METEOROLOGY

Weather Bureau Re-Names The Radiometeorograph

THE U. S. Weather Bureau has re-christened the radiometeorograph, that featherweight little robot weather reporter that rides small balloons up into the stratosphere and wirelesses back all the news about how cold it is, how damp it is, etc. The new name is "radiosonde," a word of French origin that has already been officially adopted in Germany. (*Bulletin, American Meteorological Society,* Nov. 1938)

Objection to the name, meteorograph, was mainly to the "graph" part, which implies that the instrument makes a written record, which it does not do. Also, the word is a bit sesquipedalian (many-jointed, to you). "Sonde" is French for depth (or height) sounding: the rubber bubbles on which the radiosondes ride aloft are known technically as sounding balloons.

Science News Letter, January 28, 1939

GENERAL SCIENCE

Science Invites Criticism Of Its Facts by All Comers

SINCE science is having a profound and real effect on the world about us whether we wish it or not, there is need of knowing its possibilities and limitations.

No label of "science" upon the package of research will make it a cure-all.

Scientific philosophers, like Pearson, Poincaré and many others, have discoursed upon the method of science. To those who cry for action, this may seem dry and unimportant stuff. But thought and knowledge of method is always necessary that action may be correct.

A British scientist, Dr. William H. George, in a notable current book, "The Scientist in Action," explains that in its passionate and challenging devotion to facts, science is distinguished from all other human activities.

"Science neither has, nor desires, any protection whatever against statements of fact," he observes. "A passionate devotion to statement of fact outside of science may alienate a man from his friends, if not put him in a law court, prison, concentration camp, or before a firing squad. In certain circumstances, statement of fact without comment is libel or slander. Religion is protected by laws of blasphemy. Even militarism appears to be a delicate flower, needing special legal protection against statement of fact, even without comment. In science it is never impolite, immoral, disloyal, unpatriotic, or 'not done' to state facts."

To criticize the official statements of the ruler of a nation, Dr. George observes, may, according to the person, place and period, be a way of committing suicide. The official statements of a president of a national scientific society challenge critical examination by all.

Science News Letter, January 28, 1939

POPULATION

Debunk Belief on Negro Population Growth

BELIEF that America's Negro population is outstripping the white population in growth is unfounded in fact, Dr. Bernard D. Karpinos of the U. S. Public Health Service told the American Statistical Association.

Negroes actually had a lower net reproduction rate in 1930 than did the white population in that year, Dr. Karpinos declared in debunking a belief which has gained considerable credence in recent years. In that year the comparative rates were 1.08 for the whites as against 1.02 for Negroes.

Negroes have a higher crude birth rate but this does not mean that their population is increasing more rapidly. Among other factors operating to offset this higher rate is a higher death rate. Both factors combine to produce a population whose average age is younger, he explained.

Many of the assumptions of a rapidly increasing Negro population are based on a jump in their numbers in the 1920 to 1930 census figures. But the 1920 figures err seriously in having missed many of the Negro population.

Another basis for the erroneous belief, Dr. Kapinos pointed out, is in the apparent birth rate increase during those years. But the explanation of that lies not in increased fertility, but in the fact that the ratio between Negro men and women in the different cities was sadly out of balance around 1920 and only approached normality later. The explanation of this latter fact lies in the mass migrations of southern Negroes to the North during the World War to fill a hungry labor market. This northward migration consisted predominantly of males.

Negroes now number 9.7 per cent. of the population, This ratio is likely to continue, Dr. Karpinos concluded, with an outside possibility of the percentage rising as high as 11.6 per cent., but no higher.

Science News Letter, January 28, 1939

IN SCIENCE

METALLURGY

U. S. Magnesium Boom Due Within Five Years

THE BIGGEST boom among the metals in the next five years can be expected to occur in magnesium, the light metal only two-thirds as heavy as aluminum and one-quarter as heavy as copper. This forecast appears in the survey, prepared by the Federal Power Commission, of the nation's industrial electric power needs by 1942-1943.

The use of electricity by industry in chemical and metallurgical processes, the FPC points out, will probably increase—on an average—by some 33 per cent. during that time. But heading the list of anticipated gains is magnesium production with an electric power increase of 156 per cent.

This is based on the expected trend toward a production of about 10,000,000 pounds of magnesium metal each year. At present production is only about 4,000,000 pounds.

Hydro-electric development in the Pacific Northwest area, and in the Tennessee Valley region, is expected to furnish the cheap power, making possible the production of magnesium from its ores in these localities. At present America's production of magnesium metal is a by-product of chlorine and bromine production from the salt brines near Midland, Mich.

The company operating these wells is the nation's sole producer of primary magnesium metal. Government experts believe the current price (30 cents a pound) could be lessened by greater competition. As it is, magnesium's price has fallen from $5 a pound in 1915 in a manner paralleling the lowering of aluminum's cost.

With a falling price of magnesium there would be a stimulation of application of magnesium alloys in aircraft, transportation and in portable equipment. The FPC's estimates are based on normal trends. It is virtually impossible, they point out, to estimate the effects of a major war, a great swing in the cycle of general business activity or other extraordinary events.

Science News Letter, January 28, 1939

FIELDS

BOTANY

Potatoes Went "Wrong Way" From England to Virginia

POTATOES were not introduced into England from Virginia by Sir Francis Drake or Sir Walter Raleigh or anybody else; they made the voyage in the other direction and were introduced into Virginia from England, by way of Bermuda.

This upset of what has always been accepted as history comes from a Field Museum publication, a posthumous work by the late Dr. Berthold Laufer.

There is no authentic record of potatoes in North America prior to 1621, Dr. Laufer declares. In that year the Virginia colonists, in dire distress because of crop failure, received a quantity of potatoes in a relief ship sent by the Governor of Bermuda. They saved enough for seed, and cultivation was thus established.

Yet a quarter of a century before that, the famous English herbalist, John Gerard, published an enthusiastic description of the potato, with a fairly accurate picture, stating that he had grown the plant in his own garden, from seed brought "from Virginia". This statement has been partly responsible for the long-held belief that the Virginia colonists learned potato planting from the Indians.

The apparent discrepancy does not bother Dr. Laufer, who points out that mis-labeled seeds and specimens are frequently received by even the best-managed of modern museums, so "why get excited over a wrong label of the sixteenth century?"

If it was an English potato that came to Virginia, it apparently was an Irish potato that emigrated to New England, for the record contains a story of introduction by Scotch-Irish colonists in New Hampshire in 1719.

Potatoes were first carried to Europe by the Spaniards, after their conquest of Peru. They were little appreciated in Spain, however, and it was not until they had become established in Italy that they had a really active center of cultivation, and a base from which they could make their way, usually against stiffly prejudiced opposition, into northern and western Europe.

Science News Letter, January 28, 1939

PSYCHOLOGY

Study of Averages May Mislead the Scientist

THE SPORT, or business, of racing, Dr. C. P. Stone, of Stanford University remarked at the recent A.A.A.S. meeting, is based on the interesting and often unpredictable way in which individual horses differ from one another.

When you put up two dollars on a race, you are not at all interested in the average running time of one-year-olds. Even the average time of Seabiscuit may seem irrelevant. What you want to know is what your favorite black filly is likely to do on a muddy track this afternoon.

In the field of business, statistics showing the average rate of decline of mental alertness with age are equally uninforming when it comes to deciding whether old Mr. Jones in the bookkeeping department should be retired or whether his intimate knowledge of the customers doesn't make up for the fact that he is a little deaf on the telephone.

Statistics, indispensable handmaiden to science, can actually obstruct the advance of knowledge if followed blindly.

If scientists allow the study of averages, trends, and totals to blind them to the interesting and often puzzling differences between individuals, many facts will remain hidden. The trees, in this case, will remain without clear form because obscured by the forest.

Averages can actually be misleading as well as uninforming. The idea that hunger is a more powerful drive than sex was cited by Dr. Stone as an example of how averages may obscure the facts. Looking only at the average behavior of a group of animals over a number of consecutive days, this conclusion is logical. But if you watch a particular animal you will find that although he becomes hungry often, that hunger will at times become relatively unimportant in his scheme of life. If the observations of his behavior were timed to coincide with the height of both drives, the averages might tell a different story.

Translated into the world of human affairs, though a man may spend most of his waking hours chasing dollars, we must not conclude that money means more to him than love or beauty or religion.

Statistics do not tell the whole tale.

Science News Letter, January 28, 1939

PALEONTOLOGY

Dodo Not a Myth, Lived Within Historic Time

See Front Cover

DODO is such a funny word that a good many persons get the idea that the creature itself was imaginary. But the dodo was a real bird, albeit just about as funny-looking as its name is funny-sounding. They lived on three of the Mascarene Islands, southwest of Madagascar. There were two species of Dodo, and a third closely related species, known as the Solitaire. All have been extinct since the coming of that extremely destructive animal, the European, in the seventeenth century.

The only actual remains of the Dodo now in European museums consist of one or two incomplete skeletons and a few other odd scraps like separate skulls and feet. Now the Field Museum in Chicago has a new sculptured restoration of the bird, carefully made according to best scientific methods by Frank Gino under the direction of Rudyerd Boulton, curator of birds. In addition to this model, the museum is displaying a series of drawings and paintings by Miss Laura Brey.

Science News Letter, January 28, 1939

SEISMOLOGY

Moon May Start Earthquakes By "Triggering" Stresses

SUGGESTION that the moon may have something to do with the setting off of earthquakes originating deep beneath the earth's surface was found in his mathematical studies of the question by Dr. Howard V. McMurry of Houston, Texas. Dr. McMurry does not consider this lunar influence as a now-established fact, but he has found enough evidence to make continued study of deep-focus earthquake records worth while.

The moon, according to this hypothesis, would set off earthquakes by adding tidal stresses to already existing stresses from other sources, that have brought the rocks almost to the breaking point. That is, the lunar tides would act as triggers to the already-loaded earthquake gun.

Two kinds of tides are involved: the tidal pull upon the earth's rocky crust itself, which is probably the more important of the two; and the ordinary tides in the ocean, which at regular intervals pile millions of tons of water above stressed rocks in seacoast regions.

Science News Letter, January 28, 1939