

TABLE 72

THE INCIDENCE OF SHOVEL-SHAPED MAXILLARY CENTRAL
INCISORS IN SOUTH AFRICAN BANTU POPULATIONS

SEX	GROUP	SHOVEL - SHAPE						TOTAL Shovel
		No. of teeth examined	Indeter- minate	No Shovel	Trace Shovel	Semi- Shovel	Shovel	
MALES	Natal Nguni	71	16	46	9	0	0	9
	Cape Nguni	76	1	63	9	0	3	12
	Sotho	55	10	42	3	0	0	3
	Miscellaneous	64	9	52	1	0	2	3
	TOTAL:	266	36	203	22	0	5	27
FEMALES	Natal Nguni	32	7	19	5	1	0	6
	Cape Nguni	7	3	1	1	0	2	3
	Sotho	25	3	20	0	0	2	2
	Miscellaneous	6	0	6	0	0	0	0
	TOTAL:	70	13	46	6			

TABLE 74

PERCENTAGE DISTRIBUTION OF SHOVEL-SHAP

Race and Investigator	No. of teeth examined	UPPER CENTRAL INCISORS			
		No Shovel	Trace Shovel	Semi-Shovel	Shovel
American White (Male) (Hrdlička 1920)	1000	66.5	24.5	7.6	1
American White (Female) (Hrdlička 1920)	1000	70.4	21.8	5.2	2
American Whites (Lasker 1957)	642	55.0	45.0		0
American Negro (Male) (Hrdlička 1920)	618	54.5	33.0	7.6	4
American Negro (Female) (Hrdlička 1920)	1000	56.0	32.6	8.0	3
Mongoloid (Hrdlička 1920)	24	0	8.5	29.0	62
Eskimo (Hrdlička 1920)	40	0	15.0	47.5	37
Aleut (Moorrees 1957)	75	0	2.7	34.7	62
U.S. Indian (Hrdlička 1920)	277	2.0	9.0	24.0	67
Pecos Indian (Nelson 1937)	324	2.2	8.3	15.4	74
Pima Indian (Male) (Dahlberg 1951)	101	0	4.0	0	96
Pima Indian (Female) (Dahlberg 1951)	125	0	1.0	0	99
Bushman (van Reenen 1966)	95	55.			

TABLE 74

PERCENTAGE DISTRIBUTION OF SHOVEL-SHAPED TEETH IN VARIOUS POPULATIONS

Race and Investigator	UPPER CENTRAL INCISORS				UPPER LATERAL INCISORS				TOTAL		
	No. of teeth examined	No. of No. of Shovel	Trace Shovel	Semi-Shovel	Shovel	No. of teeth examined	No. of No. of Shovel	Trace Shovel	Semi-Shovel	Shovel	TOTAL
American White (Male) (Hrdlička 1920)	1000	66.5	24.5	7.6	1.4	1000	50	36.4	8.8	1.4	50.0
American White (Female) (Hrdlička 1920)	1000	70.4	21.8	5.2	2.6	1000	59.6	29.9	7.4	1.0	40.4
American Whites (Lasker 1957)	642	55.0	45.0	0	0	642	50.0	50.0	0	0	50.0
American Negro (Male) (Hrdlička 1920)	618	54.5	33.0	7.6	4.9	618	42.1	38.0	12.		

I.B. MEDIAN RIDGES AND LINGUAL TUBERCLES

On the lingual surface of maxillary incisors may be encountered a median, two lateral and two marginal ridges; five ridges in all with three intervening depressions. The median ridge is usually straight and vertical. Lateral ridges may be straight or slightly curved, whereas marginal ridges are curved and follow the mesial and distal margins of the teeth. Hrdlička (1920) observed that the two lateral ridges were the least stable in human dentitions.

The presence and relative development of individual ridges are variable from individual to individual. Frequently in the present material, only a single median ridge was present and prominent. On the other hand, two or three ridges may have been evident in varying degrees of prominence. Often the lingual surface of the maxillary incisors was smooth, with no trace of lingual ridges, tubercles or shovelling. In such teeth the lingual surface tended to be concavo-convex from incisal edge to gingival margin.

The ridging on the lingual surface of the maxillary incisors was classified according to the degree of prominence of the ridges, and whether the ridges were single or multiple. Ridges that were barely discernible were classified as "trace"; the other degrees of prominence were labelled "moderate" and "marked" (Fig. 26). Median ridges were observed in shovel-shaped incisor



Fig. 26 Moderate ridging of lingual surfaces
of maxillary incisor teeth

teeth, as well as in those with no evidence of shovel-
123.

The lingual surfaces of the incisors were studied also for the presence and size of lingual tubercles. Hrdlička (1920) referred to lingual tubercles as lingual cusps and defined them as being a more or less marked, single, double, or multiple protuberance from the heel of an incisor or a canine. Lingual tubercles may be absent, inconspicuous or replaced by an extension or fusion of the marginal ridges. On the other hand, they might develop to a moderate extent, or even into a large well developed and distinct accessory cusp. According to Hrdlička, a strong lingual cusp in an incisor may, in extreme cases, reach near to the cutting edge of the tooth and produce a form approaching that of a bicuspid. In other instances, the lingual tubercle is frequently divided into several cusplets and is found in teeth that are shovel-shaped as well as in teeth that are not. Weidenreich (1937) believed this tubercle to be a decidedly primitive character. It seems to occur in all living races of man, but in a human-like form has not as yet been signalled in any of the primates or lower mammals (Hrdlička 1920).

In the present study, the size of the lingual tubercle was graded as trace, moderate or marked. The exact determination of the size of the tubercles is not easy in that it is difficult to distinguish between a

confluence of marginal ridges and a trace of a tubercle (Pedersen 1947). In fact, Hrdlička (1920) stated that probably no two observers would reach precisely the same results on the same series of specimens, but he believed that the differences would not be serious enough to obscure the main facts. Pedersen (1957) distinguished between "marked tubercles" and "lingual cusps" proper. In the present study no attempt was made to distinguish between the above; both were classified as "marked" lingual tubercles. A "trace" tubercle was designated only when a small but definite eminence was present on the lingual surface of the incisor tooth. A "moderate" tubercle was determined as being intermediate in size between a "trace" and a "marked" tubercle (Figs. 27, 28 and 29). Where more than one tubercle was present, the overall extent of tubercle formation was assessed and designated.

PRESENT STUDY

The degree of ridging could be clearly determined in 165 maxillary central incisors in male Bantu crania. This included both left and right incisors from the same crania. Lingual ridges were present with varying degrees of prominence in 45 per cent of the sample (Table 75). Marked median and/or lateral lingual ridges were observed in only 3.4 per cent of the total with ridges. The remainder of the ridged teeth were either moderately (22.8 per cent) or slightly (18.8 per cent)



Fig. 27 Trace lingual tubercle on lateral incisor



Fig. 28 Moderate lingual tubercle (bifid example)



Fig. 29 Marked lingual tubercles

ridged. The lateral incisors of Bantu males exhibited a lower incidence of ridging since 32.2 per cent of the sample of 192 teeth in which the lingual surfaces could be determined exhibited some degree of ridging. Of the ridged lateral incisors, 1.6 per cent were markedly, 12.1 per cent moderately, and 18.5 per cent slightly ridged.

The Bantu females, on the other hand, presented a greater overall incidence of ridging of maxillary central and lateral incisors (viz. 60.0 per cent and 44.4 per cent, respectively) than the males, but evinced a total absence of marked lingual ridges. Thirty-five per cent of the total central incisors with ridges were moderately ridged, whereas the remaining 25 per cent of these teeth possessed traces of ridges. Of the ridged lateral incisors in the females, 16.6 per cent exhibited moderate ridges and 27.8 per cent had trace ridges.

In the tribal groups, Sotho males and females evinced a relatively lower incidence of smooth surfaced maxillary central and lateral incisor teeth (Tables 76 & 77). The only exception was provided by the lateral incisors of Natal Nguni females; of the 17 observable teeth, only 4 possessed smooth lingual contours. In the remaining tribal groups, approximately half or more of the incisor teeth had smooth lingual surfaces.

The maxillary central incisors of the Sotho showed a greater incidence of overall ridging than the other

groups. Thus, in males, 19 out of a total of 31 teeth, and in females, 10 out of a total of 15 teeth, showed some degree of ridging (Table 76). About half of the Cape Nguni males (21 out of a total of 41 teeth) had some degree of ridging on the lingual surfaces of their maxillary central incisors. The Sotho of both sexes evinced a higher incidence of overall ridging of the lateral incisor teeth than the other tribes. In males, 18 out of a total sample of 44 teeth, and in females, 12 out of a total of 17 teeth, possessed some degree of ridging (Table 77).

The total percentage incidence of lingual tubercles in the central and lateral incisors of Bantu females exceeded that of males. The total incidence of tubercles in the central incisors of males was 4.7 per cent and that of females 11.4 per cent (Table 78). The total incidence in the lateral incisors was 14.0 per cent and 16.9 per cent, for males and females respectively. The percentage incidence of large lingual tubercles in the maxillary incisors of both sexes was minimal. Of the 57 incisors observed in female skulls, in no instance was a large tubercle noted. Only 1.3 per cent of 230 male maxillary central incisors presented a large lingual tubercle. Three per cent of male maxillary central incisors possessed a moderate tubercle, as opposed to a figure of 14 per cent in females. No Bantu females indicated a slight lingual tubercle on their central

incisors, and only 0.4 per cent of Bantu male central incisors exhibited this feature. The overall tendency is for more Bantu females than males to possess a moderate lingual tubercle on the maxillary central incisors. On the maxillary lateral incisors, although Bantu males evinced a higher incidence of slight lingual tubercles, the general tendency was for females to show a higher incidence of lingual tubercles than males.

Of the tribal groups, the Cape Nguni males possessed a considerably higher incidence (7 out of a total sample of 75 teeth) of this tubercle on maxillary central incisors than did the others (Table 79). The incidence of lingual tubercles (3 out of a total of 60 teeth) on lateral incisor teeth in Sotho males, was less than in other tribal sub-groups (Table 80). Because of an insufficient sample, it would be premature to draw conclusions from these figures.

The commonest form of lingual surface on the maxillary incisor teeth of the Bantu was a smooth surface free of ridges, eminences or tubercles, depressions or shovelling. More than half (55 per cent) of the observable teeth of males exhibited this feature on their central incisor teeth and 67.8 per cent on their lateral incisors (Table 75). Bantu females, however, possessed a lesser incidence of smooth lingual surfaces on their central and lateral incisors, viz. 40 per cent and 55.5 per cent respectively.

DISCUSSION

According to Lasker (1950), one of the most conspicuous points of variability in the anterior teeth of man is the extent of the vertical ridges on the lingual surface. Median ridges on the lingual surface of maxillary incisors are a prominent feature in anthropoid apes (Hrdlička 1920, 1921). These ridges were likewise observed in a rather high proportion of East Greenland Eskimo upper incisors (Pedersen 1949). Moorrees (1957) noted a near absence of median ridges in Aleuts. The percentage incidence of marked lingual ridges in the Bantu was small. Of the males, 41.6 per cent and a considerable proportion (60.0 per cent) of the females, however, exhibited a slight or moderate degree of ridging on their central incisors. The lateral incisors of both sexes evinced a considerably lower incidence of these ridges (30.6 per cent and 40.4 per cent for male and female lateral incisors, as against 41.6 per cent and 60 per cent for male and female central incisors respectively). Unfortunately, a table of comparative population incidences could not be drawn up as no data are available for comparison. In the tribal groups the incidence of ridging in central and lateral incisor teeth is higher in Sotho males and females than in the others. The incidence was high also in the central incisors of Cape Nguni males. Unfortunately, the female sample of observable central incisor teeth in this group was too small to determine whether this was a characteristic of the Cape

Nguni

The number of maxillary central and lateral incisor teeth in which the presence or absence of lingual tubercles can be clearly discerned is generally greater than the number of teeth in which the presence or absence of ridges can be observed (Tables 75 & 78). The probable reason for this is that attrition is frequently responsible for half or more of the lingual surface (nearest the cutting edge) of upper incisors being abraded, making it difficult or impossible to categorize ridging accurately. The determination of tubercle size on the other hand is not usually affected, since these are higher in position and are close to the necks of the teeth.

The total incidence of lingual tubercles in the Bantu was relatively high, 4.7 per cent and 11.4 per cent for male and female central incisors respectively. In the lateral incisors, the total incidence was higher (14.0 per cent for males and 16.9 per cent for females).

Despite considerable interest in the lingual tubercle as a possibly primitive characteristic (Adloff 1908, Weidenreich 1937), or as a singular remnant (Frisch 1965), only Pedersen (1949) and Carbonell (1963) have provided figures on the incidence in populations. According to Pedersen, marked dental tubercles were found on 4.3 per cent and 14.3 per cent of the upper central and lateral incisors respectively, of East Greenland Eskimos. The Japanese, Chinese and Tibetan groups, according to

Carbonell, exhibit the lowest frequency of lingual tubercles, namely, 1.4 per cent, while in Arabs it attains the figure of 21.0 per cent. According to Carbonell's frequency table on lateral incisors Arabs and East Greenland Eskimos possess the highest incidence of lingual tubercles, whereas Anglo-Saxons, Swedes, Bantu, Indian, Japanese, Tibetan and Chinese all have incidences below about 3.0 per cent (the incidence on central incisors was not mentioned). The incidence of lingual tubercles in Carbonell's study is illustrated graphically; the frequency figures are not mentioned in the text. The estimated incidence of lingual tubercles in Bantu in Carbonell's investigation is 2.5 per cent. This figure is considerably lower than either 11.4 per cent (for males) or 16.9 per cent (for females) in the lateral incisors of the present study. The frequency is likewise lower than in any single male or female series among the Bantu tribal groups. The discrepancy between Carbonell's result and the writer's may perhaps be explained by her sample being drawn from a different isolate, compared with the present author's sample. This possibility is the more likely since great variability in frequency obtains even among the different tribal groups of my sample (Table 30). Unfortunately Shaw (1931), in his study of Bantu teeth, did not provide any data which could be used for comparison.

The percentage of large lingual tubercles in the Bantu is minimal in both sexes. The incidence of moderate

and small lingual tubercles in the sample provided no evidence of sex differences.

Lingual tubercles are found in teeth that are shovel-shaped as well as in teeth that are not. Shovel-shaped incisors in early man, according to Carbonell (1963), were associated with the presence of a lingual tubercle. This association is consistent in the upper lateral incisors of Neandertal Man, Homo erectus pekinensis ("Sinanthropus") and Australopithecus (Weidenreich 1937, Vallois 1950-3, Robinson 1956). However, in modern man, the association of a shovel-shape with a lingual tubercle is infrequent, according to Dahlberg (1951), Moorrees (1957) and Carbonell (1963). Table 81 and Figure 30, which is a graphic illustration of frequency of lingual tubercles and shovel-shaped form on lateral incisors seems to suggest a negative correlation between shovelling and tubercles.

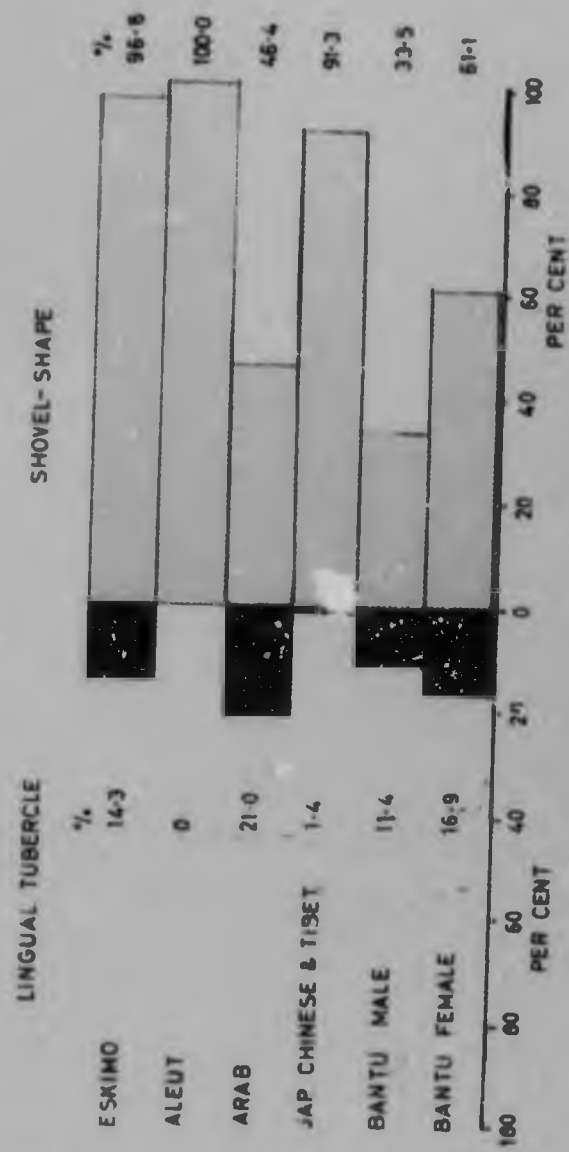


Fig. 30 Frequency of lingual tubercles and shovel-shaped form on lateral incisor teeth

TABLE 75

214

COMBINED PERCENTAGE INCIDENCE OF SMOOTH AND RIDGED
LINGUAL SURFACES ON THE MAXILLARY CENTRAL AND LATERAL
INCISORS IN THE SOUTH AFRICAN BANTU

	Sex	Total No. of teeth on which pattern could be determined	Smooth Surface	DEGREE OF RIDGING			
				Trace	Moderate	Marked	Total
Maxillary Central Incisors	Males	165	55	18.8	22.8	3.4	45.0
	Females	49	40	25.0	35.0	0	60.0
Maxillary Lateral Incisors	Males	192	67.8	18.5	12.1	1.6	32.2
	Females	79	55.5	27.8	16.6	0	44.4

Footnote: The percentages quoted are of the total number of maxillary incisor teeth in which the degrees of ridging could be detected.

TABLE 76

INCIDENCE OF SMOOTH AND RIDGED* L

TABLE 77

215

INCIDENCE OF SMOOTH AND RIDGED* LINGUAL SURFACES ON
THE MAXILLARY LATERAL INCISORS IN SOUTH AFRICAN BANTU
TRIBAL GROUPS

Sex	Tribal Group	Total No. of teeth on which pattern could be determined	Smooth Surface	RIDGING PRESENT			
				Trace	Moderate	Marked	Total
Males	Natal Nguni	24	20	2	2	0	4
	Cape Nguni	23	15	3	5	0	8
	Sotho	44	16	9	7	2	18
	Miscellaneous	33	23	9	1	0	10
	TOTAL	124	84	23	15	2	40
Females	Natal Nguni	14	10	2	2	0	4
	Cape Nguni	1	1	0	0	0	0
	Sotho	17	5	8	4	0	

TABLE 79

216

INCIDENCE OF LINGUAL TUBERCLES ON MAXILLARY CENTRAL
INCISORS IN SOUTH AFRICAN BANTU TRIBAL GROUPS

Sex	Tribal Group	Total No. of teeth on which pattern could be determined	Tubercles absent	TUBERCLES PRESENT			
				Trace	Moderate	Marked	Total
Male	Natal Nguni	55	51	1	1	2	4
	Cape Nguni	75	68	0	5	1	7
	Sotho	45	45	0	0	0	0
	Miscellaneous	55	55	0	0	0	0
	TOTAL	230	219	1	7	3	11
Female	Natal Nguni	25	21	0	4	0	4
	Cape Nguni	4	3	0	1	0	1
	Sotho	22	19	0	3	0	3
	Misc						

TABLE 81

TABLE OF ASSOCIATED FREQUENCIES OF LINGUAL TUBERCLE
AND SHOVEL-SHAPED FORM ON LATERAL INCISORS IN VARIOUS
RACIAL GROUPS

Racial Group	PERCENTAGE FREQUENCY		Investigator
	Lingual Tubercle	Shovel-Shape	
East Greenland Eskimo	14.3	96.8	Pederson (1949)
Aleut	0	100.0	Moorrees (1957)
Arabs	21.0	46.4	Carbonell (1963)
Japanese, Chinese and Tibetan	1.4	91.3	Carbonell (1963)
Bantu Males	11.4	33.5	Present Study (1967)
Bantu Females	16.9	61.1	Present Study (1967)

I.C. THE OUTLINE SHAPES OF THE MAXILLARY
INCISOR TEETH

The outline shapes of the maxillary incisor teeth in man vary subtly among individuals. Williams (1914) grouped the incisor teeth in both man and primates into three fundamental types which he described as follows:-

Type 1: "Characterized by parallel or nearly parallel lines which represent the proximal surfaces of the teeth for half or more than half of their length from their incisal edges".

Type 11: "Characterized by these lines converging so markedly that they would meet, in most instances, at a point near the end of the root. These converging lines are sometimes nearly straight, but usually there is a very slight convexity of the mesial proximal surface and a slight concavity of the distal surface".

Type 11.1: "Characterized by a delicate double curved line on its distal proximal surface, and sometimes, though less frequently, on the mesial surface. All of the surfaces and angles of the teeth of this form are more rounded and graceful than in either of the other two classes".

These basic tooth forms are generally designated square, tapering and ovoid. The combinations of these basic outline shapes are numerous. In fact Nagle and Sears (1962) noted that the variations in the natural teeth of man are so great that there are not enough geometric figures to match them. For practical purposes, however, only the three tooth forms of Williams were used in the present investigation.

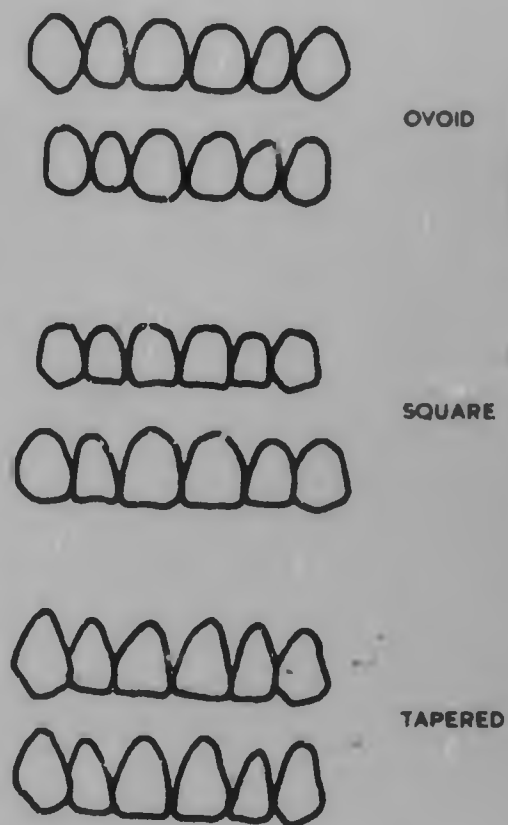


Fig. 31 Basic tooth forms of the maxillary incisor teeth (after Williams 1914)

PRESENT STUDY

In order to categorize the teeth as square, ovoid or tapering, the anterior four maxillary incisors of each Bantu skull were compared to an artificial tooth mould guide. These artificial tooth mould guides, which are used by dentists, represent excellent reproductions of the natural teeth of man, and by comparing these with skull teeth, reasonable accuracy in tooth classification can be achieved. Figure 31 is an outline drawing of the three basic tooth forms.

The three fundamental tooth shapes could not be clearly differentiated in all the skulls. Intermediate shapes such as square-ovoid, tapering-oid and tapering-square were added to the original classification, but the distinction between categories tend to become vague as to render the decision very subjective in certain instances. Any cranial teeth that could not be clearly classified into into one of the three primary categories were tabulated intermediate.

Tables 82 and 83 list the incidence and percentage of various tooth shapes in different South African Bantu groups. The number of crania in which teeth were difficult to clearly classify into the three fundamental groups was relatively high. This was owing partly to the intermediate tooth forms and partly to the large number of carious, worn, missing or fractured maxillary incisors which were excluded from the sample.

The incidence of square teeth in the tribal groups varied from approximately 13 per cent to 28 per cent of those which could be classified. The incidence of ovoid teeth in these groups varied from approximately 9 per cent to 27 per cent. The incidence of tapering teeth ranged from about 16 to 28 per cent. The range of incidences for the latter two incisor shape categories excludes the small Cape Nguni and Miscellaneous female groups. The incidence of tapered teeth in the male Natal Nguni is double the incidence of either square or ovoid tooth shapes, but it would be difficult to draw any conclusions from this single observation, particularly since these proportions do not obtain in the females of the same racial group.

The incidence of intermediate tooth shapes range from approximately 28 per cent to 45 per cent. The incidence of teeth falling into this category is higher than that of any of the three basic tooth shape categories.

In the Natal Nguni the incidence of square teeth in females (27.8 per cent) is nearly double that of males (13.7 per cent). The incidence of the intermediate tooth shape in the Natal Nguni males on the other hand is considerably higher than that of females (males 45.3 per cent, females 27.8 per cent). In the Sotho the sex difference in incidence of square teeth (males 13.5 per cent, females 13.6 per cent), ovoid teeth (males 25.8 per cent, females 27.3 per cent), tapering teeth (males 23.6 per cent, females 22.7 per cent) and intermediate tooth shapes (males 37.1 per cent, females 36.6 per cent) is minimal. Because of small female numbers, sex differences in the Cape Nguni and Miscellaneous groups are not meaningful.

In the total Bantu group, the intermediate tooth shape

is most common (42.7 per cent in males, 35.6 per cent in females). In males the basic three tooth shapes occur with almost equal frequency (square 18.8 per cent, ovoid 16.6 per cent, tapering 21.9 per cent). In females a quarter of the sample exhibit tapering teeth, slightly less than a quarter (22.1 per cent) of the total have ovoid teeth whereas 17.3 per cent of the teeth are square. Square teeth occur with almost equal frequency in Bantu males (18.8 per cent) and females (17.3 per cent). The incidence of ovoid and tapering teeth is slightly higher in females viz. ovoid 16.6 per cent in males, 22.1 per cent in females, tapering 21.9 per cent in males, 25.0 per cent in females respectively.

By and large, despite the smallness of the sample, it seems that each of the three main tooth forms viz. square, ovoid and tapering has an approximately equal chance of occurring in male and female Bantu. The frequency of occurrence of intermediate tooth forms is slightly more than one in three in both males and females.

DISCUSSION

Categorizing teeth by comparing skull teeth with artificial tooth guides, although far more accurate than classification by inspection alone, is by no means infallible. The three fundamental tooth forms are readily identifiable, but it is the frequency of intermediate tooth shapes which makes accurate classification into the three main tooth shape groups difficult and oftentimes unreliable. Another factor which renders classification difficult to the variable medio-distal as well as gingivo-incisal convexities of the labial surfaces of incisor teeth. A severely labially convex tooth surface could create the illusion that the outline shape of a square tooth is ovoid. Furthermore, individual interpretations of tooth shapes by various observers make comparisons difficult.

In his study of the Bantu, Shaw (1931) used the same classification of tooth shape, but his findings were vastly different from those of the present study. Shaw classified 50 per cent of the Bantu incisors as ovoid (Type III) teeth; the present study reflects an incidence of 16.6 per cent (male) and 22.1 per cent (female). The incidence of square (Type I) and tapered (Type II) teeth in the Bantu, according to Shaw, was 38 per cent and 12 per cent respectively. The incidence of square and tapered teeth in the Bantu in the present study is shown as 18.8 per cent and 21.9 per cent (males) and 17.3 per cent and 25 per cent (females) respectively. The diversity of these findings reflects to some degree the difficulties encountered

in endeavouring to classify tooth outline forms. Furthermore, Shaw classified all his teeth and did not leave nearly ^{forty per cent} ~~one-third~~ of his sample in the ^{intermediate} ~~intermediate~~ category as in the present study.

There is no evidence to suggest that any particular incisor tooth form or shape is characteristic of the Bantu group. Neither does there appear to be any specific tooth shape by which one could identify any of the Bantu tribal groups. The findings in the present study would indicate that each of the three primary tooth forms have an approximately equal chance of occurring in any of the Bantu, whether male or female. The writer was unable to locate any other data for racial comparisons.

TABLE 82

MAXILLARY INCISOR SHAPES IN VARIOUS SOUTH
AFRICAN BANTU TRIBAL GROUPS

INCISOR SHAPE	NATAL NGUNI		CAPE NGUNI		SOTHO		MISCELLANEOUS	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
Square	13	10	21	1	12	6	22	1
Ovoid	13	6	9	5	23	12	14	0
Tapering	26	10	25	3	21	10	6	3
Rectangular Triangular	43	10	43	10	33	16	33	1
TOTAL	95	36	98	19	89	44	74	5

TABLE 83

PERCENTAGE INCIDENCE OF INCISOR SHAPES IN
SOUTH AFRICAN BANTU TRIBAL GROUPS

TABLE 84
PERCENTAGE INCIDENCY OF INCISOR SHAPES I.
THE SOUTH AFRICAN BANTU

INCISOR SHAPE	MALES		FEMALES	
	NO.	%	NO.	%
Square	67	18.8	18	17.3
Ovoid	59	16.6	23	22.1
Tapering	78	21.9	26	25.0
Intermediate	152	42.7	37	35.6
TOTAL	356	100%	104	100%

NUMBER OF CUSPS ON THE MAXILLARY MOLARS



Fig. 32 4 cusps



Fig. 33 $3\frac{1}{2}$ cusps



Fig. 34 3 cusps

NUMBER OF CUSPS ON THE MAXILLARY MOLARS

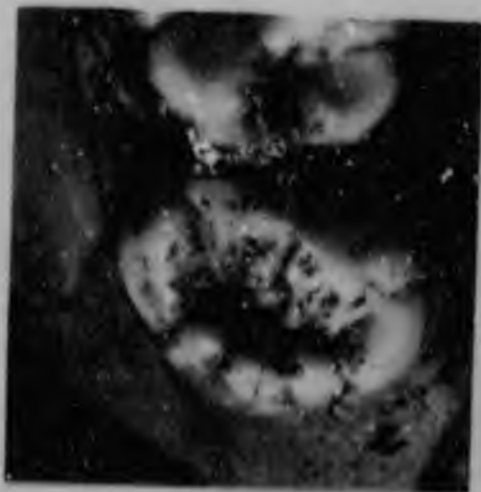


Fig. 35 2½ cusps



Fig. 36 2 cusps

