implements, (5) bone implements, (6) clam shells, (7) ashes and charcoal.

B. Objects which do not certainly bear testimony to human occupancy: (8) Flint flakes, (9) animal bones, (10) sandstone fragments, (11) polished rocks.

It will be obviously impossible in a paper of this kind to do more than simply mention these objects. All detailed study must be reserved for those more skilled in the discussion of such data.

*Human Bones.*—Fragments of at least four human skeletons were discovered in the ashes. One of these skeletons, including a skull in a good state of preservation, was nearly complete.

*Pottery.*—Fragments of at least six vessels were found, including one handle. Several of the fragments were decorated.

*Flint Implements.*—Chipped flint implements are quite common, more than one hundred specimens having been found. These implements include arrow points, drills, spear points, knives, scrapers, etc., as well as cores from which knives were obtained. The flint is in most cases similar to that found on the hills near by, but in some cases it is believed to have been carried for considerable distances.

*Stone Implements.*—One large stone mortar was found, as well as hammer stones, a stone hatchet and stones used for sharpening implements.

*Bone Implements.*—Several awls, needles, scrapers and other implements fashioned from bone were secured.

*Clam Shells.*—A number of shells of *Unio* were taken from the ashes. At least two genera are represented, both probably being found at the present time in Sugar Creek.

*Ashes and Charcoal.*—As stated above, the floor of the cave was covered to the depth of some three feet with wood ashes. A conservative estimate would place the amount of ashes at 5,000 cubic feet. Intermingled with the ashes was a large amount of charcoal varying in size from small specks to lumps the size of a walnut. It was in the ashes that the other objects mentioned in this paper were found.

*Flint Flakes.*—Thousands of flakes of flint were found in the ashes and embedded in the stalagmites. This flint varies in size from small slivers to pieces the size of the hand. Careful search was made along the walls and roof of the cave to detect the presence of flint in the limestone, but without success. There is plenty of flint at a horizon fifty feet higher, but so far as known there is none in the strata in which the cave is located. For this reason it is believed that the flint was carried into the cave.

*Animal Bones.*—Great numbers of bones of various animals, including mammals, birds and turtles, were found among the ashes and embedded in the stalagmites. These bones have not yet been identified but it is probable that a large part of them are those of living species.

*Sandstone Fragments.*—A number of small pieces of unshaped sandstone were obtained. The nearest point, so far as known, where sandstone outcrops is four miles distant from the cave, in the vicinity of White Rock. It seems probable that the sandstone has been carried into the cave.

*Polished Limestone.*—A number of flat limestone slabs that have fallen from above, both just within the cave's mouth and particularly along the foot of the bluff a few feet distant, have been polished or glazed apparently by the friction or contact of greasy bodies. These polished rocks are invariably in such a position as most readily to serve as seats or reclining places for the inhabitants of the cave. There are more than twenty of these slabs that exhibit this peculiar structure.

CHARLES NEWTON GOULD.
THE UNIVERSITY OF OKLAHOMA,
May 16, 1903.

## NEW TERMS IN CHEMISTRY.

IT may not be out of place to call attention to several new terms which have recently been submitted to the English-speaking scientific world and to discuss their merits. However reluctant we may be, in view of possible misunderstandings, to accept new words and phrases, the need of them is often unquestionable, and it only remains for us to determine the proper forms which the words shall take.

The discoverer of a new idea can with comparative ease decide how it shall be expressed in his own language, but when the new word or phrase is translated into another language and there is no one to dictate its form, confusion is very liable to result.

The following terms appear to be slowly creeping in from the German in one dress or another, and, whatever forms the words may have, already assumed in English, it may safely be said that the writers and translators who have used them are more desirous that there should be correctness and uniformity than that personal preferences should prevail.

*Mol,* or *mole.*—'Gram-molecule' has become so common a word that a contraction of it seems desirable. Ostwald (in German) took the familiar abbreviation of *Molekül,* or *Molekel,* viz., *Mol.,* dropped the period and made it an independent word as a substitute for *Grammmolekül.* The term has already appeared as 'mol' in at least four English texts (three American and one British); Ostwald's translator, however, renders it 'mole.'

The choice between the two words may become easier after a consideration of their merits. 'Mol' has (1) the same spelling as the German original; (2) it is a new word and does not already have several meanings, as does 'mole.' On the other hand, it may be said for 'mole' that (1) it is pronounced like the German original and (2) is its proper and euphonious English equivalent, especially if it is premised that the word is actually of Latin derivation (from *moles*) and that there is no necessity of conforming precisely to the German spelling. Further, (3) 'mol,' if spelled as pronounced, would be 'moll.' Moreover, (4) 'mol' is easily confused with 'mol.,' the common abbreviation of 'molecule.' Inasmuch (5) as 'molecule' is a diminutive of *moles,* or 'mole,' the latter term might very properly be used for 'gram-molecule.' (6) The counter-argument that 'mole' is already in the dictionary with four or five meanings may be discounted by those who regard the addition of one to five as of no great consequence. In the light of the above arguments 'mole' seems to have the advantage, though neither word is entirely satisfactory. Perhaps 'grammole' would be better than either; it has almost every qualification except extreme brevity.

*Molar.*—We undoubtedly need a word to characterize a solution standardized on a molecular basis (instead of on the usual analytically equivalent basis) and 'gram-molecular,' as well as 'molecular-equivalent,' is too long. 'Molar' sounds well. The principal objection to it is that it already has a meaning in physical science 'opposed to *molecular*'!

If 'molar' is to become the contraction of 'gram-molecular,' 'mole' would be the analogous contraction of 'gram-molecule.'

*Metal-ammonia* compounds. It is rather difficult for the beginner to understand the German terminology of these interesting compounds, but the English texts, because of lack of uniformity, make the case almost hopeless. One popular text misleads us at the start by calling them 'metallammonium compounds.' English investigators in this field would do well to aid us in securing uniformity.

*Hydroperoxide.*—An abbreviation of 'hydrogen peroxide.' That *Hydroperoxyd* has much advantage over *Wasserstoffsuperoxyd* is readily seen, but just why we should drop three letters from 'hydrogen peroxide' is not so clear. It should be borne in mind that the *per* in 'hydrogen peroxide' is derived from an unreliable nomenclature. In view of the possibility of the existence of a still higher oxide of hydrogen, either (HO) or $HO_{mn}$, 'hydrogen dioxide' seems to be the only safe name for the compound $H_2O_2$.

*Activate.*—There is probably little objection to the revival of this practically obsolete word to express an effect on a substance by which it is rendered more active chemically.

H. C. Cooper.

Syracuse University.

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## *CURRENT NOTES ON METEOROLOGY.*

### CLIMATE AND CROPS IN THE ARGENTINE REPUBLIC.

'The Economic Geography of the Argentine Republic' is discussed by J. Russell Smith in the *Bulletin of the American Geographical Society* for April (pp. 130–143),