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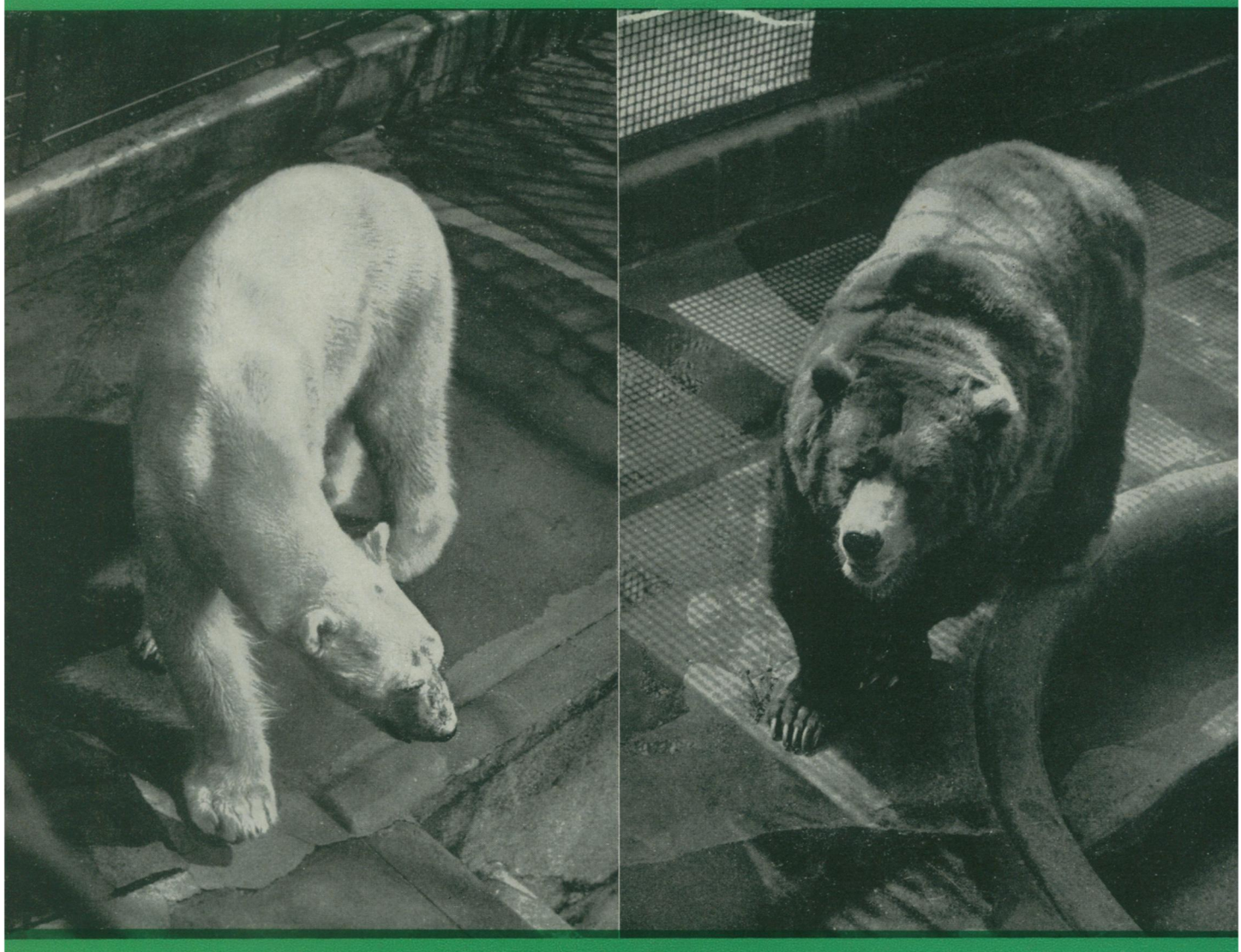
®

THE WEEKLY SUMMARY OF CURRENT SCIENCE



Climatic Effect?

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A SCIENCE SERVICE PUBLICATION

What General Electric people are saying . . .

C. H. LINDER

Mr. Linder is Vice President in charge of Engineering

". . . We are moving today, I believe, in industry and education, toward a common area of agreement on what constitutes the right kind of education. Industry, which in the past might rightly have been accused of sometimes taking a narrow view of the proper goals of education, is taking a broad-gauge view. We are increasingly recognizing the need for people who have had an education that has both variety and depth in engineering, science, and the humanities.

Most certainly in industry, particularly in our technical work, we need people who are educated, not just informed. Any attempt on the part of a secondary school, and more particularly a college or university, to give instruction in current engineering practice rather than a training in the basic principles is doomed to failure from the beginning if for no other reason than that technology is changing and shifting so rapidly.

With the increase in volume and complexity of our technology, the need for people in engineering and applied science with advanced degrees has become greater and, in my opinion, during the years that are immediately ahead our economy is going to require a continued increase in the percentage of our technical people with advanced degrees.

The role of the man trained in applied science is becoming of ever-increasing importance in engineering. In fact, it is my belief that many of the engineering curricula are going, during the coming years, to tend to include a larger and more significant element of training in applied science rather than in many of the design or engineering practice courses now included. Industry does not expect the secondary schools and colleges to create specialists in specific knowledge, but rather all-round well-trained people who have understanding of basic principles. As individuals find interest and challenge in specific areas the specialists we need will become available.

at the University of the State of N. Y. Albany

J. P. DITCHMAN

Mr. Ditchman is with the Lamp Division

". . . Light—fundamental to farm production—is becoming the key to farm-crop control. Scientific use of lighting promises more startling benefits for mankind than some other areas of technology that are much more publicized.

Although the relationship of light to life has long been known, only recently have we learned enough about the way light enters the life process to apply it commercially. Just a few applications have begun to multiply the productive capacity on the farms, but what has happened so far has convinced many scientists and businessmen that great things are ahead. Even the farmer is having difficulty maintaining his customary reserve.

Areas of hazard, formerly accepted as unavoidable, are on their way to becoming areas of control. For management of radiant energy in the interest of better crops and favorable market timing has begun.

As our experience broadens, we may well be prepared to extend what we know about familiar problems to the newer, less familiar ones. Most of us naturally think of lighting in terms of human uses. The lightmeter is calibrated for human seeing and film sensitivity. But in dealing with light for plants, animals, insects, fish, fowl, and game, we must think in terms of only the specific energy relevant to each.

In this vast field, there's much more to find out. Each day we learn how to make more and better food for the undernourished peoples of the world. Our gains in the past two decades have been tremendous. The future holds much promise.

G. E. Review

R. S. NEBLETT

Mr. Neblett is Manager—Marketing, Turbine Division

". . . The electrical industry today is producing twelve times as much power per year with but five times the fuel needed thirty-three years ago.

This improvement in fuel consumption has not resulted from the work of any one group, but rather from the united efforts of the manufacturers of turbine-generators, boilers, and auxiliaries; power plant designers; and, above all, the faith, daring, and enterprise of the owners of the power plants. Specifically the improvement may be credited to higher turbine-generator efficiency, to the increased pressures and temperatures at which power plants have been built, to the use of reheat and regenerative cycles, to the increase in unit sizes, to the improvement in component efficiencies, and to the improved operation of the plants themselves.

The pressure at which steam turbines have been operated has doubled at least every 12 years, and the temperature has increased over this 50-year period on almost a straight line at 12 F per year.

The economy with which power has been produced, that is the kilowatt-hour per pound of coal, has improved from 2 to 3 per cent per year over this period. This rate of improvement, as expected, has and will continue to slow down somewhat as time goes on.

Therefore, whether coal, oil, gas, or atomic energy is used as the fuel, or even if the heat of the sun shining down on a reflector is the heat source, I believe you will be using a turbine to convert such heat energy into electric energy for a good many years to come.

at the American Power Conference Chicago