the world were built up by swarms of microscopic plants and animals, each contributing its infinitesimal bit to the total as it died and settled to the oozy ocean floor many ages ago. Dr. Junius Henderson of the University of Colorado advanced this thesis before the meeting of the American Association of Petroleum Geologists at Wichita, Kansas.

Dr. Henderson discounted the theory advanced by some geologists that all petroleum is derived from the remains of fishes, overwhelmed in shoals by great showers of volcanic ash, as both insufficient and unnecessary to account for the presence of oil. He pointed out that while fish bones and scales are frequently found asociated with oil deposits, such deposits are also frequently found with no traces of fish remains.

In defense of his claim that oil originated from minute plants and animals, he said: "Thile they are not usually so rich in oil as some fishes, their composition is such as to make them a quite possible source of petroleum under favorable circumstances, their size is such that they are easily buried by ordinary processes of sedimentation, their prodigious numbers compensate for their small size, and they are actually found to enter largely into the composition of certain formations rich in petroleum in which fish remains are uncommon."

How the study of fossils aid in the location of oil was told by Dr. David White, chairman of the division of geology and geography of the National Research Council. "Though the practice was started only a few years ago, he said, many oil companies now have paleontologists on their staffs whose studies of fossils, often of microscopic size, greatly facilitates the finding of oil and saves the boring of many useless holes. The work, however is still only in the pioneer stage, Dr. White stated. Many of the men at work in the field need further training, and almost all of them are handicapped by the lack of proper libraries of reference books and by the difficulty of getting at the large collections in museums for purposes of comparing their materials. Improvement in these respects will mean evern greater economies, he stated. He announced also that the National Research Council is preparing a directory of all students and specialists working on small fossils found in the oil fields, and hopes to facilitate the advancement of this branch of oil work by making the work of experts and the facilities of libraries more available to field workers.

Dr. W.A.J.M. van der Gracht, of Houston, discussed his geological studies in the High Plains region of western Texas. He has found in this region continuations of geological formations of the highlands of the eastern United States and Canada, which are lost in intervening regions. Parts of these regions contain gas and oil deposits of considerable promise, he said.

IMPORTED WEED CAUSES HAY FEVER

English plantian, which, like the English sparrow, has become an agricultural pest in the United States, is now accused of making life miserable for a good many hay fever victims. Dr. Harry S. Bernton, special expert of the U. S. Public Health Service, who makes the charge, reports that this weed has hitherto received only passing attention from American investigators of hay fever causes.

In one case which he describes, a patient had suffered from hay fever for 13 years. He had been tested with pollen extracts from different grasses in the hope of gaining immunization from the disease, but apparently none of the grasses was the irritating agent. Dr. Bernton made cutaneous and intracutaneous tests with pollen from English plantain, and the itching, swelling, and reddening of the skin showed that the irritating cause had been found. After treatment with the pollen extract, the patient was left 98 per cent. free of the disease.

English plantain has been recognized as a hay fever plant of the first rank in Washington and Oregon, says Dr. Bernton, but in most sections of the country its possible importance has been overlooked. In the region of the District of Columbia, 16 per cent. of a series of patients subject to the vernal type of hay fever were found to be sensitive to the plantain pollen.

The U. S. Department of Agriculture says: "The English plantain, like the English sparrow, seems to stick closely to the thickly populated sections. It is found abundantly along streets in the outskirts of cities, on vacant lots and dump heaps, producing pollen in great abundance from about May 10 to August 1."

YALE CHEMISTS DISCOVER NEW COMPOUND IN TUBERCULOSIS GERMS

Yale chemists are engaged in ascertaining the composition of the tubercle bacillus with a view to finding a compound that will kill it without doing any harm to the patient. Two rooms in the new Sterling Chemistry laboratory are devoted to the study of the T.B. microbe on a wholesale scale. Pounds of dried tubercle bacilli have been provided by American manufacturers for research work and when this was subjected to chemical analysis by Robert D. Coghill of the Yale Graduate School and Prof. Treat B. Johnson a new nitrogen compound was found in it that has never been reported in any previous analyses of animal matter, whether diseased or healthy. It is a constituent of the nucleic acid which in some form is found in all animal and plant cells. It is a derivative of the well-known pyrimidine base cytosine and by a curious coincidence turns out to be identical with a compound made artificially by Professors Wheeler and Johnson in the Yale laboratories over twenty years ago. A direct comparison of the picrate salts of the synthetic and natural products proves them to be the same. Full details as to the substance will be presented at the meeting of the American Chemical Society in Baltimore on April 7.

This investigation into the chemical composition and character of the tubercle bacillus is being carried out in the Sterling Laboratory with the aid of the National Tuberculosis Association in the hope of ultimately discovering a specific cure for this hitherto unconquerable disease.

SECOND COMET OF WEEK FOUND BY AMATEUR

Two comets discovered in as many days is the unusal record of the week of March 23, according to an announcement made by Prof. Harlow Shapley, Director of the Harvard College Observatory, telling of the discovery of one of the eighth magnitude by Mr. William Reid, an amateur astronomer of Rondebosch, near Cape Town, South Africa, on Tuesday, March 24. The announcement was made upon the receipt of a cablegram from Copenhagen, the international clearing house for such astronomical discoveries. Two days before, Dr. Shapley announced that Prof. Richard Schorr, of the Bergedorf Observatory in Germany, had discovered Tuttle's comet, which is now back for one of its fourteen-yearly visits, on Monday, March 23. American astronomers have looked for this object since the announcement that it had been sighted, and according to word from Washington, Mr. E. C. Bower, of the U. S. Naval Observatory, has observed it with the 26 inch telescope at that institution.

The new celestial visitor will probably be known as Reid's comet, after its discoverer, unless it proves to be a periodic comet that has been observed by others on previous visits. This cannot be decided until its orbit has been precisely determined, and to do this requires three separate observations of its position at different times. It is still too faint to be seen with the unaided eye, but it is below the bright star Spica, in the constellation of the Virgin, which is directly south shortly after midnight. At this time it is about thirty degrees above the horizon, rather low for satisfactory observation from nothern observatories, but at Cape Town it is then almost directly overhead, in the most favorable postion to be seen. It is moving towards the southwest, so that it will not get any better for northern observers, but it may be seen in a few weeks with the naked eye by residents of the southern hemisphere.

TUTTLE'S COMET BACK FOR REGULAR VISIT

The other faint comet said to be Tuttle's Comet, may become bright enough within a few weeks to be seen by northern observers with the unaided eye as a small patch of light.

This celestial visitor was first discovered in 1790 by P. F. Mechain at the Paris Observatory. After this, it was lost until 1858 when C. W. Tuttle, then at the Harvard Observatory, rediscovered it and found that it was periodic, returning to the neighborhood of the earth every fourteen years. Now it has returned for the fifth time since his observations.

At present it is of the eleventh magnitude, so that it can only be seen with the aid of a telescope of moderate power. It is in the constellation of the Sextant, below the bright star Regulus, which is directly south about eight o'clock in the evening. Regulus is at the end of the handle of the "Sickle", a group of stars in the constellation of the Lion resembling that gardening implement. The comet is moving towards the northeast so that it is coming into a better position for observation. As it is not a very large comet, however, and when nearest, is farther away from the earth than the sun, we will not get a very close view of it at the best.

MERCURY NOW VISIBLE IN THE TWILIGHT

By Isabel M. Lewis,
U. S. Naval Observatory.

The swiftly moving and elusive little planet Mercury, least observed of all the bright planets because of its nearness to the sun, may now be seen in the western evening sky after the setting of the sun.

Mercury reaches it greatest eastern elongation, that is, its greatest distance east of the sun, on March 31 and should be easily picked up in the twilight on that date and for at least a week afterwards. Its greatest distance from the sun at this elongation will be close to nineteen degrees, so it will set a little over an hour after the sun. One should look for it low in the west a little to the northeast of the point where the sun has disappeared below the horizon. It will be seen against the silvery background of the darkening sky before any but the very brightest of the stars appear. It will be equal in brilliancy to a star of zero magnitude, which is about two and a half times brighter than the standard first magnitude star. Mercury will slightly surpass Rigel or Betelgeuse in Orion in brightness, which are now visible in the southwest, or Capella, in Auriga, in the northwest. It will be about a magnitude brighter than Aldebaran in the V-shaped Hyades group which is in turn brighter than the ruddy planet Mars close by on the northwest near the Pleiades. These two, Aldebaran and Mars, now look so much alike, both being reddish in color and not differing greatly in brightness, that one might be taken for the other. The fact that Mercury is always seen against a luminous sky detracts considerably from its apparent brightness and so we hardly think of it as equal or even superior to some of the most conspicuous stars in brilliancy. As these stars begin to shine forth more brightly against the darkening background, Mercury, the little Cinderella of the solar system, disappears from the scene.

In color Mercury is silver-white, resembling Venus rather than the yellowish Saturn, the golden Jupiter or the ruddy Mars. It is best seen in the evening at such elongations as occur in the spring for then the ecliptic, near which it is always found, rises most sharply from the western horizon.

Mercury, as well as Venus, exhibits all the phases of the moon. At elongations, when it is farthest east or west of the sun, the telescope reveals it as a beautiful little half-moon. As it draws in toward the sun after eastern elongation it assumes the crescent phase and this crescent grows thinner and thinner until it disappears at the time of inferior conjunction when Mercury lies diredtly between us and the sun. Then, like the new moon, it becomes invisible even in thetelescope. After that it again goes through the crescent phase in reverse order until it reaches its greatest elongation west of the sun when it is once more a half-moon in appearance. It is then visible in the morning sky before sunrise. From that time on until it comes into superior conjunction with the sun, when it is on the far side of the orbit from the earth with the sun between the two planets, it is in the same phase as the gibbous moon. At superior conjunction it again becomes invisible in the telescope because it is in line with the sun. It is then like the full moon in phase. From superior conjunction to eastern elongation Mercury again passes through the gibbous phase though the illuminated portion of its visible surface is now decreasing instead of increasing in area - like the moon between full and third quarter - until again at eastern elongation it becomes a half-moon in appearance.

The orbit of Mercury differs more from a circular form than that of any other planet. So great is the variation in its distance from the sun at different points

in its orbit that this alone produces seasonal changes additional to those that would be produced by the tilt of the planet's axis to its orbit. As the length of Mercury's year is only eighty-eight days the seasonal changes of an entire year occur while we are passing through one of our four seasons on the earth.

Mercury resembles the moon in being devoid of an atmosphere. Until quite recently it was generally believed that it kept the same face turned toward the sun but there now seems good reason to believe that Mercury rotates on its axis in a short period. Yet, even if it is not a world that is baked on one side and frozen on the other, one cannot get enthusiastic over the thought of living on this little world within thirty-odd million miles of the sun even were there an atmosphere to temper the extremes between day and night.

PLATINUM FINDS MAY MEAN NEW WEALTH FOR AFRICA

South Africa is coming into its own as a land of valuable deposits. Added to its diamond and radium mines is the possibility of a large store of platinum.

Dr. Percy A. Wagner, of the Geological Survey Office at Pretoria, Africa, reports that discoveries of platinum made in the autumn of 1924 are economically important. Deposits which have been located are of enormous extent, but only a limited area is conclusively proved rich enough in platinum to be profitably exploited. Dr. Wagner points out, however, that the samples which have been taken on the surface or immediately below it may indicate richer ore hidden deeper.

"The value of the deposit cannot be estimated until a number of shafts are sunk to, say, 20 feet below the surface and samples of the rock systematically taken," he states.

The deposits of the Lydenburg District were first discovered by a farmer who was looking for gold. He came upon a few specks of a heavy white metal which looked to him like platinum, and a consulting geologist at Johannesburg confirmed his judgment as to the value of the ore. Geologists say that they have expected to find platinum in this section of the Transvaal, but heretofore, the metal has been sought mainly in chromite rock. The platinum fields now under investigation are in the norite zone.

Dr. Wagner says that conditions are favorable to cheap mining. A number of mining companies have acquired options over farms of the platinum region, and some prospecting is going on.

INDIVIDUAL SUBMERGED IN OVERCROWDED CITIES

That the present rate of increase in population is overcrowding the cities; that the too large communities become unwieldy, and individuals in them become submerged and democracy beomces more and more attenuated, was charged by Dr. F.B. Summer, acting director of the Scripps Institution for Biological Research, at the Sixth International Neo-Malthusian and Birth Control Conference in New York. Danger from famine, due to growing population, is also foreseen by Dr. Summer.

"Certain nations have already passed the danger point with regard to the food supply, while all of the others will be there within a limited number of generations, if the present rate of population increase is maintained," Dr. Summer stated.

He added that "voluntary control of parenthood seems to furnish the only mechanism by which birth rates may be regulated."

"Militarists, certain religious groups, and those who dream of commercial domination of the world are opposed to limitation of population," said Dr. Summer. "But there are anumber of converging lines of argument in favor of definitely incorporating birth control in the mores of civilized peoples. Economists, physicians, biologists, psychologists, clergymen, criminologists, and social betterment workers are all bringing testimony from their own special fields."

NEW LEAGUE OF NATIONS PROPOSED TO CHECK BIRTH RATE

A League of Low Birth Rate Nations, to prevent the overpopulation of the world, was proposed at the recent meeting of the Sixth International Neo-Malthusian and Birth Control Conference by Harold Cox, editor of the Edinburgh Review.

"The League of Nations makes the fatal error of concentrating its attention on machinery for settling national disputes when they have arisen," he said. "What the world wants is a League which will set to work to remove the main cause which brings national disputes into being. That main cause is the overgrowth of population. If all the nations of the world had plenty of elbow room, there would be little cause left for quarrelling.

"By no device and by no postponement of ugly questions can we escape the two facts that the surface of the earth is limited and that man's powers of reproduction are practically unlimited. Consequently if the different races of the world continue to expand without regard to the growing shortage of space a time must come when they will be compelled to fight with one another for room to live.

"The obvious way of avoiding this otherwise inevitable catastrophe is for the nations to agree with one another to impose some restraint upon their growing numbers. In future wars we shall probably find that Providence is on the side of sparse populations, well-equipped with brain power. But whether this forecast of the future be justified or not, the argument that countries must increase their populations because of the perils of war remains unjustifiable."

TWO-THIRDS OF TEXAS CRIMINALS ABNORMAL

Less than one-third of the prisoners in the Texas penitentiary are mentally normal, and only 11 per cent. are free from obvious physical disease or defect. These facts are reported by the National Committee for Mental Hygiene following a survey of conditions in the penal institutions of Texas made at the request of the state.

The committee urges a medical and psychiatric clinic for study and treatment of offenders, and better hospital facilities and a training school. It also urges that prisoners be given indeterminate sentences, so that they may be released when they are rehabilitated and are judged ready to become useful members of society.

"Psychiatry", says the committee, "does not subscribe to half-baked theories of pseudo-scientists, like those who recently ascribed all crime to 'emotional insanity' which has its seat in the brain, which is inherited and incurable, and can

only be prevented by sterilization. Neither does it subscribe to the maudlin sentimentalism which would have no one locked up or punished. The psychiatrist does maintain that the mental and physical condition of the prisoner has a great deal to do with his conduct and that an effort must be made to understand his mind and personality before sound correctional treatment can be administered.

"Experts who have studied the penal situation believe that constructive criminology has reached such a knowledge of the criminal and his rehabilitation that we may safely and wisely make investments in buildings, apparatus, and personnel. Additional expense in the interests of crime prevention is true economy in the long run."

The committee's report says that the majority of the Texas prisoners are under 30 years of age and that much can be done to remold the personalities of young offenders into socially acceptable forms.

DICKENS' CHARACTERS ARTISTICALLY BUT NOT SCIENTIFICALLY ACCURATE

Mr. Micawber, Miss Flite and the numerous other queer characters who populate the pages of Charles Dickens' books are correctly depicted from the viewpoint of the layman who sees what he thinks he ought to see, but not when viewed by a specialist in mental diseases. This is the opinion of Dr. Charles W. Burr, professor of psychiatry in the University of Pennsylvania Medical School, who has applied to these fiction characters the methods which he uses in diagnosing mental disorders when called into a criminal court as an alienist.

"Dickens was an artist," says Dr. Burr, "and not a specialist in mental medicine. Just as the dying of a great actor on the stage is altogether unlike death as the physician sees it, so life seen with an artist's eyes is unlike life seen by the professor trained in the learning of the schools. Death as it really happens acted on the stage, would be flat, stale and uninteresting. Dickens describes a fairyland, not seldom a fairyland into which devils have intruded. This is the secret of his wide appeal spreading through space and lasting through time."

"Dickens was himself queer, at least in his early life; his father and mother were both impractical persons, but, says Dr. Burr, "many, if not all, the men who have done great things have been queer little boys."

"Sticklers for scientific accuracy criticize him adversely and say that no man of science could classify, that is, pigeonhole, Miss Flite, Miss Havisham and Krook. These men of the professional mind are, to say the least, a trifle hasty. There is a wide borderland in the world of mental life, whose inhabitants are neither sane nor insane, their thoughts are ruled by laws we know not of, they cannot be classified, and so different are the types that almost any combination healthy man can conceive may be met there. We men of science try to classify them and call them paranoids, mattoids, and many other names, but the country is a jungle full of strange animals still unclassified."

It costs from $400 to $3000 a year to operate an airplane, depending on the type of plane used, U. S. Army estimates show.

SIMPLER BEDS URGED FOR HOSPITALS

Hospital beds, about the simplest form of sleeping equipment made, have been further simplified through the efforts of the U. S. Department of Commerce.

Hospital beds are now made in 33 different lengths, 34 different widths, and 44 heights. Following a conference with hospital officials, the government recommends that the standard hospital bed should be 78 inches long and 36 inches wide, with widths of 33 and 39 inches when narrower or wider beds are necessary. A bed 27 inches high is said to be the most convenient for nurses. The government and 46 hospitals, manufacturers and associations have adopted this size as standard.

The American Hospital Association estimates that more than $350,000,000 is spent annually for new construction and equipment in the hospitals of the United States and Canada. The Department of Commerce says that a saving of only one per cent. by reducing the waste due to excessive variety in hospital equipment would mean the release of nearly $10,000,000 a year that could be expended for enlarging hospital facilities.

GREEN POTATOES FOUND POISONOUS

The old and widely accepted idea that potatoes that have turned green from exposure to the sunare poisonous has received confirmation from two cases of potato poisoning reported by Albert A Hansen of the extension department of Purdue University.

Mr. Hansen states that the poisonings occurred in an Illinois family of nine who ate potatoes that had been stored under a covering of straw, but which had been exposed to the sun when chickens scratched the straw away. The only members of the family who were not made sick were two who did not eat the potatoes, andof the seven who were poisoned two died.

Mr. Hansen also cites a case on record of fifty-six soldiers in Berlin who were poisoned by greeen potatoes, and a number of cases of animal poisoning from the same cause, and from eating potatb stalks and leaves.

BEARS WINTER GUESTS AT YELLOWSTONE HOTEL

Mrs Black Bear and Cub are preparing to "check out" at the hotel at Lake Yellowstone, where they have spent the winter, according to Park Naturalist E. J. Sawyer, who has been keeping track of these unusual guests, in the absence of the regular desk clerk. Early in December, Mr. Sawyer states, the old bear and her youngster were observed to be preparing to "hole up" under the hotel. They had dug an entrance under the hotel, carried quantitiesof green twigs into it, and scraped in a lot of snow. Since that time they have not slept solidly, as bears are usually supposed to do, but have shown up about twice weekly, when the winter custodian has fed them with table scraps. This is believed to be the first time that a bear has registered at the Lake Hotel.

The other bear cubs one brown and one black, chose less aristocratic winter quarters under the transportation company's mess house at Mammoth Hot Springs. From time to time one or the other of them has shown his nose at the entrance, which is just beside a much-used back door of the building. A pair of martens has been reporting regularly at Canyon Camp for meals all winter long.

ONE HOSPITAL BED TO 140 AMERICANS

A recent count of hospital beds in the United States shows that the 7,370 hospitals have accommodations for 813,926 patients, says the American Medical Association. More than one-third of the 3,068 counties in the United States have no hospital for general sefvice within their borders, the survey shows.

A comparatively small percentage of practising doctors are affiliated with hospitals; in New York, 36 per cent., in Cleveland 29, and in Chicago and its suburbs 25. Many hospitals in this country use the services only of staff physicians, but the association reports that the present tendency in medicine is to urge hospitals to adopt a more open policy in permitting physicians who are not on the staffs to treat hospital patients.

GOVERNMENT EXPLORERS HUNT OIL IN ALASKA

The government exploration party which is traveling to the northern wilderness of Alaska in order to chart the oil resources of Naval Petroleum Reserve No.4 has made the first 150 miles of its dog team journey, according to telegraphic advices to the U. S. Geological Survey.

The party, which consists of Gerald Fitzgerald, topographer, Walter R. Smith, geologist, and two assistants, still has 500 miles to go over the mail trail before striking off into the wilderness at the top of the continent. Geological Survey officials expect to receive a radio message from the explorers when they leave the last outpost of civilization, about the middle of April.

This is the third year that the work of mapping the naval oil reserve has been conducted. The party expects to explore the unknown region between the head of Pitmegea and Utukok rivers. These naval petroleum fields are being held as a reserve until plans are formed for their development.

AMERICAN ANTHROPOLOGIST TRACKING ANCIENT MAN

A six months' search for the remains of primitive man on four continents has been begun by Dr. Ales Hrdlicka, curator of physical anthropology of the U. S. National Museum, now en route to Europe. He will also visit India from which, in the Siwalik hills, specimens of anthropoid apes with man-like characteristics have recently been reported. Straits Settlements caves that have been inadequately explored will be visited by Dr. Hrdlicka and the sites of the discovery of the oldest man in the world, Pithecanthropus erectus, will be the reason for his trip to the island of Java. Skeleton collections of primitive aborigines will be examined in Australia and in Africa the site of the discovery of the mysterious Rhodesian skull will be visited. Dr. Hrdlicka will also confer with Prof. Raymond A. Dart, of Johannesburg, who recently found the Taungs skull, believed to be a man-ape and a precursor of man himself. On his expedition Dr. Hrdlicka will represent the Buffalo Society of Natural History as well as the Smithsonian Institution.

A research fellowship in the chemistry of perfumes and essential oils has been endowed at Columbia University.
