EVIDENCE OF HUMAN MIGRATIONS FROM THE ROCK ART OF SOUTHERN RHODESIA
C. K. COOKE
INTRODUCTION
This paper is the result of a study of all the known rock painting copies and photographs, undertaken during 1963 and early 1964 in the first instance to plot the occurrence of patterned giraffe paintings against those only in silhouette. The list has grown however, and all animals and humans have been indexed and plotted on distribution maps, all information being finally synthesized. An analysis is presented the human types and domesticated animals recorded in the art of Southern Africa. These items have been plotted on distribution maps, the significance of which is discussed in the following sections. The importance of the Mopani belt and of linguistics are also examined and a possible way from the east of Southern Rhodesia to the Cape of Good Hope indicated. The distribution of animal types is the subject of a later paper (Cooke, 1964).

POLYCHROME PAINTINGS OF HUMAN FIGURES
The distribution of paintings of polychrome humans shows a most interesting pattern (Fig. I). Because of this, sheep, sheep figurines, and pottery of the earliest known ceramic tradition in the area have been included on the map. Since it is generally considered that the Hottentots introduced sheep, the spread of paintings of steatopygeous figures is of great importance. Polychrome humans—mainly individual figures in widely separated shelters—are sparsely all over North-Eastern Mashonaland from Mrewa to Salisbury, and from Wedza to Buhera. The Ndanga, Zaka, and Chibi areas contain, however, many shelters showing these figures, in some of which are dozens of.

An index covering all the known sites in southern Rhodesia is filed in the office of the Historical Monuments Commission, and includes a record of 35-mm. colour slides as well as black-and-white photographs and copies. All published works have been included, giving an almost complete coverage of the known sites. These records can be made available for reference to workers in this field of prehistory. The National Museum of Southern Rhodesia, Bulawayo, has in its possession the complete collection of copies made during the years 1933-46 by the late Lionel Cripps, C.M.G., one-time member of the Historical Monuments Commission. I owe a debt of gratitude to Mr. Roger Summers, curator of the National Museum of Southern Rhodesia, firstly for allowing me access to all the copies of paintings in that museum, and secondly for suggesting many lines of investigation which have helped me enormously in the task of writing this paper, as well as reading and helpfully criticizing the drafts.

Mrs. Goodall, of the Queen Victoria Museum, Salisbury, helped me greatly by allowing me to examine all the copies she has made of the paintings in
Mashonaland. Mrs. Thorneycroft, who is copying paintings on behalf of the Historical Monuments Commission, has also contributed some very useful information. I am also grateful to Mr. Robinson, both in his official reports as Chief Inspector of Monuments and by personal communication, for much valuable information about the paintings in the Chibi area.

My thanks are due to the Surveyor-General in Salisbury for permission to reproduce maps of Southern Rhodesia traced from the x : 3,000,000 map produced by his office. The outline maps of Southern Africa are acknowledged in the text.

The author and the International African Institute are grateful to the Historical Monuments Commission of Southern Rhodesia, for a generous grant towards the cost of publication of this paper.

264 EVIDENCE OF HUMAN MIGRATIONS FROM examples. The Bulawayo/Matopos area as far south as Figtree also provides but as in north-eastern Mashonaland these are very scarce. The figures are asso with sheep paintings; as far as the writer has been able to ascertain none of thi is ever seen with a bow and arrow.

HUMAN POLYCHROMES...O CONCENTRATED AREASUGGESTED ROUTE.--

FIG. 1. Distribution of polychrome paintings of human figures. Bambata pottery, although not strictly associated with the painting, shows a si scatter. This early ceramic tradition was first discovered by the late Dr. N, Jones in Bambata Cave (Jones, 1940). Except in one instance at Inyanga (Bern' 1963), where an almost complete pot was discovered, all the sites so far known been of a few sherds in caves or deposits associated with the artefacts of the ] Stone Age. This pottery is unlike any other material from Southern Rhodesia alth it comes generally under the heading of Stamped Ware. Schofield (1948) consik that the Bambata ware had some affinities with Hottentot pottery. No very I deposits of these ceramics have yet been brought to light and there is no definite dence which ties this Bambata ware to either the Later Stone Age or the Early Age. It is, however, considered by a number of workers in this field to be more li of Iron Age affinities. Except for the occurrences in Inyanga and Chibi all the

THE ROCK ART OF SOUTHERN RHODESIA 265 k~own are in Matabeleland. The pattern disclosed follows closely that of the polychrome paintings of human figures.

Sheep paintings are confine to the area in north-eastern Mashonaland as far west as Mazoe, with one possible painting as far south as Chibi (Robinson, personal com,unication). Sheep figurines made of clay have, however, been found at Khami atd Hillside in Matabeleland, and at Chibi and Zimbabwe in the central area. A

TRANSVAAL

FIG. 2. Distribution of Bambata pottery, sheep, sheep figurines, and steatopygia. combination of these two gives a very sparse but similar distribution pattern to that shown by the previous two plottings.
Detailed figures showing steatopygia, not polychrome or showing any ornamentation, occur at fifty sites (see Fig. 2); these have been plotted and show the same distribution, except for sites which occur more to the east and nearer Umtali. The concentration, however, is not the same. There is a fairly even spread throughout but the figures appear as far south as Marula. An endeavour was made to plot copper, either manufactured or in primitive ingot form. This metal is intimately connected with all phases of the Rhodesian Iron Age.

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BAMBATA POTTERY S SHEEP--------- e
SHEEP FIGURINES.- + STEATOPYGIA_.... o

266 EVIDENCE OF HUMAN MIGRATIONS FROM which is widely distributed all over the country, therefore no conclusions can be drawn from the distribution.

It appears from the plotting of the above items that a way through SoRhodesia has been disclosed, through Mrewa from Portuguese East Africa, to Salisbury District travelling west, then almost due east to Marandellas/ area and almost due south to Ndanga/Chibi. The sparsity of the paintings in the east may indicate a fairly quick movement, although sheep herding would slow progress. Undoubtedly these strange animals interested the painters because I painting (Goodall, 1959) a human is shown endeavouring to capture one with a i perhaps the first recorded evidence of stock-theft in the country or merely the fl2 used by the shepherds to capture animals which strayed from the flock. A I settlement appears to have taken place in the Chibi area giving rise to the numerous paintings of human polychromes. The next outcrop of human pab and figurines of sheep appears in the Bulawayo area. The steatopygeous fig, silhouette appears as far south as Marula. Polychrome paintings of humans’ appear further south than Figtree. The route would therefore continue from C1 Bulawayo and from Bulawayo to the Matopos area, with the final outlet some, in that area into Bechuanaland. The writer has postulated (Cooke, 1959), on other evidence, a route for the pa from Southern Rhodesia across Bechuanaland into South West Africa. Other Q (Summers, 1959; Willcox, 1963) have also plotted similar routes and drawn s conclusions. It is obvious that in this case it was not necessarily the painters who this route but that it is the record of strangers seen travelling or at times settled in the country. Who these people were is of course a matter for conjecture. The polychrome paintings are not thought to be representations of the Bush pt who were probably the painters, and because of the realization that sympal magic might work against them would not paint likenesses of themselves or tribesmen. It is unlikely that the figures showing complete steatopygia belong f same race as the painters. It has been suggested that all the paintings of animals executed because they would influence the result of hunting. Even if this cou proved it would not be a reason for drawing humans, who appear in the pain in thousands, drawn in the simplified manner usually known as ’matchstick’ (Fig. II: 5). Except in action and the emphasis on sex, these bear no rel except by inference to the
human figure. It is most unlikely that they were the manner of the medieval wax images, although fear of portraiture and po evil results would be very real. Therefore one can argue that they were painted dicate scenes which had actually happened, but with the fear of adverse eff6 magic they would not portray actual people whom they did not wish to h Many animal paintings belong to this same category; these are often in groups5' in a different position, indicating that the artist was interested in an actual s rather than hoping to kill an animal. There are, however, human figures showing details of type, dress, and orn which must have been painted with no fear of the supernatural. The only reason W the writer can put forward is that these figures depict either enemies of the pain i Since writing this paper a painting of a thick-tailed sheep has been found at Bangomane in the Hills, between Bulawayo and Marula.

THE ROCK ART OF SOUTHERN RHODESIA z67

of strangers belonging to some group differing from the Bush people, either in physical type or size, whom they had seen. They may not have wished to harm these people, but, under these circumstances, they would have no fear of personal or tribal disasters by painting them as people. The paintings of the strange humans do not show the usual bow and arrows carried by the 'matchstick' people; they are norreally shown carrying sticks. The fact that the distribution maps (Fig. z) show the same scatter for early pottery, sheep, and sheep figurines, as they do for these human figures, indicates (because none of these items is thought to belong to the Bushman culture) that the paintings do not represent Bush people. It has been suggested that Barnbata ware has some affinities with Hottentot pottery (Schofield, 1948). Sheep are shown in close association with the polychrome humans. The route (Figs. i and 7) indicated may well represent the way taken by the Hottentots on their migrations. These people are known to have been in South West Africa, but there is little evidence to show how they got there. This study may help to illustrate one of the many mysteries surrounding the history of this enigmatic cultural group.

FIGURES SHOWING STEATOPYGIA

Fifty painted shelters distributed throughout the paintable granites show figures which are complete and with the characteristics of steatopygia—that is, the greatly enlarged buttocks, inwardly curved back, and protruding stomach so often seen in the Bush people and in illustrations of the Hottentots.

Many hundreds of figures in other shelters, and indeed in the same shelters, show either one characteristic or another, or a combination of two. But many matchstick figures have only muscular detail below the waist; some of these sketches show the incurved spine but no detail of buttocks or stomach, while others show every possible combination of these peculiarities.

The number of fully detailed figures with steatopygia is small but may be of real significance when endeavouring to identify the race of the people painted. In this case sympathetic magic may have been a real and vital reason for not painting portraits of their own people. The fact that the artists could draw animals so well that the species and the sex are obvious at a glance, and also alien people, makes
it certain that they could have painted their own people equally well had they so desired. If the artists had the same aptitude for noticing the peculiarities of gait, stance, and walk of their own people as they had for the observation of animals, no facial features would be required to identify a person. It was probably because they thought that recognition of a person might have an evil effect that the matchstick figure was developed. These figures show sex very definitely. It is suggested therefore that the fifty examples which may have been of individual persons do not represent people belonging to the artist's own race. The only people other than Bush having this steatopygeous development were the Hottentots. In Mashonaland some of these complete figures are shown carrying sticks or spears, but never bows, others are shown in association with sheep. Examples of painting of other possible Iron Age invaders are drawn, and in such a way that they could be recognized. Individual ornaments, beads, and necklaces are shown. Most figures, of Which there are many thousands, give no possible clue to the person, or indeed the Physical type. Therefore it may be concluded that in all probability the fifty examples

268 EVIDENCE OF HUMAN MIGRATIONS FROM examined represent the passage of an alien race who introduced the sheep to So Africa.

DOMESTICATION OF THE SHEEP

Zeuner (1963), in his A History of Domesticated Animals states under the h 'Africa ': Since no wild sheep are known to have existed in Africa towards the close of the. cene, all domesticated sheep encountered in Africa must be derived either from. Europe .... It appears that the sheep first came to lower Egypt, which it had approximately by 5000 c., and that it spread up the Nile, some having reached Kh by 3300 B.C. [Ibid., p. 185]. The earliest pictorial evidence comes from the pre-dynastic period. The Nagana shows in every detail the primitive variant of the screw-horned hair-sheep which is to that from Mesopotamia; this sheep is so plainly the descendant of an urial that have come from Turkestan or Persia. This breed disappears from the Egyptian scel the Middle Kingdom when it is replaced by a wool sheep. One breed of sheep descended from the Egyptian hair-sheep had reached Sout Africa before the arrival of the Europeans. In these animals the profile is convex, t are placed high on the skull and close to the drooping ears. The rams carry thick ho a long ruff on the throat [Ibid., p. 180]. It appears from Zeuner's book that the thick-tailed sheep reached Africa fr, Roman period onwards; some may have been as early as the Middle Kingdo everything points to an Asiatic origin. It is noteworthy that primitive breed survived to the present in West and South West Africa. Taking all this into consideration the paintings must be examined to see possible to identify the type of sheep depicted. In Ruchero Cave in the Mtoko District of Southern Rhodesia are several fig sheep; these do not have the thick tail, the profile is convex, a ruff is indica the
throat, and the incurved horns are thick and short (Fig. I: 7). The ears are slightly drooping, but definitely not pricked. These could easily be the dwarf descendant of an urial or a variant of the screw-horned hair sheep, and are pt the type which Zeuner states were in South West Africa prior to the art the Europeans. The people tending these sheep are steatopygeous and ca weapons other than sticks.

In the Ndobe Hills in the Mazoe district is a frieze of sheep, all hornless with drooping ears, convex profiles, and enormous thick tails. These show an ad stage of domestication and may be descended from similar sheep which are have reached Africa from the Roman Period onwards. These, like the hair are thought to be Asiatic in origin (Zeuner, 1963). It is noteworthy that the sheep in South West Africa are probably descendants of these primitive bree height.

Manemba Cave in the Mtoko area also shows thick-tailed sheep, in these, ho the tail is not so large as in those from Mazoe, though the type generally is exa same. The sheep figurines from Khami (Cooke, 1957) show convex profih horns high on the head (none of the horns has survived but the breakage scar the original position); the neck in both cases has a ruff. On the only complete f the tail is shown thick and of normal length, almost exactly like the paintj Manemba Cave.

THE ROCK ART OF SOUTHERN RHODESIA 269
Near Trelawney are paintings of thick-tailed sheep; this occurrence is slightly off the suggested line of movement, but is nevertheless not unexpected, for there is good graSs in that region though it is confined by areas of Brachystegia veld which, like the Mopani, is not suitable for sheep raising. Therefore, although there may have been movements away from the high veld of the watershed, it would always be necessary to return to it in a general southward movement. Because of the occurrence of representations of two types of sheep it may be argued that these paintings represent the passage of two different migrations. If, however, one can suggest a movement during the first few centuries A.D., it may be expected that sheep descended from the same parent stock would vary considerably in type. Only continual line-breeding would have resulted in the stabilized thicktailed breeds of today.

Bambata ware is presumed to have been made prior to A.D. 300, therefore such a date for the movement of sheep-herding people through the country somewhere during the first few centuries is not beyond the bounds of possibility.

CLOTHING AND HEAD-DRESSES
Some form of clothing and head-dress appears in every area, but certain items are of significance because they follow closely the same pattern as that shown by the plotting of polychrome human figures, sheep, Bambata pottery, and steatopygeous people.

Illustrations and descriptions by early visitors to the Cape of Good Hope show that the Hottentots wore a tall pointed hat. Hats of this type are occasionally seen in the paintings in the Mtoko/Mrewa, Zaka, Chibi, and Ndanga (Fig. 1: 4, 12; Goodall, 1959) areas, with a few examples in the Matopo area (Cooke, 1959). Two figures in the small White Rhino Shelter near Bulawayo show this type of headgear (Fig. 1: I I; Cooke, 1959); the drawings are in outline, unarmed except
for staves. A large figure of somewhat similar type occurs at Chamavara Cave in Fort Victoria District. This, however, is in silhouette and has some overpainting in white, the headgear being less pointed. (Fig. I i : I).

Covering the same areas in approximately the same proportion are figures wearing hats which have a flap hanging down at the rear (Fig. i i : 4). I can find no historic evidence for this type of head-dress which has been so often likened to that worn by Egyptians. This interpretation is discounted because it is similar to that worn by Pharaohs and was in fact the crown of Upper Egypt. The above items appear to be the only ones peculiar to the areas discussed. Many other head-dresses appear throughout, some of them unlike anything that the Bush people are thought to have worn. The late Professor Van Riet Lowe was of the opinion that several paintings in Matabeleland, and particularly those in Silozwane Cave, had Nguni types of head-dresses and hairstyles. The writer considers that some of the figures in Nswatugi Cave in the Matopo Hills may also be of Nguni origins. The scope of this paper does not cover that aspect which might possibly throw light on early movements of another people, which from the style of painting may have been contemporaneous with those under discussion. The pattern disclosed by peculiar head-dresses is of some significance although numerically rather small, but when added to the main distribution (Fig. 2) it tends to confirm the evidence already available.

270 EVIDENCE OF HUMAN MIGRATIONS FROM THE AVAILABILITY OF PAINTING SURFACES Paintings on the whole are restricted to the granite areas. It will be seen from map (Fig. 3) that a very large area of Southern Rhodesia consists of granite. If all the area shown is not outcropping granite and some granites are conunsuitable as painting surfaces. A map (Fig. 4) has therefore been prep Summers, 1960) dividing the granites into older granites and granite Lk suitable painting surfaces. These two maps combined give a fairly clear the possible distribution of all paintings, but no map on the scale of these, the isolated occurrence of suitable surfaces away from the main areas. It N by the distribution maps included with this paper (Figs. I and z) that isolings do occur outside the kopje area and also on sandstone.

A study of this nature, which postulates a movement of people and ar occasional settlement rather than a diffusion, must be limited by the ava paintable surfaces away from the suggested route. An examination of shows that there are large areas of paintable granite to the north and 1 suggested route which contain none of the unusual paintings discusse

THE ROCK ART OF SOUTHERN RHODESIA 271
apters though they do contain hundreds of the normal type. According to the li
(Fig. 4) no suitable granite is available in the Buhera area. There are, however,
ated occurrences of suitable granite which contain paintings of the type discussed
well as the more general types.
FIG. 4. Older granites and granite kopjes with suitable painting surfaces.
or the above reasons it has been necessary to examine other criteria in an
endeavour ind further evidence which makes it reasonable to postulate that the
route shown the paintings and distribution of paintable surfaces was one which
was travelled people known at least by sight to the painters. With this in view the
significance imate, linguistics, and vegetation belts has been examined.
THE SIGNIFICANCE OF THE MoPANI BELT
Summers (1960) deals with the problem of the Mopani veld as it affects human
upation, and it may have some bearing on the reason for choosing a particular Ite.
The map (Fig. 5) shows the extent of the Mopani in Southern Rhodesia and part
of chuanaland. This type of country, while capable of supporting browsers, does
not

EVIDENCE OF HUMAN MIGRATIONS FROM
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FIG. 5. Extent of Mopani belt in Southern Rhodesia and part of Bechuanaland.
grow sufficient grass to feed sheep even during good rainy seasons becau clay
nature of the soils in which the Mopani tree grows. Fringe areas, hov carry a fair
cover of grass.
Reference to the map (Fig. 5) shows the approximate area covered by N the
present time and that the route into this country avoided the unfavouro It then
follows the fair grasslands and savannah down to the southern box Bechuanaland.
The Mopani forms a wide barrier through which sheep woul able to pass. To the
north-west is an area of Gusi. This type of country ce Kalahari sands covered with
heavy teak and mahogany trees. This is a tract having little grass cover, which
would be quite unsuitable for sheep. possible crossing is towards Lake
Makarikari, where there is subtropical I and very little Mopani covering. It
appears therefore that this would be feasible route for people with animals which
cannot survive by browsing. M1 would support sheep both with water and
grazing.
It is possible that the movement took a southerly direction from here

THE ROCK ART OF SOUTHERN RHODESIA
Lake Dow but the more likely one seems to be towards the Tsodillo Hills along
the linles of drainage from the Okavango swamps and thence to Etosha Pan (Fig.
9). other routes might have been suitable to migrant humans without stock, humans with cattle or goats, but no other way appears to have been suitable for sheep. It

Therefore suggested that the sheep-herders, who were probably Hottentots, used this route across Southern Rhodesia, westwards through Bechuanaland, and then 8thwards through South West Africa to the Cape of Good Hope.

The present distribution of Hottentot languages has recently been discussed by Westphal (1963); he demonstrates in his paper (Fig. 6) that the present distribution follows very closely the spread from the Okavango to south of the Orange River. In Southern Rhodesia, except for a very minor area in the north-west of the country,

There is no distribution shown. In Bechuanaland, however, there is a spread from Makarikari Pan area westwards across to the Okavango River, but there is gap between that point and the Etosha Pan. The map shows a spread towa: area of Lake Dow and then across the Ghanzi area, with a hiatus between the Gobabis area in South West Africa. Fluctuations in the movements of the inhabitants would make little of joining up either of these gaps in distribution.

Westphal (op cit., p. 259) says of the Bantu-speaking peoples that two early of entry into the area south of the Zambesi suggest themselves from trac, (i) a well-recognized one from Barotseland and adjacent areas in Northern Rhi and (ii) a new one across the Lower Zambesi east of Tete. In the west the several, but the two main ones seem to be down the western Escarpment; a along the borders of the sandveld from north-east to south-west.

The second and third would seem to be approximately the area suggested vious sections of this paper.

Westphal also gives a map of linguistic distributions and dispersals. This d( agree with the route suggested by me (Fig. 7). His westerly route goes only a the south of Makarikari and then far south of the present area of distribution Hottentot languages. His main route crosses the most arid part of Bechua and northern Cape, following the trade route which may have been used by Ho copper traders on their way to and from the Northern Transvaal. Goodwin stated that a journey to the land of Monomatapa took twenty to thirty days. He (P. 34): 'We should note that maps of the time, such as those of Linschot Guillaume Blacu, bring Monamatapa down to within two or three hundred n the Cape of Good Hope, to
the fabulous Yiviti Magna, on a river running sc north, possibly a cartographer's misinterpretation of the hearsay Orange I.
The following passage also appears in Goodwin (op. cit. p. 52): 'The river (the country so that all to the south are Hottentots, while those to the no] Negroes, subjects of a paramount chief who never leaves his hut without a retin'
This would appear rather to refer to the Limpopo river which runs fr south-south-west to the north-north-east for quite a long distance before t west to east. The suggestion of Negroes to the north of the river would agair to the Limpopo and not the Orange River as suggested by Goodwin (Fig. 9)'
A journey of 200-300 miles would certainly take a lot less than twenty ot days if there was any urgency. A distance of 600-900 miles would be much nea mark.
This would take the traveller well into the Northern Transvaal to the so, copper trading if not to the actual place of mining. The minor outcrops of Ho language groups tend to suggest a movement rather than large settlements are apparent from the spread of the languages on the route postulated by theI writer.
Mr. Roger Summers has kindly allowed me to examine his unpublished w, the possibility of tracing elements of non-Bantu languages in the names rivers and places in Southern Rhodesia. The sounds which he states are non. are -kwe-, -gwe-, -gwa-, and -ngwe-, but he is not absolutely certain that t' two should be included. The way suggested across Southern Rhodesia appr closely to the headwaters of the greater number of the rivers suggested by Sur. The main ones not covered by the route are the Que Que, Gwelo, and Selukwc.

THE ROCK ART OF SOUTHERN RHODESIA Z
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INDIAN
- OCEAN
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HOTTENTOT DISPERSAL
With no reference to time.
WESTPHAL- -COOKE
FIG. 7. Hottentot dispersal (Westphal and Cooke).
The middle portion of the Zambesi known as the Gwembe is not covered by my movement but is covered by Westphal's distribution of Hottentot language groups, Lnd may therefore be of earlier or later date. North of the Buhera District most of he river names appear to be of Bantu derivation, many containing the sounds -nyaLnd -nyi-; others are directly named in the local dialects. A great deal of linguistic itu would have to be done in north-eastern Mashonaland before any conclusion could be reached. One name, Gwanda, has not been included because it is a European :orrption of Jahunda.
The route suggested by the writer may have had several branches made by splinter groups endeavouring to find suitable pasture and routes for sheep and shepherds.
EVIDENCE OF HUMAN MIGRATIONS FROM

One such movement may well have gone northwards to the Angwa River and another may have gone from Gutu across to Selukwe and another towards Tr...

The rivers and place-names are marked on the general maps of Southern R. It is of great importance that only the headwaters of most of the rivers have these probable non-Bantu sounds in their names.

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RAINFALL OF PRESENT DAY
FAVOURABLE
MARGINAL
UNFAVOURABLE

FIG. 8. Rainfall of present day.

CLIMATIC CONSIDERATIONS

The map (Fig. 8) shows the rainfall position at the present time. Tw( the route is through areas in which there is sufficient rain for normal req (Lee, 1963). The map is divided into favourable, marginal, and unfavourable for human habitation, and shows that if the sheep-herders did reach the I Mountains, by the way suggested, they would have passed through an area would create hardship for man and beast, unless they travelled from wate only in the wetter seasons (Fig. 9).

THE ROCK ART OF SOUTHERN RHODESIA

The Bushman of today, who lives in these and nearby areas, manages to survive ,en the worst of dry seasons, although he is rather weak and emaciated towards the end of the long winter. If a family of five or six can kill a medium-sized antelope such the Gemsbok (Oryx sp.) the meat would last them for at least a week. They would

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ROUTE OF THE SHEEP HERDERS
SETTLEMENTS ----------------------POSSIBLE SETTLEMENTS ----- 4’

WATER -----------------COPPER TRADE ROUTE-- ---

FIG. 9. Route of the sheep-herders.

ile to collect a week's supply of liquid from the rumen, the intestines, and from the carcass. If the animal was a female they would if possible milk Lnimal and use the milk as food (Thomas, 19 5 9). There are many bulbousies. which can be dug up, some of which supply food while others are used Moisture content. The dried peas from small bushes, the Tsama melon
embers, truffles, ants, and other insects all help to sustain life. There is far I in the north of South West Africa than there is in the Kalahari areas of

278 EVIDENCE OF HUMAN MIGRATIONS FROM Bechuanaland (Thomas, loc. cit.). Other things that can be eaten are Tsi nuts eggs, sweet gum from the acacia trees, and Baobab tree seeds. The Bushm carries dried giraffe and antelope skin in his bag, roasting it and powdering food when required. Mrs. Thomas said that this was quite pleasant to eat, h bacon-like flavour. This shows the variety of foods which are available to her un hospitable country (Fig. io).

PRESENT VEGETATION

U "C "C LI-DESERT Li ! KARROO fil: ii;iiiGRASS
[ FOREST
OPEN WOODLAND O MIXED WOODLAND [ ]SUCCELENT KARROO
BUSHVELD & GRASSLANI

FIG. To. Present vegetation.

For various reasons discussed elsewhere it is unlikely that the movement took place earlier than 4,000 years ago or later than 1,600 years ago; it is considered that the climate would be very similar to that enjoyed today be possible for man and sheep to cover the whole distance over a number providing that the wetter ones were chosen. One must therefore examine bilities of a minor increase in precipitation and a more consistent rainfall d -40o-year period under discussion.

Zeuner (i945) says: 'Fortunately the astronomical theory suggests ano sible source of the fluctuations of the tropical climate between dry and we the periodical movement of caloric equator. ' At the present moment ti

THE ROCK ART OF SOUTHERN RHODESIA 279
equator is about 30 North, as a result of which the climate in Southern Africa is drier,d the rainfall less consistent than it is when this equator moves southwards. Ten thousand years ago the caloric equator, according to Milankovitch's graphs (in euner, 1945), was 30 South. This had the effect of making the rainfall more consistent and the climate wetter. Since that time the caloric equator has been moving 00rthwards and the air-masses becoming gradually drier. Therefore between the years 4000 B.P. and 1 600 B.P. the climate is likely to have been slightly wetter. The effect of this would be to increase the size of the large inland lakes in Bechuanaland, make them less saline, and improve the grass cover throughout. The major rivers would probably be perennial, or at least have pools throughout the year. Therefore, would be somewhat easier through the drier areas than it is today. It is doubtful, however, whether it would have made a major difference to the present desert and fringe desert areas, where there are no permanent rivers and freshwater lakes; but the rainfall would have been more consistent and made travel easier for most of the suggested routes.
From the area of the Botletle River in Northern Bechuanaland, there are a number of fresh-water pans covering roughly 50 miles of the long arduous way to Etosha; these today usually contain water and support human and animal life for all the year. These pans are named Tsau Gam, Kaikai, Takwara, Nama, Gura, and Gautsha (Thomas, 1959). During 1958 they were supporting large kraals of Bechuana people who had crossed into South West Africa from the north of Bechuanaland. Two hundred people live at Gautsha Pan during the entire year with their stock. They also ade in salt collected from a smaller pan nearby. The distance to be covered from Etosha Pan to the Orange River would be between 600 and 700 miles, water being available in the river which flows through Brandberg. There are water-holes there now which support a small number of ge stock and a larger number of goats and sheep. The Aub River would supply water as far as the Orange River and from there to the Cape of Good Hope is not difficult. The country southwards and eastwards from the Brandberg still supports rakul sheep in large numbers. It is therefore certain that if the rainfall were slightly reased and more consistent the route would provide a sufficiency of food and ter for both humans and animals.

The Hottentot was a pastoralist and not an agriculturalist. One must therefore care carefully the terrain crossed with a view to feeding both humans and sheep. Sthern Rhodesia, with its abundant antelope, small mammals, and wild fruit and getables, would be no problem. Northern Bechuanaland is not so well blessed fruit, but game would be plentiful, edible roots and vegetables, including the salled Bushman-melon, would be available. The worst area to be crossed is that Etosha Pan southwards to the Brandberg mountains. It is thought, however, that small parties would find sufficient vegetables, and game would always be avail. Rats, lizards, and birds would provide a change in let. The vegetation (Fig. io) sws that the country would on the whole be suitable for sheep grazing today; with consistent rain it would be even better.

The grass in Southern Rhodesia after a good rainy season tends to be long and t, especially in Mashonaland. This may be the reason why there was apparently 0ong settlement until the sheep-herders reached the better grass in the Fort

I  RG. i i. Human figures.
   i. Chamavara cave
      a. Typical bowmen, Lekkerwater
      3. Matchstick figure
      4. Egyptian-type headgear, Zaka
      5. Matchstick figures, Silozwane
      6. Steatopygia, Silozwane
   t 81ty

7. Steatopygia, Makumbe
   8. Steatopygia, Gwanda
   9. Unusual figures, Chibi
so. Steatopygia, Gambarimwe
ii. Pointed headgear, White Rhii
iz. Egyptian-type headgear, Nda

THE ROCK ART OF SOUTHERN RHODESIA Victoria area. However, there are large areas of suitable pastures on the suggested way through Southern Rhodesia. A more consistent rainfall would increase the availability of the Cooch grasses and there would be ample food for sheep throughout the year. The southern part of Matabeleland would not be so
hospitable, but by avoiding the Mopani and travelling through the grasslands and open woodland no serious trouble would have been encountered. Once across the narrow Mopani belt north of Makarikari, open grassland can be followed as far as Etosha Pan. from then on to the Brandberg there is now mainly poor Karoo-type veld. This winl, and does still, support sheep providing there is sufficient water. Once the crossing of the Orange River is accomplished there is no problem for man or beast.

THE WAY THROUGH AFRICA SOUTH OF THE ZAMBESI

It appears evident from the foregoing that sheep-herding people crossed from the north-eastern borders of Southern Rhodesia to the south-western border with Bechuanaland. This has been demonstrated by the various types of human figure paintings discussed, the occurrence of sheep in paintings and as day figurines. The significance of the granite areas has been argued. The limiting factor of the Mopani has also been discussed. There was a complete avoidance of the Mopani veld by the sheep-herders, because it has insufficient grass cover for grazing animals, even though it can support browsers. The route used was also partially controlled by the Gusi veld to the northwest, which is unsuitable for grazing. The large areas of Brachystegia south of Hartley as far as Gwelo are also not suitable for sheep. Once the thin barrier of Mopani Makarikari Lake is passed, the only evidence so far discussed is that of the climand vegetation possibilities of the route. The linguistic distributions of the present time can be said to give some confirmatory evidence but Westphal (1963) does not agree with my suggested immigration.

There is an outcrop of paintings in the Tsodillo hills north of Maun but little is known about them at the moment. However, in the Brandberg Mountains there are intings of sheep. In the shelter known as the Sheep Shelter in the Sheep-ravine a drawing of a thick-tailed sheep being driven by a human wearing a hat not unlike tse from Chibi and Ndanga in Southern Rhodesia. The figure is unarmed except two short sticks (Viereck, 1962); Viereck also illustrates under the title ‘Game or Domestic animal’ what may very well be another sheep with slightly pricked ears, ns, and a convex head. The animal also has a thick tail (Fig. i z: 8). Stopygeous human figures drawn in detail appear in at least four shelters in the Brandberg Mountains; none of these seen by the writer carry bows and arrows. Stopygeous figures carrying sticks also appear in the paintings in the Erongo Mntains of South West Africa (Fig. i i : 2).

South West Africa there are two rivers between Etosha Pan and the Brandberg, three between there and the Aub River. Today most of these rivers are sandy with water only after rain, but according to Francis Galton, who travelled in South West Africa during 1850-1, a hippopotamus was found dead in the Swakop near Tsoabis a few years previously. There are paintings of these animals in -tSpitzkoppe. It does appear therefore that water was available during the time e painters, where today there is very little, except after rain. There is also an

284 EVIDENCE OF HUMAN MIGRATIONS FROM pottery-making people of Iron Age Culture and a Later Stone Age date of (Robinson, 1964). Therefore a date of 1700-1400 B.P. seems to be a reason,
gestion for the first arrival of sheep in Southern Rhodesia. This would allow 700 and i,000 years for the sheep to have travelled from Abyssinia to the n, border of Southern Rhodesia. A possible way would be down the Nile valley Victoria, through Tanganyika, and thence along the shores of Lake N crossing the Zambesi near Tete in Mogambique-highly conjectural but nev a possibility. Summers postulated a similar route (Summers, 1960).

There are a few paintings of humans wearing pointed caps in Style 3 (Coo] which are older than the type quoted above but do not appear to predate very much. There are no sheep in this style of painting. It is therefore conch although the humans depicted may be Hottentots it is unlikely that sheep were with these people, at this particular time. It is not improbable that these earlings are of Hottentots, who were travelling through the country looking pastures before actually moving their sheep, and for that reason strange may appear in the paintings away from the main area of movement.

Finally it is suggested that the sheep reached the Cape of Good Hope b migration rather than by diffusion, although the actual people who started tf ward movement from the north probably bore little resemblance to the E physical type. In all probability by hybridization both the people and the I they spoke had changed out of all recognition by the time they reached as far Southern Rhodesia. The sheep, however, seem to vary somewhat in type w1 stabilized breed by the time they left L Rhodesia. All those recorded in South West Africa and the Cape (Townley J Rabinowitz, and Sieff, 1963) appear to be fat-tailed sheep; one such pain tains twenty-six animals both young and old, at least one male being shohorns. This seems to indicate that the breed had become stabilized after its ings through Africa. Two paintings of sheep in the Republic of South A not on the general route. One of these, which is a foreshortened engraving, Vryburg District of the Transvaal. It is difficult to be certain whether this is tailed sheep or not; it is certainly a type with a ruff around its neck, but the C the face, ears, and horns are difficult to see. From the illustration (Willca it appears more like a true hair sheep than a developed fat-tail. The other oa contains over fifty drawings of fat-tailed sheep, both female and male. None has horns, the faces are convex and the ears are not shown. It may be presur they have lop ears because the painters were very meticulous when drawing characteristics. The painting occurs on Andover Farm in Dordrecht Distri Cape Province close to where the Griquas (Hottentots) settled about ioo (Battis, 1948). From the development shown in the sheep it is thought thav very late painting. With losses of animals from death and disease, inbreedil be unavoidable, and this would probably result in the stabilization of a defir of animal.

BIBLIOGRAPHY


THE ROCK ART OF SOUTHERN RHODESIA 285
PREUVE DE MIGRATIONS HUMAINES PAR L'ART DES CAVERNES EN RHODÉSIE DU SUD

Er étude discute des itinéraires possibles empruntés à travers l'Afrique par des peuples qui on sait qu'ils possédaient des troupeaux de moutons. Il est suggéré, à la suite d'un a en de plusieurs peintures de caves en Rhodésie du Sud, et en se référant à d'autres SyVres dans la République d'Afrique du Sud et au Béchuanaland, qu'un peuple callipyge versa de nord-est en sud-ouest la Rhodésie du Sud, se dirigeant vers l'ouest à travers le chuanaland où il suivit les lignes
d'écoulement des eaux jusqu'à ce qu'un chemin soit ouvert vers le sud menant au Cap de Bonne Espérance où pourraient subsister à la fois huains et bétail. 

traversée de l'Afrique est interrompue par différentes sortes de contrées boisées dans quelles l'herbe ne pousse guère. Les moutons, par conséquent, n'auraient pas survécu e avaient eu à voyager au travers de ces ceintures de veldt densement boisées. Le chemin s'éviter contourne ces régions, mais traverse un corridor étroit du veldt de Mopani au nord Lac Makarikari. 

Les conditions climatériques englobant les derniers 4 ou 5 milliers d'années sont égalelt étudiées par rapport aux chûtes de pluie et types de végétation. possibilité de captation de rivière par les Hottentot ainsi que le nom de localités en R ésie du Sud est soulevée, et la distribution actuelle des dialectes Hottentot est prise en dération. 

Slen est conclu que les peuples bergers représentés dans ces peintures sont des Hottentots qu'ils traversèrent la Rhodésie du Sud lors d'une migration méridionale antérieure aux cipales immigrations bantoues. Les peintures représentant d'étranges êtres humains et arimaux dans leurs abris rocheux seraient l'ouvre d'hommes vivant dans la seconde *e de l'âge de pierre. 

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