Hindustani, under the form *Loba*, for *Phaseolus vulgaris*." This name seems to be clearly referable to the Greek. It has not been traced earlier than to Jahia ebn Serapion—an Arabian physician of the 9th or 10th century—whose work "de Simplicibus" compiled chiefly from Dioscorides and Galen, was translated into Latin in the 15th century.* In a chapter (lxxxi) on "*Lubia*, i. e., Faseoli," he quotes from Dioscorides, the description of *Smilax hortensis* (*κηπαία σμίλαξ*) "whose seeds some call *Lobia*"; and it is evident that the name *Lubia* (as it was transliterated from the Arabic text by the translator) was *transferred to the Arabic* from the Greek of Dioscorides. It is probable, to say the least, that it has been rightly appropriated to *Dolichos Lubia* Forskal (De Candolle, 278), rather than to any species of *Phaseolus*.

The length to which our annotations have extended forbids all notice of the third part of this book. This, however, is very brief. It contains a tabulation of the plants of cultivation, and of the results of the preceding discussion of them; also an article on the regions in which the principal species have originated or have been brought into cultivation, in which it is stated that of the 247 species under investigation the Old World has furnished 199, and America 45, leaving three which are doubtful in this regard; and the extreme poverty of the southern hemisphere beyond the tropics is a striking feature. An article on the number and nature of species cultivated at different periods is noteworthy. So, also, is the enumeration of the cultivated plants which are unknown in a wild state; from which it is gathered that 27 species have never been found wild by any botanist, 27 more are doubtful in this respect, while 193 are of recognizable origin.

Of the "Reflexions diverses," at the close, we note only the final one, that "In the history of cultivated plants, I have found no indication of communications between the inhabitants of the Old and New World anterior to the discovery of America by Columbus. The Scandinavians, who had carried their expeditions to the northern United States, and the Basques of the Middle Ages, who had extended their whaling voyages perhaps to America, would appear not to have transported a single cultivated species. The Gulf-stream has equally been without effect. Between America and Asia two transportations may have been effected, one by man (the *Batatas*), the other either by man or by the sea (Cocoa-nut)."

Perhaps the Banana should be ranked with the Sweet Potato in this regard. And we may merely conjecture that the Purslain came to our eastern coast with the Scandinavians or the Basques.

* Milan, 1473, and Venice, 1479; but better known to botanists of the 16th century in the Strasburg edition of 1531, edited by Otho Brunfels.



ART. XVIII.—*On the Supposed Human Foot-prints recently found in Nevada;* by O. C. MARSH.*

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DURING the past summer, various accounts have been published of the discovery of human foot-prints in sandstone near Carson, Nevada. The locality is in the yard of the State prison, and the tracks were uncovered in quarrying stone for building purposes. Many different kinds of tracks were found, some of which were made by an animal allied to the elephant; some resembled those of the horse and the deer; others were apparently made by a wolf. There were also tracks made by large birds.

1.

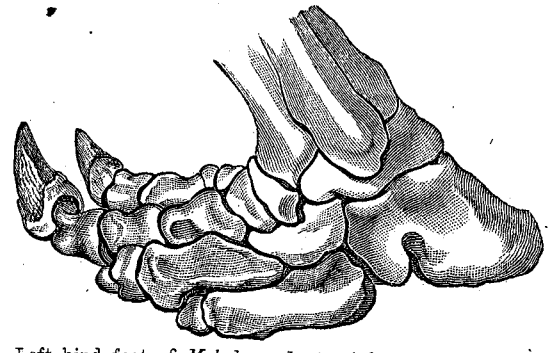

Figure 1.—Left hind foot of *Mylodon robustus* (after Owen). One-sixth natural size.

2.

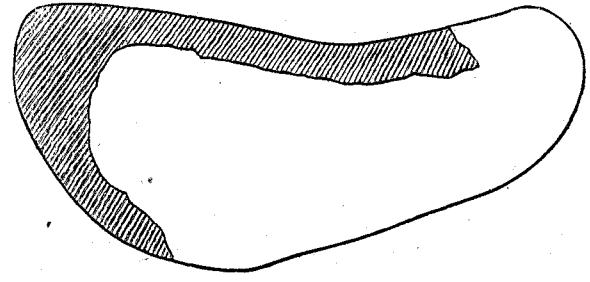

Figure 2.—Left foot-print at Carson (after Harkness). One-sixth natural size.

The foot-prints occur in series, and are all nearly in the same horizon. Some of the smaller tracks are sharp and distinct, but most of the impressions are indefinite in outline, owing apparently to the fact that the exact surface on which they were made is not usually exposed.

* Abstract of a paper read before the National Academy of Sciences, at New York, November 17th, 1882.

The supposed human foot-prints are in six series, each with alternate right and left tracks. The stride is from two and one-half to over three feet in extent. The individual foot-prints are from eighteen to twenty inches in length, and about eight inches wide. The distance between the line of right hand and left hand tracks, or the straddle, is eighteen to nineteen inches.

The form and general appearance of the supposed human tracks is shown in figure 2, which is a reduced copy of one of the impressions represented by Dr. W. H. Harkness, in his paper before the California Academy of Sciences, August 7th, 1882. The shaded portion was restored by him from other foot-prints of the series. A copy of this impression was given, also, by Professor Joseph LeConte, in his paper before the same society, August 27th, 1882.

The size of these foot-prints, and especially the width between the right and left series are strong evidence that they were not made by men, as has been so generally supposed.

A more probable explanation is that the impressions are the tracks of a large Sloth, either *Mylodon* or *Morotherium*, remains of which have been found in essentially the same horizon. In support of this view it may be said that the foot-prints are almost exactly what these animals would make, if the hind feet covered the impressions of those in front. In size, in stride, and in width between the right and left series of impressions, the foot-prints agree closely with what we should expect *Mylodon* or *Morotherium* to make. In figure 1, the bones of the left hind foot of a species of *Mylodon* are represented, the figure being reduced to the same scale as the accompanying cut, figure 2, of one of the supposed human foot-prints.

The geological horizon of these interesting foot-prints is near the junction of the Pliocene and Quaternary. The evidence, at present, appears to point to the Equus beds of the upper Pliocene as the nearest equivalent.

Since the above communication was read, the writer has had an opportunity of examining photographs and casts of the Carson foot-prints, and is confirmed in his opinion that the supposed human tracks were made by large Edentates. The important fact has recently been determined that some of these tracks show impressions of the fore feet. The latter are somewhat outside of the large foot-prints, as would naturally be the case, if the animal changed its course.



# SCIENTIFIC INTELLIGENCE.

## I. Chemistry and Physics.

1. *Contributions from the Chemical Laboratory of Harvard College during the Academical Year* 1882–83.—Professor C. Loring Jackson and Mr. A. E. Menke in continuation of their work on turmeric have prepared the mono and di acetcurcumin, and shown that the rich purple substance formed by the action of phosphoric oxychloride on curcumin has a composition which differs at most but very slightly from curcumin and is probably an anhydride formed by removing one molecule of water from two of curcumin. By oxidizing turmerol with a solution of potassic permanganate they have obtained two acids, $C_{11}H_{14}O_2$ and a second a melting at 221° C. which has probably the composition $C_{10}H_{16}O_4$. The first of these acids throws some light on the position of the hydroxyl group in the molecule of turmerol.

Professor Jackson and his assistant have also studied the action of phosphorous chloride on aniline and have shown that the product first formed is probably $C_6H_5NHPCl_2$, although they have not succeeded in isolating this body. Upon heating the crude product a material was obtained which yielded on treatment with alcohol $(C_6H_5NH)_2POH$. This last substance has been studied carefully and its composition indicates that the intermediate product was $(C_6H_5NH)_2PCl$.

An investigation of the constitution of camphor undertaken by the same chemists failed so far as its main object was concerned, but it led them to a method of preparing borneol from camphor much simpler, easier and giving a larger yield than either of those now in use. This method consists in dissolving camphor in common alcohol and adding sodium. One crystallization from alcohol is sufficient to give pure borneol, and the yield is essentially that demanded by theory.

Professor Jackson and Mr. G. T. Hartshorn have studied the sulphur derivatives of parabrombenzyl, including the sulphide, sulphone, mercaptan, mercaptide and disulphide of this radical; as well as the potassium, calcium, barium and lead salts of the corresponding sulpho-acid and also the chloride of its radical. Descriptions and analyses of these several products will be found in a paper recently published by these authors in the Proceedings of the American Academy of Arts and Sciences.

In order to obtain data for determining the constitution of pyromucic acid, Professor H. B. Hill has begun the study of its substitution products. Thus far he has examined only a monobrompyromucic acid melting at 184°–185° C. While under certain conditions oxidizing agents, such as nitric acid or bromine water, convert this substance into fumaric and carbonic acids, it also appears that under slightly different conditions the action of bromine leads to the formation of dibromsuccinic acid and isodibromsuccinic acid, besides a neutral body, dibromfurfuran-