

ward at Frog portage, 500 miles from its mouth, and running to the Nelson. Altogether, this is a most interesting and valuable contribution to the natural history of rivers.

THE PLATEAU OF WEST VIRGINIA.

A REPORT by M. R. Campbell and W. C. Mendenhall, dealing primarily with the 'Geologic section along the New and Kanawha rivers in West Virginia' (17th Ann. Rep. U. S. G. S., Pt. II., 1896, 479-511), includes a brief account of the physiography of the plateau thereabouts, with a number of excellent illustrations from well selected points of view. The river canyon, for such it truly is in spite of its occurrence east of the 100th meridian, is a full thousand feet deep, with forested walls descending at angles of 35° or 40° to a narrow valley floor. Where the river cuts down upon harder sandstones it has not yet developed a graded channel; elsewhere it has narrow belts of flood plain, now on this side, now on that. The canyon is sharply cut in a Tertiary peneplain that was well smoothed for a number of miles on either side of the river, but further away the upland is interrupted by knobs and ridges that rise distinctly above it. The dissection of the peneplain was permitted by a broad arching uplift late in Eocene time, its present altitude being 2,600 feet near Hinton, but of less amount to the southeast and northwest. The river fortunately maintained its antecedent course across the broad arch, and thus opened the important highway through a region that would otherwise be difficult to traverse. Agriculture has lost much in the conversion of the smooth peneplain into a dissected plateau, but mining has made corresponding gains in the exposure given to numerous coal beds on the valley sides.

CRATER LAKE AND MT. MAZAMA, OREGON.

AN account of Crater Lake, by Diller (Amer. Journ. Sci., III., 1897, 165-172)

notes that the Mazamas, a society of mountain-climbers of Portland, met at the lake last summer and gave their name to the vanished cone, now replaced by the superb caldera. So far as I know, this is the first instance of giving a special name to a vanished volcano, although the habit of naming extinct lakes is now common. Besides the evidence from truncated lava beds and headless valleys, which points so unequivocally to the loss of the Mazama cone, Diller adds evidence from glaciation. Not only are there moraines in the valleys two to five miles down from the river, but the topmost rocks of the rim are planed off and striated on the outer slope, while the cliffs turned toward the lake have angular and broken faces. The ice, therefore, came from a higher source than any now present, and, judging by the extent of the glaciation, Mazama was in the glacial period a rival of Shasta and Rainier for the supremacy of the range. It was still active during the presence of the ice; for on the northeastern rim a glaciated lava flow covers two layers of pumice separated by a sheet of rhyolite, and all these lie on an older glaciated surface. It is suggested that the heavy deposits of waste that occupy the lower radial valleys were washed down by floods that were caused by eruptions from the snow-capped mountain. The caldera is explained by the withdrawal of the deep lavas, followed by a great cave-in of the upper cone. An edition of the Crater lake topographical sheet, published by the Geological Survey, has been printed with a number of excellent photographic views on the back.

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CURRENT NOTES ON ANTHROPOLOGY.

MAN AND HIS ENVIRONMENT.

Two of the lectures at the National Museum, reprinted in the last Smithsonian Re-

port, are on man and his environment. Major J. W. Powell addressed his audience on the 'Relation of Primitive Peoples to Environment, Illustrated by American Examples,' while Professor O. T. Mason chose as his topic 'The Influence of Environment upon Human Industries or Arts.'

It is needless to say that both lectures are learned and instructive. Major Powell explains the origin of the activities of culture and their modification by the qualities and properties of external existences. He refers to those forms of environment which appear as institutions, opinions and languages, and weighs their values.

Professor Mason begins with man's cosmic environment and its influence on his industrial activities, and devotes his chief attention to the especially American environments and their association with aboriginal industries. The table which he presents in this connection is clear, full and suggestive.

There is no question of the high value of such thoughtful contributions as these to the science of man. But sometimes there is a danger that man himself may be lost to sight in the contemplation of his surroundings. Forty years ago Draper and Buckle saw nothing in man but a creature of environment; whereas, to-day, the highest note of anthropologic science is to chant the victory of man over his environment by the powers of his psychical nature.

SLAVERY OF THE AMERICAN INDIANS.

IN the study of native American ethnography the question of human slavery has important bearings. Before the discovery, it prevailed in Mexico and northern South America, perhaps on the northwest coast. The Spanish adventurers did not hesitate a moment to enslave the Indians, but neither the monarchs of Spain nor the Catholic clergy authorized such proceedings. The latter, indeed, notably Father Montesinos and the famous Las Casas,

protested against it in the strongest terms, as has been again shown by Dr. Marc F. Vallette, in his 'Studies in American History.'

An article on 'Canadian Indian Slavery in the Eighteenth Century,' in the *Proceedings* of the Canadian Institute, February, 1897, by Dr. James B. Hamilton, proves that Indian slaves were quite numerous there until within the present century, and, according to the Abbé Tanguay, were found also among the Catholic population. They bore the name *Panis*, that is, Pawnees; as it seems that members of this tribe were captured by the Algonkins and sold to the early traders, whence all enslaved Indians came to be so called.

None of the northern tribes, however, was successfully reduced to a state of bondage, and this accounts largely for their destruction as a race.

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NOTES ON INORGANIC CHEMISTRY.

AT the conversazione of the Royal Society, May 19th, among interesting exhibits was one by C. T. Heycock and F. H. Neville of a curious alloy of silver and zinc, "which would have warmed the hearts of the old-time alchemists." This alloy is of the ordinary color of silver, but when warmed up to 300° C. and then suddenly cooled it becomes the color of copper. On reheating and cooling slowly it resumes its original color. The same effect is produced by heating in air, in hydrogen or in a vacuum.

THE *Chemical News* quotes from the Sanitary Chronicles of the parish of St. Marylebone, for the month ending March 31, 1897, the reports of work done by Dr. Winter Blythe on the disinfecting properties of formaldehyde, commonly known in solution as formalin. One part in ten thousand suf-