

the fully formed virus particles with which scientists have previously been familiar.

The fully formed virus particles seem to be made up of a number of previral units around which a matrix of other material forms.

This picture of how viruses multiply within the cell was developed from studies with the virus of *molluscum contagiosum*. This is a skin disease affecting only the superficial layers of the skin. The virus producing it has characteristics placing it in the group of pox viruses which produce such diseases as smallpox, chickenpox and, in animals, cowpox. The surface skin lumps produced by this virus develop slowly

and are benign in nature. This makes it easy to obtain large amounts of material for examination.

New and delicate methods of tissue stainings were applied to the infected cells and fragments of cells affected by this virus. They were then examined under the electron microscope. From these studies came the new theory of virus multiplication. It is considered of great theoretical importance because heretofore very little has been known about the early stages of the multiplication of viruses inside cells, with the exception of bacteriophages, which are viruses that prey on bacteria.

Science News Letter, September 16, 1950

AERONAUTICS

Private Planes in War

► THE part that American private planes can play in total or partial war emergencies is outlined in a special report just made to the U. S. Civil Aeronautics Administration by a committee of 12 experienced airmen.

This nation's non-scheduled aviation industry is an irreplaceable reservoir of talent and equipment of tremendous potential value in the defense of the United States, the report states. There are more than 60,000 active aircraft, almost one-half million trained pilots and some 5,000 operating non-military airports in the United States.

These rich civil aviation resources of the nation must be preserved and encouraged so that they will be available to military and civilian defense agencies as the need arises, the committee declares. The majority of airmen accepts the principle that internal security is the most important consideration involved in all flight operations and that certain steps should be taken immediately to guarantee that security.

During a period of active air defense

there are two particular problems of military concern. The first is the positive identification of all aircraft operating within "sensitive" military areas. The second is the prevention of unauthorized use of civil aircraft for purposes of sabotage or espionage.

Sensitive military areas are those where a continuous watch by radar tracking and ground observation is maintained. To prevent sabotage or espionage, satisfactory controls covering security clearance of airmen, operational controls and identification of aircraft are essential.

Among various suggestions made by the committee is the installation of equipment on aircraft so that air-to-ground communications on very high frequency channels may be maintained. It is also recommended that all pilots carry an identification card containing fingerprints, photograph, full name, signature and personal description.

Registration with a State Defense Council or "control airport" should be required for all aircraft, the report states. All pilots

should, if possible, file flight plans. Some of the recommendations will be implemented at once, D. W. Rentzel, the head of CAA, announces.

Science News Letter, September 16, 1950

● RADIO

Saturday, September 23, 3:15-3:30 p.m. EDST

"Adventures in Science" with Watson Davis, director of Science Service over Columbia Broadcasting System.

Mr. Davis will discuss "The First National Science Fair" with educators and finalists.

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