

GENERAL SCIENCE

# Federal Budget Includes More Money for Science

## But Part of Increase Is Only Matter of Bookkeeping Due to Transfer of Emergency Funds to Regular List

**F**UNDS for scientific research by the Federal Government will be increased by about \$5,000,000 during the fiscal year starting next July if the allotments in President Roosevelt's budget are followed by Congress in making appropriations.

Part of this increase in funds represents only a paper increase due to the transfer of items from the emergency budget to Uncle Sam's regular accounts. Part of it represents new funds under recent special legislation.

The Department of Agriculture receives most of the \$5,000,000 increase, with an estimated \$3,500,000 more to devote to research than was available last year. New agencies will absorb the lion's share of this. First there is the Soil Conservation Service, provided for by new legislation last April. This will get \$2,250,000 of the available research funds.

### Special Research Fund

Then there is a special research fund provided for by the Bankhead-Jones Act of June 29, 1935, under which \$400,000 will be administered. Funds made available through the operation of this Act have already enabled the launching of nearly forty research projects on fundamental problems in biology, chemistry, meteorology and economics that have more or less direct bearing on agriculture.

The Beltsville, Md., research center will use about \$50,000.

The Forest Service will receive an estimated extra \$300,000. However, this amount is less than the emergency funds now available for research purposes but which will probably be withdrawn or curtailed next year. The \$100,000 allotted for forest products investigations is mainly for the Forest Products Laboratory. This amount, unless augmented by other funds, will not be sufficient to maintain the Laboratory in its present running order. Other increases will enable some of the regional stations to maintain or even slightly enlarge their regular staffs, but these increases are based upon specific projects and must be used in those definite ways.

The Bureau of Chemistry and Soils has another large slice of the new funds—about \$150,000. Of this, a part is to provide for a new program of research provided for by Congress on discovering industrial uses for farm products, but the major part is to be used toward the completion of the national soil survey.

The Public Health Service will get about \$1,350,000 more for research than their funds for the present year. This represents the funds provided for by the Social Security legislation.

The Coast and Geodetic Survey will receive about \$240,000 more next year, but this again will probably have to replace emergency funds.

### Bureau of Standards

The National Bureau of Standards, one of the chief scientific bureaus of the Government, will receive \$52,000 more under the proposed budget than the present year's appropriations. None of this will be available for scientific research, however. The Bureau must do a certain amount of routine testing of materials, instruments, and so on, and the new funds will provide for an increase in this work and for some necessary improvements in the plant.

The total amount for scientific research and the administration of scientific bureaus and offices comes to about \$42,000,000 in the budget for the fiscal year 1936-37. This is a great deal more

than has been spent for this purpose in recent years. But it represents only about six-tenths of one per cent. of the total budget.

The proportional amount spent for scientific work is always only a fractional part of the total expenditures. In 1932, a "boom" year for scientific work, about eight-tenths of one per cent. of the total budget went for this purpose.

Compared with these figures, \$1,727,850,866 is provided in the new budget for national defense and veterans' pensions and benefits. This is more than 25 per cent. of the total.

*Science News Letter, January 25, 1936*

CHEMISTRY

## Research Funds to Find Uses for Farm Products

**I**NCREASED funds for research to find industrial uses for farm products are called for by the Department of Agriculture budget now before Congress. Reorganized set-ups in the Bureau of Chemistry and Soils are expected to bring the efforts of Government scientists to bear on this problem with greater efficiency.

One grouping of projects brings together the work of the present Color Laboratory at Arlington, Va., researches now in progress at Ames, Iowa, and certain work hitherto under the Agricultural Chemical appropriation, under the general head of industrial utilization of farm products and by-products. In this new grouping are included research on tanning and tanning materials, aimed, among other things, to find suitable substitutes for tanning extracts formerly obtained from the now blight-exterminated chestnut trees. The appropriation for this purpose has been increased from \$10,400 to \$15,400.

The laboratory at Ames is scheduled to receive a substantial increase in its appropriation—from a current \$27,641 to an asked \$47,641. This substantial increase is needed to expand the work of the laboratory, which is devoted mainly to finding economic uses for farm wastes—turning into dollars things which the farmer has hitherto had to throw away or burn. Uses of wastes and semi-wastes like straw and cornstalks for paper pulp is one line of work being carried on there.

Research on production of direct-consumption cane sugar in the continental United States and on standardization of quality of sugar-cane syrup is booked to receive a \$10,000 increase. Means for preventing farm fires is also

## ● RADIO

January 28, 4:30 p. m., E.S.T.

MIDWINTER HEALTH — Dr. R. R. Spencer, Senior Surgeon, U. S. Public Health Service.

February 4, 4:30 p. m., E.S.T.

A FUTURE FOR AMERICA'S BIRDS AND BEASTS — Ira N. Gabrielson, Chief of the U. S. Bureau of Biological Survey.

In the Science Service series of radio discussions led by Watson Davis, Director, over the Columbia Broadcasting System.

in for a \$10,000 boost, and a \$10,000 increase is listed for research on the chemistry and physics of soils. Naval stores research is to have a \$2,500 increase.

The heaviest single item of increase in the entire Bureau of Chemistry and Soils is a jump from the present \$286,000 to \$381,000 in the new budget, toward completion of the national soil survey. This \$95,000 increase, however, represents new money only in part; part of the fund simply replaces an earlier cut made during an economy drive, which had to be made at the time but resulted in slowing down the soil surveying and mapping program.

*Science News Letter, January 25, 1936*

#### ARCHAEOLOGY

### Stone Age Paintings Show Hunters, Warriors, Game

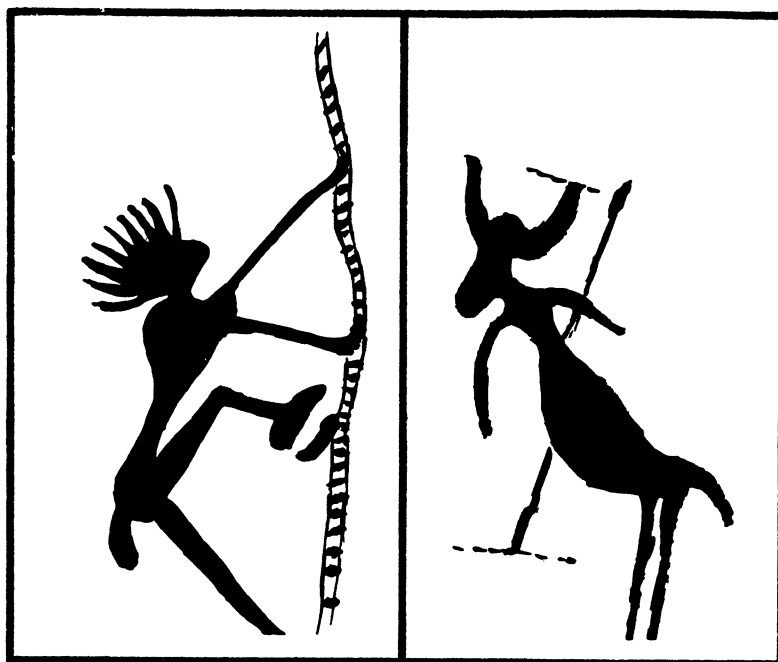
**D**ID gentlemen of the Late Stone Age entertain "visiting firemen" in their lodge meetings? One picture, lately discovered on a cliff in eastern Spain, might indicate something of the sort. It is a lively, though crudely drawn, silhouette of a man climbing what appears to be a rope ladder. The figure wears only a breech-clout and a headdress of what look like feathers.

More prosaically, the picture probably represents a common means of getting up and down the steep rocky cliffs, in the niches of which the tribesmen painted hundreds of pictures of human beings, game animals, and other living things. The paintings have been studied by Prof. Hugo Obermaier of the University of Madrid. (*Forschungen und Fortschritte*, Nov. 20, 1935.)

The paintings are all in silhouette, usually monochrome, occasionally two-color. Their style is much inferior to that of the earlier art of the Old Stone Age as found in the caves of southern France and northern Spain, but it still represents clearly the kinds of animals the men of the artists' tribes hunted, and shows other interesting facts of their lives.

For one thing, war was probably in the world by then. Some of the scenes show marching armed men—hundreds of them—keeping close, ordered ranks. One individual painting shows a luckless individual transfixed by a spear, kicking in his death-agony. Bows and arrows are common; these weapons were unknown in the Old Stone Age.

Hunting scenes are shown in lively fashion, many of the animals being



#### REALLY OLD SPANISH MASTERS

*Artists of the Late Stone Age, 10,000 years ago more or less, painted these silhouettes on a cliff in Spain. The ladder-climbing figure, upper left, seems to have feathers in his hair; what looks like a tail is probably a loose end of his "Gunga Din" uniform. Opposite him is a figure in an animal mask—possibly a medicine man.*

represented as shot down with arrows, or lying helpless with broken legs. Most abundant among the game are deer, ibex and wild pigs. One boar is shown lying kicking on his back, as though mortally wounded.

One exceedingly curious picture is of a fat spider, with flies buzzing about. Prof. Obermaier conjectures that this may be the cave-artists' tribute to the spider as an exceedingly skilled snarer of game in nets.

*Science News Letter, January 25, 1936*

#### PHYSICS

## Atoms About You Are Exploding One By One

**T**HE ATOMS of the air about you are exploding one by one and filling the room where you sit with showers of their fragments. Surprised?

Did you know the projectiles causing those atom explosions have traveled millions upon millions of miles across interstellar space?

These facts, almost taxing one's credulity, were established in the latest cosmic ray research in a mountain top laboratory on the summit of Pike's Peak.

Dr. Carl Anderson and Dr. Seth Neddermeyer of California Institute of Technology reported the findings of their mountain experiments to the American Physical Society.

To study the effect of cosmic rays

having greater disintegrative power than those found at sea level, Drs. Anderson and Neddermeyer took, by truck, several tons of apparatus from Pasadena to Pike's Peak. Working night and day they packed a year of experimental measurements into a few months.

Using Dr. Anderson's Wilson Cloud

## 23 LANGUAGES

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