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CARNEGIE INSTITUTION'S CENTRAL AMERICAN EXPEDITION DISCOVERS NEW CITIES OF ANCIENT MAYA, EXCAVATES OLD CAPITAL CITY AND STUDIES MAYA TONGUE

(By Science Service)

Release, Thursday, August 4.

Washington, August 3.- After having discovered and unearthed ancient and forgotten cities that once were the center of America's civilization, and after having begun to recover the ancient learning of the Maya people from their Indian descendants, the Carnegie Institution Central American Expedition for 1921, which penetrated the region of Guatemala in the Department of Peten at the base of the Yucatan Peninsula, has returned to this city.

The expedition under the direction of Dr. Sylvanus G. Morley, associate in American archeology of the institution, left Washington early in January. The other investigators were Dr. C. E. Guthe and William Gates, both research associates of the institution, the former in charge of excavations and the latter especially interested in the linguistic problems, not only the language spoken by the ancient Maya but also the dialects spoken by their descendants living in some parts of the same region today.

O. G. Ricketson, Jr., field assistant, and A. K. Rutherford, photographer, completed the scientific personnel of the expedition which assembled at the little frontier town of El Cayo, British Honduras, at the edge of the Peten bush on February 1.

The activities of the field season consisted of the exploration of the forrests of northern Peten in search for new centers of this ancient civilization under the direction of Dr. Morley, the excavation of Tayasal, the last Itza (a Maya tribe) capital, located upon an island in the Lake of Peten Itza in northern central Peten, by Dr. Guthe, and a first-hand study of the Maya language as spoken today in northern British Honduras, and also by the Quiche, a Maya tribe living in the highlands of Guatemala, by Mr. Gates.

A scientific report of the results of these several investigations is now in course of praparation and will be published in the current Year Book of the Institution.

Following along the chicle (the substance from which chewing-gum is made) trails which traverse this region, Dr. Morley's party discovered several new cities during the course of the field season. Maps were made of these; the hieroglyphic inscriptions on the sides of their monuments were drawn to scale, and a complete photographic record was secured. Many new important dates were deciphered, and data secured for the publication of an extensive report on the archeological remains of the region, which the dates indicate was the very heart of the Old Maya Empire.

Dr. Guthe's excavations at Tayasal proved equally fruitful. The principal plaza of that city was located, and the work of clearing away the earth and fallen masonry from the principal structures was commenced. The tomb of one

important individual was located, a number of pottery vessels were recovered, and the nucleus of a local museum established at the nearby village of Flores, the capital of the Department of Peten.

Finally Mr. Gates by coming in direct contact with the descendants of the Indians who built these great cities, that is, the modern Maya, opened up lines of communication which he hopes may pave the way to the eventual recovery of what is left of their ancient learning.

The Peninsula of Yucatan juts up into the Gulf of Mexico like the great thumb of a giant hand, pointing northward. It is 250 miles wide, and before it finally takes root in the continental land mass far to the south, gradually merging into the foothills of the Cordilliorra, it is 400 miles long.

This region, a limestone formation of recent geological age, has gradually emerged from the floor of the Caribbean Sea, and is now overgrown with a dense sub-tropical jungle. It supports, in fact, an almost continuous forest of mahogany, rubber, Santa Maria, ceiba, chico-sapote (the "chewing-gum" tree), and many other sub-tropical trees, which so completely covers the country that one may travel in this bush for days without seeing an open space large enough to accomodate a modern bungalo comfortably.

In this now desolate and forgotten region there developed during the first fifteen centuries of the Christian Era the greatest native civilization which America produced, namely, that of the ancient Maya of southern Mexico and northern Central America.

Here great cities grew up, filled with temples, pyramids, palaces and monasteries, built of finely carved limestone, which were grouped around paved squares and courts.

In these spacious plazas beautifully sculptured monuments were erected, their sides inscribed with elaborate hieroglyphic writings setting forth important historical and astronomical facts. A dense population, highly organized under strongly centralized governments, flourished in the region, the van-guard of civilization in the New World.

But in the course of centuries pestilence, drought, civil war and famine overtook the Maya, so that when the Spaniards landed on the east coast of Yucatan in 1541, under Francisco de Montejo, the last remnant of this once brilliant people fell an easy prey to the shock of foreign conquest, and they were speedily reduced to dependance and slavery. Their once magnificent cities were abandoned, vast sections being actually depopulated, and the tropical jungle again crept over the region, until today these former centers of life and human activity lie buried in the grip of a dense forest, and crumbling walls and piles of fallen masonry overgrown with giant trees alone bear melancholy witness to former pomp and glory.

Investigations in this remote and inaccessible region may only be carried on under enormous difficulties. The climate is hot, humid and enervating, the water supply impure and unsanitary, the insect plagues numerous, most annoying, and, in the case of the malarial mosquito, highly dangerous. The transportation facilities are of the most primitive, nothing more than mule-trains which average less than 15 miles a day through the bush. Finally labor is scarce, inadequate and inefficient. In short all factors combine to discourage the scientific investigator in this field. It is only very slowly, with infinite pains and at a high cost, that this region is being made to yield its archeological secrets and the truth about our foremost native American civilization is gradually being made known.

MEDICINE IN INFANCY, BUT
EDUCATIONAL STANDARDS MUST BE HIGH

(By Science Service)

Release Friday, August 5.

Berkeley, California, August 4.- "Many people who are perfectly scientific when it comes to bridge building or repairing engines will rush to some quack of whose qualifications they are absolutely ignorant when they have to cope with bodily illness", Dr. S. J. Holmes, professor of zoology, University of California, declared at the meeting of the Pacific Section of the American Association

for the Advancement of Science here today.

We no longer believe in sorcery and magic as we did in the days of the primitive medicine man, but we are still swayed by various attenuated superstitions which may determine our conduct when matters of life and death depend upon the correctness of our judgement, he pointed out.

"We are losing our old-time, naive confidence in medicines and to a certain extent also in the medical profession", Dr. Holmes said. "We know the doctors often disagree, that they frequently make wrong diagnoses, that they have their fads in methods of treatment that spread like epidemics over the profession, only to be dropped after a short period of trial. We are disturbed by the teachings of various so-called "schools" with their different theories of the cause and cure of diseases. And when we are ill we are puzzled to know where to go for relief. Smith recommends Dr. Jones, Brown advises an osteopath, someone else favors a Chinese herb doctor about whom he has heard wonderful things, another suggests a favorite patent medicine, another urges the employment of an electric healer, still another would persuade us of the efficacy of hydrotherapy, and Mrs. X would have us to a Christian Science Healer to help us overcome the illusion that there was anything the matter with us at all."

"As a layman I do not care a fig about the contentions or financial interests of the various kinds of medical healers. There is still so much to learn about the cure of human ills that there should be the widest latitude for the employment of all sorts of methods. The only thing that the public should concern itself with is the regulation of medical practice so as to protect itself from the ignorant and the incompetent who are always trying to lower standards to the level of their own limited qualifications. Whenever a person is licensed to practice in any way that actively interferes with the functioning of the body, whether he be a specialist in electro-therapeutics, osteopathy, chiropractics or hydro-therapy, he should be able to tell, with some degree of accuracy, what is the matter with his patients. This one cannot do on the basis of a two or three years' course in a third-rate institution. To diagnose correctly the ailments of the body requires a thorough knowledge of anatomy, physiology, pathology, bacteriology, the symptoms of different diseases and much else besides. The phenomena of disease that the doctor constantly has to cope with are so varied and often so puzzling that I cannot see that any practitioner can get along with a lower standard of education than any other."

"We are coming to find that a large part of the remedies which have long enjoyed a reputation for curing certain ills are probably entirely useless. Out of the thousands of drugs which have been prescribed and swallowed for various ailments, a mere handful have stood the test of time and fuller experience. Almost any liberal minded physician will tell you this, but a large part of the public fails to appreciate the extent to which the medical profession has advanced and still regards the doctor as chiefly a dealer in dopes."

"One may find enough to criticise in our present methods of dealing with the disorders of the body, but we should realize that, although medical practice is very old, medical science is still in its infancy. Much of the failure of the doctors to make correct diagnoses is due not so much to their lack of training as to the difficulty of their task, and the fact that the infallible tests for many troubles have never been discovered. There are many diseases for which there is no known remedy of the slightest value. We need to know much more about bacteria, the toxin they produce, how they affect the body, and the nature of the chemical defenses of the body against these substances. We would profit greatly by a better insight into the mechanism of immunity. We should have more knowledge of the bio-chemistry, physiology, and the nature and causes of abnormal or pathological conditions. Scientific medicine waits upon the development of the fundamental sciences upon which it is based and most of these have made their main growth in but relatively recent times."

"But short as the time has been, it has witnessed remarkable achievements. It has seen the solution of the mystery of contagions, the establishment of the germ theory of disease, marvelous advances in surgery which were rendered possible by the application of aseptic or antiseptic methods, the preparation of sera for the cure or prevention of several diseases, and many other discoveries of the

greatest value. It has seen great advances in preventive medicine and public sanitation, and a steadily increasing average duration of life."

PUBLIC HEALTH NO LONGER
MEDICAL QUESTION ALONE

(By Science Service)

Release Friday, August 5.

Berkeley, California, August 4.- The business of looking after public health is no longer simply a branch of medicine, or at all intimately associated with the practice of medicine, Dr. F. P. Gay, professor of Pathology, of the University of California, told the Pacific Section of the American Association for the Advancement of Science at its meeting here today.

"The public health field is very broad and although medical training is desirable for public health work it is no longer adequate for a comprehension of the field of the public health worker", he pointed out. "Many specialized fields such as sanitary engineering, social economics, industrial welfare, and indeed certain of the medical sciences such as bacteriology, physiology and zoology are no longer primarily in the hands of graduates in medicine. The practitioner of medicine himself should no longer imagine that he has vested rights in the fieldmof public health or indeed that he can hope to control it except in so far as his conception of the entire problem is larger than that of his non-medical colleagues.

"A thorough study of the extent of the field covered by public health shows, as might be expected, that the art of public health has concerned itself primarily with the prevention of disease but has been somewhat remiss in attacking the problems of vice, delinquency, poverty and ignorance. It is foreseen that the scope of public health will develop along these lines.

"The whole field of social economics has been notably neglected. In this connection the control of poverty, the care of dependants, some aspects of city government, and the labor problem may be mentioned. Further consideration of industrial hygiene seems important, not simply from the standpoint of occupational disease and its prevention, but from the aspect of labor legislation and efficiency.

"A group of studies that may be included under mental hygiene, that is really a branch of public health, are abnormal psychology, criminology, studies of vice and child hygiene and eugenics, which are closely related."

IN SCIENCE AS IN BUSINESS
PERSONALITY IS POWER

(By Science Service)

Release Friday, August 5.

Berkeley, California, August 4.- In business and politics, which involve contacts with many people, good personality is regarded as a high trump card, if not the ace itself, while about the only realms of human activity in which personality has been supposed to be of no special consequence are factory labor and academic learning, Dr. William E. Ritter declared in his presidential address at the Pacific Division of the American Association for the Advancement of Science here today.

"But science too, even at its purest, is really the work of personalities", Dr. Ritter says. "In only one of the two great divisions into which natural knowledge divides itself, does it seem that personality has been eliminated."

"What has given rise to the notion that personality may be ejected from science is the fact that there is so much sameness in inanimate nature. With differences so few and small that only experts see much in them, iron is iron, gold is gold, water is water, and air is air, all the earth over. A gold miner who should announce the discovery of a kind of gold peculiar to the torrid zone and another kind peculiar to the frigid zone would be declared a fraud and a lunatic, while a botanist who should announce the discovery of a species of living tree common to torrid and frigid zones would also be pronounced a fraud and a lunatic."

"Any scheme of avoiding the diversity of life, especially as it shows up in the human animal, can but be a scientific wickedness against nature", Dr. Ritter says.

CUTTING TIMBER FIVE TIMES FASTER THAN IT IS GROWN

By Norman W. Scherer
Assistant Professor of Forestry
Ohio State University

(Science Service)

The original forests of the United States have been estimated as containing 822 million acres, which has been reduced by cutting, cultivating and burning to 137 million acres; or, to put it another way, our virgin stands have been reduced to one-sixth of their original area. Sixty per cent of the original timber stand is gone, leaving us a balance of approximately 2,214 billion feet of merchantable timber.

Now that we know what our balance amounts to, we may logically ask the question, "What is our annual consumption?" It includes an average annual cut of 40 billion feet of lumber, somewhere between 100 and 125 million railroad ties, 4½ million cords of pulpwood, and about 110 million cords of fuel. Under normal conditions, our per capita consumption of timber amounted to between 500 and 525 board feet, but with the pressure of war this was brought down to approximately 300 board feet, and we are still suffering from the economic curtailment. The average consumption for Europe amounts to 60 board feet per capita, while for all other countries it is about 4 board feet. The average for the world population of 1,600,-000,000 as saw material is 40 board feet.

Our tremendous consumption of lumber has been a most potent factor in elevating our standard of living, and it would not be a happy solution of the problem to curtail our consumption. Rather let us increase our production.

The annual cut and destruction of timber amounts to 26 billion cubic feet, while the annual growth amounts to only 6 billion cubic feet. We are consuming timber, then, about five times as fast as we are producing it.

THUNDER STORMS SEEM TO BREED IN LARGE CITIES

(By Science Service)

Voorheesville, N.Y., August .- Large inland cities appear to be breeders of thunderstorms, Robert E. Horton of this city has found. Thunderstorms develop from convective puffs of ascending warm air, he believes, and it may happen that local conditions in certain places may produce thunderstorms day after day while nearby spots will be free from them. Certain kinds of lakes, canyons, and some western arroyos seem to produce thunderstorms similarly to cities. In one case the air in the bottom of the Grand Canyon of the Colorado became intensely overheated and arose, and the thunderstorm with vivid play of lightning was observed from the top of the Canyon rim.

MUNICIPAL ARBORETUM FOR JOLIET

(By Science Service)

Joliet, Illinois, will soon have one of the largest arboretums in the United States. A wealthy citizen has just turned over to the city for use as an arboretum or tree-garden, a wooded tract of 237 acres in which there are already growing nearly all the species of Eastern America that are hardy there. The arboretum was formerly a private park belonging to H. D. Higginbotham, under whose direction it was improved and additional trees added. Under the new management a large tree nursery has been set out for the purpose of supplying trees for street planting in the city, and a free camping ground for automobile parties using the Lincoln Highway, which passes the arboretum, will be ready by midsummer.

DO YOU KNOW THAT-

A French inventor has constructed a "tank" which travels on both land and water. It climbs and descends steep banks without difficulty, On entering the water the engine is disconnected from the caterpillar mechanism and connected with a propeller.

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Dozens of distinct forms of solar and lunar halo have been classified. Some are very common, while others have been observed only once or twice in the history of science.

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Monkeys can contract measles from human beings and through experiments upon them a method of inoculation against measles is being developed.

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While the record altitude for aeroplanes is broken almost every year, that for manned balloons has stood unchanged ever since the balloonists Berson and Suering rose to a height of 35,400 feet above sea-level at Berlin in 1901. This is a little better than the best aeroplane record.

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DO YOU KNOW THAT-

Earthquakes send out two sets of vibrations, one of which travels around the earth's surface, while the other takes a short cut through the interior of the globe.

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The failure of the dam which caused the famous Johnstown flood, May 31, 1889, was due to defects of construction, explained by the fact that no engineer was employed in designing or building the dam.

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The great eruptive outbursts on the sun known as "prominences" would in all probability be audible on earth if interplanetary space were filled with air. Sound is not transmitted through a vacuum.

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The sand dunes on the southeastern shore of Lake Michigan are from 100 to 200 feet high and have buried an extensive area of forest. In places the tops of the trees are just visible above the sand.

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DO YOU KNOW THAT-

The Trinidad asphalt "lake" is so hard and solid that it bears the weight of a narrow-gauge railway. The asphalt is dug out in large lumps with a mattock. The holes thus made gradually fill up and in a week all trace of digging has disappeared.

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Cartridges made of lampblack, dipped for a few moments in liquid air and then primed with a fulminate cap, constitute an explosive as powerful as dynamite.

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The habit of swallowing stones appears to be more or less common among elephants. The British Museum contains a collection of 168 stones, averaging the size of a hen's egg, all taken from the stomach of one African elephant.

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A big bull-frog, although uninvited, took a ride in an airplane in the Philippines, and the pilot was unable to spill him out into the atmosphere even though he performed all the stunts of an aerial circus.

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DO YOU KNOW THAT-

The so-called "briar" used in making briar-root pipes is really a species of heather (Erica arborea). The island of Corsica exports 6,000 tons of the roots annually.

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The smallest known species of humming bird is 2¼ inches long and is a native of Cuba. The largest is 8½ inches long and lives in the Andes.

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A Ford motor-car has 8,000 parts.

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In view of the facility with which objects many feet under water can be photographed from an aeroplane it is possible that the navigation of such a river as the Mississippi, with its shifting bars, may hereafter be made safe by monthly or weekly mapping from the air. In earthquake regions, such as southern Italy and Japan, the changing coast lines, shallows and safe harbors can easily be photographed from the air after each fresh shock, thus keeping navigation open and safeguarding the lives of mariners.

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DO YOU KNOW THAT-

An Egyptologist has obtained aeroplane photographs disclosing remains of prehistoric cemeteries too faintly defined to be observed from the ground.

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The Lyster water bag, adopted by the U. S. Army in 1914, sterilizes enough water at one time to fill the canteens of a whole company of infantry at war strength. It weighs only 5 pounds and is carried on the back of a soldier.

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Meteorites are never very hot when they strike the earth. They have fallen into haystacks, barns, etc., without setting them on fire. No baking of the soil or charring of vegetation is observed where they have struck the ground.

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After the introduction of sheep into New Zealand a large species of parrot indigenous to the country, which had previously lived on wild fruits, acquired a taste for mutton and thus became a nuisance as a bird of prey. It would light on the sheep, tear great holes with its powerful beak, and feed on the kidneys and succulent muscular tissues of the helpless animals.

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DO YOU KNOW THAT-

The MacMillan Arctic Expedition carries a motion picture machine and a supply of films, with which shows will be held for the Esquimaux during the long Arctic night. A snow-bank will serve as a screen.

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A species of so-called "coral snake", coral red in color with black rings, is sometimes worn as a necklace by the native women of tropical South America.

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The finest displays of St. Elmo's fire are not seen on the masts and spars of vessels at sea, but on high mountains, where they have sometimes been observed to last as long as eight hours. They are especially common during snowstorms.

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The rarest normal constituent of the atmosphere is radium emanation, sometimes called niton. On an average each cubic centimeter of air contains, among its 30 million million million molecules only between 1 and 2 molecules of niton, and the total amount in the atmosphere up to half a mile above the earth is less than 9 ounces.

IF YOU ARE FAT
LOOK OUT FOR DIABETES

(By Science Service)

Are you fat? Be on your guard if you are. Dr. Joslin, of Boston, has gathered striking statistics that show an undeniable association of obesity and diabetes, the condition in which sugar, the most common of food fuels, is not properly metabolized or stored in the body. There are in this country alone more than half a million diabetics. "The penalty of taking too much alcohol is well known, and a drunkard is looked upon with pity or contempt", says Dr. Joslin. "Rarely persons who become fat deserve pity because of a real tendency to put on weight despite moderate eating, but most of them should be placed in somewhat the same category as the alcoholic. In 999 cases out of 1000, being fat implies too much food or too little exercise, or both combined."
