

the air or to change of position by the rolling of the ship is that in the trunks. As the cargo is in contact with the skin of the vessel, its temperature will never differ materially from that of the sea. As the bulkheads are water-tight, or rather petroleum-tight, the vessel is practically unsinkable; and, as there is scarcely any woodwork about her, the risk of fire is reduced to a minimum. The Gluckauf is provided with powerful pumping appliances, so that her cargo can be loaded or discharged in a single day, which is another very economical feature as compared with the slow process of handling casks or cases. Altogether the new type of steamer admits of a great reduction in the cost of oil transportation; the only drawback to the system being that such a vessel can get no return cargo, being compelled to make one-half of every round trip in water ballast. But this is not a very important point, as most of the vessels at present in the oil-trade between this port and Europe bring back nothing but empty oil-casks.

THE GUADALAJARA POTTERY.

IN a recent number of *Science* the editor, in commenting upon the anthropological section of the American association, says, "Its popularity is at once a good and an evil; its good consists in attracting general attention to the variety and importance of the problems connected with man; its evil, in that this variety and interest are apt to give admittance to papers of too vague and pointless a character, which have no place in the sciences, and neither bring nor suggest any thing new." It may be suggested, in connection with these facts, and bearing upon them, that in a meeting of that character, as well as in the ordinary routine of scientific work, two distinct classes of men are working together, — the collector and the systematizer. From each of these an increased degree of accuracy, as well as greater comprehensiveness, is demanded by the steady advance of science. If we are to reconstruct the history of the past from a study of the present, it is especially necessary that the collector understand the demands resulting from previous researches. Nowhere in the world is better systematizing work in anthropology done than in the United States; and, in order to bring about the reform hinted at above, it is only necessary that the men who take the field as collectors understand the wants of those in charge of our great museums. Officers of the army, navy, and civil service, members of the consular and diplomatic corps, missionaries, and private citizens, show the greatest willingness to enlarge the collections in our museums; and

the information they desire as to how their work shall be most effectively should be furnished them.

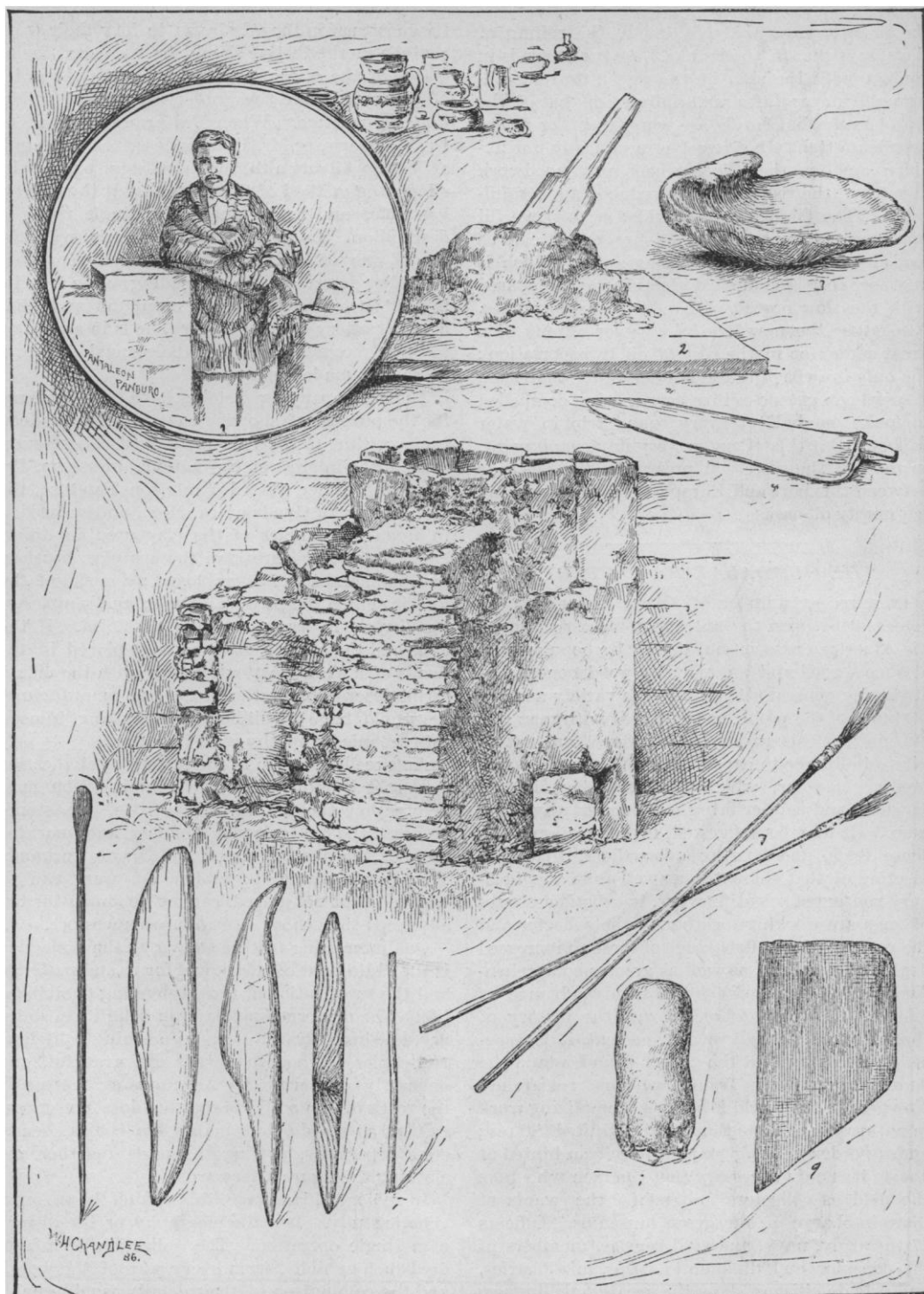
One of the rules prevailing under the new order of things is, make your observations and collections exhaustive. When Professor Putnam, or Dr. Matthews, or Mr. Holmes describes a mound, a Navajo silversmith, or a savage potter, he adopts the method of the anatomist at the dissecting-table, and leaves out not a single item of description. In fact, a good mechanic, with the aid of one of their monographs, can reproduce the thing described. After reading such a description, if one opens a grave or a mound and finds certain pottery or rude jewelry, he is in a position to begin reconstructing the whole social fabric of those who made them.

The accompanying sketches have been prepared for the purpose of showing the results of collecting according to the rule mentioned. Last summer, in the interest of the national museum, Dr. Edward Palmer visited Panteleon Panduro, the noted potter of Guadalajara, Mex., and succeeded in procuring samples of the clay used, in different stages of preparation; the spatulas, brushes, polishers, and scrapers employed; a model of the kiln in which the pottery is fired; and samples of handiwork in various stages of finish. If the tools and the objects collected were placed in the hands of a skilled potter, together with the manuscript description of the process of manufacture, he would have no difficulty in putting himself into technic sympathy with Panduro.

An excellent lesson in the history of civilization is taught by this particular exhibit. You have before you the hand-worked paste, the stone-polisher, the rude wooden shaping and marking tools of the ancient Aztec and Maya workman. The open furnace, in which the ware can be hardened but not glazed, cannot be much further advanced than those of Panduro's ancestors.

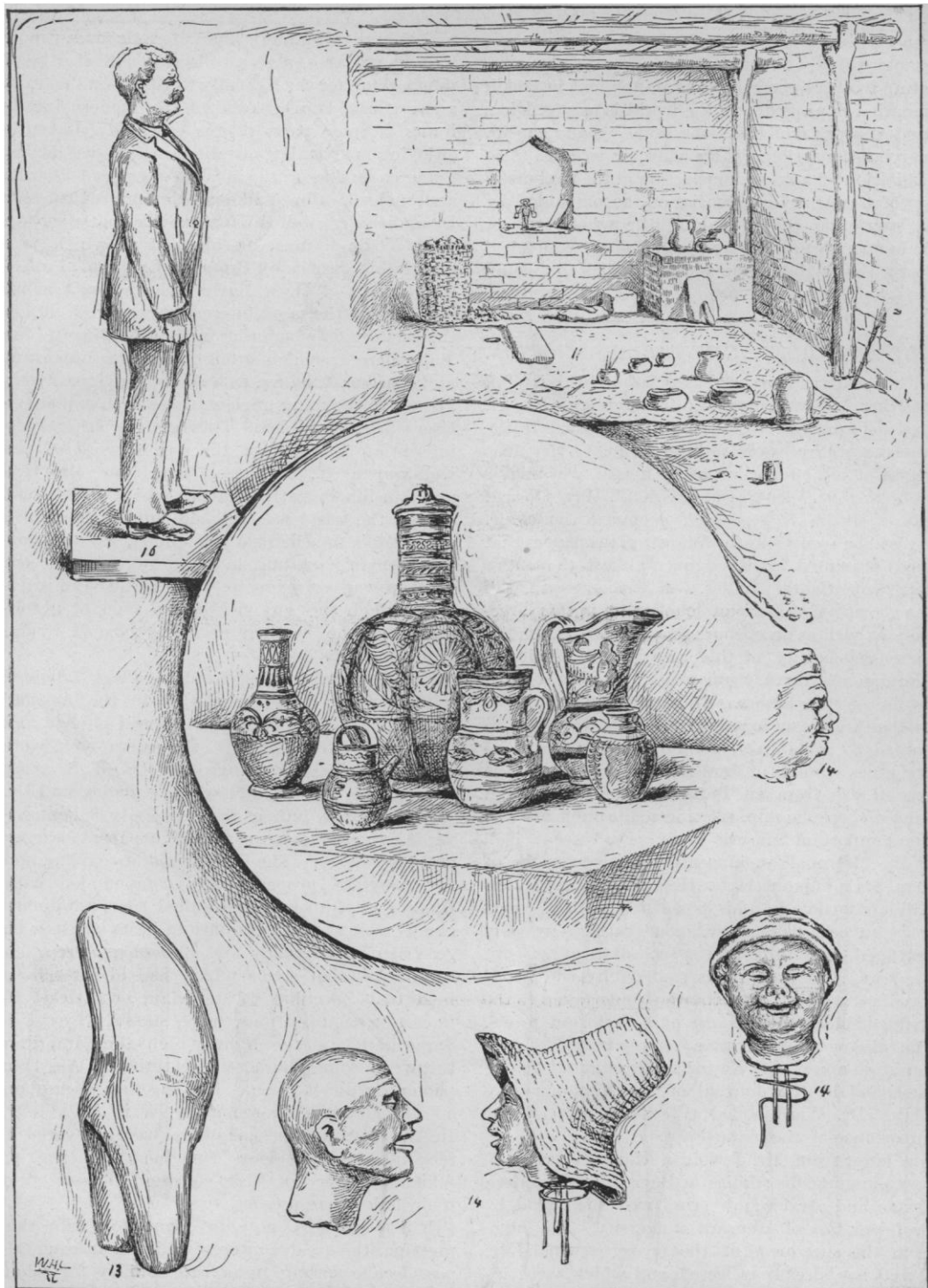
One interesting feature shown by the collection is the fading-out of aboriginal forms and patterns, and the substitution of those belonging to civilized life. The modern Guadalaran delights in statuary, and his portraiture is astonishingly lifelike. His copies of modern vessels are graceful, and delicately ornamented. An amusing feature in the work of the potter is that he does not model *en bloc*, as we do, but makes his bodies, heads, etc., separately, putting the parts together and clothing the figure afterwards.

In zoölogical language, this exhibit is an ontogenetic study. It is the biography or life-history of a single operation. The collection of a hundred such exhibits, from every part of the world, and the comparison of their details, would enable the philosophical ceramist to study pottery philo-



1. — PANTALEON PANDURO, THE GUADALAJARA POTTER.
2. — HIS CLAY BOARD, SHOWING THE RAW MATERIAL.
3. — APPEARANCE OF HIS PASTE WHEN WORKED UP.
4. — SPATULA FOR CUTTING AND SMOOTHING.
5. — FURNACE OF TILES CEMENTED WITH CLAY.

6. — TROWELS AND DECORATING-TOOLS OF IRON OR ROSEWOOD.
7. — BRUSHES FOR PAINTING, BRISTLES OF YUCCA FIBRE.
8. — BURNISHER OF HEMATITE SET IN A CLAY HANDLE.
9. — SCRAPER OF TIN.



10.—STATUETTE PORTRAIT IN TERRA-COTTA BY PANTALEON.
11.—PANTALEON'S SHOP, BUILT AGAINST A BRICK HOUSE.
12.—GUADALAJARA WARE, SHOWING FORM AND DECORATION.

13.—MOULD FOR SHAPING PARTS OF THE HUMAN FORM.
14.—HEADS READY FOR THEIR BODIES.

genetically, or to investigate its distribution geographically. The making of such collections, relating to every occupation or amusement in which mankind in any part of the world is engaged, is a kind of work which may be done by any consul, merchant, missionary, traveller, or soldier. The exhibition of any such collection at the next meeting of the American association, accompanied by a descriptive paper, making the whole subject plain enough for the wayfaring man, would call forth the high commendation which it would most assuredly deserve. O. T. MASON.

THE AMERICAN ORIENTAL ASSOCIATION.

THE American oriental association held its fall meeting in New Haven, on Wednesday, Oct. 27, in the library of the Yale divinity school. In the absence of Professor Whitney, who, to the deep regret of all, on account of ill health, was unable to be present, Vice-President Dr. W. Hayes Ward, editor of the *Independent*, occupied the chair. As will be seen from the following, the papers that were presented extended over almost the entire range of oriental studies, — a welcome proof of the growth of American scholarship in this direction, as well as an encouraging sign of the steadily increasing utility of this association. Professor Lanman of Harvard university began by reading two interesting letters. The first, from an attaché to the American legation at Peking, was accompanied by rubbings of a number of Sanscrit inscriptions found in Buddhistic convents. The second was from an Indian gentleman of high rank and scholarship, relating to the publication of some important Sanscrit texts. Prof. Isaac Hall of the Metropolitan museum thereupon spoke of some Syriac manuscripts. He exhibited one which had lately come into his possession, which proved to be an ecclesiastical calendar, rather curiously arranged, containing all the ecclesiastical feasts of the year. Another manuscript which he described gave an account of a journey undertaken to the occident in the middle ages by a Nestorian priest. The discovery of the manuscript created quite a sensation among the Nestorian Christians. It was published in the *Journal of the Missionary society*. Dr. Ward added a few remarks on the importance of the manuscript.

A letter from Mr. Jewett, a Harvard graduate now pursuing his studies at Beyrut, 'On modern Syriac and Arabic proverbs,' was then read by Professor Toy of Harvard university. To judge from the specimens of the proverbs which Mr. Jewett has already collected, and which were indicated in his letter, the entire collection promises to be exceedingly interesting; and, since there is

probably nothing more characteristic of a people than its proverbs, such a collection will also be of much value for the light it will throw on the traits and civilization in general of the modern inhabitants of some parts of the east. Mr. Jewett is enjoying particular advantages for his labors, living as he does in the Moslem quarter of Beyrut, and, indeed, almost like a Moslem. Professor Bloomfield of Johns Hopkins had a paper on some Vedic hymns, an abstract of which was read in his absence by Professor Lanman. Professor Hopkins of Bryn Mawr followed with what was perhaps the most interesting paper of all, on the position of woman in India according to the Mahabharata, which brought out the important fact that her standing, as well as her rights, were greater in the more ancient times than under the later rule of Buddhism. This result is particularly interesting in view of the recent work of the well-known W. Robertson Smith on 'Marriage and kinship in early Arabia,' which shows that exactly the same was the case among the Arabs, where Mohammedanism has tended, while elevating woman's position in some respects, on the whole towards a decrease of the rights and privileges which she enjoyed in the time of 'Ignorance,' as the heathen period is termed by the Mohammedans.

Mr. A. Jackson of Columbia college followed with a paper 'On the similes in the Avesta,' showing the wide range of natural objects and phenomena from which the metaphors were chosen. General Carrington of the U. S. army spoke briefly on the biblical genealogies, and Dr. Morris Jastrow, jun., of the University of Pennsylvania, closed the series with two papers bearing on Assyriology. The first offered an explanation for Assyrian proper names compounded with Budu, and the second embodied the preliminary results of a study of Samaritan in its bearings on Assyrian lexicography and phonology. A number of Assyrian stems which had hitherto been held to be peculiar to Assyrian, or at least so in certain significations, were shown to exist in Samaritan, and the light which the Samaritan throws on some characteristic traits of Assyrian phonology dwelt upon. The meeting thereupon adjourned until the second week in May, 1887. In the evening the members were tendered a reception at President Dwight's residence, at which a number of Yale college professors and their ladies were present.

It is pleasant to note, in connection with this meeting, the greater interest which has during the past decade sprung up in this country for what might be called the more abstract departments of knowledge. Much has been done to dispel that