ARCHAEOLOGY OF TRANTS, MONTSERRAT. PART 1. FIELD METHODS AND ARTIFACT DENSITY DISTRIBUTIONS

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ABSTRACT

Different research strategies used during archaeological fieldwork in 1978-79 and 1990 at the early Ceramic Age site of Trants are compared and evaluated. Site size and the area of “major concentration” of artifacts were both underestimated by the field methods employed during initial research in 1978-79. The “collection corridor” strategy used in 1990 was an efficient and effective technique for systematic surface collection and, when combined with subsurface data from spaced test pits, it proved to be a reliable method for distinguishing artifact densities and determining site parameters. Low-density artifact distributions existing in peripheral fields were distinguished from a “most dense” area (ca 90,000 m²) demarcated by surface and subsurface artifacts, in which a “core area” (ca 50,000 m²) delineated the site’s oval-shaped configuration. A ca 500 B.C. initial occupation at Trants is substantiated by the two oldest radiocarbon dates and by diagnostic pottery ascribed to the Saladoid ceramic series. Terminal radiocarbon dates (ca A.D. 330) suggest that Trants was inhabited, either continuously or intermittently, for perhaps 800 years. Trants is one of three early Ceramic Age sites on Montserrat that have yielded Saladoid ceramics. This article is the first in a series of individually numbered parts dealing with the results of archaeological field research at the Trants site.

INTRODUCTION

Trants is the largest and oldest of three confirmed early Ceramic Age sites on Montserrat. At Trants, site disturbance by historic and recent cultivation is minimal, the stratigraphic integrity of its archaeological deposits is excellent, and the preservation of its artifacts and ecofacts is superb.

The island of Montserrat is located in the Lesser Antilles, the archipelago forming the eastern border of the Caribbean Sea and demarcating the western edge of the Atlantic Ocean. These islands form an 850-km long arc from Sombrero south to Grenada (Fig. 1). North of Guadeloupe, the Lesser Antilles islands form a double arc, the Outer or Limestone Arc and Inner or Volcanic Arc. Montserrat is one of the smaller (98 km²) volcanic islands on the Inner Arc of the northern Lesser Antilles. Three major mountain masses, trending north to south down the center of the island, dominate Montserrat’s landscape (Fig. 2). The Trants site is situated east of the Centre Hills on the only sizeable stretch of relatively flat terrain near sea level along the windward coast (Fig. 3). The rest of this coast is marked by precipitous cliffs.

The Trants Estate, comprising the generally level terrain surrounding the Trants site, encompasses a much larger area (ca 600,000 m²) and is bounded by mountains to the west and north, the coast to the east, and a river valley to the south. Trants Estate is named for Dominick Trant, a plantation owner in the 1720s (Marion Wheeler, personal communication, 1990). Since the 1950s, this estate has been the property of the Government of Montserrat. Trants Estate no longer is a working agricultural plantation; instead it is used for pastureland and small garden plots.

Montserratians have collected Amerindian artifacts at Trants for many years.

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Fig. 1.—The arcuate Lesser Antilles stretch from Sombrero to Grenada. Sombrero lies about 100 km east of the Virgin Islands, the easternmost islands of the Greater Antilles (see Fig. 2); Grenada lies about 150 km north of the South American continent.
Fig. 2.—The Trants prehistoric site is located midway on the east coast of Montserrat in the northern Lesser Antilles.

Prehistoric beads were the focus of Harrington’s (1924) brief article, the first publication to discuss artifacts from the site. The beads formed one part of a large and diverse collection of artifacts from Trants acquired by the Museum of the American Indian (MAI), Heye Foundation, from Seymour Wylde Howes, the manager of Trants Estate (Watters and Scaglion, 1994). The lithic beads and ceramics in the Howes collection were studied respectively by Watters and James B. Petersen in 1985; they re-examined the MAI materials in 1991; and in 1994 Watters examined objects from the Howes collection that the MAI had exchanged with the University Museum, University of Pennsylvania in 1932.

The first archaeological survey and excavation at Trants occurred during 1978–79, as part of Watters’ (1980) dissertation research on the islands of Montserrat and Barbuda. Trants, the first site recorded in St. George’s Parish, was assigned site number MS-G1. The second field season, which took place in 1990, involved additional survey and testing at Trants, included a study of Trants artifacts housed at the Montserrat National Trust Museum, and was a collaboration of the Carnegie Museum of Natural History (CMNH) and the University of Maine at Farmington (UMF). The CMNH-UMF project was jointly directed by Watters and Petersen. The Trants site was observed briefly in 1983, 1984, and 1992, during short stopovers on Montserrat made in the course of other research projects on nearby islands.

Preliminary information about the 1990 field season has been published already (Bartone and Crock, 1991; Petersen and Watters, 1991). Data from the 1978–79 project (Watters, 1980) are used in two regional studies: a report on the thin section petrography of ceramics from four northern Lesser Antilles islands (Donahue et al., 1990), and a compilation of Late Quaternary vertebrate faunas from archaeological and paleontological contexts throughout the Lesser Antilles islands (Pregill et al., 1994).
This article is Part 1 in a series of separately numbered reports dealing with the results of the archaeological research at the Trants site. These reports focus on the 1990 fieldwork although selected articles will deal with aspects of the 1978–79 research as well. Part 2 of this series reports the vertebrate fauna recovered from three 1990 excavation units (Reitz, 1994) and combines those data with the previously published vertebrate fauna from the 1978–79 research (Steadman et al., 1984). Other parts will discuss sediment data and settlement patterns, lithic technology, paleoethnobotanical remains, and invertebrate faunas. Data derived from museum research on the S. W. Howes collection are being published as separate articles (Watters and Scaglion, 1994), to divorce those reports from the individually numbered parts of the Trants field research series.

The purposes of Part 1 in the Trants archaeology series are to: (1) compare and evaluate field methods used in 1978–79 and 1990; (2) provide data on derived artifact densities and spatial distributions; (3) interpret these data with respect to site demarcation and configuration; (4) discuss the chronological placement of the Trants site and its occupational span; (5) review the relationship of Trants to Montserrat's other six prehistoric sites; (6) and furnish the background information, about the surface samples, test pits, and excavation units, that is integral to the presentations in the forthcoming parts of this series.

FIELD METHODS

Archaeological Surveys

Field research on Montserrat in 1978–79 was conducted by the author and one field assistant. The strategy used in the survey to locate prehistoric sites involved...
six randomly selected, 250 m-wide cross-island transects (Watters and Scaglion, 1980). The northern part of the Trants site was discovered near the eastern terminus of Transect 28 at Trants Bay (Watters, 1980:214–215). This area, designated the “minor concentration,” was identified through surface artifacts found due west of the north end of the Blackburne Airport runway (Fig. 4). A “major concentration” of artifacts was detected subsequently in an area outside of the Transect 28 boundaries, exposed on the surface of a field planted in sea island cotton immediately north of the road to Blackburne Airport. Few surface artifacts were observed in the other fields north of the airport road, most of which were in grass and used as pasture; fields south of that road, being covered by thickets of thorny “cassie” bushes, were unobservable for the most part. At the end of the 1979 survey, the minor and major concentrations were regarded as spatially distinct sectors, perhaps representing two site components, that were separated by an intervening area of about 350 m of grassy pasture having few artifacts.
Based on observed surface artifacts, the total area of the Trants site, combining the major and minor concentrations, was estimated at about 42,500 m² (Watters, 1980:table 8), or 4.25 hectares.

Brief visits to Montserrat in 1983 and 1984 reconfirmed the locations of the major and minor concentrations and provided the opportunity to examine, for the first time, the fields south of the airport road from which the cassie thickets had been removed in the interim. Few artifacts were observed in these newly cleared fields.

Different strategies were used during the CMNH-UMF project in 1990. The ten-week field season involved seven people although not everyone participated for the entire project (Petersen and Watters, 1991). The primary objectives were to: (1) examine the relatively flat terrain (60 hectares) surrounding the Trants site, from the coast to the mountains, for evidence of cultural materials; (2) define more accurately the extent and boundaries of the site; and (3) determine the depths
of its cultural deposits. These goals were paramount because the Trants site was potentially threatened by two projects proposed for the adjacent Blackburne Airport: realignment of its runway, and construction of new airport buildings.

The archaeological survey area included the terrain east of the mountains to the coastline between Trants Bay and Farm Bay (Fig. 5). The southern border was Farm River Ghaut (ghaut is a term used locally to signify a steep-sided valley). To manage the archaeological survey, the terrain was designated as Fields 1 through 15, using already existing roads, fencelines, earthen ridges, and windbreaks as the boundaries of the subdivisions.

Surface collections were made during the very dry month of September and in early October when the seasonal rains were just starting. The exposure of the ground surface by the die-back of vegetation enabled excellent observation of surface artifacts.

Three systematic surface collection strategies were used in Fields 1, 2, and 3 south of the airport road (Fig. 5). Surface artifacts in all three fields were pin flagged and counted, but the percentages shot-in by transit and collected varied among the three fields. In general, artifacts were sparsely distributed in these fields.

A similar systematic surface collection strategy initially was used in the southeast sector of Field 8, immediately west of the cement block building, in an area coinciding with part of the previously defined major concentration. The high density of artifacts in Field 8, in comparison to their scarcity in Fields 1 through 3, required a change in strategy for surface collecting. A more efficient sampling strategy was needed to maximize the systematic survey coverage and to facilitate the comparison of spatial distributions of artifacts.

A "collection corridor" technique was devised to sample the surface artifacts. It involved a linear arrangement of adjacent 10 × 10 m squares in which surface artifacts were flagged (Fig. 6) and collected but not shot-in by transit. Corridor 1, the corridor spanning the terrain (Fig. 5) from the mountains to the present airport boundary, traversed Fields 13, 8, and 10 from west to east (Fig. 7). Corridor 2 traversed Fields 8 and 9 from south to north between the airport road and the estate road (Fig. 5).

Data for two categories of artifacts, pottery and lithics, from the 56 collection...
Fig. 7.—A fully flagged 10 × 10 m surface collection unit in Corridor 1 in Field 8.

squares in Corridor 1 are included in this paper. When plotted by 10 × 10 m surface squares, counts for both artifact categories have somewhat narrow distributions, with a decided peak consistently occurring toward the east side of Field 8 (Fig. 8). Field 13 and much of Field 10 yielded many fewer artifacts. When Corridor 1 pottery and lithics are plotted by weight (Fig. 9), a similar overall trend is evident (in spite of some minor perturbations for lithics in Field 10). These surface findings corroborated the observations made in 1978–79, whereby the major concentration of artifacts occurred mainly in Field 8 (Fig. 4).

Data from 21 collection squares crossing Fields 8 and 9 in Corridor 2 are presented. Plots of surface pottery and lithic counts conform to one another (Fig. 10), but their distributions are distinctly different from those in Corridor 1. In Corridor 2 plots, there are two distinct peaks, one in northern Field 8 and a second in northern Field 9, while the intervening area has many fewer surface artifacts (Fig. 11). A peak in Field 8 was anticipated from the previous fieldwork; the peak in Field 9 was unexpected since that area fell outside of the boundary of the previously defined major concentration.

Excavations

In February 1979, a single 2 × 2 m excavation unit was dug on the eastern edge of the major concentration, in a pasture due east of the cement block building (Fig. 4). Deposits were dug in 10-cm levels within the three strata (I–III) identified. The upper 20 cm of Stratum I was a mixed deposit of historic and prehistoric artifacts. Below this disturbed level, prehistoric deposits were intact to 80 cm (Stratum III) although cultural materials were most abundant to 60 cm, in Stratum II (Watters, 1980:table 17).

In 1990, the first ten test pits (0.5 × 0.5 m) were excavated south of the airport road in Fields 1, 2, and 3. Test pits were aligned within transects and were widely
Fig. 8. —Surface pottery and lithic distributions by count in Corridor 1 (west to east) through Fields 13, 8, and 10.
Fig. 9.—Surface pottery and lithic distributions by weight in Corridor 1. Minor lithic "peaks" in Field 10 are the result of weighty cores found on the surface of those collection units.
Fig. 10.—Surface pottery and lithic distributions by count in Corridor 2 (south to north through Fields 8 and 9) showing two peaks with a drop in artifact frequency in the intervening area.
Fig. 11.—Corridor 2 flags in Field 9 (looking north). Note the high density of flags (indicated by the arrow), correlating to the artifact peak in the north part of Field 9, compared to the sparsely distributed flags in that field’s central and southern parts (foreground).

The collection corridors revealed differentially distributed surface artifact densities in Fields 8, 9, 10, and 13. However, one concern was that these distributions might have been biased by surficial disturbance caused by cultivation, including sugar cane grown during the historic period and sea island cotton more recently. To investigate the possibility of biased surface distributions, a systematic subsurface testing program was used in the same two collection corridors. A test pit (0.5 x 0.5 m) was dug every 50 m along the entire length of each corridor. This testing program made it possible to compare the subsurface distributions in test pits across the site; it also provided a means to compare surface and subsurface artifact distributions within each collection corridor.

In the five test pits dug in Corridor 2, one in Field 8 and four in Field 9, the basal depths of prehistoric artifacts ranged from as shallow as 20 cm to as deep as 70 cm; cultural deposits extended deeper than 30 cm in only three test pits (Table 1). The quantities of artifacts within these test pits were correspondingly limited.

Twelve test pits were dug in Corridor 1, four each in Fields 13, 8, and 10. Shallower test pits generally occurred in Field 13 and the eastern part of Field 10 (Table 1). These test pits also yielded lesser quantities of pottery and lithic artifacts (Fig. 13). The peak in the eastern part of Field 8, which was anticipated based on the surface collected data, was present. However, a second peak for subsurface
Table 1.—Excavations at the Trants site in 1979 and 1990.

<table>
<thead>
<tr>
<th>Field</th>
<th>Location</th>
<th>Prehistoric depth (cm)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1979 excavation unit (2.0 × 2.0 m)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>east edge of major concentration</td>
<td>80</td>
<td>prior to 1990 site grid</td>
</tr>
<tr>
<td>1990 test pits (0.5 × 0.5 m)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. South of airport road (n = 10)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 T1P1</td>
<td></td>
<td>70</td>
<td>T = Transect; P = Test Pit</td>
</tr>
<tr>
<td>1 T1P2</td>
<td></td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>1 T2P1</td>
<td></td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>2 T3P1</td>
<td></td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>2 T3P2</td>
<td></td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>2 T3P3</td>
<td></td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>3 T4P1</td>
<td></td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>3 T4P2</td>
<td></td>
<td>20</td>
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</tr>
<tr>
<td>3 T4P3</td>
<td></td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>3 T5P1</td>
<td></td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>b. Corridor 1 test pits (n = 12; west to east)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 N421 E245 SE</td>
<td></td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>13 N421 E295 SE</td>
<td></td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>13 N421 E345 SE</td>
<td></td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>13 N421 E395 SE</td>
<td></td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>8 N421 E445 SE</td>
<td></td>
<td>30</td>
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<td>8 N421 E495 SE</td>
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<td>8 N421 E545 SE</td>
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<td>50</td>
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<tr>
<td>8 N421 E595 SE</td>
<td></td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>10 N421 E645 SE</td>
<td></td>
<td>110</td>
<td>adjacent to unit N421/422 E645</td>
</tr>
<tr>
<td>10 N421 E695 SE</td>
<td></td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>10 N421 E745 SE</td>
<td></td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>10 N421 E795 SE</td>
<td></td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>c. Corridor 2 test pits (n = 5; south to north)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 N395 E571 NW</td>
<td></td>
<td>100</td>
<td>adjacent to unit N396 E571</td>
</tr>
<tr>
<td>9 N445 E571 NW</td>
<td></td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>9 N495 E571 NW</td>
<td></td>
<td>50</td>
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</tr>
<tr>
<td>9 N545 E571 NW</td>
<td></td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>9 N595 E571 NW</td>
<td></td>
<td>60</td>
<td>adjacent to unit N596 E571</td>
</tr>
<tr>
<td>d. Discretionary test pits (n = 2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 N407 E634 SW</td>
<td></td>
<td>80</td>
<td>near 1979 excavation unit</td>
</tr>
<tr>
<td>10 N521 E646 SW</td>
<td></td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>1990 excavation units (1.0 × 1.0 m)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Corridor 1 excavation unit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 N421/422 E645</td>
<td></td>
<td>110</td>
<td>adjacent to test pit N421 E645 SE; the unit quadrants excavated are N421 NE and NW and N422 SE and SW</td>
</tr>
<tr>
<td>b. Corridor 2 excavation units</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 N396 E571</td>
<td></td>
<td>100</td>
<td>adjacent to test pit N395 E571 NW</td>
</tr>
<tr>
<td>9 N596 E571</td>
<td></td>
<td>100</td>
<td>adjacent to test pit N595 E571 NW</td>
</tr>
</tbody>
</table>
Fig. 12.—Subsurface pottery and lithic distributions by count for the five test pits in Corridor 2, once again displaying the marked decrease in artifact frequency (compare with Fig. 10).
Fig. 13.—Subsurface pottery and lithic distributions by count for the 12 test pits in Corridor 1. The abundance of subsurface artifacts denoted by the peak in the west side of Field 10 is not duplicated in the surface density plots (compare with Fig. 8).
pottery and lithics is evident in the western part of Field 10 (Fig. 13), an area where no peak was expected based on the surface data. Lithic frequency actually is slightly greater for the Field 10 peak. Equally intriguing was an unexpected frequency decrease, for both pottery and lithics, in the easternmost test pit of Field 8, between the two peaks. For Corridor 1, the overall distribution patterns for surface and subsurface artifacts across Fields 13, 8, and 10 were analogous (Fig. 8, 13). However, it was the test pit plots alone that pointed out the significance of the subsurface remains in the western edge of Field 10 for defining the extent of the site.

Two “discretionary” test pits were excavated in Field 10. One was positioned in the southern part of that field near the 2.0 × 2.0 excavation unit dug in 1979, in order to compare their stratigraphies. The maximum depth of cultural materials in this test pit was 80 cm, the same as the nearby 1979 unit (Table 1). A second discretionary test pit was dug in the northern part of Field 10, an area where no subsurface data and no systematically collected surface data were available. This test pit contained prehistoric artifacts to about 100 cm; it also yielded the only complete ceramic vessel excavated at the Trants site.

Three excavation units (each 1.0 × 1.0 m) were dug during the final phase of the 1990 fieldwork. They were dug adjacent to the three test pits providing the best stratigraphic information at key areas of the site (Fig. 14). Excavation units were placed in Field 8, northern Field 9, and southern Field 10. Prehistoric artifacts, which were recovered from three field strata (A–C) in the excavation units (Petersen and Watters, 1991), reached depths of 100 to 110 cm (Table 1). Because these excavation units are so widely dispersed, a site-wide correlation is equivocal for the three field strata identified in the three units in 1990. Also equivocal is an association between the three strata (I–III) identified in the 1979 excavation unit and the three field strata (A–C) from the 1990 units. Although stratigraphic correlations across the site cannot be made at this time, the recurrence of three strata having cultural materials in all four excavation units is noteworthy.
Mixed deposits containing historic and prehistoric artifacts were, for the most part, stratigraphically restricted to field stratum A (and Stratum I from 1979), especially to its uppermost levels (ca 0–25 cm). Beneath this mixed layer, the undisturbed prehistoric deposits yielded the kinds of artifacts and ecofacts (ceramics, lithics, bone, crab, mollusks, and coral) that routinely recur in Ceramic Age middens in the West Indies.

A total of 29 test pits, having a surface area of 7.25 m² were dug in Fields 1, 2, 3, 8, 9, 10, and 13. When the 3-m² area of the three excavations units is added, a total of 10.25 m² of surface area was excavated in 1990. Combining that total with the 4-m² surface area dug in 1979, a cumulative total of 14.25 m² of surface area has been excavated at Trants.

Field Methods Summary

In one sense, the Trants site comprises virtually all of the 60 hectares of relatively flat land stretching eastward from the mountains to the coast (Fig. 15). Surface artifacts were found in every field examined but their densities varied greatly across the site. Fields nearest to the mountains, south of the airport road, and north of the estate road had fewer artifacts. Within the broader landscape, the surface and subsurface distributions reveal a “most dense” area of artifacts, the extent of which is still not fully determined but likely encompasses major portions of Fields 8, 9, 10, and 11 (Fig. 16). This “most dense” area covers about 90,000 m² (9 hectares) and incorporates all of the “major concentration” but not the “minor concentration” defined in 1978–79. Interviews in 1990 with Montserratians involved in constructing Blackburne Airport, which opened in 1957...
Fig. 16.—An overall "most dense" area of artifacts, within the broader terrain, covered most of Fields 8, 9, 10, and 11 (BWI grid).

(Wheeler, 1988:56), revealed that the minor concentration really was an artifact scatter exposed by bulldozers scraping the adjacent land for fill to extend the northern end of the original runway. The minor concentration, even though it is situated well away from the "most dense" area, deserves further study since the depth and extent of its cultural deposits have yet to be determined.

SITE CONFIGURATION

After the 1978–79 fieldwork, the Trants site was deemed to be a prehistoric village, the extent of which was approximately co-terminus with the major concentration (Watters, 1980:249–252). Some aspects of this view changed dramatically following the 1990 fieldwork.

The surface collection squares and test pits in Corridor 1 confirmed dense artifact distributions in Fields 8 and 10. In Corridor 2, the collection squares revealed a pattern previously unrecognized, with a significant decrease in artifact
density in the middle of the corridor and a marked increase in northern Field 9. Five test pits and two excavation units in Corridor 2 corroborated the variable densities initially observed on the surface.

The pattern that was beginning to emerge altered previous perceptions of the Trants site because, for the first time, a "core area" was recognized (Fig. 17). The highest artifact densities were obtained in two sectors, the northern sector (northern part of Field 9) and the southern sector (Field 8 and the southern part of Field 10), and these sectors are separated by 100 m of sparsely distributed artifacts (central-southern part of Field 9). The southern sector maximally extends east-west about 250 m based on Corridor 1 data. The northern sector's length is less well-determined because this part of the site had no corresponding east-west corridor, and therefore no equivalent systematically collected, quantifiable data. It has a length of at least 150 m, based on observed surface artifacts, and likely extends further eastward judging from the discretionary test pit in northern Field 10 (Fig. 17). The core area's northern and southern sectors consist of opposing but seemingly complementary curvilinear segments demarcated by dense artifact distributions.

Although the northern and southern sectors were fairly well-defined during the 1990 fieldwork, little was known about the eastern and western margins, the areas that potentially linked the two sectors. Surface artifact scatters indicated that these connections likely existed. The presence of the connecting link on the eastern margin was strongly supported by data from the discretionary test pit in northern Field 10 (Fig. 17). This isolated test pit, the sole source of information for that part of the site, attained a depth of 100 cm with clearly defined stratigraphic layers and it yielded abundant artifacts.

The western margin, in the more westerly part of Field 9, was the least known area of the Trants site at the close of the 1990 fieldwork. Corridor 2 was situated in the eastern part of Field 9 (Fig. 5) and did not traverse this western margin. In 1992, eight backhoe "trial" or "borrow" pits, dug in connection with the planned airport development, provided subsurface data about the western margin. During their brief visit to Montserrat in May 1992, Watters and Petersen were able to examine the open trial pits, which the contractor had left unfilled as requested. Four pits each had been dug in Fields 8 and 9. Two Field 9 pits (B6 and B7 on Fig. 17), located midway between the northern and southern sectors, were especially important with respect to the western margin. These pits (Fig. 18) contained midden material, including abundant artifacts and faunal remains, in stratified cultural levels that paralleled what had been observed in other excavated areas of Trants. Even more strongly than was the case for the one discretionary test pit on the eastern margin, the two borrow pits in Field 9 support the existence of the western link between the northern and southern sectors. Another trial pit, on the eastern edge of Field 9, also proved to be significant since it was located in the area of low artifact density identified in the Corridor 2 research. This pit had few cultural remains, an observation that matched the findings for the nearby shallow test pit excavated in Corridor 2 (Fig. 17).

**Chronology and Occupation**

Eight radiocarbon dates, all obtained from charcoal samples in excavated contexts, are available for the Trants site. Two are from the 1979 excavation unit and six from the 1990 fieldwork (Table 2). Samples from Trants provide two of the oldest dates from the Ceramic Age in the Lesser Antilles, at 2430 ± 80 B.P.
Fig. 17. — The oval-shaped “core area” of the Trants site, as demarcated by the northern and southern sectors and the less well-defined eastern and western margins (site grid).
Fig. 18.—Backhoe "trial" pit B7 dug in connection with future development of the new airport.

(Beta-44828) and 2390 ± 90 B.P. (Beta-41682), or respectively ca 480 and 440 B.C. (uncorrected), both of which were obtained from field stratum C, the deepest cultural stratum in their respective excavation units. The oldest date is from the excavation unit (N396E571) in Field 8 (Fig. 17, Unit D) of the southern sector of the site; the next oldest date is from the unit (N596E571) in Field 9 (Fig. 17, Unit C) of the northern sector; the samples are separated by 200 m. These two dates are from midden deposits in excavation units located on their respective outer edges of the opposing curvilinear sectors and midway on the circumference of the oval (Fig. 17). Another radiocarbon date for the northern sector excavation unit (Fig. 17, Unit C), 1890 ± 70 B.P. (Beta-41678), or ca A.D. 60, is from field stratum B and in correct stratigraphic relationship (Table 2).

Five radiocarbon samples from the southeast portion of the Trants site in Field
Table 2.—Chronological ordering of radiocarbon dated samples from various contexts at Trants.

<table>
<thead>
<tr>
<th>Radiocarbon years B.P.</th>
<th>Conversion (uncorrected)</th>
<th>Lab sample</th>
<th>Unit</th>
<th>Depth*</th>
<th>Field</th>
<th>Corridor</th>
</tr>
</thead>
<tbody>
<tr>
<td>2430 ± 80</td>
<td>480 B.C.</td>
<td>Beta-44828</td>
<td>N396E571</td>
<td>50–70</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>2390 ± 90</td>
<td>440 B.C.</td>
<td>Beta-41682</td>
<td>N596E571</td>
<td>70–80</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>2140 ± 80</td>
<td>190 B.C.</td>
<td>Beta-18489</td>
<td>1979 unitb</td>
<td>40–50c</td>
<td>10</td>
<td>n/a</td>
</tr>
<tr>
<td>1960 ± 90</td>
<td>10 B.C.</td>
<td>Beta-41680</td>
<td>N422E645</td>
<td>70–80</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>1890 ± 70</td>
<td>A.D. 60</td>
<td>Beta-41678</td>
<td>N596E571</td>
<td>30–40</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>1750 ± 80</td>
<td>A.D. 200</td>
<td>Beta-41679</td>
<td>N407E634a</td>
<td>40–60</td>
<td>10</td>
<td>n/a</td>
</tr>
<tr>
<td>1740 ± 90</td>
<td>A.D. 210</td>
<td>Beta-41681</td>
<td>N422E645</td>
<td>61</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>1620 ± 90</td>
<td>A.D. 330</td>
<td>Beta-18582</td>
<td>1979 unitb</td>
<td>40–50c</td>
<td>10</td>
<td>n/a</td>
</tr>
</tbody>
</table>

* Depth in cm below ground surface.

b This unit was dug in 1979, prior to laying out the site grid.

c Same stratigraphic level for these two dates.

d This discretionary test pit was not within a corridor.

10 are dated. Two dates are from the same level (40–50 cm in Stratum II) in the 1979 excavation unit (Fig. 17, Unit A), 2140 ± 80 B.P. (Beta-18489) and 1620 ± 90 (Beta-18582), or respectively ca 190 B.C. and A.D. 330 (Table 2). These widely divergent dates, separated by 520 rcy, may result from the small sample sizes. To try to resolve the problem of the discordant dates, a charcoal sample was submitted from field stratum B (40–60 cm) of the discretionary test pit in southern Field 10, the test pit nearest the 1979 unit. This procedure assumes stratigraphic correlation between Stratum II from 1979 and field stratum B from 1990. The derived date, 1750 ± 80 B.P. (Beta-41679) or ca A.D. 200, accords more closely with the younger date (A.D. 330) of the 1979 unit. The final two dates, 1960 ± 90 B.P. (Beta-41680) and 1740 ± 90 B.P. (Beta-41681), ca 10 B.C. and A.D. 210, are from field stratum C in the single Corridor 2 excavation unit (N422E645) in Field 10 (Fig. 17, Unit B). These two dates are in proper stratigraphic context.

Temporal and spatial aspects of the radiocarbon dates merit discussion. Samples separated stratigraphically have the correct temporal relationship in two excavation units. Two samples from one level in another excavation unit produced discordant dates, and it is the older (190 B.C.) of the two dates that is suspect, based on crossdating of a stratum in a nearby test pit. These eight dates (Table 2) span either 810 rcy or 690 rcy depending on the terminal date used (A.D. 330 or A.D. 210, respectively). If the suspect 190 B.C. date in the 1979 unit is ignored, the four remaining dates from the southeast part of the oval (Field 10) span 340 rcy (10 B.C.–A.D. 330). Three of those four dates fall within a 130 rcy span (A.D. 200–330). The units producing the Trants site’s two oldest dates are located further west, midway across the northern and southern sectors of the oval in Fields 8 and 9 (Fig. 17). The northern unit also has one date (A.D. 60) contemporary with the earlier part of the 340 rcy span from Field 10. There are no dates from the western part of the Trants site.

Ceramics recovered during the 1978–79 and 1990 field seasons include white-on-red (WOR) painted and zoned-incised-crosshatched (ZIC) sherds (Fig. 19, 20). Such decoration is regarded as diagnostic of the Saladoid ceramic series, and as evidence for the earliest Ceramic Age population movement into the Caribbean (Rouse, 1992; Siegel, 1991). Although the decorated sherds are useful diagnostically, they constitute only 7.5% of the 1990 ceramic sample from Trants studied so far; even when slipped sherds (that otherwise are undecorated) are added to
Fig. 19.—Six white-on-red painted sherds recovered from the 1979 excavation unit. Artifact FSNs (Field Specimen Numbers): A, MS-G1-955; B, MS-G1-510; C, MS-G1-953; D, MS-G1-788; E, MS-G1-572; F, MS-G1-966. (Photograph courtesy of James B. Petersen.)
Fig. 20.—Three renderings of zoned-incised-crosshatched sherds recovered from the 1979 excavation unit. Artifact FSNs: A, MS-G1-806; B, MS-G1-476; C, MS-G1-292 and MS-G1-293.
decorated sherds, the cumulative total is only 14.4% (Petersen and Watters, in press). At Trants, WOR and ZIC sherds commingle in excavation units and test pits rather than being spatially segregated.

The radiocarbon dates and diagnostic artifacts confirm an early Ceramic Age occupation at Trants, generally corresponding (but beginning earlier) to Period IIa (300 B.C.—A.D. 400) in the chronological framework established by Rouse (1992: fig. 26). The field research carried out to date cannot answer, with certainty, whether the Trants site was inhabited continuously or occupied intermittently during the 810 (or 690) rcy span. Also uncertain is whether the oval was formed simultaneously, resulting from a single habitation event that was spatially contiguous, or was formed episodically, resulting from multiple habitation events that were spatially discontinuous but which eventually coalesced to create the oval. The configuration of the oval (assuming full closure on the eastern and western margins) is certain; the site formation processes that created the oval are uncertain. Early Ceramic Age occupation at Trants is certain; the continuity of that occupation is not.

**Discussion**

**Field Methods**

The collection corridor technique was the most efficient (in terms of time expended) and effective (in terms of quantifiable data secured) of the systematic surface collection strategies used at the Trants site. It provided the broadest coverage of the terrain and distinguished the “most dense” and “core area” from that terrain. The 10 x 10 m collection squares were laid out rapidly using tapes and chaining pins; artifacts in each square were quickly pin flagged, counted, and collected; and photographs taken of the individual squares and the corridors provided permanent visual records of the relative densities of flagged artifacts (Fig. 7, 11). The corridor technique did result in the forfeiture of certain provenience data, notably the loss of precise locations for the surface artifacts within each square. Loss of these data was deemed acceptable since the site surface already had been disturbed by cultivation, thereby making that level of precision somewhat inconsequential and superfluous.

The collection corridor technique proved to be effective but it could have been even more efficient. Surface artifact density plots (Fig. 8, 9) for Corridor 1 show that two patterns, one of artifact scarcity in Fields 1, 3 and 10 and one of abundance in the east part of Field 8, would have been detectable even when the total number of collected squares was reduced considerably. In the CMNH-UMF project, every square (n = 56) was collected for the entire length of Corridor 1. Yet, the overall distribution would still have been evident even if only every second square (n = 28) or perhaps every third square (n = 18) had been collected instead. The same rationale applies to the 21 collection squares in Corridor 2 (Fig. 10). Had the conformity of the patterns been recognized during the fieldwork at the Trants site in 1990, the “skipping” squares rationale could have been used in Corridors 1 and 2, thereby freeing up time for doing additional east–west and north–south collection corridors and thus providing even more extensive spatial coverage of the terrain and site.

Although the same rationale theoretically could be applied to corridor test pits, an examination of the plots indicates a decision to skip certain test pits would result in different distribution patterns. Skipping any test pit would have been a precarious exercise in Corridor 2 since it contained only five test pits (Fig. 12).
Increasing the interval between the 12 test pits in Corridor 1 would modify its overall pattern less drastically than Corridor 2, and skipping one or two test pits in Field 13 would not have greatly affected the low-density pattern observable in that particular field (Fig. 13). However, had the single test pit in westernmost Field 10 been skipped over, its elimination would have obscured completely the "unanticipated" subsurface peak which originally called attention to the eastward extension of the site. For the "most dense" and "core area" at Trants, a 50-m space between test pits appears to be the minimum interval needed to maintain the integrity of the subsurface density pattern. The low-density peripheral fields are suitable for more widely spaced test pits.

The collection corridor strategy corroborated some previous findings such as the major concentration existing in Field 8, but it also revealed new information on artifact distributions, such as the frequency decreases in surface and subsurface artifacts in Corridor 2 and the eastward extension of the site into Field 10. This technique certainly fulfilled the objectives of demarcating the extent and defining the boundaries of the Trants site, but it could have been made even more efficient, by reducing the number of surface collected squares, without compromising the integrity of the overall surface distribution patterns in each corridor.

Spatial Parameters

At the close of the 1990 CMNH-UMF project, the investigated terrain was interpreted as three spatially distinct areas. The first, the peripheral area, was demarcated by the modern fields having sparsely distributed surface artifacts. The low-density determinations resulted either from systematic sampling or from less reliable superficial observations made while walking over certain fields. The peripheral area encompassed Fields 1-6 south of the airport road, Field 12 north of the estate road, and Fields 13-15 at the base of the mountains (Fig. 5). Field 7, the Blackburne Airport, was the only part not observed at all in the entire 60-hectare terrain.

The second distinctive area, the most dense area, comprises the higher-density distributions determined primarily from the surface artifact plots in Corridors 1 and 2. The most dense area incorporates almost all of Fields 8, 9, 10, and 11 (Fig. 16). Its maximum extent likely is somewhat biased along the northern, western, and southern boundaries by artifacts that were brought to the surface through construction of the roads that correspond to those borders.

The third distinctive area is the core area which lies wholly within the most dense area. It certainly incorporates parts of Fields 8, 9, and 10 and probably part of Field 11 (Fig. 17). The circumference of the core area includes the fairly well-defined, curvilinear-shaped northern and southern sectors and the suggestive, but less firmly established, linking sectors on its eastern and western margins. The one discretionary test pit in northern Field 10 and the two trial pits in Field 9 substantiate the existence of these connections. The boundaries of the core area delineate an oval configuration having an east–west length of as much as 250 m and north–south extent of 200 m. The middle of the oval is the low-density area identified in the Corridor 2 plots. The size of the core area alone (50,000 m², or 5 hectares) is larger than the total site area (42,500 m²) estimated after the 1978-79 fieldwork.

In overview, the peripheral area comprises the relatively flat 600,000-m² terrain, bounded by the mountains, coast, and river valley, in the midst of which is the
most dense area of 90,000 m² which in turn encompasses the 50,000-m² core area of the Trants site itself.

Oval Configured Sites

Analysis of spatial patterning in this article relies primarily on artifact distributions and secondarily on radiocarbon date distributions. Another data set, sediment analyses and distributions, provides independent support for the existence of the peripheral area, in which low artifact densities and low sediment values correlate, and the core area, in which high artifact densities, high sediment values, and the occurrence of anthrosols also correlate. Petersen and Watters (1991) presented the sediment data in a preliminary manner; a detailed analysis of grain size characterization, pH, organic matter, and phosphate fractionation will be provided by Petersen in a separate part of the Trants field research series.

Within the core area of the Trants site are two well-defined areas, the northern and southern sectors (apparently extending to the eastern and western margins) consisting of middens with high densities of artifacts and ecofacts and high sediment values, and a site center comprising a 100-m-diameter area with low artifact density. Although the site center is thought to represent an area of “common ground” or “community space,” it is premature to label this area a “plaza” or “dance-court” (cf. Alegria, 1983).

The Trants site’s oval configuration is demarcated by the encircling middens. The two oldest dates (480 and 440 B.C.), from excavation units opposite one another on the oval, indicate contemporaneous occupation for those particular points along the northern and southern sectors. Four other dates indicate more recent habitation of the oval’s southeast segment. Presently undated are other midden segments on the oval’s circumference and the site center.

Circular, ring, or oval configured sites occur elsewhere in the Caribbean. Siegel (1992:372) uses a concentric “ring model” to characterize the Maisabel site on the north coast of Puerto Rico (Fig. 2). The site plan (Siegel, 1992:fig. 6.2) depicts a “cleared central portion of the village,” encircled by a “dense midden accumulation” (incorporating five mounded middens), in turn surrounded by a “low dense midden accumulation defining site periphery.” Low densities of artifacts in the central portion and the periphery contrast with the high density midden accumulation. A cemetery was discovered in the central portion of the Maisabel site. Siegel (1992:126–132, 188–191) contends that: (1) the overall settlement groundplan was established during initial occupation by Saladoid colonists; (2) the four areas of the site he studied were occupied contemporaneously; and (3) the site was continuously occupied. Saladoid and Ostionoid occupation (ca 100 B.C.–A.D. 1200) at Maisabel spans part of Period IIa and all of Periods IIIb, IIIa, and IIIb in Rouse’s (1992) scheme. The Puerto Rican site of Punta Candelero, which has an earlier Huecan component with linearly arranged mounds, attains a semicircular configuration during its later Cuevas component (Rodriguez, 1991: fig. 6).

The Golden Rock site on St. Eustatius (Fig. 2) apparently had a circular layout (Versteeg and Schinkel, 1992:212). The report summarizes the spatial data derived from research by De Josselin De Jong in 1923, during which he mapped five distinct midden clusters. Three clusters subsequently were damaged by airport development. One extant cluster (GR-1), the focus of excavations in the 1980s, contained a midden, house structures, and burials; a presumably complementary
midden cluster (GR-2) is situated opposite GR-1 (Versteeg and Schinkel, 1992: fig. 178). Occupation (ca A.D. 600–800) at Golden Rock is primarily Period IIIa but may extend back into Period IIb.

Rouse (1974:167, 1978:703) characterizes the Indian Creek site on Antigua (Fig. 2) as an oval ring or a circle, with a concentration of shell refuse in a series of five middens around the periphery of an oval area. Radiocarbon dates indicate that Indian Creek encompasses the latter part of Period IIa and all of Periods IIb, IIIa, and IIIb. Rouse (1974:168) mentions two other oval-shaped sites surrounded by middens, Ostiones on Puerto Rico and Carrier in Haiti.

The oval configured core area at the Trants site most closely parallels the "ring model" at Maisabel (Siegel, 1992:fig. 6.2), with respect to their comparable low-density site centers, high-density midden areas, and low-density peripheries. Spatially distinct mounded middens at Maisabel, midden clusters at Golden Rock, and middens at Indian Creek and Punta Candelero have no counterparts yet identified at Trants, where the midden accumulation is continuous around the oval rather than existing as discrete entities. Structural remains have yet to be detected at Trants but the area where they most likely would occur, at the interface of the site center and midden areas based on findings at Maisabel and Golden Rock, has received minimal subsurface testing. A counterpart at Trants for the Maisabel cemetery within the site center is also unknown. Although comparisons between specific intrasite components at Trants and Maisabel are not warranted at this time, their strikingly similar overall configurations suggest future comparisons, following larger-scale excavations at Trants, will be fruitful.

**Montserrat's Ceramic Age Sites**

Trants is one of the oldest Ceramic Age sites in the Lesser Antilles. Only two sites, Hope Estate on St. Martin (560 B.C.) and Fond Brûlé on Martinique (530 B.C.), report older Ceramic Age radiocarbon dates. The dates from Trants and from these islands support a migration by ceramic-producing peoples into the Lesser Antilles at a much earlier date (by at least 500 years) than was previously accepted (Rouse, 1989; Siegel, 1991). Trants is an important component of this 500 B.C. population movement.

Equally important for establishing this population movement are the other early Ceramic Age sites on Montserrat. The Radio Antilles site (MS-A1) on the island's south coast (Fig. 2) has a single radiocarbon date, 2390 ± 60 B.P. (Beta-18491), or 440 B.C. (uncorrected), equivalent to the second oldest date from Trants. There are two other early dates from Radio Antilles, 2210 ± 70 B.P. (Beta-18490) and 2120 ± 60 B.P. (Beta-10582), or respectively 260 B.C. and 170 B.C. Excavations at Trants and Radio Antilles have produced numerous examples of commingled WOR and ZIC sherds as well as vessel forms associated with the Saladoid ceramic series.

More recently, a third Montserrat site containing Saladoid ceramics, the Belham Valley site on the island's west coast (Fig. 2), has been identified from artifacts surface collected in 1964 by Walter Kenyon and curated at the Royal Ontario Museum (ROM). During Kenyon's visit, the Belham Valley site was in the process of being covered over (perhaps destroyed) by grading for a golf course. In 1979, informants notified Watters (1980:237) of the existence of the Belham Valley site but his reconnaissance of the golf course fairways failed to detect any surface artifacts. The materials in the ROM collection are the only artifacts from this site available for study. The Belham Valley collection, kindly loaned by ROM to
CMNH for the past two years, has been studied by Petersen and Watters. It includes 300 individual vessels, defined primarily by rim sherds, and contains painted, incised, and undecorated sherds ascribed to the Saladoid ceramic series. Diagnostic WOR and ZIC artifacts confirm that Belham Valley is Montserrat’s third early Ceramic Age site. The absence of materials suitable for radiocarbon dating in the ROM collection means that more precise information on the duration of occupation at Belham Valley is unavailable.

Early Ceramic Age colonization of Montserrat is documented by Saladoid ceramics in three very widely dispersed sites on relatively flat land occurring near sea level on the east, south, and west coasts (Fig. 2). Radiocarbon dates at the sizeable sites of Trants and Radio Antilles document early settlement and suggest these occupations were sustained. The area and duration of occupation of the Belham Valley site are unknown, but the site’s location in the largest valley on the island and its proximity to the largest permanent flowing river suggest it also was a major habitation site. The other prehistoric sites on Montserrat, Windward Bluff, Farnsworth, Dagenham Beach, and Little Bay, are more recent post-Saladoid sites containing no Saladoid ceramics.

Conclusions

The Trants site presently is interpreted as a manifestation of the initial Ceramic Age population movement into the Lesser Antilles at about 500 B.C. Small scale excavations (Fig. 21) within the core area recovered common midden materials such as pottery, lithic tools and debitage, shell and stone beads, and a variety of vertebrate, molluscan, crab, and coral remains. The pottery is attributed primarily
to the early part of the Saladoid ceramic series (Petersen and Watters, in press). Late Saladoid and post-Saladoid ceramics are absent in the Trants excavations.

Spatial distribution of the two oldest radiocarbon dates, one each from the northern and southern midden sectors, indicates occupation was contemporary in these areas of the Trants site. The site’s terminal date (A.D. 330) provides a timespan of some 810 rcy, which incorporates almost all of Period IIa and extends back into latest Period Ib. Dates ranging from 10 B.C.–A.D. 330 on the oval’s southeast part support the idea of a sustained occupation in that sector. Whether the site was inhabited continuously or occupied intermittently during that 810 rcy span is uncertain.

Surface and subsurface artifact distributions and sediment distributions delineate a “core area” having an oval-shaped configuration (assuming full closure on the eastern and western margins) with maximum dimensions of about 250 × 200 m. The intervening area (ca 100 m between the northern and southern sectors) exhibits definite decreases in surface and subsurface artifact densities as well as lower sediment values. Whether the oval configuration was laid down simultaneously or episodically at Trants is uncertain. Younger oval- or circular-shaped sites are reported from Golden Rock, Indian Creek, Maisabel, and Punta Candelero. These sites for the most part are more recent than the earliest dates at Trants although the Indian Creek, Maisabel, and Punta Candelero (Huecan component) sites include occupations in the later part of Period IIa.

The postulated overall site structure at Trants includes a centrally located “common ground” (the site center having sparse artifacts) that is surrounded by structures (yet to be detected) behind which are refuse areas (represented by the midden), all being contained in the core area of the site. Beyond the midden accumulation is the site periphery, which is indicated by the modern fields having low-density artifact distributions.

Field methods used in the 1990 CMNH-UMF project, notably the collection corridor strategy for surface and subsurface sampling, fulfilled the objectives of delineating the extent of the Trants site and determining its overall configuration and boundaries. This field research has verified that Trants is one of the oldest early Ceramic Age sites in the Lesser Antilles, and forthcoming parts of the Trants series will show that Trants also is one of the best-preserved sites in the region.

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**LITERATURE CITED**


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