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SOCIAL HISTORY AND BIO-ANTHROPOLOGY IN HAITI, WEST INDIES

INTRODUCTION

Haiti is a small, Caribbean country with an area of about 10000 square miles and an estimated total population of 4.8 million (as of mid—1966) (World Population Data Sheet, 1966). An intensive bio-anthropological survey of the island of Grand Cayemite in south-western Haiti was undertaken during 1968—69. The purpose of the study was to examine bio-social interrelations in the rural Haitian population at macro- and micro-levels. Specifically, it was intended to asses the effect of some social factors on biological characteristics in this population in the following manner:

1. By formulating, on the basis of available social-historical information, a hypothesis regarding the genetic contribution to the rural Haitian population of the three 'parental' groups, i.e., central and western African Negro, French White and American Indian.
2. By formulating on the basis of our demographic data, a hypothesis regarding biological variations among the four villages on Grand Cayemite.
3. By testing these hypotheses using biological data.

SOCIAL HISTORY

The following description of the social history is based on Leyburn (1966).

Various waves of migration entered Hispaniola, i.e., Haiti and Dominican Republic combined, at different times.

Three waves of American Indian immigration into the island of Hispaniola have been postulated: 1. Ciboneys from North America in the 7th or 8th century; 2. Arawaks or Tainos from Orinoco and Amazon basins; and, 3. Caribs from South America. In addition to these, some Indians from the mainland were brought in in the 16th century and some more in 1730. Indians were mostly exterminated by the time Negroes started arriving in large numbers. There were only 500 of them in the whole of Hispaniola by 1548 and virtually none in 1697 when the French took over Haiti. However, there must have been some Indians left when the Negro importation started during the early part of the Spanish rule, for the records suggest that Negroes from central and western Africa were brought in as slaves between 1510 and 1791. The major influx of Africans however occurred during the French regime.

As far as written records exist, the Negroes came from northern and western Africa, Sierra Leone, Gold Coast, from the area between Cape Appolonia and Volta river, Togoland, Dahomey, western Nigeria, Benin, Niger delta, Calabar, Congo and Angola.

The Spaniards came in small numbers after Columbus first sighted Hispaniola in December 1492, but did not settle down.

Since the conclusion of the Treaty of Ryswick in 1697, the French arrived in large numbers and settled down in Hispaniola; in 1791 their total number was 36000.

Other European populations and some middle-easterners came in at different times, but in very small numbers.

The Africans contributing to the contemporary Haitian population might not have represented the whole of the western and central African region evenly. Some areas might have been represented

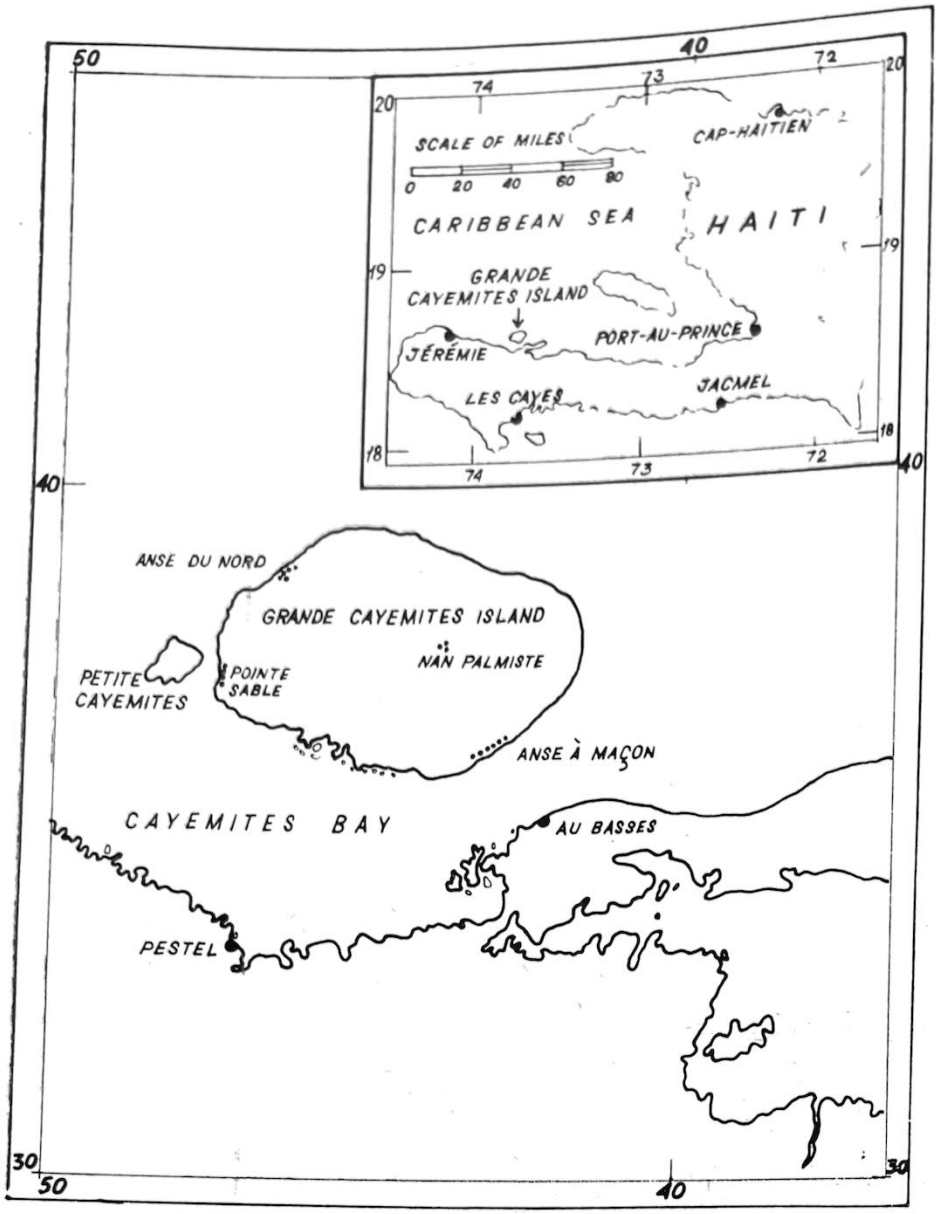

FIGURE 1 MAP

more frequently than others; there are also records of the upper social strata of the African societies being represented more frequently than the lower ones, in the immigrant population, and of familial groups in immigration. Further, the slave population died out approximately every 20 years so that new shipments had to be brought in. Different shipments might have been composed of different proportions of people from different areas.

The French immigrants also, perhaps, did not represent the then French population in general. The colonists came mainly from the upper strata of the Parisian society and represented mainly the declining aristocracy, migrating to newer lands in search of better fortunes.

There does not seem to have been much population movement in historical times. Slaves were confined to the same plantations for life. Villages were, and still are, effectively isolated, their only contact with the outside world being through the market places, which did not receive many outsiders. The only possible way in which some movement occurred was the practice of *marronage* i.e., running away of slaves to hills and jungles, far away from the plantations. Estimates of the size of *marronage* are not available except for 1720 and 1751, when there were 1000 and 3500 cases, respectively, in all Haiti.

Upward movement in the social hierarchy of light-coloured mixed-bloods, because of the prestige attached to the light-skin, has been a persistent and characteristic feature of the Haitian social history. The Elite, the majority of which was light-skinned, was formed fairly early in the Haitian history. This was the class of the Affranchis, the gentlemen of colour. The average Haitian tried to move up in the social hierarchy and to identify himself with the Affranchis by lightening their offspring's skin by judiciously selecting spouses. Social mobility was greater from the lower to the upper strata, than in the reverse direction, because the

people of mixed parentage, who were not immediately able to identify themselves with the Affranchis, preferred to remain in the 'intermediate' strata, hoping to move up in the future, rather than to identify themselves with the masses, i.e., Blacks. The sense of superiority of the Elites, i.e., the Affranchis, who incidentally owned slaves themselves, and the fear of getting identified with the Blacks, made downward movement extremely unlikely.

From the description given above the following hypotheses could be formulated:

1. (a) The contemporary rural population of Haiti, because of its central and western African origin, is overwhelmingly Negroid; (b) the 'White' component contributed by the French colonial settlers is extremely small or non-existent in the rural population, being confined to the Affranchis, because of upward social mobility of those having lighter skin; and, (c) the American Indian component is also small, for they very nearly died out when the Africans came in in large numbers, but is greater than the 'White' one, for there were still some Indians left when Negro importation started during the early 1500s, and there does not seem to have been much scope for social segregation, either due to upward social mobility or other reasons, of the Indian-Negro hybrids from the rural population.

2. The four villages on Grand Cayemite, which are non-intermarrying, are genetically more 'distant' than, for instance, the 'distance' between Pointe Sable and Pestel, a little town on the mainland immediately opposite the former, which intermarry to a reasonable extent.

MATERIAL AND METHOD

The bio-anthropological survey referred to above comprised collection of demographic, anthropometric, dermatoglyphic and blood-polymorphic data from four villages on the island of Grand Cayemite, namely, Anse à Maçon, Pointe Sable, Anse du Nord and Nan Palmiste, and the town of Pestel, on the mainland, in southwestern Haiti (*Figure 1*).

A random sample of households was surveyed in Anse a Macon and Pointe Sable; all the households were studied in Anse du Nord; and the sample consisted of those individual who were willing to participate in Nan Palmiste and Pestel. Subjects aged 20 and above only were studied, to avoid the difficulties usually encountered in drawing blood, finger-printing and making reliable anthropometric measurements on younger people.

Hiernaux's (1965) Δ_g method was used in computing the biological distances:

$$\Delta_g p_1 p_2 = 10\,000 \frac{\sum_n \left[\frac{g_i^{p_1} - g_i^{p_2}}{a_i}\right]^2}{n}$$

where Δ_g represents the general distance, g_i is the i-th of the n characters considered, a_i the world range of variation of the mean or the frequency of the i-th character and p_1 and p_2 the two populations compared. The advantage of this method is that it permits 'simulataneous utilization of all anthropological material, be they the means of metric characters or the frequencies of genes or of descriptive traits' (Hiernaux, 1965).

TABLE 1 *Biological 'distances' between Grand Cayemite and each 'parental' population*

POPULATION	'PARENTAL' POPULATION		
	AFR. NEG.	FRENCH	AMER.IND.
(1)	(2)	(3)	(4)
TOTAL GRAND CAYEMITE	101	618	498

TABLE 2 *Biological 'distances' among the Cayemite villages*

POPULATION	AM	PS	AN	NP
(1)	(2)	(3)	(4)	(5)
AM		45	178	116
PS			167	98
AN				175
NP				

Published data on western and central African Negroes, French Whites and American Indians of Venezuela and Brazil were utilized for comparison. Unweighted average of frequencies or means of as many samples as were available was used to represent each 'parental' group. References to sources of comparative data are given under each table.

RESULTS AND DISCUSSION

The data are presented in the Appendix (*tables 1–6*). Each table gives the percentage or mean, depending on the trait concerned, separately for the male and female and also for combined male plus female samples, for the four villages on Grand Cayemite separately, for the pooled Grand Cayemite sample, for Pestel and for the three supposed 'parental' populations. Δ_g distances, calculated according to Hiernaux's (1965) method, on the basis of the data given in the Appendix, are given in tables *1* and *2*. The data on endings of main lines D, C and B (Appendix *table 3*) were not utilized, however, in the absence of comparable data from 'parental' populations. Table 1 shows that, of the three supposed 'parental' populations, the pooled Grand Cayemite sample is closest to the African Negro, and that, between French White and American Indian, it is closer to the latter. This result is in conformity with our first hypothesis.

Coming to our second hypothesis, we find that in general the 'distances' among the Grand Cayemite villages are greater than that between Pointe Sable and Pestel, which is 108. 4 out of 6 'distances' shown in table 2 are greater than 108. The

TABLE 2

Population		Whorl				Loop			Arch			Total
		W	W^d	Cent. pocket	Total	L^u	L^r	Total	A	A^t	Total	
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Male												
AM No.		230	65	10	305	511	19	530	26	4	30	865
	%	26.6	7.5	1.2	35.3	59.1	2.2	61.3	3.0	0.5	3.5	
PS No.		141	45	10	196	368	15	383	45	2	47	626
	%	22.5	7.2	1.6	31.3	58.8	2.4	61.2	7.2	0.3	7.5	
AN No.		72	19	1	92	246	3	249	25	0	25	366
	%	19.7	5.2	0.3	25.1	67.2	0.8	68.0	6.8	0	6.8	
NP No.		23	9	0	32	67	5	72	6	0	6	110
	%	20.9	8.2	0	29.0	60.9	4.5	65.5	5.5	0	5.5	
Total No.		466	138	21	625	1192	42	1234	102	6	108	1967
	%	23.7	7.0	1.1	31.8	60.6	2.1	62.7	5.2	0.3	5.5	
P No.		38	12	7	57	193	5	198	14	1	15	270
	%	14.1	4.4	2.6	21.1	71.5	1.9	73.3	5.2	0.4	5.6	
Female												
AM. No.		190	58	8	249	620	21	641	60	1	61	951
	%	20.0	5.4	0.8	26.2	65.2	2.2	67.4	6.3	0.1	6.4	
PS No.		139	49	8	196	473	7	480	53	2	55	731
	%	19.0	6.7	1.1	26.8	64.7	1.0	65.7	7.3	0.3	7.5	
AN No.		80	30	4	114	224	9	233	32	1	33	380
	%	21.1	7.9	1.1	30.3	58.9	2.4	61.3	8.4	0.3	8.7	
NP No.		26	19	2	47	130	8	138	12	2	14	199
	%	13.1	9.5	1.0	23.6	65.3	4.0	69.3	6.0	1.0	7.0	
Total No.		435	149	22	606	1447	45	1492	157	6	163	2261
	%	19.2	6.6	1.0	26.8	64.0	2.0	66.0	6.9	0.3	7.2	
P No.		41	10	9	60	183	11	194	24	0	24	278
	%	14.7	3.6	3.2	21.6	65.8	4.0	69.8	8.6	0	8.6	
Male + Female												
AM No.		420	116	18	554	1131	40	1171	86	5	91	1816
	%	23.1	6.4	1.0	30.5	62.3	2.2	64.5	4.7	0.3	5.0	
PS No.		280	94	18	392	841	22	863	98	4	102	1357
	%	20.6	6.9	1.3	28.9	62.0	1.6	63.6	7.2	0.3	7.5	
AN No.		152	49	5	206	470	12	482	57	1	58	746
	%	20.4	6.6	0.7	27.6	63.0	1.6	64.6	7.6	0.1	7.8	
NP No.		49	28	2	79	197	13	210	18	2	20	309
	%	15.9	9.1	0.6	25.6	63.8	4.2	68.0	5.8	0.6	6.5	
Total No.		901	287	43	1231	2639	87	2726	259	12	271	4228
	%	21.3	6.8	1.0	29.1	62.4	2.1	64.5	6.1	0.3	6.4	
P No.		79	22	16	117	376	16	392	38	1	39	548
	%	14.4	4.0	2.9	21.4	68.6	2.9	71.5	6.9	0.2	7.1	
Afr. Neg[1].)	%	–	–	–	28.9	–	–	64.2	–	–	7.0	–
French[2])	%	–	–	–	28.4	–	–	65.2	–	–	6.5	–
Amer. Ind[3].)	%	–	–	–	41.1	–	–	55.0	–	–	4.0	–

World range: whorl 15.1—90.0; Loop 8.4—75.9; Arch 0—16.5

[1]) *Schwidetzky, I. (1962);* [2]) *Schwidetzky, I. (1962);* [3]) *Coope, E. & Roberts, D. F. (1971).*

TABLE 2a

Hypothenar, thenar / 1st, 2nd, 3rd and 4th intedigital patterns

Population		Male			Female			Male + Female		
		R	L	R+L	R	L	R+L	R	L	R+L
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Hypothenar										
AM No.		24(82)	23(88)	47(170)	26(94)	25(96)	51(190)	50(176)	48(184)	98(360)
	%	29.3	26.1	27.6	27.7	26.0	26.8	28.4	26.1	27.2
PS No.		21(63)	17(61)	38(124)	19(74)	21(74)	40(148)	40(137)	38(135)	78(272)
	%	33.3	27.9	30.6	25.7	28.4	27.0	29.2	28.1	28.7
AN No.		9(35)	12(36)	21(71)	8(39)	6(39)	14(78)	17(74)	17(75)	35(149)
	%	25.7	33.3	29.6	20.5	15.4	17.9	23.0	24.0	23.5
NP No.		4(10)	3(11)	7(21)	9(20)	7(20)	16(40)	13(30)	10(31)	23(61)
	%	40.0	27.3	33.3	45.0	35.0	40.0	43.3	32.2	37.7
Total No.		58(190)	55(196)	113(386)	62(227)	59(229)	121(456)	120(417)	114(425)	234(842)
	%	30.5	28.1	29.3	27.3	25.8	26.5	28.8	26.8	27.8
P No.		8(27)	9(27)	17(54)	10(28)	9(28)	19(56)	18(55)	18(55)	36(110)
	%	29.6	33.3	31.5	35.7	32.1	33.9	32.7	32.7	32.7
Afr. Neg[1].	%	—	—	—	—	—	—	—	—	28.7
French[2]	%	—	—	—	—	—	—	—	—	35.9
Amer. Ind[3].	%	—	—	—	—	—	—	—	—	18.1
Thenar / 1st interdigital										
AM No.		7(83)	22(88)	29(171)	14(94)	24(96)	28(190)	21(177)	46(184)	67(361)
	%	8.3	25.0	17.0	14.9	25.0	20.0	11.9	25.0	18.6
PS No.		8(63)	24(63)	32(126)	6(74)	21(73)	24(147)	14(137)	45(136)	56(273)
	%	12.7	38.1	25.4	8.1	28.8	18.4	10.2	33.1	20.5
AN No.		1(33)	7(36)	8(69)	2(39)	4(39)	6(78)	3(72)	11(75)	14(147)
	%	3.0	19.4	11.6	5.1	10.3	7.6	4.2	14.7	9.5
NP No.		2(10)	4(11)	6(21)	2(20)	6(20)	8(40)	4(30)	10(31)	14(61)
	%	20.0	36.4	28.6	10.0	30.0	20.0	13.3	32.3	23.0
Total No.		18(189)	57(198)	75(387)	24(227)	55(228)	76(455)	42(416)	112(426)	151(842)
	%	9.5	28.8	19.4	10.6	24.1	16.7	10.1	26.3	17.9
P No.		1(27)	6(27)	7(54)	3(28)	3(28)	6(56)	4(55)	9(55)	13(110)
	%	3.7	22.2	13.0	10.7	10.7	10.7	7.3	16.4	11.8
Afr. Neg[1].	%	—	—	—	—	—	—	—	—	15.1
French[2]	%	—	—	—	—	—	—	—	—	9.9
Amer. Ind[3].	%	—	—	—	—	—	—	—	—	45.8
2nd Interdigital										
AM No.		31(80)	14(88)	44(168)	21(94)	10(96)	31(190)	52(174)	24(184)	75(358)
	%	38.8	15.9	26.2	22.3	10.4	16.3	29.9	13.0	20.9
PS No.		21(63)	10(61)	31(124)	14(74)	9(74)	23(148)	35(137)	19(135)	54(272)
	%	33.3	16.4	25.0	18.9	12.2	15.5	25.5	14.1	19.9
AN No.		3(33)	2(36)	5(69)	9(39)	2(39)	11(78)	12(72)	4(75)	16(147)
	%	9.1	5.6	7.2	23.1	5.1	14.1	16.7	5.3	10.9
NP No.		4(10)	2(11)	6(21)	4(20)	1(20)	5(40)	8(30)	3(31)	11(61)
	%	40.0	18.2	28.6	20.0	5.0	12.5	26.7	9.7	18.0
Total No.		59(186)	28(196)	86(382)	48(227)	22(229)	70(456)	107(413)	50(425)	156(838)
	%	31.7	14.3	22.5	21.1	9.6	15.4	25.9	11.8	18.6
P No.		12(27)	5(27)	17(54)	10(28)	1(28)	11(56)	22(55)	6(55)	28(110)
	%	44.4	18.5	31.4	35.7	3.6	19.6	40.0	10.9	25.5
Afr. Neg[1].	%	—	—	—	—	—	—	—	—	9.8
French[2]	%	—	—	—	—	—	—	—	—	3.9
Amer. Ind[3].	%	—	—	—	—	—	—	—	—	7.9

TABLE 2b

Hypothenar, thenar / 1st, 2nd, 3rd and 4th interdigital pattern

Population	Male			Female			Male + Female		
	R	L	R+L	R	L	R+L	R	L	R+L
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
3rd Interdigital									
AM No.	41(79)	23(86)	64(165)	34(93)	20(96)	54(189)	75(172)	43(182)	118(354)
%	51.9	26.7	38.8	36.6	20.8	28.6	43.6	23.6	33.3
PS No.	24(62)	15(61)	39(123)	32(74)	22(74)	54(148)	56(136)	37(135)	93(271)
%	38.7	24.6	31.7	43.2	29.7	36.4	41.2	27.4	34.3
AN No.	15(32)	9(36)	24(68)	18(38)	7(39)	25(77)	33(70)	16(75)	49(145)
%	46.9	25.0	35.2	46.4	17.9	32.4	47.1	21.3	33.8
NP No.	4(9)	3(11)	7(20)	9(19)	7(20)	16(39)	13(28)	10(31)	23(59)
%	44.4	27.3	35.0	47.4	35.0	41.0	46.4	32.3	39.0
Total No.	84(182)	50(194)	134(376)	93(224)	56(229)	149(453)	177(406)	106(423)	283(829)
%	46.2	25.8	35.6	41.5	24.5	32.9	43.6	25.1	34.1
P No.	17(27)	14(27)	31(54)	13(28)	10(28)	23(56)	30(55)	24(55)	54(110)
%	63.0	51.9	57.4	46.4	35.7	41.1	54.5	43.6	49.1
Afr. Neg[1]. %	–	–	–	–	–	–	–	–	34.3
French[2] %	–	–	–	–	–	–	–	–	39.7
Amer. Ind[3]. %									26.3
4th Interdigital									
AM No.	62(83)	80(87)	142(171)	73(93)	86(96)	159(189)	135(176)	166(183)	301(360)
%	74.7	92.0	83.0	78.5	89.6	84.1	76.7	90.7	83.6
PS No.	50(62)	51(60)	101(122)	63(74)	63(74)	126(148)	113(136)	114(134)	227(270)
%	80.7	85.0	82.8	85.1	85.1	85.1	83.1	85.1	84.1
AN No.	23(31)	32(35)	55(66)	33(39)	39(39)	72(28)	56(70)	71(74)	127(144)
%	74.2	91.5	83.3	84.6	100.0	92.3	80.0	95.9	88.2
NP No.	7(9)	10(11)	17(20)	16(20)	20(20)	36(40)	23(29)	30(31)	53(60)
%	77.8	90.9	85.0	80.0	100.0	90.0	79.3	96.8	88.3
Total No.	142(185)	173(193)	315(379)	185(226)	208(229)	393(455)	327(411)	381(422)	708(834)
%	76.8	89.6	83.1	81.9	90.8	86.4	79.6	90.4	84.9
P No.	20(27)	25(27)	45(54)	19(28)	24(28)	43(56)	39(55)	49(55)	88(110)
%	74.1	92.6	83.3	67.9	85.7	76.8	70.9	89.1	80.0
Afr. Neg[1] %	–	–	–	–	–	–	–	–	84.5
French[2] %	–	–	–	–	–	–	–	–	49.0
Amer. Ind[3] %	–	–	–	–	–	–	–	–	71.1

World range: HYP. 2.3 — 57.7; TH./1st INTDIG. 1.8 — 76.3; 2nd INTDIG. 0 — 33.2; 3rd INTDIG. 0.7 — 67.7; 4th INTDIG. 10.0 — 93.6

[1]) *Schwidetzky, I. (1962);* [2]) *Schwidetzky I. (1962);* [3]) *Coope, E. & Roberts D. F. (1971).*

Note: Figures in parentheses indicate total number of hands on which the percentages are calculated.

TABLE 3

Endings of main lines D, C & B

Population	Right					Left					Right + Left				
	11.9.7	9.7.5	7.5.5	Other	Total	11.9.7	9.7.5	7.5.5	Other	Total	11.9.7	9.7.5	7.5.5	Other	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Male															
AM No.	20	12	15	31	78	6	23	23	31	83	26	35	38	62	161
%	25.6	15.4	19.2	39.7		7.2	27.7	27.7	37.4		16.1	21.7	23.6	38.5	
PS No.	8	13	13	28	62	2	1	13	32	58	10	24	26	60	120
%	12.9	21.0	21.0	45.1		3.4	19.0	22.4	55.2		8.3	20.0	21.7	50.0	
AN No.	7	7	9	6	29	1	8	9	15	33	8	15	18	21	62
%	24.1	24.1	31.0	20.7		3.0	24.2	27.3	45.5		12.9	24.2	29.0	33.9	
NP No.	1	2	2	4	9	1	4	1	5	11	2	6	3	9	20
%	11.1	22.2	22.2	44.4		9.1	36.4	9.1	45.5		10.0	30.0	15.0	45.0	
Total No.	36	34	39	69	178	10	46	46	83	185	46	80	85	102	363
%	20.2	19.1	21.9	38.8		5.4	24.9	24.9	44.9		12.7	22.0	23.4	28.1	
P No.	11	1	6	9	27	6	3	8	10	27	17	4	14	19	54
%	40.7	3.7	22.2	33.3		22.2	11.1	29.6	37.0		31.5	7.4	25.9	35.2	
Female															
AM No.	10	11	29	41	91	0	14	35	47	96	10	25	64	88	187
%	11.0	12.1	31.9	45.1		0	14.6	36.5	48.9		5.3	13.4	34.2	47.1	
PS No.	11	8	17	37	73	1	14	20	36	73	12	22	37	73	146
%	15.1	11.0	23.3	50.8		1.4	19.2	27.4	49.3		8.2	15.1	25.3	50.0	
AN No.	8	4	10	16	38	0	7	13	18	39	8	11	23	34	77
%	21.1	10.5	26.3	42.1		0	17.9	33.3	46.1		10.4	14.3	29.9	44.2	
NP No.	4	1	4	11	20	2	4	4	10	20	6	5	8	21	40
%	20.0	5.0	20.0	5.5		10.0	20.0	20.0	50.0		15.0	12.5	20.0	52.5	
Total No.	33	24	60	105	222	3	39	72	111	228	36	63	132	216	450
%	14.9	10.8	27.0	47.3		1.3	17.1	31.6	48.7		8.0	14.0	29.3	48.0	
P No.	6	2	6	14	28	5	7	3	13	28	11	9	9	27	56
%	21.4	7.1	21.4	50.0		17.9	25.0	10.7	46.4		19.6	16.1	16.1	48.2	
Male + Female															
AM No.	30	23	44	72	169	6	37	58	78	179	36	60	102	150	348
%	17.8	13.6	26.0	42.6		3.4	20.7	32.4	43.6		10.3	17.2	29.3	43.1	
PS No.	19	21	30	65	135	3	25	33	68	131	22	46	63	133	266
%	14.1	15.6	22.2	48.1		2.3	19.1	25.2	51.9		8.3	17.3	23.7	50.0	
AN No.	15	11	19	22	67	1	15	22	33	72	16	26	41	55	139
%	22.4	16.4	28.4	32.8		1.4	20.8	30.6	45.8		11.5	18.7	29.5	39.6	
NP No.	5	3	6	15	29	3	8	5	15	31	8	11	11	30	60
%	17.2	10.3	20.7	51.7		9.7	25.8	16.1	48.4		13.3	18.3	18.3	50.0	
Total No.	69	58	99	174	400	13	85	118	194	413	82	143	217	318	813
%	17.3	14.5	24.7	43.5		3.1	20.6	28.6	47.0		10.1	17.6	26.7	39.1	
P No.	17	3	12	23	55	11	10	11	23	55	28	13	23	46	110
%	30.9	5.5	21.8	41.8		20.0	18.2	20.0	41.8		25.5	11.8	20.9	41.8	

TABLE 4

Main line index

Population	Male				Female				Male + Female			
	N	Range	Mean	S.D.	N	Range	Mean	S.D.	N	Range	Mean	S.D.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
AM	81	4.5–11.0	7.956	1.533	94	4.5–11.0	7.548	1.518	175	4.5–11.0	7.737	–
PS	60	4.5–11.5	8.050	1.431	73	4.5–11.5	7.094	1.703	133	4.5–11.5	7.970	–
AN	30	4.5–11.0	7.733	1.580	39	3.0–11.0	7.410	1.700	69	3.0–11.0	7.550	–
NP	9	4.5– 9.5	6.611	1.576	20	4.0–10.0	7.550	1.761	29	4.0–10.0	7.569	–
Total	180	4.5–11.5	7.933	1.503	226	3.0–11.5	7.639	1.633	406	3.0–11.5	7.769	–
P	27	4.5–11.0	8.333	1.916	28	3.0–11.5	8.142	2.090	55	3.0–11.5	8.236	–
Afr. Neg[1].	–	–	–	–	–	–	–	–	–	–	7.5	–
French[2]	–	–	–	–	–	–	–	–	–	–	8.6	–
Amer. Ind[3].	–	–	–	–	–	–	–	–	–	–	7.3	–

World range (Mean MLI): 7.05 – 8.80

[1]) *Glanville, E. V. & Huizinga, J. (1966);* [2]) *Cummins, H. & Midlo, C. (1961);* [3]) *Coope, E. & Roberts, D. F. (1971*

TABLE 5

Total ridge count

Population	Male				Female				Male + Female			
	N	Range	Mean	S.D.	N	Range	Mean	S.D.	N	Range	Mean	S.D.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
AM	70	54–223	144.286	41.048	82	4–222	126.675	52.810	152	4–223	134.829	–
PS	51	2–249	130.450	50.312	55	11–205	117.418	45.950	106	2–249	123.688	–
AN	26	9–208	117.076	55.678	35	3–213	111.742	56.954	61	3–213	114.016	–
NP	10	32–214	122.200	63.126	17	35–188	120.058	38.202	27	32–214	120.851	–
Total	157	2–249	133.879	48.903	189	4–122	120.656	50.527	346	2–249	126.656	–
P	25	1–223	126.240	48.196	25	7–206	114.040	52.866	50	1–223	120.140	–
Afr. Neg[1].	–	–	–	–	–	–	–	–	–	–	125.2	–
French	–	–	–	–	–	–	–	–	–	–	126.8	–
Amer. Ind[3].	–	–	–	–	–	–	–	–	–	–	154.0	–

World range (Mean TRC)[4] : 69–208

[1]) *Glanville, E. V. & Huizinga, J. (1966) and Glanville, E. V. (1967);* [2]) *Lamy, M. et al. (1957);* [3]) *Neel, J. V. et al. (1964);* [4]) *Thoma, A. (1969)*

exceptions to this general pattern, the Anse à Maçon-Pointe Sable and Pointe Sable-Nan Palmiste 'distances', can not be readily explained. The possibilites can be indicated however: 1. The Grand Cayemite villages originated as offshoots of a homogenous population and different degrees of differentiation occurred among them following marital isolation (which is in conformity with statistical expectation), with small differences between some villages, moderate differences between others and large differences between still others; 2. differentiation did occur among all the villages but their manifestation was swamped, in case of the two pairs in question, by a sizable immigration from a homogenous population on the mainland – the proportions of subjects coming from outside the village for age groups 20–39, 40–59 and 60+ years were found to be 26.2, 49.0 and 81.2 and 42.9, 53.0 and 84.0 for Anse à Maçon and Pointe Sable, respectively. We do not have the figures for Nan Palmiste and we assume that such immigration did not occur in case of the other villages. Age-wise break-up of the biological data and estimation of inter-village 'distances' between corresponding age-groups, and, comparison of the villages with respect to the sub-samples comprising 'those *born* in the

TABLE 6

Finger ridge count by individual finger

Digit	Side	A.M.			P.S.			A.N.			N.P.			P.		
		N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.	N	Mean	S.D.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
							Male									
I	R	85	17.470	5.874	59	15.694	6.803	35	14.600	8.150	10	13.100	9.620	27	16.037	7.408
I	L	87	15.874	6.098	60	13.383	8.086	37	13.378	8.001	11	12.545	9.771	27	14.222	7.732
II	R	84	11.988	6.025	58	10.931	6.418	34	10.382	6.164	11	10.818	4.956	27	10.222	5.659
II	L	81	11.740	5.864	59	10.915	5.748	34	10.470	6.675	11	11.090	7.006	26	10.000	6.033
III	R	81	12.407	5.470	60	9.633	6.104	35	11.057	5.184	10	10.300	6.342	27	11.000	4.682
III	L	85	12.706	5.948	60	9.800	6.957	36	11.138	6.211	11	12.909	7.341	27	11.926	5.090
IV	R	80	16.675	5.602	59	15.424	6.314	31	15.935	5.657	10	14.600	7.748	27	14.926	5.928
IV	L	83	15.626	5.246	58	14.914	6.244	34	14.618	6.377	11	14.090	6.714	27	14.592	5.366
V	R	76	14.382	4.802	59	13.559	4.846	34	11.824	6.092	11	13.727	6.150	27	13.333	5.334
V	L	85	14.164	4.540	57	13.526	4.598	31	11.710	6.084	11	13.000	5.532	26	13.346	5.112
							Female									
I	R	91	14.978	6.328	70	13.442	6.717	37	13.459	7.437	20	13.700	7.760	28	15.821	6.842
I	L	96	12.896	7.810	70	11.214	6.687	36	11.611	7.256	20	12.450	7.850	28	13.607	7.258
II	R	92	10.608	5.952	66	10.439	5.254	37	9.946	6.472	19	11.632	7.610	28	9.642	5.012
II	L	95	10.589	6.315	67	9.671	5.748	37	9.081	6.383	20	7.950	6.151	28	8.214	5.418
III	R	94	11.032	5.662	68	10.735	5.150	37	11.297	5.496	20	10.550	3.706	28	9.214	6.002
III	L	96	11.270	6.296	67	10.478	5.692	37	10.162	6.448	20	9.250	6.264	28	8.500	6.512
IV	R	90	15.144	6.280	71	14.507	6.574	37	13.540	6.902	19	15.578	5.843	28	13.321	7.736
IV	L	95	13.978	6.231	69	13.782	6.354	36	13.056	7.456	20	14.550	6.091	26	12.038	7.670
V	R	94	13.255	5.248	71	13.000	4.188	37	11.324	6.240	20	12.100	5,999	27	12.481	6.166
V	L	92	12.348	5.430	68	12.294	4.059	36	10.722	5.664	19	12.263	5.205	27	13.148	6.383

village' rather than 'those *residing* in the village', might help choose between the two possibilities, which will be attempted in a future study.

ACKNOWLEDGEMENTS

We wish to thank the Carolina Population Center, University of North Carolina, Chapel Hill for financing the Haiti project; Dr. W. S. Pollitzer for initiating the same; the Haitian-American Tuberculosis Institute, Port-au-Prince for help in conducting the filed work; Dr. J. Hiernaux for personally explaining his method of distance analysis to the senior author; and, last but not the least, to the Government and people of Haiti for their ungrudging support to this endeavour.

SUMMARY

A bio-anthropological study of four villages on the island of Grand Cayemite, and the town of Pestel, in Haiti, West Indies, was undertaken in 1968—69. The purpose of the study was (1) to formulate a hypothesis on the basis of social-historical information, regarding the genetic make-up of the rural Haitian population, in terms of the contribution to it by the supposed 'ancestral' populations; (2) to formulate, also, a hypothesis, on the basis of our demographic data, regarding genetic differentiation among the four Grand Cayemite villages; and, (3) to test these hypotheses using biological data. The following hypotheses were formulated:

1. Among the three 'parental' populations, the contribution of the western and central African Negro, to the genetic make-up of the pooled Grand Cayemite population, was overwhelming, that of the French White was small or non-existent and that of the American Indian was also small but higher than that of the French White.

2. The four villages on Grand Cayemite, which are non-intermarrying, are biologically more 'distant' than the village of Pointe Sable, on the island, and the town of Pestel, on the mainland, are, from each other.

Using dermatoglyphic data, and utilizing H i e r n a u x's (1965) method of 'distance' analysis, the above hypotheses were tested and found to be reasonably correct.

*) While the present report deals with dermatoglyphic data, data on anthropometry, blood groups, haemeglobins, serum proteins and cell enzymes are published in *Human Biology, May 1976, Vol. 48, No. 2. pp. 245—269.*

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