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EXPLORATIONS IN THE
VALLEY OF THE DELAWARE**

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CHARLES C. ABBOTT

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Frontpiece. VIEW OF BURLINGTON ISLAND: LOOKING NORTHEAST.

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RECENT ARCHÆOLOGICAL EXPLORATIONS

IN THE

VALLEY OF THE DELAWARE

BY

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RECENT ARCHÆOLOGICAL EXPLORATIONS IN THE VALLEY OF THE DELAWARE

LATE in the summer of 1891 my field work consisted exclusively of a study of the valley of the Delaware River, its islands, gravel deposits, and recent alluvium, with reference to the subject of antiquity, or better, point of beginning, of the occupancy of this region by Man.

My principal points of exploration were the two large islands in the river, near the head of tide water; one, a short distance below Bordentown, New Jersey, and the other, that which lies between Burlington, New Jersey, and Bristol, Bucks County, Pennsylvania. These islands are identical in their physical characters, and any reference to relative position of underlying gravel and superficial soil, the presence of erratic boulders and effects of recent water action, is equally applicable to both.

How rapidly the bed and banks of the Delaware River are changing, although the forces now operating are as nothing compared to the floods of glacial and immediately post-glacial times, may be realized upon the examination of scattered ridges of fine gravel, commingled with which will be found abundant fragments of materials that through white men's agency have been brought within the range of the river's ordinary current or of occasional freshets. Thus, on the upper ends of the islands in the river will be found, in many places, quite extensive accumulations of small globular or oval pebbles, needing almost no force to carry them from point to point, moved from old gravel deposits and mingled with pebbles of very recent origin, as bits of glass, slag from furnaces, anthracite, and products of human industry established within the past two centuries. These most recent of all river deposits

often overlies a considerable accumulation of soil, under which is sand, which rests upon that coarse gravel and boulders borne to its present resting-place by agencies that long ago ceased to be in operation. It is of much interest to note that in such recent gravel and rubbish beds objects of Indian origin do not occur. The transporting power of the river, since the entire disappearance of what may be termed glacial floods, has not been equal to lifting a large argillite implement, weighing two or three pounds, from the bed of the stream and carrying it a considerable distance, finally placing it at a higher level than that from which it came. If moved at all, it would be rolled over the pebbly bottom and finally lodged in protected mud-deposits. The result of this rolling is to wear away the evidences of artificial fracturing and re-convert the tool of primitive man into a pebble. That this has happened in innumerable instances is doubtless true, doubtful specimens occurring abundantly in the present bed of the river. Again, a thin angular object, like an arrow-head, is not likely to be moved by the force of even moderately rapidly running water. The scanty number of these objects in the bed of the river, and, more noticeably so, in the inflowing creeks, very soon became imbedded in firm mud, clay, or compacted gravel; this, naturally, by reason of their shape.

Examining, then, a deposit of gravel laid down within fifty years or less, we find abundant traces of the present people dwelling on the river shore; by delving more deeply, we find traces that unmistakably point to the Indian; and the question that has been often asked and more frequently answered negatively than affirmatively is, can we go still deeper and find equally convincing evidences of the Indian's predecessor, or more correctly, ancestor?¹

The position that I have taken for many years is, that we can

¹ In remarking that this question has been answered negatively, I do not refer to disgraceful articles in pretentious periodicals, written by persons wholly ignorant of the subject. It is a blot upon American letters that editors should solicit from incompetency, however prominent politically, articles that their authors know are misleading. Unfortunately, the public cannot always discriminate.

do so, and of the reasonableness of this stand, I am more than ever persuaded, by reason of an unbiassed examination of the two islands that have been mentioned. For instance, we find on Burlington Island, a foundation of coarse gravel intermingled with large boulders, many weighing from two to four tons; material such as no freshet in historic times moves any appreciable distance, and within the range of tide water does not and cannot move at all; and at low tide there is exposed a wide gravel beach, which is but a continuation of the base of the island, that constitutes the bed of the stream, and extending westward, is the foundation of the cultivable soil on the Pennsylvania shore. It is evident at a glance that the island is but a heaping up of this gravel as a long, narrow ridge, and as years rolled by, the soil began to form, augmented by occasional muddy freshets that left a deposit of vegetation-supporting material, as now happens yearly over the low-lying meadows near by. Now, characteristic of this gravel, whenever examined, is the occurrence of rudely fashioned stone implements, — for no one capable of forming an opinion doubts their artificial origin, — and again, characteristic of the superficial soil, is the occurrence of pottery and arrow-points of stone, ornamental objects, and the hundred and one evidences of the Indian's varied handiwork. What, then, is the relationship of the two? Is or is not their separation a mere coincidence? Are they or are they not of one age and origin? We are bound, in all reasonableness, to adopt the most plausible explanation, and never are warranted in reaching from the known to the unknown. To do so, is to stand apart and quite out of touch with logical students. We have, as is well known, historic evidence in abundance, of the former presence of the Indian in the Delaware valley; and what ground is there, therefore, for referring to some unknown people what is undoubtedly within Indian capabilities, and, indeed, characteristic of that people? There is none whatever; but does the claim that certain rude stone implements point to what is known as "palæolithic man" demand another than the Indian as a resident of this river valley? I think not. The

question simply is,—has man risen from a palæolithic to a neolithic condition while living in this valley? or do the conditions point to the use of rude and elaborate implements alike, at the same time?

As a matter of necessity, all unquestionable Indian implements are not of the same age. This Indian occupied the river valley in that stage of culture in which he was discovered by Europeans, for many centuries; and the process of implement-making was continuous throughout that time, and evidence of an advance in the tool-making art is not wanting. It can readily be shown that the earliest, as a class, even of arrow-heads, are ruder than the later, and the discovery of jasper had very much the effect, but in a less degree, than the discovery of iron had upon a bronze-age people. The occurrence of rude implements has been explained, or the attempt, at least, has been made to do so, by pronouncing every palæolithic implement as an unfinished neolithic weapon or tool; a purely gratuitous assumption. Where such rude implements are found in remarkable abundance, such places are designated as "workshops," where the material was tested, and if found available, carried to "finishing sites." We are taken to the former, and can follow in imagination the ancient miner digging into the hillside for suitable pebbles, but the "finishing sites" are so very vague as not to be available for archaeological study; and in the best known of these localities, where only rude, palæolithic-like implements are found, not a trace as yet has been discovered of the Indian. This absence of pottery, arrow-points, and fragments of a pipe, are so far significant, that we have no valid reason to set forth, as has been done, that "rude implements" are unfinished objects and the refuse of late Indian industry. Admitted that they *may be* in some localities, still it has not been proven; and the evidence of the whole continent sets aside the rash inferences drawn from a single locality.

Admitting that to discriminate between an unfinished neolithic implement and a palæolithic one is always a difficult and sometimes an impossible feat, is not to acquiesce to the