

me, since they purported to prove a biological cause of phenomena that would ordinarily have been attributed to sand-blast or water polish. I therefore made a trip in October 1947 to investigate.

Believing that the grease that Dr. Lang claims to have recovered from samples of rock chipped from the boulders might have come from something greasy such as a chisel, hammer, human hands, or the container in which the samples were transported, I took elaborate precautions to prevent contamination by grease of the specimens which I secured. I was skeptical of finding grease that was supposed to have been imprisoned in the rock for hundreds or thousands of years, but was hopeful of corroborating the biological explanation of the polished rocks.

Both of these groups of mountains receive their names from the relatively small intrusive masses of igneous rock which lie among much larger mountains of sedimentary rock strata which are, for the greater part, still horizontal. The USGS maps cannot differentiate between igneous and sedimentary mountains by contour alone. It is therefore surprising to come suddenly upon these jagged outcroppings among the terraced giants. "Hueco" is Spanish for "hollow" and refers to the window-like holes weathered in these rocks as well as to the caves formed by falling boulders. The name is now applied to the surrounding mountains as well. The Cornudas Mountains receive their name from "cornudo" or "bearing horns," which refers to the jagged summit of this small mountain. The Cornudas have weathered by the more conventional process of exfoliation.

Dr. Lang states that these intrusions are a porphyritic syenite injected into Permian strata. Weathering has freed iron which forms a coating over the surface of the rock, imparting a reddish-brown color.

The hydrous iron coating is only relatively smooth and cannot properly be termed "polished," but this type of surface is the smoothest to be found in the Huecos, either upon exposed surfaces or on the "hanging wall" of the caves where Dr. Lang reports having found it. He omits any mention of the Huecos in his second paper, although in a letter dated July 29, 1947, he stated: (At the Huecos) "you can see about everything that the Cornudas have to offer. . . ." Quoting from his second paper again, we find that the polished surfaces exist ". . . only on the southeast side of the Cornudas Mountain and only within a relatively narrow zone . . . at the base of the cliffs."

The Cornudas Mountain also has this black stain in places. The exfoliation gives the boulders a spotty appearance due to the scabby flaking. Search of the caves gave the same negative results as those of the Huecos.

I did, however, find patches of polished rock around the southeast edge of the Cornudas. The first examples noted tallied pretty well with Dr. Lang's statements. These polished corners and edges appeared as if they might have been caused by some agency other than geophysical, but each example was definitely correlated with an ancient watercourse. Especially noted were a couple of cases where the polishing was *underneath* a ledge extending over solid rock. Here the polishing could have been done only by the back-scratching of an animal the size of a pig. Finally, a solid boulder was found resting upon bedrock. The under slope of this boulder was polished clear to its contact with the bedrock.

Neither the igneous Huecos nor Cornudas are surrounded by a detrital apron, but rise from a fairly smooth surface. Dr. Lang states: "I was surprised to see the same type of polished surface on the sides of large outlying boulders . . . which had broken loose from the high cliffs and had tumbled out upon the surrounding apron. . . ." No such igneous boulders were seen, but instances of large fragments were noted which had rolled from the thicker strata of sedimentary rock of the surrounding mountains and had come to rest upon their detrital aprons. These chunks did not bear any polished surfaces.

It is my belief that the polished surfaces are nothing more than stream scour such as is found in many watercourses. In this instance the scouring was accomplished so long ago that only fragments of polished surface remain, and these for the most part on sheltered aspects or on the harder rocks. The rainfall at the time of polishing must have been much greater than at present.

Under the circumstances I do not think it necessary to carry out tests upon the specimens which I secured to search for grease which could not have accumulated in the manner stated by Dr. Lang.

CHAPMAN GRANT

2970 Sixth Avenue, San Diego, California

Books for Korea

The generous response to my article on "Science Education in Korea" (*Science*, January 9, p. 31) is most gratifying to me and is of inestimable value to the scientists of Korea. Since many donors of books, magazines, and equipment wish to send their gifts direct, the following address is given: Bureau of Textbooks, Department of Education, USAMGIK, A. P. O. 235, Unit 2, c/o Postmaster, San Francisco, California.

GLENN A. NOBLE

California State Polytechnic College

