

doubtedly suffer a critical attack of compressed air illness. It would be necessary for him to ascend by gradual stages over a period of about an hour and forty minutes to assure his safety.

The whales in this area spend the majority of their lives submerged, their sojourns at the surface being momentary; ordinarily only for the time of a single breath. The result is that the usual surface phase lasts a few seconds and the underwater phase 10 to 20 minutes. Naturally the nitrogen gas from one breath would not supersaturate the blood, but the accumulative effect of successive breaths followed by submersion would lead to supersaturation of the body fluids.

Therefore, if the whale were subject to human physiological limitations, it would be hazardous for the animal to delay at the surface on the penalty of gas bubbles being liberated in the body with the liability to a severe attack of compressed air illness. Actually, a whale can linger with safety at the surface as, for example, when suckling a calf.

Laurie found that the blood of freshly killed whales was not supersaturated with nitrogen. Indeed, he directs attention to a remarkable phenomenon of nitrogen removal which takes place in whales' blood and not in land mammals. If the blood is saturated with nitrogen of the air, it is so absorbed that it cannot be recovered by evacuation. The nature of the reaction is not known, except that the presence of oxygen is essential. It is a striking fact that one of the mammals which might run the risk of compressed air illness is just the one to have a mechanism for protection against it.

*Science News Letter, July 31, 1937*

For over 2000 years, California Indians have eaten the same foods, traded the same materials, and in general lived in the same way, says an anthropologist.

Daffodils can be made to bloom at Thanksgiving and Christmas, if the bulbs are stored at 50 degrees Fahrenheit for a month or more before planting and hot-house forcing.

#### GENERAL SCIENCE

## Important Inventions Listed As Having Social Influence

### Government Science Committee Points to Thirteen Discoveries Which May Modify Future Living

**K**EEP your eye on thirteen very important inventions. These, in the opinion of the federal National Resources Committee's Science Committee, "may soon be widely used with resultant social influences of significance."

These inventions, as listed in a voluminous report just issued treating technologic trends and national policy, are:

1. Mechanical cotton picker, which may displace millions of southern cotton-field workers.
2. Air conditioning equipment.
3. Plastics, which are chemically made materials substituting for wood, steel, and other substances.
4. Photo-electric cell, the "electric eye", that can substitute for human routine operations.
5. Artificial cotton and woolen-like fibers made from cellulose.
6. Synthetic rubber.
7. Prefabricated houses.
8. Television.
9. Facsimile transmission, by which pictures and messages are sent by wire and radio.
10. Automobile trailers.
11. Gasoline produced from coal, now commercially practised in Europe.
12. Steep-flight aircraft planes, such as autogyros and helicopters.
13. Tray agriculture, or raising crops not upon soil but in tanks of nutrient solutions.

An immediate study of these inventions and their effects on our national economy is urgently recommended. This would be undertaken by experts in science, technology, economics and other fields.

Technological unemployment would be investigated by a special committee from government agencies. The federal planners also want science committees set up in the federal departments to investigate regularly the progress, trends and economic effects of science and invention. They also argue the necessity of a national resources board to plan for the whole nation.

The whole patent system would be reviewed by a group of social scientists and economists with a view to better

adaption of the system to changing conditions.

The report was prepared by experts under the guidance of a subcommittee on technology with Dr. William F. Ogburn of the University of Chicago as chairman and research director, and President John C. Merriam of the Carnegie Institution of Washington and President Edward C. Elliott of Purdue University, as members.

Among the findings are:

The large number of inventions made every year shows no tendency to diminish.

Inventions create jobs as well as take them away.

Because of increased productivity per worker, production of the nation this year would have to be increased 20 per cent. over that of 1929 to have as little unemployment as existed then.

Advance of many aspects of industry and the correlated technologies is dependent upon scientific research and discovery. If the contribution of research were reduced, the industries would tend to freeze in a particular pattern.

From the early origins of an invention to its social effects the time interval averages about 30 years.

*Science News Letter, July 31, 1937*

Nearly half the food eaten in the United States comes out of cans or jars.

Sign language was often useful to Indians in hunting, because they could communicate without alarming the game.

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