of certain funguses that may be applied to economic uses for which some of the true fibers are employed.

In the portion of the paper which followed, the different forms of fibers were defined in detail and examples given from the list of well-known commercial and native or aboriginal species. It is the consideration of these useful native fibers that makes it possible to enumerate a list of a thousand species of fibrous plants, while the world's commercial fibers would hardly reach a total of fifty species. The native or aboriginal forms are interesting; our museums are filled with manufactures from them, and any scheme of systematic classification which omits them is faulty and imperfect.

CURRENT NOTES ON ANTHROPOLOGY.

PIGMENTATION OF THE SKIN.

M. Breul, in an inaugural thesis reviewed in *L'Anthropologie*, reports some new observations on the pigmentation of the human skin.

The colors of the different races depend upon this pigment in the epidermis, especially in its deeper strata. Breul finds the coloring matter in the interior of the epithelial cells, while even in the negro the intercellular spaces are white. The pigment itself may be quite black, or of any shade up to a light yellow. It may be confined to the nucleolus, or extend over the cell. A close examination shows that it is distributed in patches over the skin, between them the tissue being colorless. This is true even of the black races, although in them the patches are close together and may not be discernible unless the skin be stretched.

This distribution of the coloring matter is the same in all races, and its actual amount is probably the same, the difference in hue resulting from the darker or lighter character of the pigmentary grains.

HOLMES' RESEARCHES IN MEXICO.

The second part of the 'Archæological Studies' of Professor William H. Holmes (for a notice of the first part, see Science, February 21, 1896) is devoted to the 'Monuments of Chiapas, Oaxaca and the the Valley of Mexico.' It is a most attractive monograph, based on original personal studies, and containing nearly forty full-page plates, panoramic views and numerous text illustrations. The ruins described are those of Palenque, Monte Alban (in Oaxaca), Mitla and San Juan Teotihuacan. The volume closes with a series of 'Studies of Ancient Mexican Sculpture,' referring to tablets, yokes, figures and carved shells.

The text is full of new suggestions and comparisons, as well as of facts. The architectural elements of the various sites are analyzed and compared, and the sources from which the materials were obtained were carefully sought out. Nowhere was any evidence found of the use of metals, or a condition of the arts above that known to have existed at the discovery, although the stately monuments of Oaxaca and Teotihuacan testify to an astonishing concentration of effort for prolonged periods. The remains in Mexico are more magnificent in dimensions, but on the whole less artistic than those of Yucatan or Chiapas.

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NOTES ON INORGANIC CHEMISTRY.

In the last *Comptes Rendus* a new atomic weight determination of cerium is described by Wyrouboff and Verneuil. The element was obtained in a state of great purity, and the determinations made by converting the sulfate into the oxid by heat. The atomic weight is given at 92.7, but this is on the supposition that the oxid obtained is Ce_3O_4. It is ordinarily considered that the formula of this oxid is CeO_2, which would

give an atomic weight of 139.05, or about one unit lower than the best previous determination. According to this last weight, cerium is a member of the first series of Mendeleff's fourth group, and to this the oxid CeO_2 corresponds. It is true that many of the properties of cerium do not agree well with this position, but the atomic weight of 92.7 can hardly be brought into harmony with the periodic system, as there is no vacant place between zirconium (90.4) in the fourth group and columbium (93.7) in the fifth group.

E. CHUARD, in the *Comptes Rendus*, suggests the use of calcium carbid as a phylloxericide. The presence of phosphorus in the carbid is advantageous, as the phosphocarbid possesses exceptionally powerful insecticidal properties, probably owing to the generation of acetylene rich in phosphin, or possibly containing a phosphorus-carbon compound.

A RECENT number of *Nature* contains a notice, taken from the Journal of the Russian Physical and Chemical Society, of the death of Dr. Véra Bogdanovskaya-Popoff, who was killed on May 8th in her laboratory at Izhora by an explosion. She had been working to obtain a compound of carbon and phosphorus, analogous to prussic acid, but with phosphorus in the place of nitrogen, and it was while engaged in this dangerous investigation that the fatal explosion occurred.

IN a paper read before the Royal Society on June 17th, W. J. Russell describes the action excited by certain metals and other substances on a photographic plate. Experiments showed that uranium salts and oxids act slowly on photographic plates in the dark; this property is shared by metallic zinc, cadmium and magnesium, as well as many other substances, as copal, strawboard, wood, some kinds of paper. This action was at first supposed to be contact action, and then it was thought that in the case of metals minute emanations might be given off. This, however, is negatived by the fact that zinc acts equally well when not in contact with the plate, and even when completely insulated by a coating of varnish.

THE June Journal of the Chemical Society contains a paper by Dr. John Ball on the circumstances which affect the rate of solution of zinc in dilute acids, with especial reference to the influence of dissolved metallic salts. It is a familiar fact that the action of pure zinc on sulfuric acid is very slow, but may be greatly accelerated by the addition of certain metallic salts. Platinic chloride is generally used for this purpose, and less frequently a cobalt salt. Dr. Ball finds that with sulfuric acid, magnesium or aluminum sulfate have no accelerating influence, that of chromium, manganese and iron is very slight, silver is greater, while cobalt, copper and nickel sulfates have great influence and in this order. The relative maximum velocity of solution, taking the velocity of pure sulfuric acid as unity, is for the addition of silver sulfate, 9; cobalt sulfate, 18; copper sulfate, 21, and nickel sulfate, 38. In the case of solution in hydrochloric acid the addition of manganese, lead or tin chloride had but little influence, copper somewhat greater (11), while the relative velocities for cobalt, gold, platinum and nickel were respectively 31, 39, 42 and 45. It will be seen that with both acids the addition of a nickel salt causes the greatest acceleration, and the relative order of the different methods is approximately the same, except that copper has much less influence on the solution in hydrochloric acid. Dr. Ball presents no theory of the reaction, but it is a fact worthy of note that in the case of the two metals having most decided influence, nickel and cobalt, it could not be detected that any metal was deposited on the zinc, thus forming a couple. J. L. H.