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JOURNAL OF
THE TRANSACTIONS
OF
The Victoria Institute,
OR,
Philosophical Society of Great Britain.

EDITED BY THE HONORARY SECRETARY,
CAPTAIN F. W. H. PETRIE, F.G.S., &c.

VOL. XXIX.



LONDON:

(Published by the Institute, 8, Adelphi Terrace, Charing Cross, W.C.)

INDIA: W. THACKER & Co. UNITED STATES: G. T. PUTNAM'S SONS, N.Y.

AUSTRALIA AND NEW ZEALAND: G. ROBERTSON & Co., LIM.

CANADA: DAWSON BROS., *Montreal*.

S. AFRICA: JUTA & Co., *Cape Town*.

PARIS: GALIGNANI.

1897.

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MEETING.

T. CHAPLIN, ESQ., M.D., IN THE CHAIR.

The following paper was read in the author's unavoidable absence by J. W. Slater, Esq., F.L.S., F.E.S. :—

ON SPECIMENS IN THE PETER REDPATH MUSEUM OF MCGILL UNIVERSITY ILLUSTRATING THE PHYSICAL CHARACTERS AND AFFINITIES OF THE GUANCHES OR EXTINCT PEOPLE OF THE CANARY ISLANDS. By Sir J. WILLIAM DAWSON, C.M.G., F.R.S., &c.*

(ABSTRACT.) The paper relates to the following subjects :—

1. General notice of collections presented to the Museum by Mr. R. S. Haliburton and Dr. E. J. Lambert.
2. Notice of the historical facts as to the Canary Islands and their people.
3. Characters of Crania in the collection ; their affinities.
4. Objects of art in the collection.
5. General remarks and conclusions with reference to the relationship of the Guanches to ancient peoples of Western Europe and Africa, and possible connection with the colonisation of Eastern America.

1st. General Notice of the Collections.

THE Peter Redpath Museum has been so fortunate as to obtain, through the kind agency of friends, a collection, perhaps the best at present in North America, of the remains of this remarkable extinct people. It was hoped that the late Sir Daniel Wilson, our leading Canadian archæologist, would have prepared an account of this collection, which he visited and studied with that purpose in the spring of 1892. It might have been expected that his wide knowledge of the cranial characters of American and other races would have enabled him to determine more certainly than heretofore, the relationship of the Guanches with other peoples. Unfortunately his lamented death prevented the fulfilment of this intention, and the present paper is intended, however imperfectly, to render the specimens as useful as possible to those interested in the subject, though without entering as

* This paper is the latest published in regard to the Guanches.—ED.

fully into their general anthropological relations, as might have been done by my late friend, Sir Daniel.

The first specimens obtained for the Museum were presented by Mr. R. S. Haliburton, and were collected by him in a visit to the Canaries in 1881. They consisted of a skull, a lock of hair, some earthenware beads; also photographs of additional skulls, of earthenware objects known as stamps or seals, of a vase or jar, of stone mortars, hooks and piercers or bodkins; with a few flakes of obsidian or pitchstone. These objects were noticed in the annual report of the Museum for 1883, and some of them were figured in the author's work, *Modern Science in Bible Lands*, in 1888.

In presenting the specimens, Mr. Haliburton stated that the ornamented clay discs were from Gran Canaria, and were supposed to be seals of chiefs. The beads were actually found in Guanche tombs or sepulchres, but there was no certain evidence that they had been used as money, or for records, in the manner of the American Indians. They may have been merely for ornament. Polished greenstone axes are sometimes found, but he was not able to obtain an example of these. In addition to human mummies he had been informed that a specimen of a large lizard preserved in the same way had been discovered, possibly, a sacred animal.* With reference to the alleged want of knowledge of navigation on the part of the Guanches, he remarks:—

“If these islands were settled by a maritime people, the memory of vessels, boats, or rafts would have been preserved. But, strange to say, though these seven islands are in sight of each other, and one can be seen from the African coast, the natives have always apparently been isolated from each other by not knowing that the sea may be traversed by boats or rafts. So long has this isolation continued that the natives of the Canaries were almost distinct from each other in languages, religion, etc.

“It is possible that by an odd accident, in one island, the natives may have forgotten the use of boats (and also of bows and arrows), but how can this have occurred in all the islands?

“It seems to be, in my judgment, a strong proof that this people are the survivors of a very ancient agricultural race,

* According to Wallace there are no truly indigenous reptiles in the Canaries, and the only mammals were two European species of bats.

that at a very remote period were isolated from each other by being forced to take shelter on the summits of mountains by a submergence, probably more or less rapid." This possibility will be discussed in the sequel.

A larger donation was made in 1892, by Dr. E. I. Lambert, who being about to visit the Canaries, kindly offered to procure additional specimens illustrating the primitive inhabitants. In a letter accompanying the specimens Dr. Lambert says:—

"I have been able to procure a Guanche mummy and ten Guanche skulls, in the selection of which I was assisted by Dr. Wilson, late demonstrator in University College, London. I also visited Las Palmas, and was received with much courtesy by Don Gregorio Chil, the founder of the Museum and author of the most important work on the history of the Guanches. From him I received the skull specially marked as from the Island of Gran Canaria, I procured together with the mummy some beads used by the Guanches and specimens of the awls with which they sewed, as well as a supposed fish-hook. I was unable to procure an example of the mill in which they ground their corn, or any pottery, these objects being scarce."

The collection is accompanied by a certificate from the German Consul at Santa Cruz that the objects were obtained from an old Guanche cave in the Barranco Santos.

The mummy referred to in Dr. Lambert's letter is in fairly good preservation, and swathed in the prepared goat-skins in which it was originally wrapped. The skins are sewed together apparently with tendon, and are wrapped around with bands of skin neatly knotted. The process of preservation applied to the body has been very imperfect. The brain has not been removed. The viscera appear to have been taken out and the body dried, seemingly without any preservative substance. Little, therefore, remains of the soft parts except ligament and skin. The body is apparently that of a man of moderate stature, and in its present shrunken condition, only five feet in length, so that it does not bear out the statement of some writers that the Guanches were of great stature. It lies on its back on a plank of dark-coloured wood, somewhat split and broken, but which has been slightly hollowed and has two projecting handles at the head and one at the feet, so as to permit it to be used as a bier. This plank seems to have been shaped by stone implements. The mummy is not fastened to it.

The mummy and ten of the skulls are from the Island of Teneriffe and therefore represent the typical Guanches, since the name is said to have originally been *Guanchinail*, and to have meant "men of Teneriffe." The skull originally sent by Mr. Haliburton has no precise locality indicated; but it closely resembles the specimen obtained by Dr. Lambert from Gran Canaria. The lock of hair which accompanied this skull is fine, straight, and of a rich brown colour.

2nd. *The Canary Islands and Their People.*

I present here a short summary of the more important facts which seem to be certainly known respecting the Guanches.

The Canary Islands appear to have been peopled in very ancient times, and to have been visited by early voyagers.* Strabo mentions them under the name "Islands of the Blest," and attributes their discovery to the Phoenicians, who must have seen them in their voyages, from the Strait of Gibraltar along the west coast of Africa. Later notices of them under the name of "Fortunate Islands," occur in Pliny. They are said to have been visited in the reign of Augustus by an expedition sent out by Juba, King of Mauritania. At that time it is stated that no inhabitants were seen, but as remains of buildings were found as well as large numbers of goats and dogs, there must have been inhabitants; and either these were for a time thinned off by some plague, or they had retreated into the interior to avoid the strangers. The name "Fortunate Islands," seems to have been due to their climate and productions, and to the primitive condition of their people, reminding their visitors of the golden age, just as similar conditions seem to have impressed early visitors to the islands of the Pacific in more modern times.

The islands were re-discovered by the French, Portuguese and Spanish voyagers of the fifteenth century, who found them well peopled and abounding in goats, sheep, grain and fruits. At this time the number of fighting men in the different islands was estimated at from 12,000 to 17,000, but their weapons were only clubs, stones and wooden lances with the points hardened in the fire or tipped with

* Boutier and Le Verrier, *Conquest of the Canaries*, translated by R. H. Major, F.S.A., Hakluyt Society, 1872; Glas in Pinkerton's *Voyages*, vol. xvi, p. 808, give useful summaries of information.

horn. For knives they used chips of obsidian. They were naked or clothed only with their long hair or with scanty garments of palm leaf, woven grasses, or skin. In some of the islands there were houses and other buildings of stone. In others, they lived in huts or caverns. Monogamy prevailed, but it is said there was polyandry in some of the smaller islands, one woman having as many as three husbands. As in many primitive peoples, descent was reckoned in the female line. They had a tribal government of kings or chiefs, and had also a priesthood or class of "Medicine Men," or Shamans. In some islands there were communities of nuns or vestals. In one of the temples or sacred buildings an image of stone is mentioned. In some of the islands the people are said to have spent much time in singing and dancing.

There are believed to have been two races of men in the islands; one of brown complexion, the other white. The brown race was the ruder, but the taller in stature, and predominated in the islands nearest the African coast, and it was in these that polyandry occurred. This distribution would seem to indicate that the whiter and more civilised people were the earlier colonists. The greater part of the specimens in Dr. Lambert's collection being from Teneriffe, would represent the lighter coloured and smaller people of the central and western islands. The single Gran Canarian skull may belong to the other race. It seems to have been in the central and western islands that the practice of embalming the dead prevailed. There were professional embalmers who were also physicians, but their art was very rude and imperfect, compared with that of Egypt in the time of its highest civilisation. The mummies were sometimes deposited in caverns, and where these were not readily accessible in cists or sepulchres of stone.

The languages of the islands, though said to differ from each other, would seem to have been dialects of a common tongue, differing just as we find among the American aborigines, where the want of writing and intercourse allows languages originally the same to become in a few generations distinct from each other. In so far as the few words I have had access to can give information, the general language would seem to have been Turanian rather than Aryan. The dialect of Teneriffe seems to have been more distinct than any of the others. Father Abreu Gelindo, and Webb and Berthelot, *History of the Canaries*,

compare the Canarian words preserved to us with the Berber language. There is said to have been a system of hieroglyphics, but I have seen no examples of these, and the marks upon the so-called clay seals are apparently merely ornamental.

The absence of canoes has led to the theory already referred to, that the islands are the remains of a submerged continent; but their volcanic character and the depth of the ocean round them are adverse to this conclusion on physical grounds, while the distinctness of the fauna from that of Africa would seem to indicate long isolation.* At the same time, if the inhabitants were colonists from the mainland, it is very extraordinary that they should lose all knowledge of navigation in islands holding out so many inducements to seafaring habits. If the objects regarded as fishing hooks are really of that character it would be interesting to know in what way they could practise sea-fishing without the aid of some kind of boat or raft. They are known, however, to have fished with drag-nets from the shore.

By the Portuguese and Spanish, the islanders were not only plundered but hunted and sold as slaves. This led to wars of extermination, in which the unhappy natives perished, except in so far as traces of their blood may remain in the present inhabitants. Thus this interesting people became extinct, and the valuable information which might have been derived from a scientific study of their languages, physical characters and habits, was lost to the world. This is the more to be regretted, as we shall see in the sequel that the aborigines of the Canaries may have been a survival of the so-called Neolithic peoples of Europe, and may have served to connect these with certain of the populations of Eastern America. Fortunately some attention has recently been given to the scanty remains still extant, and the accumulation of a museum of Guanche objects in the Canary Islands themselves, is an important step in advance, which it is hoped may be very successful, and may be accompanied by such publications of the objects obtained as may bring them more prominently under the notice of archæologists.

3rd. Cranial Characters.

Of the eleven skulls which we owe to Dr. Lambert, one was presented to Sir Daniel Wilson for his collection in the Tor-

* Wallace, *Geographical Distribution of Animals*, chap. x.

onto University. The remainder, as well as that attached to the mummy, are in the Peter Redpath Museum. Thus our collection consists at present of nine detached skulls and a complete mummy from Teneriffe, one skull from Gran Canaria, and the original skull presented by Mr. Haliburton, twelve in all. I shall here refer to the collection of Dr. Lambert alone, though the remaining skull is similar in general aspect, but its precise locality was not stated by the donor.

As a whole the skulls are of a more refined type and texture than is usual with those of barbarous peoples. This fine type of the crania at once attracted the attention of Sir Daniel Wilson on his examination of the collection, and he expressed himself as doubtful of any close resemblance to certain Palanthropic skulls they have been said to resemble. On more close inspection, however, we recognize some of the characteristic appearances seen in the crania of rude and primitive people, as for instance, somewhat pronounced superciliary arches, a narrow forehead somewhat retreating, a certain angular character in the vertex, a tendency to occipital protuberance, and a strong development of the lines of attachment of the temporal muscles; but these characters are on the whole of a subdued type.

Most of the skulls are those of males, but two are probably females and are smaller and more delicate in form. They fully vindicate the reports of the regular features and prepossessing appearance of these people. The length of the single Gran Canarian specimen is 7.37 inches, its breadth 5.62 inches. The mean length of three male skulls from Teneriffe is 7.27 inches, their breadth 5.41 inches. One of the specimens figured is that from Gran Canaria, the other is an ordinary example of those from Teneriffe; but some of the others approach nearer to the Gran Canarian type.

The whole of these Crania, particularly the ten from Teneriffe, are somewhat uniform in type—more so than we usually find in a miscellaneous collection of native North American skulls of one tribe. They are oval in form and mesito-cephalous, with fairly developed foreheads, but the superciliary ridges somewhat prominent in most. The nasal bones are prominent and not wide but much depressed at the junction with the forehead. The cheek-bones are not unduly prominent, the jaws orthognathous, the chin prominent and sometimes pointed. The teeth are usually regular and well developed though there are exceptions to this. They are not much worn on the crowns. Some have one large Wor-

mian bone, others two smaller lateral ones, and others mere traces of these bones.

The skull from Gran Canaria presents some slight differences from the others. It is thicker and heavier, the eyebrows more prominent, the eye sockets with a tendency to squareness; the chin is very pointed; the Wormian bones are small, the muscular impressions are strongly marked; the teeth are more irregular than in the specimens from Teneriffe. On the whole this skull has one of the best developed foreheads, and the brain-case is wide above.*

One of the Teneriffe skulls has three cervical vertebræ attached, showing it to have belonged to a mummy.

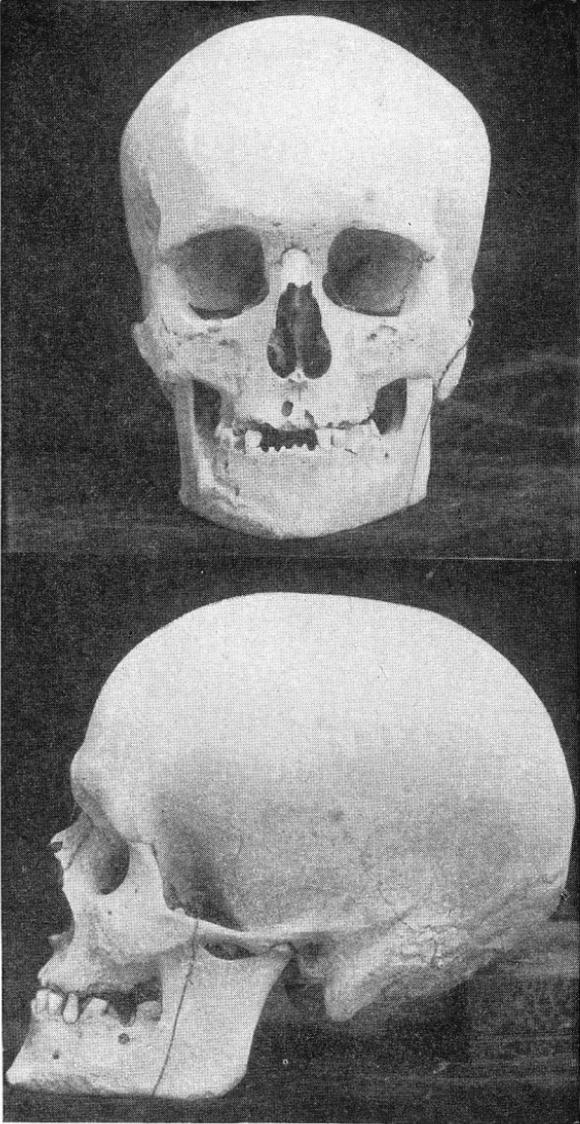
The following are the measurements of the several skulls in centimetres, the length being taken from the base of the frontal bone to the occiput, and the breadth being that between the most prominent parts of the parietal bones.

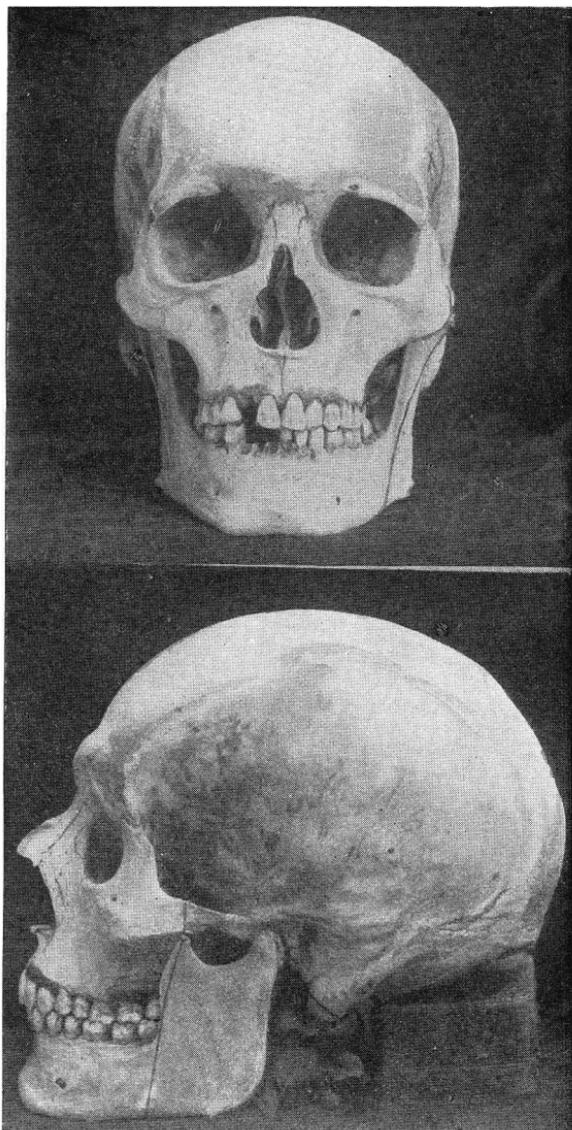
No. of Skull.	Locality.	Length.	Breadth.	Remarks.
1	Teneriffe	19·0	14·0	The largest skull.
2	"	18·1	14·2	Has a fracture on vertex, post-mortem.
3	"	17·3	14·0	Probably a female.
4	"	17·9	14·2	Indented behind by injury or disease.
5	"	17·8	13·3	Probably a female.
6	"	18·7	13·8	Seems to have been trepanned.
7	"	18·6	14·2	Slightly flattened behind.
8	"	18·8	14·4	
9	"	18·6	13·6	Has "cervical vertebræ attached.
10	"	18·3	14·3	On mummy.
11	Gran Canaria	18·8	14·3	Slightly different from the others.

The cephalic indices and averages are as follows.—

Index of ten Teneriffe skulls	·764
Index of one Canarian skull	·758
Average length of ten Teneriffe skulls	18·30 c.m.
Average breadth of the same. . . .	14·00

* In the history of the islands, the inhabitants of Gran Canaria would seem to have excelled those of the other islands in energy and military prowess.





The somewhat greater difference in the relative lengths compared with the breadths is due in part to the varying projection of the front of the frontal bone, and to certain protuberances or flattenings of the occiput. Some of the skulls show a marked occipital protuberance, while others are so much flattened behind as to suggest the possible use of a cradle-board in infancy. One of the skulls is remarkable for a large irregular opening at the junction of the frontal bone with the left parietal. It has evidently been made during life, and is probably the result of trepanning, or some similar process.*

The Guanche crania have been stated by certain writers to be similar to Palanthropic skulls found in European caverns, and notably to those of Cro-Magnon and Engis; but this is evidently an error, as the above measurements show, and as I have satisfied myself by comparison with good casts of the skulls of Cro-Magnon, Laugerie-basse and Engis in our collection in the Peter Redpath Museum.

The skull of the old giant of Cro-Magnon measures 7.9 inches in length, and that of the probably younger man from the same rock-shelter nearly eight inches. Their breadths are the same, or about 6.1 inches. The Laugerie-basse skull measures 7.65 inches by 5.75. The Engis skull measures 7.95 inches by 5.7. They are thus all larger and of somewhat greater proportionate length. That of Laugerie-basse approaches nearest to the Canarian skulls. A comparison of the specimens placed side by side brings out however their differences much more strongly than measurements. In general form, taking the skull of the old man of Cro-Magnon as an example, the massive proportions, the long flattened parietal bones, the great length of the frontal bone and its tendency to form a vertical ridge in front, which owing to an erosion of the forehead of the old man's skull is best seen in the second skull from the same cave, the contrast of the shortness and breadth of the face with the length of the skull, the orbits lengthened laterally, the broad and heavy lower jaw, and its somewhat prognathous character; these peculiarities along with the great stature of the skeleton and the remarkable development of the bones of the limbs separate the Cro-Magnon and allied tribes from the Guanches by a

* Trepanning is known to have been practised among the ancient Peruvians, Dr. Muñoz, exhibited at the World's Fair Congress of Anthropology, in 1893, nineteen crania from Peru, which had been subjected to operations of this kind

wide interval, and indeed distinguish markedly these primitive men from any modern races known to me. These characters are well illustrated by Pruner Bey, Quatrefages, and Christy and Lartet, and we cannot doubt that, with the Canstadt, Neanderthal, Spy, and Grenelle remains allied to them in some respects, though exaggerating some of their peculiarities, this group of peoples, contemporary with the mammoth and Tichorhine rhinoceros in Western Europe, stands by itself as a race or group of races markedly distinct from those of later periods. The solitary skull from Truchère referred by Quatrefages to the Palanthropic period, is the only one of that age which can bear any proper comparison with such remains as those of the Guanches.

On the other hand our Guanche skulls may be better compared with those of the so-called "Neolithic" age in Europe, the men of the polished stone and early bronze ages, of the long barrows and cromlechs, and of the Swiss lake habitations, as well as with the Iberian races of France and Spain and the Berbers of North Africa. The crania of these races, as tabulated by Quatrefages,* are those which most nearly approach to our specimens from the Canaries, and their arts and habits and state of civilization in early times are also those which afford the best terms of comparison.

It may be useful to illustrate these points by the following measurements of the whole series of Palanthropic crania from Europe in our collection, in comparison with those of the Guanches:—

	Length.	Breadth.
Neanderthal skull	20·8 c.m.	15·0 c.m.
Cro-Magnon (old man) skull	20·3 "	15·3 "
" (2nd skull)	20·5 "	15·3 "
Engis skull	20·1 "	14·1 "
Laugerie-basse skull	19·2 "	14·3 "
Largest Teneriffe skull	19·0 "	14·0 "
Gran Canarian skull	18·8 "	14·3 "

It will be seen that all the old cavern skulls are larger than those of the Guanches and that four of them are remarkable for their great length. Some of the older skulls are also noteworthy for the elongated form of the orbits, the peculiar vertical ridge on the frontal bone, the prominent

* *The Human Species.*

eyebrows, the short face compared with the long head. These characters are especially marked in the old man of Cro-Magnon. The Laugerie-basse cranium has more resemblance to that of Truchère, has less of these peculiar characters, and consequently approaches more nearly to the Guanche skulls. We do not certainly know the relative ages of the cave skulls. The Canstadt or Neanderthal type is generally supposed to be the oldest. At Spy in Belgium and at Grenelle on the Seine, it certainly appears in the oldest deposits, though the Cro-Magnon type is accompanied by the same fauna and belongs to the same geological period. The fauna of Laugerie-basse is also the same, but it is possible that while all are post-glacial, Palanthropic, or Quaternary, as distinguished from recent, this series of skulls may represent different phases of the period. Another view however, is possible. There may have co-existed in Europe two races of men, that of Canstadt, Spy, and Neanderthal and that of Truchère, the latter being essentially similar to the men of the Neanthropic age, of the Iberian type which still exists. The gigantic race of Cro-Magnon, Laugerie-basse and Mentone may have been the result of mixture of these races. If so, this would account for the considerable diversity of cranial form, as mixed breeds are apt to present various intermediate forms and also to revert toward the pure races.

These are facts patent to ordinary observation; but actual measurements are not wanting. Dr. Franz Boas has investigated the facts in the case of half-bloods between the American Indian and the European.* He finds that the stature of the half-blood is greater than that of either parent, and this especially in the case of the men, and that the half-bloods are more variable in this and other physical characters than either of the pure races. Another remarkable peculiarity is that the height of the face tends to become diminished relatively to the size of the head in the half-bloods. Thus we have good reason to believe that the giants of the Palanthropic age were half-bloods. I have treated this question in some detail, and in its relation to history, and have suggested the above explanation, in a little work lately published.†

* *Popular Science Monthly*, October, 1894.

† *The Meeting place of Geology and History*, London, 1894, also *Fossil Men*, London, 1880.

On this hypothesis one may regard the Guanches as a comparatively unmixed race, but in the Gran Canarian variety approaching more nearly to the more delicate type of the Palanthropic age, while of the latter the types of Laugerie-basse and Truchère approach nearest to the Guanche and Iberian forms. On the whole, however, the Guanches cannot be identified on physical grounds with the Cro-Magnon or other Palanthropic races, and their nearest affinities would seem to be with the Neanthropic or "Neolithic" peoples of Western Europe and with the modern Berbers and Basques.

I may add here that the study of many skulls and skeletons leads me to the conclusion which I have elsewhere maintained that the bones of men known as those of Canstadt, Neanderthal, Spy, Cro-Magnon, Laugerie-basse, and Mentone,* which were contemporary in Western Europe with a land fauna now in large part extinct either wholly or locally, and with geographical conditions which have passed away, are distinguishable by well-marked physical characters from any modern races, including the Guanches; and that the characteristics of these extinct tribes appear only occasionally by atavism, or locally and partially in individual cases, especially in some of the more rude races of modern men.

It thus appears that our Guanches are racially, as they are geographically, connected with the older peoples of the western Mediterranean area, and with these as they existed in the post-diluvian period, after the continents had attained to their present forms. It remains, however, to inquire to what extent, the Guanches may approach to the aboriginal peoples of Eastern America. Here there can be no question that their crania distinctly resemble those of the Huron and Algonquin peoples. This can easily be seen by comparison of the Guanche skulls in our collection with those representing American tribes of these races, and it appears also from the extensive series of measurements published by the late Sir Daniel Wilson.† The index of thirty-nine Huron skulls as given by him is .744, and that of thirty-two

* M. Louis Jullien, who has made some excavations at Mentone, has kindly communicated to me photographs of a skull found by him in the cave of Bamio Grande. Its measurements are 19.2 c.m. by 14.1 c.m., or very near to those of the Laugerie-basse skull, but it is more prognathous.

† *Prehistoric Man*, chap. xx.

Algonquin skulls is .769, so that the average Guanche skull falls between those of these two great American races, and the general character and appearance of the two groups of skulls corresponds with these measurements.

Wilson has shown that this dolichocephalic or mesitoccephalic type prevails along Eastern America from the West Indies to the Gulf of St. Lawrence, and there are various indications in tradition and in buried remains that these peoples, of whom the Huron-Iroquois and Algonkin stocks are northern extensions, made their way to the north in times not very ancient, and locally replaced feebler brachycephalic tribes which had preceded them. This process seems to have been proceeding up to the European discovery of America. The full significance of this relatively to the Guanches will be noticed in the conclusion of this paper.

4th. Objects of Art, &c.

These are not numerous, and the subjoined list may serve to indicate their nature.

Beads.—A thin flat bead or disc, being a small circular plate of laminated or pearly shell with a somewhat large central perforation. There is also a photograph of a string of shell beads very like a string of North American wampum. Cylindrical beads of brown baked clay of different lengths. The ends of each bead are cut squarely across.

Flakes of black obsidian or pitchstone, very little modified, and perhaps used for knives or scrapers.

Bodkins or *piercers* neatly made of the leg bones of birds.

Hooks.—A large hook of some horny substance. It has a knob at the top of the shank and a few notches to aid in fastening it to the line. The point is gnawed away by rodents, so that it is uncertain if it had a barb. There is also a photograph of a large stout hook reminding one of those used by the Pacific Islanders and in the Queen Charlotte Islands. It is made of two pieces lashed together, and has a strong barb.

Goatskin probably from the swathing of mummies. It has been deprived of the hair, but is not tanned, and has the texture of parchment. In some places it is sewed together with tendons or strips of skin. Bands of skin used on mummies are neatly knotted.

Earthenware.—A few fragments only of a brown colour

and unglazed, also photographs of other objects. One of these is an oval vase, suited to stand on its end, quite unornamented. Its form is similar to that of the jar found by Dupont in the cave of Frontal, in Belgium, and perhaps one of the oldest known. Several others represent the so-called seals, which are flat discs or squares of clay, marked with radiating or concentric rows of dots, and concentric and spiral bands. One of them has what appears to be the remains of a handle at the back. These objects may have been ornaments or distinctive badges, or may have been used for stamping with colour, or on soft bodies; but they do not seem well adapted for this. None of them show any appearance of characters or imitative forms.

Mortars.—One of the photographs represents two mortars, probably for grinding corn. They are made of round stones hollowed out on one side.

5th. General Remarks.

In so far as the facts above stated give any evidence, it would seem that ethnologically and probably historically the Guanches were most intimately related to the early populations of Northern Africa and Western Europe in the Neanthropic or early post diluvian period. We may imagine them to have been derived from the ancient Berber tribes of Northern Africa or from the Iberian race of South-Western Europe, and to have remained at the stage of culture of these people in what has been called the Neolithic or later stone age. There is nothing novel in this suggestion, as Humboldt and Pritchard long ago compared these people with the Berber races of North Africa, their nearest neighbours on the mainland in ancient times. They present also in their physical character and in their arts, resemblances to aboriginal America peoples, particularly to those of the East Coast. Some of the Hochelagan or Algonkin skulls in our collections are closely allied to those of the Guanches, and their bodkins, wampum beads, and pottery are very similar, while the systems of kinship, and of religion controlled by medicine-men, seem to have been allied. I have placed in our collection the skull originally presented by Mr. Haliburton beside those from Hochelaga and from Central America as the most nearly related to it. Sir Daniel Wilson has already referred to these resemblances in connection with the possible migration of man from the Mediterranean region or

its islands to the islands or shores of America, and has mentioned the accidental discovery of Brazil by De Cobral in the fifteenth century as an illustration of the possibility of canoes or vessels having been drifted across to America.

That the natives of the Canaries were not navigators is perhaps no evidence against this conjecture, as it is plain that the original colonists of the islands must have come by sea, unless indeed there was a land connection in early times, in which case there may have been greater facilities for still further excursions to the westward. In any case there is warrant for the belief that they afford some evidence of kinship in the aboriginal populations of the two sides of the Atlantic.

Gaffarel in his curious book *Rapports de l'Amerique et de l'Ancien Continent*, thus sums up the American affinities of the Guanches.

1. Their brown colour, want of beard and long hair.
2. Their use of pictographs or hieroglyphic writing.
3. Their disposal of the bodies of the dead.
4. The erection of pyramidal or round shaped tombs.
5. The institution of vestal virgins.
6. Their public and solemn dances.
7. Their addiction to song and oratory.
8. The use of beads or wampum.
9. The recognition of descent in the female line.

* These resemblances are no doubt somewhat vague, and might apply to other peoples besides those of America. But to these may be added their cranial characteristics and the probable affinity of their language to that of the early Turanian peoples of Western Europe, as the Basques or Euskarians, which according to Hale, a very competent authority, have distinct resemblances to those of America. All these points of coincidence apply most strongly to the peoples of the West Indies and Central America, and of the East Coast of America, while Asiatic or Mongoloid and Polynesian features are more prevalent on the west coast.

With regard to the distance intervening between the two sides of the Atlantic, Hale reminds us that this is much less than the spaces of ocean intervening between the islands of the Pacific which are known to have been traversed by the Polynesians in their canoes. The same veteran ethnologist has recently collected traditions among the Wyandots, supposed to be descendants of the peoples who inhabited the

ancient towns of Stadacona and Hochelaga found by Cartier in the St. Lawrence in the sixteenth century, and which have been replaced by the cities of Quebec and Montreal. It would appear from these traditions that the tribes of the Huron-Iroquois stock whose cranial resemblance to the Guanches has been already stated, believed that their original seat was on the Atlantic coast.* It would thus seem probable that the resemblance of their crania to those of the Guanches may have arisen from a common origin at no very remote period, as the westward migration of these tribes was still in progress at the time of the discovery of America.

Mr. Hyde Clarke was, I believe, one of the first to direct attention in England to the connection of the language of the Guanches and allied peoples with those of the natives of Brazil and the West India Islands. In America as well as in Europe, Dr. Retzius has ably maintained a similar connection on the basis of cranial characters. The latter says:—"With regard to the primitive dolichocephali of America, I entertain the hypothesis that they are nearly related to the Guanches of the Canary Islands and to the Atlantic populations of Africa which Latham comprises under the appellation of Egyptian Atlantidæ. We find one and the same form of skull in the Canary Islands, in front of the African coast and in the Carib Islands on the opposite coast which faces Africa. The colour of the skin on both sides of the Atlantic is represented in both these races as being of a reddish brown."†

In all such comparisons the question occurs whether the analogies observed are mere accidental resemblances arising from like conditions of existence, or depend on migrations; and it may be very difficult to attain to any certain conclusion. In the case of America, I have summed up in my work *Fossil Men*, the evidence to show a threefold resemblance pointing to Northern Asia and Polynesia in the west, and to the Mediterranean region and the Atlantic islands on the east. This threefold indication, I think, greatly strengthens the argument for migration.

In Canada, Wilson and Hale have advocated this view. In the United States opinions seem divided, since, at the Chicago Congress of Anthropology in 1893, the adven-

* *Journal of American Folk-lore*, 1894.

† *Smithsonian Report*, 1859, p. 266.

titious or accidental theory was strongly supported by Brinton and Cushing, while that of migration was maintained by Putnam and Mason,* who showed that the resemblances were so marked and the conditions of their occurrence so peculiar, as to preclude the accidental theory, while there was actual evidence in some cases to show repeated connections recurring at intervals, though the predominant indications pointed to very early historical periods.

Writers who have discussed the tradition handed down from Egyptian priests, through Solon and Plato, of a lost Atlantis, have often connected it with the population of the Canaries.† If, however, we attach any historical value to this tradition, we may, as the writer has already done,‡ regard it as a reminiscence of the antediluvian period, when lands existed in the west of Europe now submerged, and were probably peopled by a formidable race of men who, when pressed by the increasing cold of the period, or by the progressive submergence of the land, may have invaded the countries farther east, as recorded in the Egyptian story. In this case the Guanches could have no connection with the matter, since their affinities, as we have already seen, are with Neanthropic peoples; and in any case the depth of water between their islands and the mainland is so great§ as to render it improbable that these islands formed a portion of the continent even in that second continental period when Great Britain and Ireland had not yet become islands. If on the other hand we suppose, with the late Sir Daniel Wilson, that the lost Atlantis represents vague intimations reaching Egypt in early times of a great western continent beyond the Atlantic, it is not impossible that these may have been derived from early Phœnician voyagers to the Canaries and from hints conveyed to them of lands still farther to the west. In this case we may also connect these traditions with those found by early explorers among the Central Americans and Mexicans, in regard to visitors alleged to have reached their shores from the east, and may regard both as lending some countenance to the idea that a

* Report by Holmes, *American Anthropologist*, 1893.

† Wilson, *The Lost Atlantis*.

‡ *Meeting Place of Geology and History*, p. 156.

§ The depth of the channel between the Canaries and Africa is stated at 5,000 feet.

portion at least of the American aborigines reached America from the eastern side of the Atlantic.

Nor should we omit to notice that volcanic islands like the Canaries, rising from great depths in the ocean, may not be of long duration in geological time, and that in the early human period there may have been chains of such islands connecting the Mediterranean volcanic belt with that of the West Indies, and which have since disappeared by erosion or by subsidence. The existence even in comparatively modern times of such insular connection would be in no respect contradictory to the known facts as to the ancient insularity of the Canaries already stated. Even the supposition that the Canaries may in the early modern period have belonged to a much larger insular region is not excluded by the facts of physical geography already referred to, since there may have been subsidence correlative to the great elevation of the mountains of these islands; a consideration which has not been sufficiently attended to by inquirers as to the fauna and flora of the Atlantic Islands.*

The conclusions of this imperfect study of an extinct people may be summed up in the following statement:—

1. The Guanches present the characters of a primitive and little mixed race; and their rudimentary civilization corresponds with this, and assimilates them to such peoples as those of the early Swiss Lake habitations, and the early Iberian races of Western Europe and the earliest colonists of Egypt and other parts of North Africa.

2. They are not closely allied either in physical characters or in arts and habits of life to the Palanthropic or antediluvian peoples of the river gravels and caves of Europe; and their nearest analogues among them are the somewhat exceptional types of Truchère and Laugerie-basse. On the other hand they have closer physical affinities with the earlier or postdiluvian peoples of Europe and Northern Africa and with the Basque and Berber populations of more recent times.

3. There are sufficient resemblances between them and native American races of the eastern part of that continent, to render it not improbable that there was early intercourse between the two sides of the Atlantic, in which the Guanches or peoples allied to them may have borne a part.

* The Peak of Teneriffe is 12,000 feet in height.

In conclusion, the points referred to in this paper may be sufficient at least to excuse geologists and archæologists on the Western side of the Atlantic for interesting themselves in the extinct people of the Canaries.

*NOTE ON GUANCHE SKULLS IN THE PEABODY
MUSEUM OF ARCHÆOLOGY, CAMBRIDGE, U.S.*

PROFESSOR PUTNAM, the director of the above-named museum, has kindly communicated to me the measurements of two Guanche skulls in his collection, which were measured for him by the late Miss Studley, one of his assistants.

Of one of these (No. 122) the length is 18·3 centimetres, or exactly the average of our ten Teneriffe skulls, but the maximum breadth is only 13·3, which is near to that of the narrowest of our male skulls. The other (presented by Miss Dabney, and said to be from an ancient cemetery in the island of Gran Canaria) is in length 19·0, which is the same with our largest Teneriffe skull, but its breadth is 14·8, which is greater by ·4 than that of any of our Teneriffe skulls. It is larger in both dimensions than our skull from Gran Canaria, but is somewhat less dolichocephalic.

Along with these Miss Studley has tabulated the average of 25 crania of New England Indians, which amounts to 18·6 in length and 13·5 in breadth; of 14 Florida skulls with 19·1 in length and 13·5 in breadth; and 9 Coahuilan (Mexican) with length of 18·3 and breadth of 13·4, which comes very near to the average of the Teneriffe skulls. These measurements tend to confirm the con-

clusion deduced above from Canadian crania as to the resemblance of Guanches to Eastern Americans in certain at least of their physical characters.

The following are some of the other dimensions of one of the Cambridge Guanche skulls (No. 122)*: Capacity 1,225; *Longitudinal diameters*—glabello-occipital 18·3, ophryo-occipital 18·2; *Transverse diameters*—minimum frontal 9·4, stephanoid 10·0, bimastoid 12·1, biauricular 11·9, temporal 12·9, maximum 13·3, asteriac 10·6; *Height*—basi-bregmatic 12·6; *Index of breadth*—gla. occ. ·727 oph. occ. ·783; *Index of height* ·689; *Horizontal circumference* 507; *Angle* (Daubenton) 90°; *Intermalar*—superior 5·9, intermalar inferior 10·2.

Professor Putnam informs me that at the International Exhibition at Chicago a large number of measurements of American heads were obtained; but they have not yet been published.

* It is not known to which of the Canary Islands this cranium belongs.

The CHAIRMAN (Dr. T. CHAPLIN).—I am sure you will all agree that the Institute is greatly indebted to Sir William Dawson for his most valuable paper, and also to Mr. Slater, who has so ably read it.

Probably at no previous period have questions relating to primitive man been of higher interest and more importance than at the present time. Questions relating to his origin, his physical conformation, his social customs, his religion, his relation to races which still exist—all these are of the very highest scientific and social importance. We are therefore the more indebted to the author of this paper. There are doubtless many here who, having made the subject of the paper their special study, will favour us with their opinions thereon.

Professor E. HULL, LL.D., F.R.S.—Mr. Chairman, I desire to echo your words expressing special gratitude to the author of this most valuable paper.

A VISITOR.—The author has undoubtedly shown the importance of a study of the anthropology of Northern Africa, which is one of the many reasons why this paper is of such use; it has brought up to the present time all the leading points relating to this people. They have entirely disappeared as a race, and it is important that we should have all the information that can be gathered in regard to them. This paper collects together much matter that might otherwise have been lost to us, and no doubt it will be the basis of further study by others.

Rev. Dr. A. Löwy.—I would venture to make one short remark, namely, that although the Guanches have disposed of the subject, so to speak, for themselves, the museums may have something to say bearing on the question of departed spirits. I mean to say, that considering the Guanches were so anxious to preserve the body after the death of the individual, they must have had some ideas about a life after death. Those nations that are anxious to preserve the identity, if I may say so, of the dying individual, have, at the same time, always connected with it the idea that there is something to live for hereafter—another life; and therefore, a museum tells the story of—life after death. It is a very interesting point.

The meeting was then adjourned.

REMARKS ON THE PRECEDING PAPER.

From Professor J. CLELAND, M.D., D.Sc., LL.D., F.R.S. :—

The McGill University is to be congratulated on having such an interesting collection of specimens relating to the extinct inhabitants of the Canary Islands, as that which Sir William Dawson brings under the notice of the Victoria Institute. To Americans and Canadians there must doubtless be a special charm in endeavouring to trace affinities of islanders in the Atlantic with races on both sides of the ocean; and it is interesting to find that the well-known Principal of the College at Toronto is disposed to consider that the Guanches are related to the Berber tribes, as Pritchard and Latham have held, and have also characters in common with American peoples.

The skulls brought under notice form a most valuable collection, and it is to be hoped that they will be carefully preserved, and that they may some day be individually described at greater length. I am glad to note that Sir William Dawson gives the length and breadth of each; for these are of far greater meaning than the so-called cephalic index (the proportion of the breadth to the length taken at 1,000), both because they afford some guide to total size and because the index is a proportion between two measurements, which have no particular dependence one on the other. Indeed the index owes the undue importance with which it has been invested to the mistaken supposition that the recognised classification of skulls into brachycephali and dolichocephali by Anders Retzius, took into consideration this proportion and nothing else. The skulls treated of in this communication are all of considerable absolute length. It may be added that to give a proper idea of the dimensions of a skull or any other body, not only the length and breadth, but the height, should be given, and that in the skull from Gran Canaria photographed, the height appears to be very decidedly above the average.

A detailed account of the face-bones would be interesting—indicating the length of the face, the orbito-nasal angle or position of the face relatively to the anterior fossa of the base of the skull, and the shape of the nares. Most of all one would like some precise measurements bearing on the question of savagery or refinement. I hold, as I put forward in the *Philosophical Transactions* twenty-five years ago, that bearing on this question there are two points of much importance, namely, the position of greatest breadth, and the length of the base-line from the back of the foramen magnum to the fronto-nasal suture. Savage races are liable to have the zygomatic breadth equal to or greater than the cranial breadth, and to have the position of the greatest cranial breadth high up on the parietals; and a greater length of base-line from the back of the foramen magnum is found among savages than is ever found in civilised forms, a circumstance exceedingly interesting as showing that civilisation never lengthens the base, however much it may inflate the arch of the skull.

It is interesting to note that the zygomatic breadth is obviously less than the greatest breadth of the cranium in both the skulls photographed, and I suppose that it is to this character that the author refers when he states that the cheek-bones are not unduly prominent; for prominence forwards of the cheek-bones is a feature giving character not at all of a debased kind, while zygomatic breadth depends on development of muscles of mastication. Another noticeable point is that in both the skulls photographed the mental prominence or chin, a purely physiognomical decoration, is well developed. This, together with the orthognathous dentition, is confirmatory of Sir William Dawson's view that these Guanche skulls are of a more refined type than is usual among barbarous peoples. Carefully made vertical sections would not injure the value of the specimens, and would be of great use in determining the basal characters, both linear measurements and angles, without which, as has been pointed out by Professor Huxley as well as by me, the construction of no skull can be adequately known.

From Dr. LAMBERT, of Cairo:—

1. All the long bones alluded to were flattened.
2. The olecranon was perforated.
3. The Guanches had no writing, but used geometrical sculpture.
4. They had the custom of drawing the kids from their mothers, in order that, by their bleating, rain might come.
5. Another method for bringing rain was to lash the sea.
6. The Guanches were a highly moral race.