

gerous of all disease germs is the variety which attacks blood corpuscles and destroys them. It is this kind which is responsible for a whole host of diseases, including scarlet fever, a kind of blood-poisoning that is particularly dangerous, a kind of meningitis, and a particularly virulent variety of peritonitis. Its chief characteristic is this breaking down of red blood corpuscles.

Most other germs do not have this ability, but it is possessed by a particularly resistant form of typhoid bacterium which Miss Taranik produces. She reports that she fed bacteriophage on typhoid bacteria, until most of the germs had been killed and "eaten."

Then she grew the few germs which remained, to find that they now had not only all their old virulence, but also this new ability of destroying red corpuscles.

Meanwhile, Dr. Sophie Spicer of the New York Board of Health, who specializes on the red-blood corpuscle destroyers, has done the exact opposite of Miss Taranik's experiments (*Journal of Bacteriology*, July). She exposed some of her erysipelas and scarlet fever organisms to high heat, high acidity, or small amounts of chemicals, and was able to make them less able to destroy red blood corpuscles.

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B. Dobson of the University of Oxford has a chapter on the upper atmosphere.

At Our Own Level

More strictly mundane matters, pertaining to the earth beneath and the waters that are under the earth, also receive their due meed of attention. A woman scientist on the Smithsonian staff, Dr. Florence E. Meier, gives a survey of those important but lowly and little noticed plants, the algae. Her colleague, Austin H. Clark, tells in some detail of swallow-tail butterflies. Another Smithsonian staff member, Dr. Ales Hrdlicka, relates his archaeological adventures in Alaska, which have opened up new vistas on the much-vexed question of man's antiquity in America.

That veterans are not necessarily too stiff-minded to be interested in new projects is well demonstrated by one of the most widely known of the "guest writers," the late Louis Blériot, one of the world's earliest flying men who died only about a month ago. Under the title of "Wings Over the Sea," he described approvingly the Armstrong scheme for establishing floating landing fields in the middle of the Atlantic.

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ASTRONOMY-GENERAL SCIENCE

Earth May Meet Rusty End, Princeton Astronomer Thinks

DEATH by rusting, rather than by freezing when the sun goes out, or in the apocalyptic fires of a Judgment Day, may possibly be the eventual fate of the earth. This suggestion is made by Prof. Henry Norris Russell, Princeton University astronomer, writing in the new annual report of the Smithsonian Institution.

Oxygen, as everybody now knows, is the real essence of the breath of life. If it were to be wholly removed from the atmosphere of this planet, we should all perish—mouse and man, toadstool and tree. Some rocks contain oxygen, locked up in chemical combination. Sometimes this combination can be cracked, as by volcanic action. Then the oxygen is turned loose, largely as carbon dioxide.

Carbon dioxide is still unbreathable, but it is eagerly seized upon by plants, which extract the carbon for food manufacture, and return half of the oxygen free. Thus the atmosphere is replenished.

But there are other rocks, very abundant, too, containing iron in the partly oxidized "ferrous" form. This ferrous oxide is thirsty for more oxygen, to complete its transformation into the "ferric" form. Ferric oxide is most familiar to us as common iron rust, but it is also responsible for most of the common red rocks and soils. Iron locked in this compound is permanently out of circulation.

Prof. Russell suggests that eventually the ferrous minerals will absorb all the

oxygen in the air, or yet to be released into the air, locking it all up in ferric minerals. The earth will then be without the oxygen-breathing life as we know it. This stage may perhaps already exist on Mars, the rust-red planet.

But it is not due to arrive here tomorrow or the next day. Perhaps in a billion years, says Prof. Russell.

Many Have Watched Skies

Reports from many watchers of the skies, whether of remote nebulae and stars, or of the nearer planets and satellites, or of the doings of the earth's own intimate envelope of gases which we call the atmosphere, are found in the new Smithsonian report.

Possibilities of long-range weather forecasting are discussed by the Smithsonian Institution's secretary, Dr. Charles G. Abbot, and by a British "guest writer," Sir Gilbert T. Walker. Dr. Abbot's approach to earth's weather is through the sun's radiation, a subject he has studied for many years. Sir Gilbert sticks to earth, finding correlations between weather today in one part of the earth and the weather some months hence in another place.

The sun's place among the stars is described by Dr. Walter S. Adams, and the surface of the moon by Dr. Frederick E. Wright, both of the Carnegie Institution of Washington. Cosmic rays are the subject of Dr. Thomas H. Johnson of the Bartol Research Foundation, of the Franklin Institute, and Dr. G. M.

OBITUARY

Marlen E. Pew

FOR many years Marlen E. Pew was an editor among editors—the pilot of the newspaperman's own journal, *Editor and Publisher*. For this reason his death on Oct. 15 will be felt in every newspaper office in the land. He was a champion of weak and strong alike in their rights to say what they thought without hindrance. Press freedom was a practical passion with him.

Another phase of Pew's journalistic career was not so well known. He was one of that band of scientists and newspaper men who serve as trustees of Science Service. For nine years he served as one of the three representatives of the journalistic profession on Science Service's board, and for most of that period he was a member of the executive committee of the board. He was a pioneer in urging expert, accurate and yet interesting reporting of science in the daily press. And by his counsel he contributed largely to Science Service's success.

Both scientific and newspaper worlds owed him thanks and will miss his constructive endeavor.

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