DISCUSSION

NATURE'S MOVING PICTURE

IT is a fair question whether there is not something in our attitude toward photographic illustrations that makes us prone to let down exact standards. In scientific literature it is comparatively rare to find photographic reproductions of natural scenes accompanied by the full titles that they deserve. There is no system, and the standards of precision are lax. Even more is this true of general literature, but it is for science to set an example. An appeal is needed for more care and exactness in the titling of such photographs, and particularly for the definite assignment of each scene to its position in space and time.

One is apt to think of scenes as static and to lose sight of the fact that a photograph is a momentary and irreplaceable glimpse of nature's moving picture. If properly documented the photograph becomes a potentially important record of a stage in many dynamic processes. It depicts far more than the special point that the author desires illustrated, and the reader may be more interested in some other feature. To yield the full value with which every true scientist would wish to endow his illustration it must be titled with as great care as devoted to an important specimen. A first essential is that the reader be told where and when the scene transpired.

The publication of photographs in scientific papers is something of a luxury and only selected ones can be reproduced. Hence the more obligation to other sciences and to future generations to conserve all elements of value in the record. Authors and editors might well adopt as an axiom that a photograph is not worth publishing if it is not worth care in giving it a title of general and permanent utility. The statement of particulars as to the locality and time require no more space than the irrelevant or "show-window" verbiage in frequent use.

If one wished to indulge in muck-raking in scientific swamps, examples of offenses and offenders could be brought to light on every hand. The present writer might be the first conducted to the bar of justice. But to avoid personalities the following imaginary, though not exaggerated, example may be cited in illustration: "View looking along a street showing how the people live by making shoes." Here we have the useful information that it is a view and not a smell, that we are looking and not thinking, that it is a street and not a river, that the people are not dead yet, and that we are wrong if we think the industry depicted is merely a favorite national pastime. The reader must hunt through the text to find that the scene is probably somewhere in Tokyo—but possibly in Yokohama—and there is no indication as to whether it is before or after the time of any one of several earthquakes, or the time of a change in the building code, or the advent of a particular social influence. The same picture, now serving merely the passing thought of some geographer of Japanese industry, may contain useful information for present or future geologists, engineers, eugenicists and other scientists if given some such title as the following: *"Tokyo.* Shoemakers' quarter on Momachi Street; N.E. toward Matsu-bashi Bridge in distance. 10 A. M. April 18, 1922." A few months later, in the great earthquake, those people *are* dead, and that scene is gone forever. The event may be extreme, but it serves to emphasize the fact that changes are always in progress, and that unusually great ones may supervene at any moment.

The title above suggested is unnecessarily brief, and additional information could advantageously be given to add to the interest and value of the photograph. But it contains the main essentials, and shows that their presentation is not inconsistent with brevity. Given these particulars, many other relative facts could, if necessary, be reconstituted hundreds of years hence. But without these essentials the illustration may be more a burden to the literature than a boon.

Who can doubt that interest attaches to exactness in recording the time and place of photographs which may contribute to a graphic chronology of processes such as soil erosion, shore-line development, climatic change, or human history? The list of phenomena can be indefinitely extended to the point where practically all photographs would be included. It is to be hoped that a widening appreciation of this function of photography will bring a sense of purpose more broadly scientific than now prevails, not only in the choice and description of pictures for publication, but also in their preservation with full titles in collections and chronologic series.

ROBERT VAN V. ANDERSON

ALGIERS

THE CHEMICAL NATURE OF VITAMIN C

THE concentration of vitamin C from lemon juice has been continued in a manner similar to that recently described by Svirbely and King,[1] with the additional procedure of recrystallization from organic solvents (*e.g.,* ethyl acetate + petroleum ether). The recrystal-

[1] *Jour. Biol. Chem.,* 94: 483, 1931.