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RESEARCHES UPON

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IN THE DELAWARE VALLEY AND THE EASTERN UNITED STATES

BY

HENRY C. MERCER

CURATOR OF THE MUSEUM OF AMERICAN AND PERMISTORIC ARCHAEOLOGY AT THE UNIVERSITY OF PENNSYLVANIA

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AT AN INDIAN STONE BLADE QUARRY IN THE DELAWARE VALLEY, AT A MORTUARY DEPOSIT OF INDIAN SKELETONS IN MARYLAND, IN CERTAIN SHELL HEAPS ON THE COAST OF MAINE, AND AT THE DURHAM CAVE, AND INDIAN HOUSE ROCKSHELTER IN PENNSYLVANIA

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TO

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PROVOST OF THE UNIVERSITY OF PENNSYLVANIA
IN WHOSE KIND HELP THE INVESTIGATION AT
GADDIS' RUN FOUND ITS EARLIEST APPROVAL
AND ENCOURAGEMENT, THE FOLLOWING RECORD
OF ARCHAEOLOGICAL RESEARCH

IS

RESPECTFULLY DEDICATED

gravels with Pleistocene fossils. It was agreed, therefore, that by the lower of the various geological time estimates, they were from seven to fifteen thousand years old. The second, or surface class, however, whether found in the Old World or the New, were not in place. They had no history. They lay on top of the soil where they may have rested for little or much time.

In Europe we were told that blades of this latter class were never found at Dolmens in the Barrows of the Bronze period, or, it was said, in the habitation sites of the age of polished stone; but rather lay scattered upon heaths and flinty slopes or near streams, where they lacked the explanatory association of other human remains. Some European archaeologists, judging by patina, declared that such surface Drift tools had an ochreous color, not present in the later Stone Age specimens scattered with them. Others, impressed by similarity, established with confidence the canon of *type*. The surface specimens were old because identical in type with others that were certainly old. At last, however, explorations in the United States have altered, or should alter, our views as to the class of surface discoveries in general, if they do not modify some of the deductions made from the first class of underground Drift specimens.

Beyond doubt it has been demonstrated in the last five years that North American Indians continually manufactured chipped stones, more or less resembling the Drift types, and in fact scattered the whole surface of the United States with them. Why the fact had not been more clearly noticed before by travellers, who had watched the native North American blade-making process, seems strange, when we consider that it was in the blade-making process that these mysterious, and till then unremarked stones were produced. The Indian blade maker, pounding upon a mass of raw material with a pebble hammerstone, often failed to chip it to the desired shape or thinness. After repeated blows a hump remained in the cross-

grained back that no skill could remove. He threw away the half-fashioned blade to try another stone, and you had in the rejected, half-finished piece a "waster," a "turtleback," a "reject," a "mistake," so much like some of the alleged blades from the Drift that distinction was impossible.

Places were soon found in the United States that were thickly scattered with these "turtlebacks," as New Jersey farmers called them, and in particular aboriginal quarries, where the native stone had been mined by Indians and more or less chipped into blade shape at the spot. The Potomac Valley tribes had, it seems, dug into a deposit of quartzite boulders in the gorge of Piney Branch, near Washington, and sampled and cast aside so great a number of pebbles there that the steep slope was overspread with tons of "turtlebacks" and chips,[1] while the fact of the recent parentage of many of these mysterious stones was further shown when other aboriginal quarries were examined at Flint Ridge, Licking County, Ohio, in Arkansas, in the Indian Territory, and in the Lehigh Hills.

All these "turtleback" sites looked alike. Pits had been dug whose sides were strewn with chips, with the familiar leaf-shaped forms and pebble hammerstones, and at one quarry after another an analysis of the rude blades found, and the

[1] Sometimes the Indians worked on fragments broken from solid veins. Some stones chip better than others, and it was probably because quartzite works badly, and because the material lay in pebble shape at Piney Branch, that there seemed to be more "turtlebacks" to the cubic yard there than at most of the other quarries. Moreover, it was doubtless owing to the uncultivated and still forest-covered condition of the slope that no other Indian tools or relics had been found among the blade refuse at the place, for which reason the site was regarded for some time after Dr. Abbott's discoveries as even a more remarkable witness for primeval man than the Trenton gravels, a Paleolithic workshop, which floods had never disturbed, where Glacial men had chipped their stone blades. But the trenches dug at Piney Branch, by Professor Holmes, though they failed to find positive relics of the Indian among the rubbish, did much to account for the "turtlebacks" and chips as the refuse of modern tribes.

associated remains seemed to connect the work, notwithstanding the "Drift type" of the blades with the comparatively recent Red Man.[1]

By 1892 work enough had been done to relieve our minds as to the class of "turtlebacks" found on the surface in the United States. It was reasonable to suppose that the geologically modern Indian had made, or could have made them all.

To settle this was to realize that a new light had been thrown over the question of ancient blade-chipping, that threatened to cancel many well-known definitions and inferences, if it did not destroy certain established European subdivisions. It had become necessary to discover specimens in place in the United States, while to what extent the same need existed in the Old World no one yet knew. If we were to learn that comparatively modern or Post-Drift peoples had in Europe, as in America, produced rejects or wasters resembling the Drift forms, so that the former might have slipped down from the upper (newer) into the lower (older) horizons, we should encounter the same chance of error there as here; and in order to settle the question for myself while fresh from a series of parallel comparisons among the wasters at the relatively modern blade quarries in America, I visited the Neolithic (Post-Drift)

[1] At some ancient diggings situated at remote outcrops of the native rock and at spots unfitted for aboriginal habitation, it was as hard to find the grooved axes, arrowheads, or pottery (lacking up to date at Piney Branch) that would have positively connected the sites with the Indian, as it would be to find traces of nineteenth century civilization in the recent rubbish of a modern granite quarry. Nevertheless, at Macungie and Flint Ridge arrowhead-making had gone on, a process held to have been unknown to the Drift man, while the quarrying and chipping was done in jasper, a stone commonly used by Delaware Valley Indians, and which the alleged Paleolithic men were not supposed to have worked at native outcrops. At Durham, a finely polished pestle was picked up in the rubbish. Not only in quarries, but also at Indian village sites, the process of producing "wasters" that resembled Drift "implements" seemed to have proceeded by the same step as where, at an "Indian Field" near Herbine's Mills, in Berks County, Pennsylvania, I found several quartzite chips, "turtlebacks," and hammerstones lying near together.