

Government of the new association will be by a Council of Representatives to be elected by the various divisions and regions and by certain unorganized groups. The Council will meet annually and elect a Board of Directors and several other boards and committees to do the work of the association.

It is anticipated that 4,000 psychologists will be members of the new association. Organizations who appointed representatives to plan the merger in-

clude: American Psychological Association, American Association for Applied Psychology, Society of Experimental Psychologists, Society for the Psychological Study of Social Issues, Psychometric Society, National Institute of Psychology, National Council of Women Psychologists, Department of Psychology, American Teachers Association, and Section I, American Association for the Advancement of Science.

Science News Letter, February 5, 1944

PHOTOGRAPHY

War Photo-Mapping

Aerial photography contributes materially to the success of military and naval operations. Many glaring errors in maps found by photogrammetry.

➤ AERIAL photography is contributing materially to the success of U. S. military and naval operations. But in photo-mapping there is always a feeling of pressure, as no map is ever completed as early as might be desired, Lt. Col. E. E. Pollock, U.S.M.C., told members of the American Society of Photogrammetry meeting in Washington.

On one occasion U. S. ships were to enter a little-known body of water, he related. Aircraft were sent to photograph the water area between two large islands. After the film had been developed and the pictures fitted together, these prints revealed the existence and location of submerged reefs. That same night a naval battle was fought in this very body of water, he said.

Practically all mapping done in the South Pacific theater since we entered the war, Colonel Pollock pointed out, has been in order to bring up to date charts based on surveys made in the 1870's and 1880's. Many glaring errors were found and corrected in these charts.

"At one point the map measurement

of the width of the island was 14.2 miles, whereas a check by photogrammetric methods revealed the width to be 21.1 miles," he stated, referring to Santa Isabel Island.

Mapping crews are frequently attacked by Japanese aircraft or are the object of enemy fire, Colonel Pollock stated, as well as confronted by navigation problems over jungle-covered islands where each hill or shoreline looks alarmingly like the next.

Science News Letter, February 5, 1944

Pilots Expected to Run

➤ "THE JOB of the mapping and photographic pilot is a tough one," Col. James G. Hall, U.S.A.A.F., told members of the society. "They are the only individualists left in aerial warfare, and they are the only pilots for whom it is both a duty and an honor to run from the enemy."

The success or failure of a task force operation or an entire campaign may depend on photographic reconnaissance, Colonel Hall stated. At one stage in the battle of Tunisia, the artillery preferred to fire from interpreted photographs rather than from maps.

The accuracy of fire from these photographs was so great that in many cases the enemy guns received a direct hit and some thought a new kind of secret weapon was being used. German and Italian prisoners said no one could understand how their positions were discovered since they had been moved only a few days before the attack.

Science News Letter, February 5, 1944

ASTRONOMY

Sunspot's Appearance Ends 28-Day No-Spot Period

➤ THE APPEARANCE of a small sunspot on Saturday, Jan. 22, marked the end of the longest period without a sunspot of appreciable size since the early 1930's.

The sun's surface had been unmarred by any identified spots since Dec. 25. A few faint markings were discovered on plates made at the Mount Wilson Observatory Jan. 19 and 20, but were not found on plates made at the U.S. Naval Observatory. Thus 28 days had elapsed since the last sizable sunspot was visible.

Science News Letter, February 5, 1944

GEOLOGY

Award Given for Work On Aerial Mapping System

➤ THE TRI-METROGON system of aerial photography being used to make our fighting forces' war maps got a new citation when Lt. Col. Gerald Fitzgerald, chief of the aeronautical chart division of the Army Air Forces, received, at the Washington meeting of the American

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Society of Photogrammetry, the first Fairchild Photogrammetric Award from General H. H. Arnold, commanding the Army Air Forces.

Colonel Fitzgerald was formerly senior topographic engineer of the Alaskan Branch of the U. S. Geological Survey; he directed the pre-war as well as the war development of this speedy method of charting the hills and valleys by use of cameras flown high overhead. The new award is to be given annually by the American Society of Photogrammetry.

Science News Letter, February 5, 1944

CHEMISTRY

Paper Tags Being Used For Overseas Shipping

➤ PAPER is now being made to do the job of metal and cloth tags in labeling war materials going overseas. The National Bureau of Standards and cooperating manufacturers have developed a paper material for tags that has very high resistance to tearing and scuffing, dry or wet. It eliminates the further use during the war of cloth, metal, and abaca manila hemp fiber as materials in shipping tags.

Federal specifications for tagboard material, recently issued, substitute non-critical fibers for the manila hemp and secures wet strength, as well as resistance to scuffing, through the use of synthetic resin. The tearing resistance of this board is equal to that of manila hemp board when dry, and when wet it is greater.

Instead of metal eyelets, paper patches affixed with water-resistant adhesives are specified. They withstand submersion in water indefinitely without coming loose from the tags, it is claimed.

Science News Letter, February 5, 1944

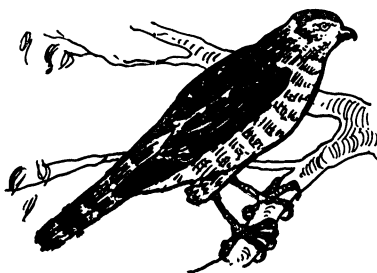
GRAVITATION

This pamphlet on gravitation is the third supplement to *Essays on the New Vortex Atom*. The two previous supplements dealt with the *Heavier Elements* and the *Carbon Atom*. Any or all of these may be obtained free of charge.

The author claims to have accounted for gravitation on a simple hydromechanical basis, capable of experimental test, and not depending on curved space, ether sinks, or other metaphysical concepts. It is the author's contention that gravity is a physical force, and therefore requires a physical explanation.

C. F. Krafft

1322 Amherst Ave. - Richmond 22, Va.



Outline for Survival

➤ NAVY FLIERS are now being given special instructions in how to keep alive and find their way back to friends if forced down at sea or in the wilderness. Thereby these highly trained young men are enabled to "live to fight another day," and eventually to see their homes again.

Tricks in the hard trade of staying alive and keeping moving towards base range all the way from finding out which way is south to snaring wary game, from catching fish without a hook to boiling water without a pot. Some of them are things that every Boy Scout knows, others can be learned only from the best-educated savages.

A compendium of this varied but vital knowledge has just been put into book form by two young Navy officers who are twin brothers: Lieutenants (j.g.) Frank and John Craighead. Their book is published by the U. S. Naval Institute. (\$2). In addition to its primary use as a text in the survival course, it is available for general distribution to civilian readers.

The twin authors began their careers in living outdoors while they were still schoolboys in Washington, D. C. They became interested in capturing young hawks and training them for the ancient sport of falconry. This involved the acquisition of a lot of skills, such as cliff and tree climbing, camping out without a tent, and living off the country generally. They have, therefore, first-hand knowledge of the things they write about.

Although such things as fish-hooks, cord and matches are included in emergency kits furnished all fliers nowadays, they are assumed as lost for the purposes of the new manual, and the student of

the art of staying alive is shown how to make his own fish-hook out of bone or shell, or a bit of wood and a thorn; how to make a usable cord out of bark fiber; how to start a fire with a fire-drill or a fire-file. There are directions and diagrams for making a considerable variety of snares and traps. Wild-food lore includes such diverse information as cautions against tropical fishes with poisonous flesh and hints on how to detect the well-camouflaged ptarmigan on an arctic tundra.

Since the new book is not meant to be carried in the pocket and used only when the emergency actually arises, it goes in for completeness rather than compactness, and so tells how to live in any kind of wilderness, whether tropic, arctic, desert, or mountain heights. The list of wild food plants and animals, therefore, is exceedingly varied; yet it is surprising how many things we ordinarily think of as temperate-zone species are to be found on tropical uplands as well.

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AERONAUTICS

Airplane Vapor Trails Formed by Condensation

See Front Cover

➤ VAPOR TRAILS, the beautiful but dangerous "artificial clouds" which sometimes occur behind airplanes flying at high altitudes, are caused only when certain atmospheric conditions exist which are conducive to condensation.

There are two main reasons for the formation of these airplane wakes: First, the exhaust gases from the engines contribute an additional amount of moisture to the already humid atmosphere, and the dust and carbon particles discharged form what meteorologists call condensation nuclei—minute pieces of matter on which water molecules readily collect. Second, the transient reduction of pressure which occurs over the wing of the airplane causes a temporary cooling of the air which also fosters condensation of water molecules.

Why vapor trails could help enemy anti-aircraft spotters is evident from the U. S. Army Air Forces picture of bombers over Bremen, Germany, shown on the cover of this SCIENCE NEWS LETTER.

The B-17 in the foreground, unloading its sticks of bombs which are destined for the shipyards below, is out of the range of the flak bursts seen in the lower right portion of the picture.

Science News Letter, February 5, 1944