

GENERAL SCIENCE

Research Receiving Trivial Portion of Recovery Funds

Only One Third of One Per Cent. of This Year's Ten Billion Cost of Government Being Spent For Scientific Research

JUST ABOUT one-third cent out of each dollar being spent by the United States Government during the present fiscal year ending on June 30 of this year goes for scientific research. This is less than 30 cents for each man, woman and child in the U. S. A., and about 30 cents out of each \$100 Uncle Sam is spending this year.

The total cost of running the government this year will amount to nearly \$10,000,000,000. The exact figures, as revealed in the stupendous volume on the U. S. Government's budget, recently submitted by President Roosevelt to Congress, amount to \$9,403,006,967, of which \$3,045,520,267 is for the general expenditures of the Government, and \$6,357,486,700 for the emergency expenditures attendant upon the recovery program. Another \$488,171,500 might be added to represent the public debt retirements, bringing the grand total up to the awesome sum of \$9,891,171,500.

This money is being spent to prepare for war and to pay for past wars, to build roads and post offices, to insure bank accounts, and to make the farmer self-sustaining. But only a tiny slice of it, less than one-third of one per cent., goes for scientific research.

Even when allowance is made for money allotted from the public works and relief funds for work of benefit to science, the total expended for science and research is estimated to be only about \$29,500,000. This is three tenths of one per cent. of the total general and emergency expenditures, not including the public debt retirements. It is less than 30 cents for each \$100 if the public debt figures are considered in the grand total.

Or, if the emergency expenditures are left out of the picture, the Government's money invested in scientific research still amounts to less than one dollar to each hundred of the total general expenditures for the year.

It is interesting to compare the amount spent for science with the amount going for interest on the rap-

idly accumulating public debt. Uncle Sam's bill for interest for the next fiscal year will come to \$824,349,000, an increase of \$82,349,000 over the present year 1933-1934. This year's bill amounts to \$742,000,000.

In other words, Uncle Sam spends only 3.58 cents for science for each \$1 he pays out for (*Turn to Page 46*)

GENERAL SCIENCE

New Budget Only Slightly Reduces Scientific Funds

THE NEW Federal budget for the year 1934-35 just submitted to Congress by President Roosevelt does not propose any substantial slashes in funds for scientific bureaus below the funds that were available for use during the present fiscal year.

Of the funds appropriated by Congress last year for use during the fiscal year 1933-34, approximately \$34,768,000 was for the support of scientific research. But this sum was greatly cut by the Budget Bureau after the beginning of the Roosevelt administration.

PALEONTOLOGY

Triple-Sized Bison Lived In California Long Ago

THE SKULL and horns of a giant bison which roamed over the hills of northern California about a million years ago have been found in Shasta County, near the town of McArthur. The discovery was made on the Jim Day ranch.

The fossil remains are now the property of the University of California museum of paleontology, where they are being studied in the light of our knowledge of present day bison. Dr. C. L. Camp, director of the museum, states that the specimen is valuable, because it is one of the very few in existence today.

Figures appearing in the new budget volume indicate that only about \$28,893,000 was actually allowed the Bureau for scientific work. A somewhat smaller amount for scientific research is allowed in the new 1934-35 budget for the fiscal year starting next July 1. Probably not more than \$27,735,000 will be available for this purpose during the coming year.

Most of the bureaus affected, however, have just as much as they did during the present year, or a little more.

The Bureau of Standards is allowed \$1,437,702 instead of \$1,336,000. The Bureau of Mines gets \$762,926 instead of \$694,985. The Naval Observatory gets \$169,994 instead of \$160,025. And other scientific bureaus or offices are given sums similarly close to the figures apportioned to them this year.

The main exception is the Department of Agriculture. Although this Department is allowed under the budget greatly increased funds, these are mainly for administrative purposes and particularly for the carrying out of the recovery program. It is too early yet to know just what proportion of the total will be apportioned for research, but it is believed that not more than \$15,700,000 will be devoted to this constructive work as against \$18,000,000 available this year.

If Congress approves the budget as submitted, it will mean that scientific funds will be cut about 4 per cent. below the funds available for the present fiscal year, and 34.5 per cent. below the \$42,375,000 spent on research during the fiscal year 1931-1932.

Science News Letter, January 20, 1934

prehistoric animal was about three times the size of the modern bison.

Its remains were uncovered by Burnett Day, a thirteen-year-old youth, who in attempting to pick up a rock to throw at some sheep, grabbed hold of what proved to be the tip of the bison's horn, which protruded a few inches above the ground.

The giant bison, Dr. Camp says, belonged to the great "climax" animals of the Pleistocene geologic period. It was contemporary to the saber-toothed tiger, the ground sloth, the Columbian elephant, and others of huge bulk. They reached what scientists term the climax in development, and then suddenly and mysteriously disappeared from the earth.

Science News Letter, January 20, 1934

ENTOMOLOGY

Minute Duckweed Infested By Even Smaller Insects

THE TINY plants of duckweed, that form living blankets on stagnant ponds, are visited and inhabited by insects correspondingly tiny, Dr. Minnie Brink Scotland of the New York State College for Teachers, Albany, recently reported to the Entomological Society of America.

There are six dominant insect forms, including a bug, an aphid, a beetle and a fly. One caterpillar is bigger than the individual plants it uses, but by binding them together in a raft it makes them serve its purpose.

Science News Letter, January 20, 1934

CRIMINOLOGY

Racketeer File and Statistical Machines Aid Fight on Crime

SCIENCE and the most modern business methods are serving as powerful weapons in Uncle Sam's new drive on organized criminals, kidnapers and racketeers. One of the most useful of these new defenses is a newly organized file at the Identification Unit of the U. S. Department of Justice.

In the drawers of this file are the fingerprints of known gangsters, kidnapers and extortionists—each single fingerprint filed separately. The advantage of having each finger filed separately, instead of in sets of ten as in the regular identification files, is that the search for a single print picked up at the scene of the crime, or found on a ransom note, perhaps, is made much easier by this system.

Suppose one print is found on one side of a sheet of paper or a bottle, and on the other side are noticed four smudges. Officials receiving this print may assume first that it is a thumb. Right thumb prints are filed all together in this new single-print file; but not all are of the same pattern, and they are classified and filed by pattern, not by the criminal's name.

Perhaps the "latent" print found on the paper has what is known as a loop

pattern. That narrows the search to the loop classification. The direction the loop points, whether toward the little finger or away from it, indicates still another sub-classification. The number of ridges in the loop limits the search still further. Finally, the particular section which must be searched for that type of print contains not more than about 25 cards. If not found there, the search would be continued among the left thumbs, and so on.

It is a comparatively simple task to search a bunch of 25 cards one by one until the "latent" print is identified. It would be a hopeless task to search the millions of prints in the regular files.

Sorting and Punch Cards

Statistical sorting machines and punch cards familiar in business have also been enlisted by the Federal Government's Department of Justice detectives.

As an auxiliary to the new single-print file of fingerprints of racketeers the Identification Unit is now keeping a detailed descriptive file of such criminals. Since names mean less than nothing among criminals, the index to this file is the description of the men. And this index is kept in a comparatively novel way. It is punched on the cards used in sorting machines for statistical work. A hole in one location means blue eyes, in another brown eyes, and so on. Height, weight, age, sex, scars, deformities, and peculiarities of speaking are some of the items recorded on this punch card.

Contact Man Usual

A fortunate aspect of some crimes, including kidnaping, is that there is usually some contact with at least one member of the gang, either at the time of the abduction, when the ransom is paid, or at some time during the negotiations. If a clear description of the person is sent immediately to the Department of Justice, within a few minutes the punch cards can be run through the sorting machine and all known offenders answering to that description selected.

The file records, including photographs and record of offenses, can then be shown to the person who has seen the criminal for positive identification.



CALLING CARDS OF A NATION'S CRIMINALS

Information and fingerprints concerning thousands of criminals are kept in this regular file of fingerprints of the U. S. Identification Unit. When an arrest is made or a suspect picked up, his fingerprints are rushed to Washington, where a few minutes' search in this file will reveal his past record.