the observer ten feet or more from the screen there is no inferiority in the sensation he receives. In the case of ordinary stereoscopic views the reality is lessened by the small size; an ordinary view looks like a view into a model, but a view in life-size is a real matter. Curiously enough, a view larger than life-size is singularly impressive and fascinating.

The advantage is surely very great in getting a whole museum of statues or of natural history specimens, in keeping the collection in a single case, and in being able to show them at any moment by merely turning on the switches or stop-cocks of a double lantern.

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POT-HOLE VS. REMOLINO.

TO THE EDITOR OF SCIENCE: Something more than formal advocacy of a word is usually necessary for its adoption; it must survive by its own fitness. In so far, however, as individual recommendations may have weight I may say that I am in favor of Mr. O. H. Hershey's suggestion that the word remolino be used in place of pot-hole.

The objections to the use of the word remolino raised by Mr. F. F. Hilder in SCIENCE of July 21st do not seem to me to be well founded. Is it true that "the term pot-hole expresses the object to which it is applied more correctly than the Spanish word?" While the term may have been applied on account of the shape of the holes, it is more likely that it gained its use from a common belief that the holes were excavated by the Indians for cooking purposes. If this be the case the word pot-hole is more misleading than remolino, for the latter, at least, gives a correct suggestion as to the way in which the holes have been formed.

Again, in which sense can it be said that the word remolino is incorrectly used by the people of Colombia? Are such words as villain, charity and many others incorrectly used by us because we do not employ them in their original significance? Had the compiler of the Spanish dictionary in which Mr. Hilder sought the definition of the word remolino known of its use by the people of Colombia as a name for a rounded rock cavity made by an eddying current of water he would probably and very properly have given that in his list. Would the critic of nomenclature have then thought it incorrectly used?

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NOTES ON INORGANIC CHEMISTRY.

AN interesting paper on the cause of color in minerals by L. Wöhler and K. v. Kraatz-Koschlau has appeared in *Tschermak's Mitteilungen*. While many minerals are colored by organic substances, the quantity is too small for identification. In several cases, as in zircon and smoky quartz, the presence of nitrogen was proved, and from bases in celestine from Gembeck three different double platinum salts were obtained. Contrary to the view of Nabl, the coloration of amethyst is not due to ferric thiocyanate, as no sulfur is present.

The difficulty of identifying the inorganic coloring materials of minerals is no less than that of organic; indeed, it was found necessary to use synthetic processes exclusively. Chromium is the cause of color in many minerals. In the case of chrome garnets, chrome spinel, chrome diopside this is apparent, but is no less true in red and violet spinel, ruby, sapphire, oriental amethyst, green zircon and topaz from Villarica. It was not found possible to detect the chromium in ruby and sapphire, but on fusing alumina and barium fluorid with one-fifth per cent. of potassium bichromate the crystals of alumina obtained were chiefly colorless, but red, blue, yellow and green crystals were also found. From the color differences it is probable that the chromium is present in different oxydation stages. It was not found possible to color alumina by iron, even at very high temperature. In the Villarica topaz no trace of manganese was present. Wulfenite and vanadinite are also probably colored with chromium, though organic matter is also present. While titanic acid, and hence pure rutile, is colorless, the sesqui-oxid gives a dark brown color; hence the color of ordinary rutile is due to partial reduction of the titanic acid, a red tint being in part due to the presence of iron. The color of chrysoprase is due to the presence of some organic compound of nickel. The color of the yellow barite of Cumberland is caused by a hydrated ferric oxid. While some of the conclusions of the article may not be as certain as the authors believe, it is one of the best worked-out papers which has appeared on the subject.

A CAREFUL study of the precipitated sulfids of antimony is given by Otto Klenker in the *Journal für praktische Chemie.* The precipitate by hydrogen sulfid from solutions of quinquivalent antimony varies in color from light or dark brown to red and orange; from acid or neutral solutions it is flaky, settles easily and when dry is electric and not hygroscopic; from alkaline solutions it is fine and does not settle, when dry is very hygroscopic but not electric. Its composition is always variable, being a mixture of Sb_2S_5, Sb_2S_3 and free sulfur. From a strongly alkaline solution no Sb_2S_5 is precipitated, but this increases until a maximum of Sb_2S_5 (over 95%) is present when the solution contains 12% free hydrochloric acid. If the acid increases above this the amount of Sb_2S_5 diminishes owing to its solubility in strong hydrochloric acid. In a hot acid solution no Sb_2S_5 is formed, differing thus from quinquivalent arsenic solutions which are completely precipitated as As_2S_5 from hot acid solutions. When the mixed precipitate of antimony sulfids and sulfur is dissolved in caustic soda the reaction for trivalent antimony is not given with ammoniatal silver solution, as the alkaline solution of mixed Sb_2S_3 and S_2 acts as Sb_2S_5. On the other hand, if the free sulfur is previously removed with carbon bisulfid the reaction is obtained. Sb_2S_5 is, however, not decomposed appreciably under 100° by carbon bisulfid or any other solvent of sulfur.

PAUL BOURCET has proposed in the *Comptes Rendus* a new method for the estimation of iodin in organic matter, which consists in fusing the substance with caustic potash, neutralizing with sulfuric acid and freeing from other salts by repeated precipitations with alcohol. The iodin is liberated in the presence of carbon bisulfid by nitrous acid vapors and estimated colorimetrically. The quantity of iodin in a large number of different kinds of fish was determined and found to vary from nearly two milligrams per kilo in *clupea harengus*, and 1.4 mg. in *salmo salar*, down to 0.3 mg. in *merlangus vulgaris*, *scomber scombrus*, *esox lucius*, 0.2 mg. in *raia clavata*, and 0.1 mg. in *truita marina.*

IN the course of investigations on the effect of low temperatures upon steel it has been found by F. Ormond that nickel steels, if non-magnetic to begin with, acquire magnetic properties after five minute's immersion in liquid air. If most of the nickel is replaced by manganese the same is true. Carbon steel with 1.4 to 1.6 per cent. carbon, after being immersed in liquid air and then brought back to ordinary temperature, is found to be profoundly modified. There is an increase in magnetic permeability and in permanent magnetism, and the density is decreased from 7.798 to 7.692. The polish upon a surface disappears.

J. L. H.

BOTANICAL NOTES.

SPRUCE AND PINE FORESTS OF WEST VIRGINIA.

IN an interesting bulletin (No. 56) of the West Virginia Experiment Station, Professor Hopkins reports the results of an investigation of the cause of the unhealthy conditions of the spruce and pine of that State, and incidently gives us a good deal of information regarding its spruce and pine forests. The spruce (apparently *Picea rubens* Sargent) is a tall, straight tree, two to three feet in diameter, and more than one hundred feet in height. It is abundant at and above 3,000 feet above sea level, and is seldom found below 2,300 feet, and reaches its highest development in the region about the headwaters of the Cheat, Valley, Greenbrier, Elk and Gauley Rivers. In this region it commonly grows on a soil which is described as "little else than a mass of broken stones, which is literally filled with water at all seasons of the year." After studying the problem carefully, Professor Hopkins concludes that the area originally covered by spruce forests included all of the higher elevations of the Appalachian range that rise above 2,400 feet, or, in other words, about 2,000,000 acres, and on this area 'one-half of the timber was probably spruce.' The author discusses the reduction of this original forest area, and concludes that "the