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ORIGINAL ARTICLES.

Physical Anthropology. **With Plate D.** **Buxton, Trevor, Julien.**

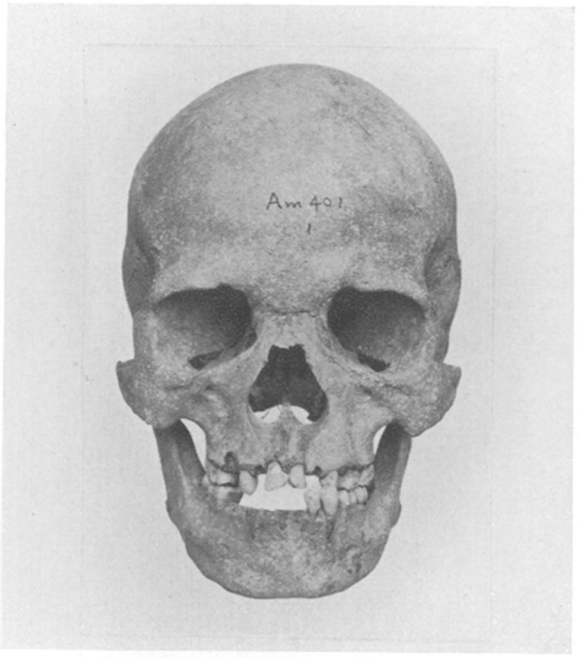
SKELETAL REMAINS FROM THE VIRGIN ISLANDS. *By L. H. Dudley Buxton, J. C. Trevor and Alvarez H. Julien. From the Department of Human Anatomy, University of Oxford. (With Plate D.)*

47 In February, 1936, while engaged in field work among the Negroes of the Eastern Caribbean (conducted during the tenure of a Commonwealth Fund Fellowship in Anthropology at Northwestern University, and with the assistance of a research grant from Northwestern and Columbia Universities), Trevor was able to collect the remains of some of the early inhabitants of the Virgin Islands which had been discovered in the course of the preceding two years on Water Island, near St. Thomas, by Julien.[1] Originally, the burials of about twenty-one persons were recorded as lying at a depth of from two to three feet below the surface, in direct association with shells of the giant conch (*Strombus gigas*) and other gasteropods, small animal bones, probably those of the Indian coney (*Capromys brachyurus*), lumps of a red ochreous substance, stone implements and pottery, the last of which is discussed by Professor Gudmund Hatt of Copenhagen in MAN, 1938, 48. The skeletons were reinterred in 1934 and 1935, after the accompanying objects had been removed. In 1936 it was unfortunately impossible to locate more than seven, despite the expenditure of much energy in shifting several tons of sand under which they then lay. To this number can be added the occipital bone of an eighth individual, found on one of the two sites from which the rest of the remains were obtained. A rough survey of these sites was carried out during their excavation, and the positions of the skeletons at times of first discovery and final removal were ascertained as accurately as possible. An account of the relevant facts, together with details of orientation and such artefacts as could be associated with particular burials, is being prepared by Julien and Trevor (1938), and copies of it will be deposited in the Department of Human Anatomy at Oxford and in the St. Thomas Public Library.

For our immediate purpose it is enough to say that the remains of respectively five and three persons were recovered a few yards from the foreshore of two inlets known locally as Landing Bay and Tamarind Tree Bay. Both bays are situated on the north-west coast of Water Island, which is separated from the southern shores of St. Thomas by the Gregerie Channel. They lie between Providence and Caroline Points and are shown, but not named, on U.S. Coast and Geodetic Survey Chart No. 933, Landing Bay being the first large inlet south-west, and Tamarind Tree Bay the first large inlet north-east, of Elephant Bay, the name of which appears on the chart.

The skulls (mostly incomplete), humeri, pelvic fragments, sacra, femora and calcanea of seven individuals—five fully grown, one an adolescent, and one a child aged about eleven—and the occipital bone of an eighth, apparently mature, are now in the Oxford collection. Measurements of the crania, which have been restored by Buxton, and femora, with the exception of those of the child, are given in Tables 1 and 2. In view of the scanty material with which we have to deal, it is not

[1] Through the kindness of the Hon. Lawrence W. Cramer, Governor of the Virgin Islands of the United States, permission was obtained for the material to be excavated and sent to England. It has been presented to the University Museum at Oxford by our collaborator Mr. Julien of St. Thomas, of whose courtesy in placing his finds with us for examination we are anxious to make the fullest acknowledgment.—L.H.D.B., J.C.T.



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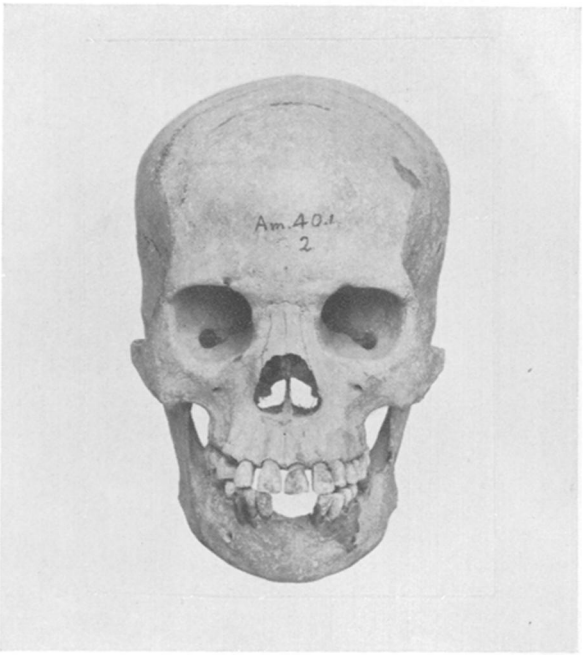

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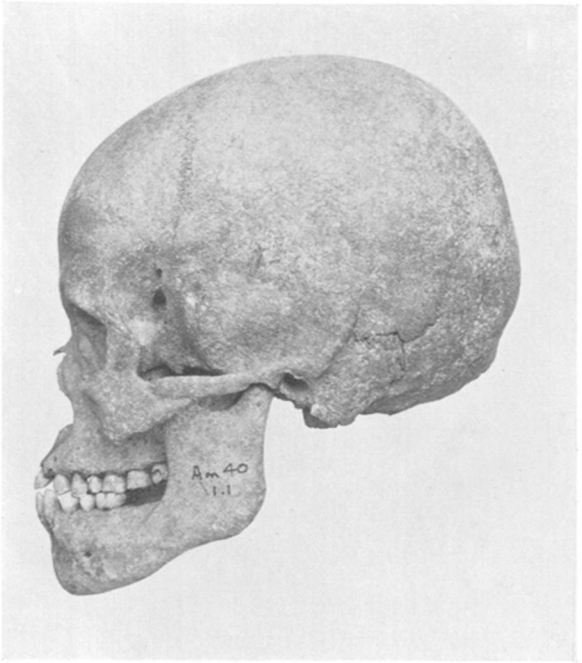

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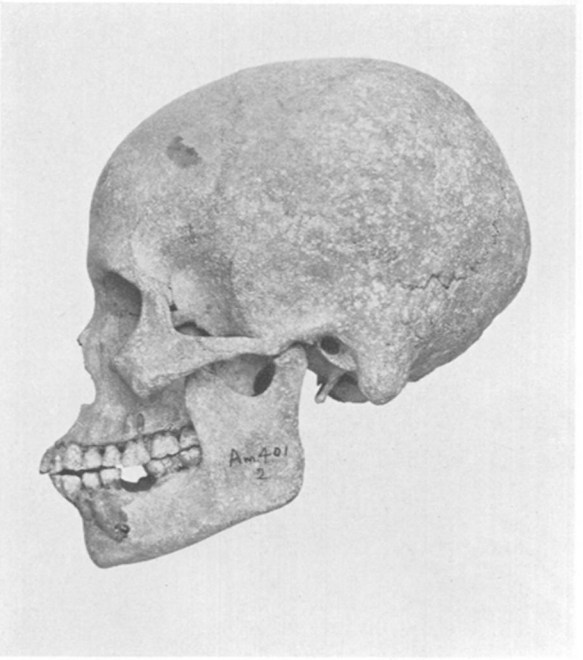

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TWO SKULLS FROM THE VIRGIN ISLANDS.

1–3 *male* : 2–4 *female* : *about one-third natural size.*

to be supposed that a consideration of the metrical characters can yield anything more than the most tentative results, but as no ancient remains from the Virgin Islands have to our knowledge yet been described, we present them without apology.[2] The two most perfect skulls, Am. 40.1.1♂ and Am. 40.1.2♀, are illustrated in Plate D.

Catalogue Number	Age and Sex	*L*	*B*	*B′*	*H′*	S_1'	S_2'	S_3'	S_1	S_2	S_3	*S*	Bregmatic *Q′*	*U*
Am. 40.1.1	Adult ♂	176	131·5	98·7	134	109·1	122·0	88.6	125	142	104	371	310	498
Am. 40.1.2	Adult ♀	170	130	87·9	126	102·9	106·9	84·0	116·5	120	96·5	333	291	476
Am. 40.1.3	Adult ♂	170·5	134·5?	99·6	—	—	—	—	—	—	—	—	309?	491?
Am. 40.1.4	Young ♂	186·5	138·5	98·2	142	114·1	129·4	101·1	133·5	146·5	115	395	323	522
Am. 40.1.5	Adult ♂	185?	138·5	—	140·5?	114·3?	120·4?	97·1	132?	135?	111	378	—	—
Am. 40.1.6	Adult ♂	182·5	141·5?	95·9	138	113·2	117·4	95·0	129·5	133·5	109	372	316?	518?

Catalogue Number	Age and Sex	*fml*	*fmb*	*LB*	*GL*	*G′H*	*GB*	*J*	*NH, L*	*NB*	O_1, L	O_2, L	G_1'	G_2
Am. 40.1.1	Adult ♂	35·3	29·5	97·8	105·7	59·3	97·4	132	43·4	30·3	43·6	30·8	49·7	42·7
Am. 40.1.2	Adult ♀	33·9	27·7	99·4	109·8	63·4	93·9	124	45·0	26·6	37·3	28·5	51·0	40·9
Am. 40.1.3	Adult ♂	—	—	—	—	—	—	—	—	—	—	—	—	—
Am. 40.1.4	Young ♂	38·7	32·6	97·0	—	—	—	—	—	—	—	—	—	—
Am. 40.1.5	Adult ♂	37·1	32·5	100·6	—	—	—	—	50·1?	22·0	40·9	—	—	—
Am. 40.1.6	Adult ♂	38·3	26·7	104·4	102·8?	65·6	—	—	50·7	28·1	42·4	35·5	—	—

Catalogue Number	Age and Sex	$100\frac{B}{L}$	$100\frac{H'}{L}$	$100\frac{B}{H'}$	*Oc. I.*	$100\frac{fmb}{fml}$	$100\frac{G'H}{GB}$	$100\frac{NB}{NH}, L$	$100\frac{O_2}{O_1}, L$	$100\frac{G_2}{G_1'}$	*N∠*	*A∠*	*B∠*
Am. 40.1.1	Adult ♂	74·7	76·1	98·1	62·2	83·6	60·9	69·8	70·6	85·9	80°·6	65°·9	33°.5
Am. 40.1.2	Adult ♀	76·5	74·1	103·2	65·1	81·7	67·5	59·1	76·4	80·2	81°·5	63°·7	34°·8
Am. 40.1.3	Adult ♂	78·9?	—	—	—	—	—	—	—	—	—	—	—
Am. 40.1.4	Young ♂	74·3	76·1	97·5	66·9	84·2	—	—	—	—	—	—	—
Am. 40.1.5	Adult ♂	74·9?	75·9?	98·6?	66·0	87·6	—	43·9?	—	—	—	—	—
Am. 40.1.6	Adult ♂	77·5?	75·6	102·5?	65·4	69·7	—	55·4	83·7	—	70°·1?	73°·1?	36°·8?

TABLE 1.—MEASUREMENTS OF CRANIA FROM THE VIRGIN ISLANDS.

Catalogue Number	Age and Sex	Femur, *L*	Femur, *R*	Stature
Am. 40.1.1	Adult ♂	448	446	1652
Am. 40.1.2	Adult ♀	437	439	1582
Am. 40.1.5	Adult ♂	423	422	1606
Am. 40.1.6	Adult ♂	441	442	1644

TABLE 2.—MEASUREMENTS OF FEMORA FROM THE VIRGIN ISLANDS.

The maximum length of the femur, left and right, was taken, with the bone resting on the horizontal surface of the osteometer, the measurements of the right side being used to reconstruct stature from the formulæ provided by Pearson (1898).

Definitions of the points and planes used in taking the cranial measurements have been given by Buxton and Morant (1933), those of the characters themselves being as follows:—*L*, maximum glabello-occipital length in median sagittal plane; *B*, maximum biparietal breadth in transverse plane; *B′*, minimum frontal diameter between superior temporal lines; *H′*, basi-bregmatic height; S_1', chord, nasion to bregma; S_2', chord, bregma to lambda; S_3', chord lambda to opisthion; S_1, arc, nasion to bregma; S_2, arc, bregma to lambda; S_3, arc, lambda to opisthion; *S*, arc, nasion to opisthion; Bregmatic *Q′*, biporial arc through bregma; *U*, maximum horizontal circumference above supraciliary ridges and through most projecting part of occiput; *fml*, length, basion to opisthion; *fmb*, maximum breadth of *foramen magnum*; *LB*, chord, nasion to basion; *GL*, chord,

[2] An imperfect female calotte, excavated by the late Theodor de Booy at Magens Bay, St. Thomas, is in the warehouse of the Museum of the American Indian, Heye Foundation, at Brooklyn, New York, and we understand that Professor Hatt has in his possession some skeletal material from St. Croix, one of the Virgin group.

basion to alveolar point; $G'H$, chord, nasion to alveolar point; GB, breadth, zygomaxillare to zygomaxillare; J, maximum bizygomatic breadth; NH, L, height, nasion to lowest point on left inferior margin of pyriform aperture; NB, maximum breadth of pyriform aperture; O_1, L, maximum breadth of left orbit from maxillo-frontale; O_2, L, maximum height of left orbit perpendicular to O_1, L; G_1', length, staphylion to orale; G_2, breadth between mid-points on inner alveolar margins of second molars. With the exception of the Occipital Index (*Oc. I.*), *viz.* $100\frac{S_3}{S_3'}\sqrt{\frac{S_3}{24\ (S_3 - S_3')}}$, the values of which were found from the table published by Tildesley (1921), the indices need not be defined. The nasal, alveolar and basal angles, N , $A\angle$ and $B\angle$, subtended by the sides GL, LB and $G'H$ of the fundamental triangle, were determined with the aid of Pearson's trigonometer.

The problem of Antillean cultural affiliations has recently been dealt with by Dr. Charlotte Gower (1927), who states that in 1492 at least three populations, possessing as many fairly distinct cultures, occupied the West Indies. These are usually referred to as the Ciboney, Taino (Arawak) and Carib. At the time of the discovery of the New World, the Ciboney were living in the extreme west of Cuba and Haiti. In the Lesser Antilles, of which the Virgins form the western extremity, it is known from archæological evidence that the Caribs superseded an earlier agricultural population, supposed to be related to the Taino of the larger islands and sometimes called the Ygneri. The Caribs themselves seem to have distinguished between Taino and Ygneri.

While not wishing to commit himself to a definite opinion regarding the pottery associated with the Water Island burials, Professor Hatt nevertheless supposes it to be Ygnerian. Owing to the lack of any detailed descriptions of the physical type of the Antillean aborigines which might afford comparative material, we are unable to add anything substantial to the argument from the skulls. It is interesting to observe, however, that none of the specimens now considered displays the slightest sign of artificial cranial deformation, a common practice among both Taino and Carib, though its absence has been recorded for the Ciboney (Gower, 1927, p. 29). The fact that no high cephalic index is possessed by any of the individuals described in Table 1 should also be noted, the general tendency of West Indian skulls being towards brachycephaly.

We feel that it is necessary to make some observations concerning the skulls illustrated in Plate D. Had they been presented to the first two of us without indication of provenance, we should, on the basis of their high nasal indices and marked prognathism, hardly have hesitated to suggest that they were Negroid. (Two other skulls of which the facial skeletons are more or less intact do not show these features to such an extreme degree.) But the circumstances under which they were found—Am. 40.1.1 with two celts at the level of the ribs and Am. 40.1.2 with the handled vessel figured by Professor Hatt over the face—seem to argue against the likelihood of secondary interment after the introduction of Negro slaves in the 17th century. While admitting that the conditions of their final recovery were far from ideal, we are inclined provisionally to accept a pre-Columbian date for the remains as a whole. It is perhaps not without significance that Sir William Flower (1895) commented on the 'Negroid' characteristics of two out of a number of Jamaican crania of undoubted Indian origin examined by him. This series was subsequently measured by Dr. Haddon, who mentions the occurrence of considerable variation in the values of the nasal indices in his 'Note 'on the Craniology of the Aborigines of Jamaica' (Duerden, 1897). Additional human material from the Virgin Islands may elucidate the problems arising from the present discussion.

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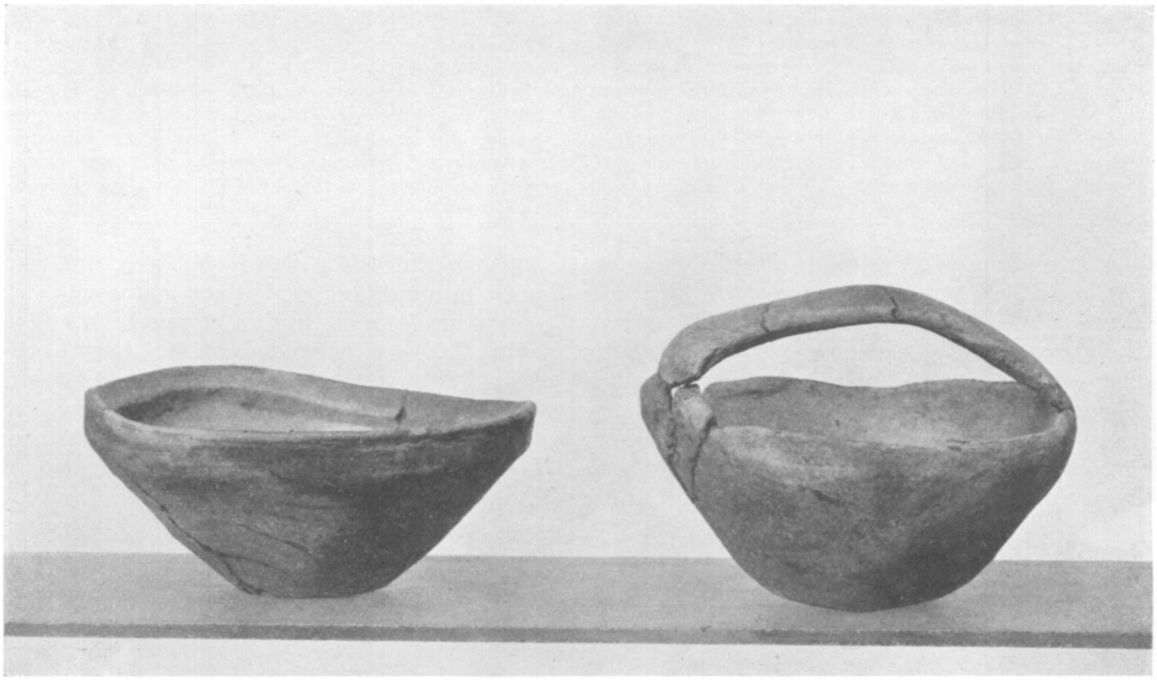

FIG. 1. CLAY VESSELS FROM THE VIRGIN ISLANDS.

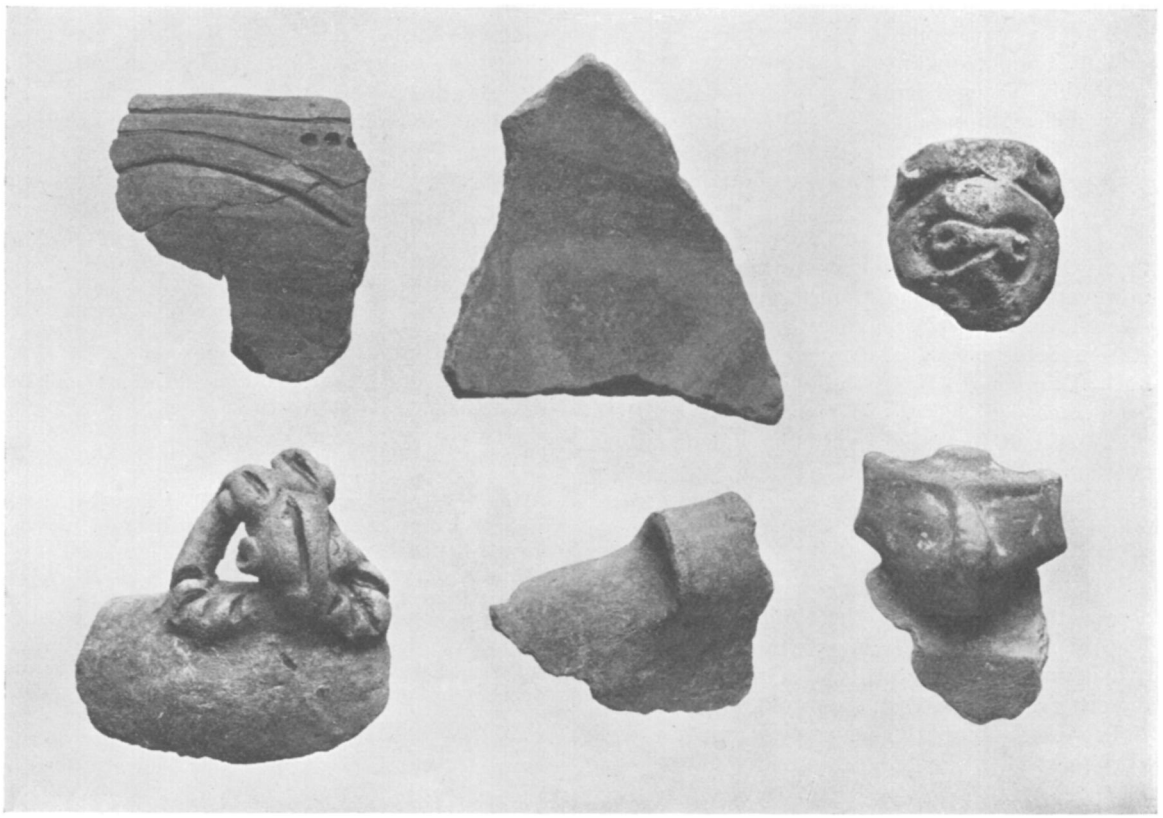

FIG. 2. POTSHERDS FROM THE VIRGIN ISLANDS.