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ORIGIN OF THE AUSTRALIAN RACE

All rough drafts, to be revised and
retyped and brought up to date

1899 - 1911

These may be left in MSS., as according to
the best authorities (Andrew Lang, etc.), the
origin of the race is past finding out.

1904

This chapter does not solve the problem of the origin of the Australian Aborigines, but it has its place in Commonwealth history, in that it shows the Australian native as not sui generis but a people with definite kinships among practically all the ancient peoples of the world.

Although Andrew Lang stated that the Origin of the Australian aborigines "was past finding out" he encouraged the study of all writers on Native Races and Peoples, so that the affinities between the Australians and all other "dark" races should be noted and recorded for future historians. This was done so thoroughly that there are many repetitive paragraphs in the pages, but all contribute in some measure to the association of the Australians with the world's dark races. The late John (afterwards Lord) Forrest approved of their collection for this purpose.

Daisy M. Bates

ORIGIN OF THE AUSTRALIAN RACE

SUMMARY

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The question of the origin of the Australian Race, whether it be a primigenous people, or if not, from what source it originally sprung, is one that is keenly interesting present day scientists. It is admitted by almost all recent writers who have studied the aborigines of Australia, that the numerous tribes of natives now scattered over the continent are descended from one common stock, since the same distinguishing characteristics are observable in tribes occupying widely separated extremities of the continent. It has therefore been thought desirable to include in this chapter Australia as a whole in dealing with the question of the origin of the race.

It is well to begin by taking the opinions of scientists who hold front rank at the present day in the domain of ethnology, as to the most important essentials necessary for arriving at the origin of a race. Craniometry, physiology, philology, etc., all have their use in determining racial origin, and the conclusions of the upholders of these sciences are herewith appended in order that they may be compared with the results obtained from the most recent studies amongst the aborigines of Australia.

With regard to cranial measurement, Professor Haeckel says in this connection :- "Skull measurements are not always safe in distinguishing a species, as in the Mediterranean; the form of the skull may vary so much that both extremes, the dolichocephalous (long-headed) and the brachycephalous (short-headed) meet in the same species. Much better starting points are found in the hair and speech, because they are more strictly hereditary than the form of skull."

Professor Mueller, one of the greatest of modern philologists, places language in the foreground, and next to it the hair, which though in itself only a subordinate morphological characteristic, still seems to be strictly transmitted within the race. Dr. Prunier coincides with Mueller in stating that "it is indubitable that the hair of the individual stamps his origin."

Professor Huxley and other scientists also base their conclusions on one or other of these essentials, some stating that the quality of the hair is one of the best tests of racial purity, even more so than that of language, since speech is more readily subject to change than physical types. It is only necessary to take the intermixture of races between the South American negro and the white man, to note the prominent part the hair of the head assumes, for even when the hair changes colour and becomes fair, the texture still remains the same.

According to these scientists, then, hair and language may be chief essentials in determining racial origin.

With regard to language, however, Whitney says "that language does not depend on race is demonstrated by facts both numerous and various. The African, whose purity of descent is attested by every feature, is found all over the world speaking just that language or jargon into which the fates of present or former slavery have brought his parents. Every civilised community contains elements of various lineage combined into one by unity of speech; instances are frequent enough where whole nations speak a tongue of which their ancestors knew nothing." With reference to the mixture of races and language, Whitney adds, "Mixture of race and mixture of speech are coincident and connected processes; the latter never takes place without something of the former, but the one is not at all a measure of the other because circumstances may give to the speech of the one element of population a greatly disproportionate preponderance . . . In strictness, language is never a proof of race either in an individual or in a community, it is only a probable indication of race in the absence of more authoritative indications."

Equally important therefore with the scientific study of a language, is careful observation of the crania and facial features, bodily structure and proportion, microscopic study of the hair, colour of the skin, etc., and all these characteristics must be studied when determining the similarity or otherwise of the various black races.

A theory held at one time by many scientists, whose numbers are however year by year diminishing, was that the Australian was by descent a negro, but the evidences furnished by recent research disprove the supposition. At one time it was thought that the African negro, and the Australian native were identical in origin.

A comparison may be here made between these two races in order to show their points of difference :

In the African negro the colour of the skin is more or less pure black, the hair is black, woolly and frizzles, the eyes are black, the sclerotic dark or yellowish, the superciliary arches project but little and are smooth, the result being that the orbits are less deep, which, taken in conjunction with the slight depression at the root of the nose, give the negro a less fierce expression than the Australian. The beard is scanty and develops late, and the body is destitute of hair except in the armpits or on the pubes, the bones are strong and coarse, the skull is strong and offensive, the shape of the head is dolichocephalic, the speech is polyglottonic.

Without entering into the vexed question as to the traces of a negro ancestry, the physical characteristics of the aborigine are as follows :

The colour is principally brown or dark chocolate, the hair is long, wavy, lank or curly, never woolly; the beard is well developed, frequently very wavy and curly (as in the eastern, Southeastern and northern districts of West Australia), sometimes long and straight (as in the Southwest of this State). The shape of the head is dolichocephalic, but the average measurements are only 71.5 as against 73.4 in the negro (Professor Turner's average figures for the Australian are 69 for males and 72 for females.) The body has sometimes a covering of hair, the same as in white people, particularly on the breast, arms and legs, the eyes are black, the sclerotic yellow, the nose is platyrrhine, but the superciliary arches project very prominently, and are less smooth than in the negro, and therefore give to the face a more ferocious appearance. Sir Harry Johnston says with reference to this distinguishing characteristic

between the African and Australian, "There is never any prominence of the brows amongst savage races equal to what is seen in the Australian." Other leading ethnologists confirm this view. In structure also the Australian differs markedly from the African, his bones being generally much more delicate than those of the negro. His speech too, according to philologists, is agglutinative.

All these differences in the physical characteristic of the two races have led scientists to abandon the theory of the original relatedness of the African and Australian peoples. Some ethnologists have discovered in the Australian aborigines a peculiar combination of certain remarkable physical features unlike any other known race, while others have traced their descent from Indian, American and Asiatic sources.

Before entering further upon the subject it may be advisable to enumerate the many and varied theories held by ethnologists and others as to the origin of the Australian race. The theories will at least prove how extensively the subject of the aborigines has been studied and discussed by present day anthropologists.

Professor Huxley stated that the Australians were identical with the ancient inhabitants of the Deccan, owing to the resemblance of feature between them and the Indian blacks, and to the identity between the two languages. The Professor also thinks that there was a strong similarity between the skulls of the Australian aborigines and those of primitive men in Europe.

Prof. A.H. Keane favours the theory of an Indo-African continent, which he states is established on a solid foundation by naturalists associated with the Indian Geological Survey, and he holds that a main branch, which he calls the Indian-Oceanic-Negrato, started from the submerged continent feeding the Australian, Tasmanian, Papuan and Melanesian.

Haeckel's theory is that the Australians immigrated to their present home as a very early off-shoot of the Euthycomi (or stiff haired men). Dr. Prunier, who is of opinion that the colour, texture and form of the hair, determines the origin of a race, speaks of the resemblance between the hair of the Australians and that of the aborigines of India.

Broca says that the hair of the Australian, Indo and Abyssinian, is wavy or curly or black, and Mueller mentions straight wavy hair as being common to the Australian, Dravidian and Nubian.

Dr. A.R. Wallace considers that the Australian aborigines constitute the lowest and most primitive fragment of the great and widely scattered Caucasian division of the human family, and are consequently very closely related to the European (Caucasian). He also approximates the Australian with the Ainu of Japan, the Vedda of Ceylon, and the Toala of Celebes, all of whom are low Caucasians.

Sir W.H. Flower ("Introduction to the Study of Mammals, Living and Extinct", Lond. 1891) is of opinion that Australia was originally peopled by the frizzly haired Melanesians, mixed with a low form of Caucasian Melanochroi, the Tasmanians being of Melanesian descent only.

The Rev. Dr. J.D. Lang assigns them a Southern Papuan origin and considers them to have been originally a martial people.

Forster (Forster's Observations, P. 283) is convinced that they are not an original race but have derived their origin from New Guinea.

Brough Smyth acknowledges that while there is certainly an infusion of Papuan blood, particularly on the Northeastern coast, the Australian differs from the Papuan in form and colour.

The Rev. J. Mathew (Eaglehawk and Crow, Melbourne) assigns a Papuan-Dravidian-Malayan origin to the Australians, Papuan being the equivalent of Melanesian, and Dravidian (or Dravirian) being held to mean that "a strong strain of the Australian people is of common origin with the Dravidians of India, and their congeners." The Malay incursions were intermittent, Mr. Mathew thinks; there may have been continuous intercourse between the Australians and Malays on the north of Australia, and occasional descents also occurred on the east coast, which left unquestionable traces on the Australian language. (Dr. A.W. Howitt, Rev. R.H. Codrington and E.J. Threlkald are against this view.)

R.H. Davis (Aborigines of Van Diemen's Land, 1846) assumes that the ancestors of the Tasmanians, who were Australians, voyaged

in canoes from the vicinity of King George's Sound to Tasmania, the prevailing winds and currents carrying them to the western shores of that Island. A strong rebutment of this theory lies in the fact that the aborigines of the Southwest had never acquired the art of navigation having neither logs, rafts nor canoes, nor is there the slightest evidence, traditional or otherwise, of these ever having been in use amongst them, and Prof. Giglioli (*I Tasmaniana conni Storice ed ethno ogici di un popolo estinto*, Milan, 1874) states that there is no instance recorded of a people losing the art of navigation once they had acquired it.

The late E.M. Curr (*The Australian Race*, 1866) sought to prove the descent of the Australian from the African negro, crossed by some other race.

Prof. J.W. Stephens says that the tide of immigration to Australia flowed from Northern Asia through India.

R.H. Mathews (Pamphlet) assumes that the Australians are negroids, basing his assumption on the theory that the present continents of Asia, Africa and Australia had at one time an unbroken continuity.

Captain Stokes (*Discoveries in Australia during the voyage of H.M.S. "Beagle"*, Long, 1946) from the resemblance between the Australians and the natives of Tierra del Fuego, opined that the stream of population flowed thitherward from the continent of America.

E.J. Eyre (*Jour. Expl. and Disc. in Cent. Aus. Lond. 1845*) advances no theory as to the origin of the aborigines but is of opinion that Australia was first peopled on its northwestern coast, between the parallels of 12° and 16° South latitude, and surmises that from thence three main divisions branches out, 1st, round the northwestern coast; 2nd, down through Central Australia; 3rd, along the Gulf of Carpentaria, turning off towards Fort Bourke and the Darling.

Dr. J. Park Thomson (*Geographical Evolution of the Australian Continent*, Pamphlet) thinks that the Australian aborigine, like the *Diprotodon australis*, *Carnifex*, *Nototherium danense*, and

other extinct animals peculiar to Australia, is an independent product of the country, having no kinship with the rest of the human family.

1901

Dr. Schoetensack (Science of Man) advances upon this theory by claiming Australia as the cradle of the human race, and that from the Australian aborigines all other nations and races have sprung.

J. Bonwick (Daily Life and Origin of the Tasmanians, 1870) seeks to establish the first migration into Australia from a southern, now sunken continent directly upon the southwestern part of Australia.

Prof. Brinton (Races and People, P. 283) while not committing himself definitely to the Sunken Continent Theory, acknowledges that the hypothesis has some plausibility from the present ethnography of the islands and coasts of the Indian Ocean. Brinton states that there is a general concensus of opinion that the Australians, the natives of Southern Hindostan, and some of the islands in the Archipelago were peopled by anomalous tribes, descendants of the Negrillos of Austafrios upon whom was superimposed as Asiatic stock, represented by the modern Malays.

G.W. Rusden (Hist. of Aus. 2nd edition, Melbourne, 1987) agrees with Huxley as to the descent of the Australians from the Deccan tribes of Hindustan, and thinks the Tasmanians are also descendants of the tribes of the Deccan, who were driven southward by an influx of warlike tribes, crossing Bass Strait in a canoe from some point on the South Australian coast.

Dr. Pritchard (Researches into the Physical History of Mankind, Lond. 1847) considers the Australians descendants of a Negrito race which inhabited "Oceana Negritia" before the advent of the Malayo-Polynesian race into those regions now known as the Indian Archipelago, one branch taking a southerly course through the islands to Timor, and crossing over to Australia from that point. According to Prof. E.B. Tylor (The Tasmanians as Representatives of Paleolithic Man, Jour. Anthropol. Inst. Nov. 1893) the Tasmanians were representatives of the Stone Age development in a stage lower than that of the Quaternary of Europe, and he says the distinction may be claimed for them of being the lowest of modern

nomad tribes. The Australians, Dr. Tylo~~f~~ thinks, judging from their improved methods of warfare and implements, stand on a somewhat higher level than the Tasmanians, whose level of culture is termed Eolithic, that of the Australians being Neolithic, some tribes being on the border between Neolithic and Paleolithic. Dr. A.W. Howitt (Nat. Tr. of S.E. Aust.) concludes from geological and other evidence, that the Tasmanians were the autochthonous inhabitants of Australia, and that their preservation in Tasmania was due to isolation by the formation of Bass Strait. He believes with most other writers, that there is a strong negroid cross in the Australians. The Malay influence is assigned by the Rev. J. Mathew and others. Dr. Howitt follows Wallace and Flower in thinking that the primitive type of the Australian must be referred to the so-called Caucasian race. Howitt is at one with Mathew in the ethnical and linguistic connection between the Australian and Dravidian people, for Mr. Mathew does not say that the Australians are direct descendants of the Dravidians, but rather that "one strong strain of the Australian people is of common origin with the Dravidians of India and their congeners", and Dr. Howitt says in merely different words, that connection "must be considered to be merely the relationship of two tribes co-descendants from a common and distant ancestral stock." (Nat. Tr. 30)

Dr. Howitt sums up his conclusions thus, "Here and there in Asia are sporadic groups of people characterised by black hair and dark eyes, with a skin of almost all shades from white to black, frequently with profuse beards and body hair, and being in many cases in a condition of low savages, such as the Veddas of Ceylon, the hairy Ainus of Japan, the Maoutze of China, and perhaps the Todas of India. This stock might have given the characters of the hair to the otherwise negroid primitive inhabitants of Australia, and also certain peculiarities of feature which are occasionally observed, and which are evidently and certainly not negroid in character (ibid 32-3)." Dr. Howitt adds that the conclusion he has arrived at demand a vast antiquity for the Australians.

Prof. Baldwin Spencer (Northern Tr. Cent. Aus. P. 17) follows Curr and Eyre in postulating three lines of migration from the north - one along the eastern coast, one following down the rivers running in the main southwestwards from the eastern watershed, and a third down the centre of the continent.

Except in stating that the stone implements of the Tasmanians are of the so-called paleolithic type, Prof. Spencer, in his latest work, offers no theory as to the origin of the race.

Dr. Lesson (Les Polynesiens, Paris, 1880) premises the combination of three races in the Australians, two black and one yellow, the first race being of short stature, and brachycephalic or mesaticephalic, the second tall and dolichocephalic, and the third hypodolichocephalic. The Tasmanians belonged to the two first, the Australians being a mixture of the second and third. The first race, Dr. Lesson thinks, was Negrito, the second Papuan, the third Malayan.

Dr. Topinard (Anthropology, Lond. 1890) defines the Tasmanians as "a race by themselves", and thinks the Australians might be the result of a cross between a smooth-haired, and a negro, or autochthonous race. Although the origin is left an open question, Topinard lends colour to what has been called the Dravidian theory by his statement that seven races of India and one of Ceylon are identical with the Australians.

Sadlier (Aborigines of Australia) deduces from the mixture of Arab words, and the rites of circumcision performed by many of the Australian tribes, that they may be of Arab descent. He also identifies their system of relationship with that obtaining amongst the North American Indians, and the Tamil and Teluga tribes in East India, and thinks that some of their systems may have been brought by Malays from Southern India.

R. Helms (Anthropology W.A., 1895) classes them either as the remnants of a highly cultured race, or that a race preceded them in Australia who, being highly cultured, were gradually suppressed, but not before implanting some important characteristic practices upon them, such as their marriage laws, the "terrible rite", circumcision, etc.

Worsnop (Aborigines of Australia) states that in certain customs, especially in that of "tattooing", the aborigines resemble some tribes in Equatorial Africa, there being also strong affinities to these customs amongst some of the Hill tribes of Hindustan.

Count Strzelecki does not venture to formulate any theory as he thinks the origin of the aborigines "involved in impenetrable obscurity".

Nathaniel Ogle (Western Australia) supposes their language to be derived from the Malayan.

W.H. Knight (Western Australia) states that they are considered to belong to the Papuan division of the human race, and are also regarded as constituting a branch of the negro family, though differing from the African type, having straight, instead of woolly hair, and being lighter in complexion.

Dr. Quatrefages says that long before the historical period, India was inhabited by a black race resembling the Australians. These were the Dravidians or Indo-Egyptians.

Prof. Semon (Scientific researches in Australia) calls the Australian blacks Negritos, but supposes the Australians and Dravidians to have sprung from a common branch of the human race. He considers it indisputable that the Australians are a primitive type and not the degraded descendants of a people of higher culture.

J. Denniker (Races of Man, Lond. 1900) includes the Australians amongst the Ethiopians, Dravidians and the Assyroid type of the monuments and describes them as "chocolate brown, broad nose, medium stature, dolichocephalic," yet he goes on to say that the Australians form a distinct ethnic group, even a race apart from the rest of mankind, for notwithstanding some local differences, they exhibit great unity, not only from the Somatic point of view, but also in manners, customs and language.

Dr. Bowdler Sharp in a lecture at the Royal Institution on the geographical distribution of birds, suggested that there was once a great continent with its centre at the South Pole, now submerged under 2000 fathoms of water. It embraced New

Zealand, South America, Madagascar, Mauritius and Australia; thus it explained the existence of the cognate struthious (wingless) birds that now exist or did once exist in these countries. The discoveries of Lieutenant Shackleton, of a seam of coal in one of the hills of the Antarctic continent, together with other discoveries of immense importance to science, substantiate in a measure Dr. Sharp's views.

Dr. Otto Schoetensack is of opinion that Australia was separated from the other continents at the end of the Mesozoic period, and it then comprised New Guinea, and other present day islands of the Archipelago, during certain portions of the Tertiary epoch. This explains why marsupials, whose specific development took place in Australia, are to be found in New Guinea, Celebes, Amboyna and Timor. Dr. Schoetensack assumes (Science of Man, 27/11/01) from the development of the continental character of the Indo-Australian Archipelago during the Pliocene epoch, that placental types passed from the Indo-Australian Archipelago over the Australian continent, and argues that this circumstance points very markedly to the possibility of man's ancestors having been cast adrift to Australia in the Pliocene period, and of having there been isolated from the world around. The roof-shaped skull is, Dr. Schoetensack thinks, a wide spread Australian characteristic, also appearing distinctly in skulls from the paleolithicum of Europe.

A direct proof of the transition of placental types having taken place at a remote period is, according to this writer, furnished by the characteristics of the *Canis dingo*. There is positive evidence that the dog could not have been introduced by men into Australia, as a domesticated animal, for in the Pliocent and Pleistocene strata of Colac and other parts of Victoria, fossil remains of the dingo have been found, together with those of the giant fauna.

Professor McCoy of Melbourne stated that he had found the bones of the dingo mixed up in such a way with those of extinct marsupials that he could not reach any other conclusion than that the dogs which reached Australia were originally wild, and Dr. Schoetensack therefore infers from this statement

that the ancestor of man and the dog crossed the land ridges together and coming to Australia were isolated in the midst of mammals inferior to themselves - the marsupials - a genus that had undergone but one-sided processes of evolution since the Mesozoic period. Compared with these, the dog was the only being that would satisfy the powerful social instinct of the primates. There being no dangerous enemy to man amongst his animal companions in the Pliocene he could not help developing into a primitive hunter in such surroundings. Prof. Wallace (Island Life P. 46) thinks that the dingo was introduced by man into Australia.

An examination of the vertebral column of the Australians also tends to show not only their racial affinities but also their distinctive character of spinal bones and cartilages. In the Australian aborigines the vertical diameter of the bodies of the five lumbar vertebrae was collectively deeper behind than in front by six or seven millimetres, quite the opposite to that of the European. The intervertebral discs are less and are more wedge shaped in the Australians, Tasmanians, Andaman Islanders, and amongst those other races where there is a Negritan cross.

Dr. G.A. Dorsey (Science of Man, May 1898) considers the lumbar index an important means of determining the sex of vertebral bones in any individual, race or tribe.

Dr. Klaatsch, Professor of Anatomy at the Heidelberg University, who recently visited Australia for purposes of anthropological research, visiting the North of Australia and the Islands of the Malay Archipelago, is of opinion that from the peculiar characteristics of the skulls found on Melville Island, particularly in the marked protuberance of bony structure above the eye socket, there is a close connection between the skulls of the Australian aborigines and those of primitive man in Europe. (This similarity has also been noted by Prof. Huxley and others.) The Neanderthal skull found in a European cave bears many points of resemblance to the Australian skulls, and Dr. Klaatsch expressed the opinion that only a land connection could explain the presence of this primitive type in

In a paper read before the Science Congress in Adelaide, S.A. (Jan. 1907), Dr. Klaatsch stated that he was inclined to accept the theory in favour of the existence in prehistoric ages of a central point between Asia and Australia, from which, in one direction, had been distributed the Asiatic people, and in another the Australian blacks. The most important fact elicited by the Professor's researches was his confirmation of the view that the Australian aborigines had to be considered as a relic of Primitive Mankind. Dr. Klaatsch found that the considerable size of the medial incisor was a striking feature of both sexes in the Australians, whilst with most other varieties of mankind, this was more particularly a feminine characteristic. The angle in the chin of the various skulls examined being apparently without a prominence, corresponded to the obtuse and rectangular lower jaws of the lowest human skeletons found in Europe, Spy, La Naulette, Malarmaud and other places. The powerful tori supraorbitalis of the Neanderthal skull is met with in almost all parts of Australia. The Professor collected some 90 skulls of Australians, the primitive condition in the aboriginal skull, noted by Huxley, Sir Harry Johnston and others, being the special object of research which brought him to Australia. In a Paper read before the Science Congress in Melbourne (1900) Miss Georgina King anticipated Professor Klaatsch's conclusions in Australia by advancing the view of the similarity between the paleolithic men of Australia and Europe. Miss King postulated Australia to have been peopled in the early Tertiary period, and based her conclusions upon the evidence supplied by the stone implements, etc., found in the auriferous gravels which were ejected during the period of volcanic activity before the glacial epoch. (Miss King was the first to discover and publish the intrusive character of the minerals of New South Wales.)

The statements of Miss King, Dr. Klaatsch and others receive a certain confirmation from the fact that amongst the fossil remains of European paleolithic men, implements have been found resembling those in use at the present day by the Australians, namely the boomerang and the club. Two weapons, made of reindeer horn, and resembling the boomerang, although

smaller than the usual weapon, were discovered by M.M. Girod and Massenat near Langerie-Basse in the Dordogne.

A bone implement of the Dordogne was ornamented with sections of bows resembling the boomerang, and Jaehns and certain other writers on Egyptian monuments, state that the boomerang is represented on Assyrian monuments and Egyptian sculptures, whole troops of warriors being depicted as armed with that weapon. (The Thebean weapon resembles that of De Grey.) N.W. Australia. Besides those found in India and Egypt, boomerangs have also been found (according to Schoetensack) in New Zealand, the Hebrides, New Caledonia, the Fiji Islands, and, according to the brothers Sarasin, in Celebes.

Waitz-Gerland states that the club or throwing stick has been met with in Asia, North and South America, New Guinea, the Palau Islands, the Marianas, Sachalin, the Aleutian Isles, amongst the Esquimaux, and the Red Indians of Ecuador.

Dr. Ramsay Smith, in a Paper on "The Place of the Australian Aborigine in recent anthropological research", said that it was remarkable that among the skulls of all the races in the Challenger collection, the Cambridge Anthropological Museum, and the Edinburgh University Museum, the only recorded instance of supernumerary molars occurred among Australian aborigines. Of the total of seven extra teeth enumerated, South Australia contributed five. Dr. Ramsay Smith said that he found he had to add another, for in a skull recently brought from the Coorong, there was a single socket for a tooth behind the third left molar. The size of the molar teeth, as well as their number, show the primitive character of the Australians, for the jaws have not yet shrunk, nor the molars got less as in the whites. Dr. Smith also stated that it had been allowed that the Australian aborigines had furnished the largest number of ape-like characteristics. Recent advances in science had given two unexpected proofs of affinity in entirely new fields. The homolytic test put human blood and the blood of apes in the same class, and separated both from the blood of lower monkeys. Again, man and the anthropoid apes were subjected to a class of diseases that did not affect any other animals.

It may be observed here that every discovery of anatomical peculiarities in the Australians is also found in those Negritan, Papuan and Dravidian types with whom they have the closest affinity, in spite of all the subsequent crossings of each of these types. ^{It is possible that the drawings and paintings discovered by Grey may be the work of Malay people. One of Grey's drawings is almost a facsimile of the Royal Robes of Sultan of Perak, Malay Peninsula.}

Prof. Gregory, D. Sc, F.R.S. (Proc. Roy. Soc. Vic. 1904) stated that the arguments adduced by Howitt and other writers that man crossed from Victoria to Tasmania before the formation of Bass Strait, "though weighty, are themselves indirect and do not seem adequate to counterbalance the overwhelming geological evidence in favour of the separation of Tasmania long before the possible arrival of man." Dealing with the possible occupation of Victoria by a pre-aboriginal race, Professor Gregory says later, "It has one consideration in its favour. The theory of the origin of the Australian aborigines which appears to be now general, is that they were originally a negroid race of which the Tasmanians are the only historic representatives. It is thought that the members of this race crossed Australia as far as Tasmania wherein some of them were isolated by the formation or enlargement of Bass Straits. Australia was then invaded by a race of black Caucasians who intermixed with the negroid occupants of the continent and the Australian aborigines were the offspring of this mixture. The Negroid people were thus replaced in Australia but survived in Tasmania . . . The Tasmanian stone implements were of a ruder type than those of the Australians; they were merely chipped and never ground and apparently they were not used in handles. From their shape they have been described by Prof. Tylor as "quasi-paleolithic". . . The only area on the mainland of Australia where implements occur which resemble the Tasmanian is in Westralia . . . Prof. Tylor and Mr. A. Morton of Hobart have reasserted this similarity in the case of the implements of the Murchison district of Westralia. The W.A. implements though rough, were mounted in wooden handles, a device the Tasmanians apparently did not know, and the W.A. aborigines who used the roughly chipped stone had other implements better than those of Tasmania.

The roughness of these unchipped Westralian stones does not prove any direct affinity between their makers and the Tasmanians."

Mr. Dallas (Proc. British Nat. Soc. 1884) argues that the negritos, Papuans and African negroes belong to one family, the "Melanochroic".

C. Stanislaus Wake (Jour. Anthropol. Inst. Nov. 1882) advanced a theory that a straight haired stock combined with the Australian Negrito to form the Australians. He attached these straight haired people to the Caucasian races.

Lydekker brings the so-called Dravidian tribes of India (such as the Gonds and Todas), some of which may have an admixture of negro (negrito) blood, as well as the Veddas of Ceylon, the Toalas of Celebes, the hairy Ainus of Japan, and the Mautze of China, into the black or brunette Caucasian group, but as to the Australians, he thinks it is a moot point whether the Australians are to be brought into the Caucasian group, as their thick lips, projecting jaws, large teeth and low skulls, show some approximation to the negro type, while their prominent brow ridges bring them into the Melanesian type. The deep notch at the root of the nose is a characteristic of the Australian race, but the hair is undoubtedly of the Caucasian type. Lydekker says however that "there is little doubt that they are mainly a pure bred race, and if so, there can be no hesitation in classing them as of Caucasian origin and allied to the Veddas of Ceylon and the Toalas of Celebes."

Lydekker later says (Liv. Races of Mankind, Pt. III, P. 84 et seq) that the Caucasians have undoubtedly sprung from the Dravidians and hence the Australians are more nearly related to the European (Caucasians) than the comparatively civilised Malays, Mongols and Negroes. Then again the origin of the Dravidians, Veddas and Australians is derived from the Neanderthal people, the Australians alone having retained the low type of skull characteristic of their prehistoric forefathers. In this connection, Lydekker says it should be borne in mind that the wavy Caucasian type of hair is almost certainly older and more primitive than the frizzly locks of the negro, the

former coming nearer in structure to the hair of the manlike apes.

From the accounts of Cook, Péron and Labillardière, the Australians and Papuans showed points of resemblance to each other in their implements, utensils, personal decorations, methods of making fire, the use of kangaroo bone for needle and awl, their skin clothing, spears, fighting sticks, and logs and rafts for crossing rivers.

Notwithstanding the divergence of opinions of the various authorities as to the ethnological division to which the Australian race belongs, and that in the various theories propounded, the Australian aborigine has been assigned a home in every continent, it is interesting to note that the majority quoted trace the origin to some point near the Indian Ocean, or converging thereto. It may also be noted that as each successive scientist directs closer study to the problem of the origin of the Australian race, the conclusions arrived at place the aborigine further and further back into prehistoric ages.

The Negrito-Papuan-Dravidian theory is based on the following grounds. It has been assumed that at one time in the earth's history, the continents of Africa and Asia had an almost unbroken continuity, extending southeasterly as far as Australia, Tasmania and New Guinea, probably further east and south. The existence of such a continent - now the bed of the Indian Ocean - has been proved, according to A.H. Keane and others, by hydrographic surveys, the banks and shoals, which are now under water, showing where this continent was situated. To this great tract of land the name of Lemuria was given by Solater, Haeckel, Peschel and others, on the supposition that it was there/^{that} first development of the Lemur took place, and there it is also assumed that the anthropoid ape and primeval man came into existence together, spreading from Lemuria into Asia, Africa, Europe and other lands now disconnected by submergences into islands. Upon most of these islands round the Indian Ocean, primitive man and anthropoids exist at the present day. The Negritos in the Andaman and other Islands, the Toalas of Celebes, the Veddas of Ceylon, the Samangs and Sakais of Malay Peninsula, and some of the natives of Luzon

in the Philippines, are the presumed descendants of these primitive men.

The Australian aborigine, the African pigmy, the Ainu of Japan, the older Dravidian of the Indian forests, and the original Papuan, are also classed with the primitive races of mankind.

As regards the age of the Australian continent, Professor James Geikie, one of the most renowned scientists of his day, compiled three maps showing the area of the Australian continent in three successive periods - Palaeozoic, Mesozoic and Tertiary.

Marginal Note :-

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Geikie, Wallace, Bowdler Sharp and others favour the probability of alland connection in the Mesozoic period between Australia and New Zealand, Dr. Wallace's argument resting on the predominating influence of New Zealand flora in Australia, that of Prof. Geikie on geological grounds, and Dr. Bowdler Sharp on the presence of the wingless birds in both countries. Dr. H.O. Forbes (Smithsonian Report, 1894, p. 300) is of opinion that a great Southern continent extended from Australia to Africa, South America, New Zealand and Antartica, his theory being based on the fossil remains of animals and plants of the Tertiary period found in these countries and "possessing so many characters in common as to show at once that they are descended from the same stock."

Dr. J. Park Thomson, Brisbane, is of opinion that an extensive development occurred northerly and northwesterly some time during the Mesozoic period, when Australia and New Guinea were united with the southern portion of Asia, the intermediate islands being included in the union (Round the World, p. 271).

Haeckel, arguing from numerous facts in animal and vegetable geography, states that Lemuria was in existence in the Tertiary period, and Prof. Keane states that the existence of an Indo-African continent has been established on a solid foundation by naturalists associated with the Indian Geological Survey, and he also states that the plants of the Indian and South African coal measures are absolutely identical.

Dr. Wallace (Island Life 462-3) says also that the existence in North and Northeast Australia of enormous areas covered with Cretaceous and other secondary deposits as well as extensive Tertiary formations, lends support to the view that during long epochs, temperate Australia was cut off from a close connection with the tropical northern lands by a wide extent of sea; and that this isolation was exactly what was required in order to bring about the wonderful amount of specialisation, the high development manifested by the typical Australian flora.

"Southwest Australia . . . contains an equally rich flora and a far greater proportion of peculiar species and genera of plants. Sir J.D. Hooker states that there are about 180 genera out of 600 in S.W. Australia that are not found at all in the Southeast or that are represented there by a few species only, and these 180 genera include nearly 1100 species."

Wallace concludes from these facts (ibid, 464) that Southwest Australia is the remnant of the more extensive and more isolated portion of the continent in which the peculiar Australian flora was principally developed. The existence (in the S.W.) of a very large area of granite - 800 miles in length and nearly 500 in maximum width - indicates such an extension, for this granitic mass was once buried under piles of stratified rock since denuded, and then formed the nucleus of the old W.A. continent. Wallace thinks that in the Cretaceous period West Australia had strange marsupial forms, and its peculiar Australian flora through temporary union with the continent over what is now the Java sea. Two representatives of the Australian flora, *Casuarina* and *Styliedum* have been found in the peninsula of India. China and the Philippines have also two strictly Australian genera of orchideae, *Microtis* and *Thelymitra*, as well as a restiaceous genus.

The affinity between the vegetation of Australia and South Africa is, according to Wallace, very small. Five genera are confined to Australia and South Africa, while several natural orders are better represented in these two countries than in any other part of the world; but Wallace does not think that this

Geologically speaking, according to these and other writers amongst whom may also be mentioned the Hon. Sir A.C. Gregory, Dr. J. Park Thomson, Rev. J.E. Tenison Woods, etc., Australia contains probably one of the oldest of all the land masses on the face of the globe. In the remote ages of antiquity when other land areas were merely isolated nuclei, the evolution of Australia was far in advance of that of the other continents. In the eastern and central portion of Australia, the fossiliferous formations have been proved by geologists to be Palaeozoic, Mesozoic, Tertiary, Post Tertiary and Recent. In Western Australia, the Chief Government Geologist, Mr. A. Gibb Maitland, traced undoubted Permo-Carboniferous rocks in the watersheds of the Gascoyne, Lyndon and Minilya Rivers (about Lat. 24, 25). In Champion Bay, Jurassic rocks are met with. In the Israelite Bay locality there is a very large development of strata of Recent and Tertiary age. The Balladonia district promises abundant results in fossiliferous deposits etc., when that country has been properly investigated. In the Kimberley beds Devonian and Carboniferous fossils have been associated. Cambrian beds also occur in Kimberley south of Lat. 18. The Crystalline Schistose and Metamorphic rocks which constitute the principal mineral region of West Australia are probably of Archaean Age, although Mr. Maitland uses the safer term Pre-Cambrian in discussing them. The existence of a glacial conglomerate in the Marine Permo-Carboniferous rocks, near the tropic of Capricorn has only recently been recognised.

In a Presidential Address delivered before the Geology Section of the Australian Association for the Advancement of Science, Mr. Maitland stated that "In a broad and general way the geology of West Australia offers many interesting points of analogy with that of South Africa and India."

S. Göeczal indicates on his Geological sketch map of the Auriferous Region of W.A., a Palaeozoic Age for the greenstone and allies of the Norseman district (about Lat. $32^{\circ}30'$), the micaceous and talcose schists of the same district being referred to the Archaean.

In the Great Australian Bight, according to Dr. Thomson,

there is an uninterrupted sequence of Tertiary deposits extending probably three or four hundred miles inland, their exact limit being unknown. Along the margin of the Bight, the fossiliferous Miocene limestone beds expose themselves in the form of precipitous cliffs from 300 to 400 feet in height.

It is in the Tertiary strata that the fossil remains of extinct flora and fauna have been chiefly found. The Diprotodon was a massive herbivorous wombat-like animal measuring some 10 feet in length and 6 feet in height. It flourished in the swamps and marshes and on the lake margins. The present day wombat is evidently its modern representative. The marsupial lion (*Thylacoleo Carnifex*), a carnivorous animal, equal in size to the present African lion, flourished in Australia at the same period. The giant kangaroo (*Macropus titan*) was about 14 feet in length and weighed about a ton. The Nototherium was another herbivorous animal of the same period, measuring about 8 feet in length and 5 feet in height. These terrestrial fauna were peculiar to Australia; they were distinctive in character and restricted, so far as is at present known, to the interior regions of the continent. Fossil remains of about 80 specimens of the *Diprotodon australis* have been found in the soft blue clay and mud of the Lake Mulligan Basin (S.A.), also in the mammoth caves of the S.W. Associated with these were some bones of the now extinct Moa, a large wombat, and a kangaroo, the length of the foot of the kangaroo being about 14 inches. A specimen of the *Diprotodon* was found in W.A. in 1883 by the then Govt. Geologist, Mr. E.T. Hardman, in the bed of the Lennard River 80 miles from King Sound, and in the neighbourhood of Lake Way (about Lat. 27, Long. 120°30') the discovery of fossil remains of the *Diprotodon* has also been made in the Balladonia and in Mammoth Caves. These discoveries indicate an immense range of both geographical and climatical habitat. The Balladonia district is also said to be rich in specimens of this and other extinct marsupials.

A very interesting and important find has recently been made in the Mammoth Cave about two miles from the mouth of the Margaret River (S.W.) It is that of a new species of *Sthenurus occidentalis* (see Owen. Phil. Trans. Roy. Soc. Lond. 1874, P. 264-274; also

Lydekker's Catalogue of Fossil Mammalia, Pt. V 1887, P. 231,) found with many other fragments of bone and teeth by some workmen engaged upon development work in connection with the Mammoth Cave. Owing to the true significance of the find not being apparent to the workmen, very valuable portions have been doubtless destroyed and lost, while even the portion obtained had suffered considerably from rough usage. The fragment found is reported to be a new species of the long extinct form of marsupial sthenurus, a fact of importance, as this genus of the Macropodidae has not previously been recorded from W.A.

The animal was apparently an adult having had all its true molars in use. The specimen consists of the major portion of the left mandibular ramus, embracing the incisor tooth, the diastema, all the cheek teeth (pre molar 4, M(1) M(2) M(3) of Owen), and the lower part of the coronoid process. Of the right mandibular there is the anterior portion up to and including the 3rd cheek tooth M(2) (M1 of Owen).

It was possible for Mr. Glauert of the Govt. Geological Dept. to make the following measurement chiefly on the left side which is the more perfect: Incisor tooth, vertical diameter at base of enamel, $11\frac{1}{2}$ mm; transverse diameter 7 mm; greater width of the enamelled crown 13 mm; greatest thickness of same $6\frac{1}{2}$ mm; length from base of enamel to extremity of worn crown 22 mm; distance from posterior base of enamel of incisor to front and edge of d 4, 61 mm; to extremities of crowns, $56\frac{1}{2}$ mm. The lower jaw differs considerably from that of the Kangaroo (Macropus). It is much more solidly built, and from the shape and size of the teeth suggests that the animals' food consisted of hard vegetable matter, probably twigs and branches of trees, then the crastena being so very short and the angle between the ramus of no mean size, the remains are those of an animal whose skull would much resemble that of the wombat (phascalomys fossor). The diastema being horizontal instead of inclined is another point of difference from the Macropus.

A certain interest attaches to this discovery from the traditions current amongst the natives of the Southern districts of the existence of what they call "janga kangaroo", that is,

"spirit kangaroo", animals of immense size, whose homes or habitat were in the districts where most of the caves have been discovered, and these traditions taken in conjunction with others relating to the volcanic activity which resulted in the separation of Garden Island from the mainland, the separation being traditionally attributed to the work of an offended "janga woggal", or "spirit carpet snake", which was able to "bring fire and water" to its aid in its work of destruction, may be cited as proof of the existence of man in Australia contemporary with the now extinct moa, giant kangaroo and other species of animals.

All naturalists admit that the types of many Australian fauna are archaic, and it is therefore significant that where so many types of the lower animals survive, archaic types of human culture should also be found to exist. Their environment and the isolation of ages has preserved them.

In Prof. Semon's "Scientific Researches in Australia" he states that "Australia has been separated or isolated from other parts of the world since the Tertiary period. The placental mammals became, in most parts of the earth, supreme in the Miocene times, and they then brought about the destruction of the marsupials or ootiacards, in most places, leaving only the American opossum of this kind outside of Australia; while the dingo, which was introduced into Australia increased there so that it killed off the *tylacynus cynocephalus*, and the *dasyurus* or *sarcophilus ursinus*, and these only now survive in Tasmania, to which the dingo was not introduced." This author calls the Australian blacks Negritos, but he says that he "found many of them were also like the Dravidians of India."

Probably when the cave districts of the Southwest are scientifically investigated the fossil remains of the above animals will also be found as tradition is also connected with some species of "man-eating dingoes" who inhabited the caves of the Southwest.

According to Penak, Bass Strait was not covered by water during the Pleistocene Ice Age on account of the general level of the sea having been lower at that period.

From the relationship and partial identity of the fauna and flora of past times and on palaeontological grounds, Huxley, Searles, Wood and others have inferred the existence of a Miocene continent occupying a part of the Indian Ocean.

Mr. H.F. Blandford infers the existence of a continent which he calls Indo-Oceana, at a much earlier period than Huxley. Blandford says (Quarterly Journal Geol. Soc. Vol. XXXI, 1875, pp. 534-540) "Palaeontology, physical geography, and geology, equally with the ascertained distribution of living animals and plants, offer their concurrent testimony to the former close connection of Africa and India including the tropical islands of the Indian Ocean . . . India, South Africa and Australia were connected by an Indo-Oceanic continent in the Permian epoch." Prof. Ramsay believed that Africa was joined with India and Australia in geological times.

Solater was the first to give the name Lemuria to the sunken continent. Dr. Hartlaub ("Ovifauna of Madagascar and the Mascarene Islands", "Ibis", a quarterly Ornithological Journal, 4th Series, Vol. I, p. 334) agreed with Solater's hypothesis that an Indo-Oceanic continent once existed. "Lemuria . . . that sunken land which . . . must have extended far eastwards over Southern India and Ceylon."

With regard to the classing of the Australian amongst earliest forms of primitive man, one of the strongest proofs of the Lemurian theory is the fact that those primitive races with whom the Australians have the closest affinity in physique in customs, implements, etc., are still found grouped round the shores of the Indian Ocean. The migration of the primates presumably began while Africa, Asia and Australia were still connected with the now submerged continent.

In a map accompanying a paper on the Australian aborigines contributed by R.S. Walpole to the Royal Geographical Society (Melbourne), the various hypothetical routes taken by these primitive men were defined, that portion of the migrants which eventually reached Australia travelling southwards by way of India, and by the land connections now known as the Archipelago. These early arrivals have been typified as Negritos, the name Negrito being generally adopted by anthropologists when speaking of the brachycephalic or round headed Asiatic Negroes, the Andamanese and other islanders.

The Negritans were a very low type of human, short of stature, with round heads and black skins, frizzly hair (not woolly), thick lips and other characteristics, distinctive of some of the now extinct Tasmanians. Their weapons were the spear and the club, for they were hunters only, as are the Australians of the present day, and with these weapons they despatched all kinds of game then existent. They ate their food raw, until they became acquainted with the use of fire, probably through the ignition of grass by lightning, or by the friction of dried branches in the wind. (I have frequently seen the *triodia irritans* or "buck spinifex" set on fire by lightning on the spinifex plains of the Northwest.)

Their only implements were the rudely chipped flints which are associated with early man in every country where his fossil remains have been found. The stone implements of the Tasmanians and some of those of West Australia have been found to correspond closely with the earliest palaeolithic implements presumed by scientists to have been manipulated by human hands. (Prof. Tylor, after an examination of the W.A.

chipped flints, pronounced them similar to the Tasmanians'.) The Negritan element, or to put it more generally, the relationship between the indigenes and the earliest forms of primitive man is shown in the points of resemblance that are every day being discovered between palaeolithic or early mankind all over the world.

Dr. Wallace has found that the connecting links between the Papuans and Negroes of Southern and Equatorial Africa, are the dwarfish woolly haired tribes of the Philippines, the Malay Peninsula, and the Andaman Islands, and taking these altogether, they may well be supposed to represent one of the earliest, but not probably the most primitive type of man (Studies Scientific and Social).

Lydekker, in commenting upon this statement, says, "If physical resemblances such as are found between Melanesians and Negroes be not indicative of generic affinity, it is hard indeed to discover what value is to be attached to any anthropological characters (Living Races, Pt. II, P. 37). Lydekker further says that some writers regarded the Tasmanians as being nearly related to the Negrito stock, and he is of opinion that this lends colour to the theory that New Guinea, Melanesia, Tasmania and Australia were peoples by Oceanic Negroes. It is the opinion of many writers that amongst the earlier races of mankind, the women show the various race types more fully than the men, the early females having "evolved" more slowly, owing to their slavish condition.

The Negritans are at present represented by some aboriginal tribes found in various parts of the Malay Peninsula, by the Andam^{an}ese, and some Indian and African tribes. They were also partly represented by the Tasmanians. Hamy has pointed out the similarity of some Australian skulls to those of Negritans.

The Papuan migration came next, superior in physique, in culture, weapons, social organisation, etc., and either mixed with or subdued the Negritans. In the former case the Papuan men would exchange their women for the Negritans. In the latter, the Negritan males were probably killed off and the females absorbed.

The Papuan invaders were taller in stature than their forerunners, the shape of their heads was dolichocephalic, their skin was a very dark brown or chocolate, their hair being black or extremely dark brown. With regard to the philological evidence as to the Papuan mixture, the Rev. J. Mathew (Eaglehawk and Crow, P. 37) states that the words with "l" initials are lineal descendants of the primitive Papuan. I have not found an "l" initial amongst any of the dialects of the Southern and southwestern coast, but amongst the Northern and Eastern (W.A.) people many words beginning with "l" are to be met with, particularly in the Broome, Beagle Bay, and Sunday Island dialects.

The Papuans probably came through Mecronesia and Melanesia, as many writers trace Melanesian characteristics in the Tasmanians, and following the footsteps of the Negritans, reached the supposed extreme south end of the continent - now the island of Tasmania.

Submergences and subsidences were, according to the world's geologists, occurring frequently at this period of time isolating the continent of Australia more or less from the rest of the then known world. In the meantime the two migrations, Negritan and Papuan, spread over the land areas, fighting or commingling as the case might be, a greater or less quantity of their race elements being transmitted by intermarriage and as the various parties moved onwards, other intermarriages still further mixed the original types, the climatic conditions and environment also leading to diversities which would be greater or less according to the length of time the occupation of the districts continued. The difference in physique in many of the Southwestern peoples is doubtless due to the amount of inherited element from the separate migrations.

In the now extinct Tasmanians the descendants of the Negritans and ~~Papuans~~ only "the most ape like form of man", according to Sir Harry Johnston, were to be found.

The Tasmanians made no advance in culture, beyond what they had brought with them, they invented nothing, the unusual facilities for finding food made their few implements sufficient for their wants. They made nets and baskets as do some of the Northern natives at the present day. Their colour was, according to Bonwick, Roth and other writers, a very dark brown or chocolate, sometimes quite black, their hair was black or extremely dark brown, finely curled or frizzly. When allowed to grow long as was the case with the men, it sometimes took the form of long corkscrew ringlets, and was smeared plentifully with grease and ochre. The women wore their hair short.

As the ethnological study of the Tasmanians did not apparently begin until the race had been almost wiped out, and had certainly considerably degenerated, there may have been a greater average of height than that supplied by Ling Roth and others, viz. 5 feet $3\frac{3}{4}$ inches, for the men, and 4 feet $11\frac{1}{4}$ inches for the women. (The average height for the Australian male may be set down as 5 ft. 5 in. in the South and about 5 ft. 7 or 8 in. in the extreme north. There is however great diversity of stature both amongst males and females. I have frequently met women on the Gascoyne and Murchison Rivers, and Eastern Goldfields districts who were 5 ft. 6 or 7 in. in height. In the Southern districts, the residents of certain areas within the rainy belt were tall, finely formed people, and in the Northern Kimberleys are also to be found some exceedingly tall and well formed men and women, also in the Murchison and E. Goldfields and Eucla areas.

It is interesting to note the points of difference between Captain Cook's description of the Tasmanian aborigines and that of his ship's surgeon, Dr. Anderson. "They were of a middling stature," says Captain Cook (Voyages to the Pacific Ocean, 1776-1780) "and somewhat slender, their hair was black and woolly, and their skin was also black. They were entirely naked, with large punctures or ridges some in curved, others in straight lines, on different parts of their bodies. Their lips were not remarkably thick, nor their noses very flat, their features on the contrary, were not unpleasing, their

eyes pretty good, and their teeth tolerably even and regular though exceeding dirty. The faces of some of them were painted with a red ointment and most of them smeared their hair and beards with the same composition."

Captain Cook, wishing to know the use of the short pointed stick which one of the savages held in his hand, made signs to him to show him, upon which one of them took aim at a piece of wood placed as a mark about the distance of twenty yards, but after several essays he was still wide of the mark.

Landing upon another part of the island, Cook thus describes the natives, "Those whom we now saw differed in some respects, particularly in the texture of the hair, from the natives of the more northerly parts of the country. . . . Some . . . had a slip of kangaroo skin round their ancles, and others wore round their necks some small cords made of fur. They did not appear to know the use of fishhooks, though it is more than probable that they were acquainted with some method of catching fish. Their habitations were small hovels or sheds built of sticks and covered with the bark of trees. The females . . . wore a kangaroo skin fastened over their shoulders, the only use of which seemed to be to support their children on their backs (The Southwest Australians also carried their children in this fashion) . . . Their bodies were black, and marked with scars like those of the men, from whom, however, they differed in having their heads shaved, leaving a narrow circle of hair all round."

Dr. Anderson, Surgeon of the "Resolution" thus describes the Adventure Bay natives, Tasmania (Cook's Voyages, p. 56) : "They seemed mild and cheerful. . . . They display some contrivance in their method of cutting their arms in lines of different directions raised above the surface of the skin . . . Their complexion is a dull black, which they sometimes heighten by smutting their bodies, as we supposed, from their leaving a mark behind on any clean substance. Their hair is perfectly woolly, and is clotted with grease and red ochre, like that of the Hottentots. Their noses are broad and full, and the lower part of the face projects considerably. Their eyes ar

of a moderate size, and though they are not very quick or piercing, they give the countenance a frank, cheerful and pleasing cast. Their teeth are not very white nor well set and their mouths are too wide; they wear their beards long, and clotted with paint. They are, upon the whole, well proportioned, though their belly is rather protuberant."

The affinities between the Tasmanians and Australians are as follows :- According to some authorities the Tasmanian hammers had no handles; others however state that these weapons had handles. In the same manner a person visiting the Murchison, Weld Range and Eastern Goldfields and Eucla districts only would state that the axes of the West Australians had no handles, for the stone axes of the tribes in these places are without handles.

Again it has been stated that no Neolithic or ground implements were found in Tasmania, but Professor Tylor came into possession of a genuine ground specimen from that State. Both the handleless axe and the ground axe are found amongst the tribes of West Australia.

The use of red ochre, the making of raised scars on the body for the purpose of ornamentation, the method of wearing the kangaroo skin cloak, and its use for carrying babies, the possession of the club and the spear, all these identify the Tasmanians with the West Australians. The facial characteristics of Truganini, the last Tasmanian native woman, have their counterpart in some of the Western Australian natives.

The variety of type which exists at the present day amongst the Australian aborigines may be realised from the following account of Sir A.C. Gregory's journey through a certain specific area in the Murchison and Gascoyne districts. Dr. J. Park Thomson, who has become possessed of Sir A.C. Gregory's MSS kindly forwards the accompanying extracts from Gregory's Journal on the physical types he encountered in his explorations in W.A. "On first landing at Champion Bay in 1846, we found the natives in considerable numbers, about 1000 within a radius of 50 miles. Many of the coast tribes were of greater stature than those of Swan River, some of the men being six feet and a few over that

eight. They appeared to consist of three races, the first, about a third of the whole, were a square-built, with short legs and broad hips, short necks, straight dark hair, heavy jaws with comparatively thin lips, and copper coloured skin . . . The second race were rather more numerous (being about a half) of much lower stature (about five feet six inches), slighter in build, longer in the legs, large heads covered with dark curly or frizzly hair, mouths large, black skins and general type more of the aborigines of South Australia, generally . . . The third and the least numerous race were slight in figure, of moderate stature, aborigines about 5 feet 8 inches, fairly proportioned, with rather small heads covered with light flaxen hair, the eyes approaching the colour of the same, the features flat and wanting in character . . . As we moved inland these distinctive characteristics disappeared, and gradually merged into the diminutive, spare, and almost monkey like tribes or rather families of the interior, which condition is probably the result of local influence, having to live under circumstances of greater privation in a more arid climate.

Proceeding northward to the Gascoyne River, we found nearly all the tribes of much the same type as what I have designated the second race, at Champion Bay, but with this difference, that the hair became much shorter and almost woolly, the lips protruding and aspect more South African, a few however partaking of the Arab in stature and features, the forehead being high and narrow, lips thin, and mouth comparatively small, with falling shoulders. These peculiarities are more freely developed in many of the natives of Nichol Bay, who fairly represent the average Arabs about the Gulf of Aden. In other respects the tribes about Nichol Bay, the de Grey and Fortescue Rivers would appear to be of the older aboriginal stock, with unmistakable traces of a cross with Malay."

In Grey's Journal mention is made of a tribe of natives met with in the Northwest who had high beaked noses and Jewish features, and R. Helms found a native amongst the Fraser Range blacks "who had a moderately aquiline nose and a decidedly Jewish appearance ." J. Bradshaw's sketches of the rock

drawings in the Regent River district show distinct Jewish types and several Eucla correspondents refer to the Jewish types met with there. It is possible that these peculiarities have come by reversion from Papuan ancestors, as the "South African"

features remarked by Gregory may also be reversion to the

Negritan type. It is possible that the drawings & paintings discovered by Grey may be the work of Malay people. One of Grey's Sultan of Perak, Malay Peninsula.

It has been stated that when the Tasmanians had hurled all their clubs they picked up stones to throw at their enemies; so did some of the Southwestern peoples. Shields were not made by the Southwestern native. They were obtained by barter from Northern and Northeastern tribes and were only used in spectacular dances. Some of the older Vasse natives informed me that they had always to dodge the spears hurled at them without the aid of shields, and that the spear and boomerang (kailee) were their principal weapons. The S.W. natives were all spear dodgers - the Perth metropolitan being the most expert.

The baskets used by the Tasmanians are only found in the extreme north of this State. Nets are in use in the Roebourne district, and probably in all those northern districts where spinifex and certain soft fibres, of which these nets are made, are to be found. The Tasmanians made breakwinds of boughs behind which many families disposed themselves, each having its own fire, so do the Northwestern people at the present day.

Initiation into manhood, abstinence from certain foods, cutting the head and body at times of mourning, making cicatrices as body ornamentations, polygamy, carrying of magic stones, crystals, or bones for healing or killing, using an enemy's hair to cause his death, knocking out teeth, ornamenting the body with red, white and black markings, obtaining fire by means of the dried flowering stem of the blackboy or the sandalwood and other trees, the absence of circumcision, the method of cooking certain animals and birds whole, only extracting the entrails when cooked, all these customs are common to the Tasmanians, and West Australians.

The Tasmanians have been described as sooty black, bluish black, jet black and dark brown or chocolate, but amongst the few living persons who were familiar with Truganini and the last few Tasmanian aborigines, the colour is mentioned as being a dark chocolate or brownish black, similar to that of the Australians. ^{In Dowling's painting (in Launceston Art Gallery) of the natives of S. and other areas, the "mud curls" are cur-} lously similar to the mud curls of the Roebourne, Broome and other N.W. natives.

In the neighbourhood of York in this State I found some natives whose skin was almost a bluish black, but after long searching into the pedigrees of these people, I found that they were descendants of a St. Helena native who had probably escaped from some whaling boat in the early days.

Amongst the Northern natives of this State the colour is somewhat darker, yet here and there one finds sporadic groups as did Sir A.C. Gregory, having special features and colouring. The darker pigment of the Northern natives is probably due in some measure to climatic conditions, as when they have been brought to the South and have lived in the cooler climate for some years, the pigment becomes of a visibly lighter tint, and they approach the general colour which is of a dark brown or chocolate, as in the case of some Tableland natives who came to live in the Perth area.

I have never met with a woolly haired aborigine either in the North or South of the State, but of wavy and frizzly haired natives, many specimens have been met with in the northern and interior portions of the State, Straight, wavy and curly hair obtained amongst the natives of the Southern and Southwestern coasts.

Descendants of the fairhaired natives encountered by Sir A.C. Gregory can still be seen in parts of the Murchison district, but the eyes are, in form and colour, similar to those of their northern and southern neighbours. The hair usually darkens and coarsens after childhood is passed, assuming a rusty colour in middle age. The peculiarity of some Murchison dialect people, points to a foreign strain of some kind, probably introduced from wreckages. Philologists will determine doubtless from whence this strain comes, as the dialect mentioned is found only amongst those people whose hair is of the

lighter tint. The line of travel of these people was from some point on the coast in the neighbourhood of the Abrolhos Islands along the Sanford and Murchison Rivers towards and probably beyond Peak Hill. I found traces of the dialect amongst some Peak Hill district "fairhaired natives", who may be correctly called the descendants of, probably, fair-haired Dutch castaways.

The third invading horde - the Dravidians, Indo-Egyptians, or Black Caucasians, as they are variously called, are assumed to have arrived in Australia at various points on the north coast. At the time of their migration they had become possessed of many savage arts and customs, which they succeeded in superimposing upon those already practised by the earlier Australians.

Dr. Semon gives many reasons for assuming that Australians and Dravidians (Primitive Indian tribes) have sprung from a common branch of the human race.

The Dravidian migration, as also doubtless the autochthones, probably came in detached bands at irregular intervals, in much the same way as the settlement of countries takes place at present. There was still a comparatively uninterrupted land route between India and Australia via Ceylon, the Nicobar and Andaman Islands (now merely coral reefs in the Bay of Bengal,) the Malay Peninsula, Java, Borneo, Celebes and Timor, or via New Guinea. Dr. R.L. Jack (R.L. Jack and R. Etheridge, "Geology and Palaeontology of Queensland and New Guinea") states that the numerous islets and reefs between Cape York and New Guinea suggest a former connection between the two lands, as at the present day an elevation of about 100 feet of the islets and reefs would form an uninterrupted land chain from Queensland to New Guinea.

Wherever the races came in conflict with each other, the newcomers being better equipped, would subjugate the local inhabitants whose customs, dialects and ceremonies would be either assimilated or superseded by those of their conquerors.

The Dravidians probably overran most of the mainland of Australia, but they did not reach Tasmania, because it had by that time become an island owing to the submergence of a tract of land now occupied by Bass Strait.

That the Dravidian immigration was widespread throughout Australia is evidenced by the universality of Dravidian customs, Class Divisions, linguistic affinities, and physique, obtaining amongst the aborigines. A Gippsland "Kurnai" and a Southwest Australia "Bibbulmun" are almost exact prototypes, and a Kabi (Queensland) man is also similar to the Bibbulmun in physique, the Kabi dialect having a certain affinity with the Southwestern language. A North Queensland native and a North or West Kimberley man are also identical in physique. The Central Australian, as portrayed by Spencer and Gillen, has his prototype not only in the interior of this State, but also in the Murchison, Gascoyne, Eucla and some of the Northwestern districts.

In customs the West Australians are also fundamentally similar to the Dravidians. Some districts have added somewhat to the initiatory rites, they have been elaborated in some areas, and appear to have undergone variation along the various lines of route, the most severe being practised in the Central region. The abundance or paucity of the food supply appears to have been the determining factor in many of these changes, for where a plenitude of food was easily obtainable throughout the seasons, the severer customs gradually became obsolete, until in the course of time, these became even traditionally forgotten. If, however, circumcision was introduced by the Dravidian migration, then the S.W. aborigines, who are acknowledged by Huxley and others to be the most homogeneous of all savages, and who are undoubtedly the "nearest of kin" to the Dravidians, should have traditional evidence that circumcision was once a custom amongst them. If the rite did not come from the Dravidians, then Mr. Mathew's contention that a Malay invasion followed the Dravidian, bringing the rite with it, must hold good. I have shown on a map the approximate line of demarcation between the tribes, and I have personally found that the ^{circumcised} tribes were gradually encroaching coastwards at the time of white settlement. They reached the coast at Geraldton twenty years after white settlement. The Southwest aborigines possess the relationships, patriarchal government, food regulations, weapons, of their remote Dravidian ancestors, the pronominal and other linguistic agreements between the two languages also showing the kinship between

the two peoples, the boomerang, knife, hair and fibre strings are also said to be Dravidian.

Dr. F. Müller stated that if a relationship existed between the Dravidian and Australian speech, it would have found its fullest expression in the dialects of Western Australia. The dialects of the Southwestern people can now be compared with ^{Some thirty dialects of members of the now extinct S.W. Dravidian groups have been compiled direct from each existing member, for comparison.}

The two primary classes of the Southwestern aborigines - White Cockatoo and Crow - differ from the Rev. J. Mathew's Primary Class names in the substitution of "White Cockatoo" for "Eaglehawk"; in almost all other respects the classes are identical. In part of the Southwest, the children follow the mother in descent, that is, if the mother is White Cockatoo, her children, male and female, are also white cockatoo. From Jurien Bay to Donnelly R. East and South, descent is agnatic.

A mixture of Papuan and Dravidian customs will also be found throughout the West. The method of personal decoration amongst the West Australian is said to be of Papuan origin, some of their utensils, implements, methods of making fire, the use of the kangaroo bone for nose stick and awl, the kangaroo skin cloak, the spear, all these ^{may be} are relics of the Papuan immigration, and a certain system of individual ownership in trees common in Papua is also found in West Australia. A Papuan will mark some fruit tree or other object, and until he has gathered the fruit, the tree becomes his individual property. In the same manner, I have seen a Southwestern man breaking off the rushes of a blackboy tree which he knows contains grubs at the root, in order to increase the size and lusciousness of the grubs; the tree thus marked becomes the property of that native until the grubs have been extracted. The footprints near the tree mark the identity of the native. The tree however must be on his family hunting grounds. The throwing club is supposed to be Papuan, the spears and chipped implements by some writers assumed to be Negritan, while the boomerang, knife, hair and fibre strings, are Dravidian.

The Papuan may possibly have been the fairer race now known as the White cockatoo. It is interesting to note that every

term applied to White Cockatoo phratry means "fair" or "light coloured", while the Crow phratry terms are also applicable from the dark colour, ngwoota murnong - darkskinned people, etc. The persistence of these terms applied to the two primary classes is strong evidence of the existence of two races, a fair or brown race, and a dark or "crow" race. It may be postulated that the "fair" race were the Papuans, who, having exterminated their predecessors, the Negritans, in the Southwestern portion of the State, dwelt among the coast line, having the sea and the rivers as well as the land from which they obtained sustenance. The sea, and the fish of the seacoast and rivers were the principal totems of the coast people, but food being plenty at all times, totemic ceremonies were not general. Certain fish, such as the melok (salmon) and kalda (sea mullet) were "sung" by a salmon totem man or a sea mullet totem man at the beginning of the salmon or sea mullet season, and while "singing", the movements of the fish were imitated, but there was no restriction with regard to the eating of the totems. A salmon totem man partook of his totem after he had "sung" for its increase, and also after he had seen that his visitors had a sufficiency, for it was etiquette to supply the visitors, all of whom were relatives, with the "first fruits" of the fish totems. No other ceremonies in connection with the fish totem, were practised on the Southwest coast. Although logs and rafts are supposed to be of Papuan origin, the Southwestern and Southern people, coast and river people though they were, had no knowledge of the art of navigation, and had not even the floating log of their northern neighbours, a strong point in favour of their arrival by land, for had they reached their present home by sea, they would certainly have traditional evidence of such journeys. There is traditional evidence concerning volcanic disturbances which separated Garden and Carnac Islands from the mainland, and there is also legendary evidence connected with the recently discovered fossil remains of the giant marsupials found in the Mammoth Cave, but there is not a vestige of evidence as to the coastal inhabitants ever having used a log, raft or any other means of crossing estuarie or rivers except by swimming. The seas along the S.W. coast were invariably stormy and turbulent, and quaint legends and songs seem to indicate many wreckages along the coast.

In physique there is a decided difference between the White Cockatoo and Crow Classes, notwithstanding the centuries of intermarriage between the pair, so that a person familiar with both types will have no difficulty in distinguishing the White Cockatoos from the darker Crows. The roundness of form and fairness of feature and colour is observable in all the "pure bred" White Cockatoos of the Southwest, by "pure bred" being meant the very old inhabitants who have not been contaminated by the mixture of breeds consequent upon the settlement of the whites, and the necessary breaking down of the old tribal boundaries. and marriage laws

With regard to the Jewish types that are said to be found here and there throughout the State, the inference drawn from their presence in places so far apart as Kimberley and Eucla, is that these and various other "strains" may have entered Australia from the north, and passing down a recognised route reached the south coast directly in line with their presumed point of arrival. I have met with the Jewish type amongst the White Cockatoo people of the Southwest, though some of the Crow men had features of a somewhat Jewish cast, but not so pronounced as the types to be seen at Eucla and in some of the inland districts. Dool and Timbal are two good representatives of the White Cockatoo division, while Joobaitch and Monnop are equally good examples of the Crow division. These people come from the Gingin, Victoria Plains, Guildford and Vasse districts respectively. The difference in type between each pair will be at once apparent.

In the women also there is a marked difference in type, the White Cockatoo women having as a rule short "snub" noses and rounded features, while the Crow women have the perceptibly downward curve of the nose observable in Joobaitch's photograph.

Were the Crows the dark Dravidian race which succeeded the Papuan invasion? It is a curious circumstance that the White Cockatoo people always allude to the Crow men as "our fathers". "They are our fathers," they will tell you, "but we never can trust them." The Crow people never use this term in speaking of the White Cockatoo men, and hence it may

be inferred that the Dravidians or Crows were the next arrivals after the Papuans. They possibly entered Australia either through New Guinea or by way of Timor, wandering southerly, southeasterly, or southwesterly, according to the exigencies of the food/^{and water}supply, or as the resistance or otherwise of the former inhabitants determined, and it is also remarkable that that Kabi (Queensland), and Kurnai (Gippsland) natives more nearly resembled the Crow division of the Southwest than the White Cockatoo division.

The Crows being the later arrivals would probably be of somewhat higher intelligence than the White Cockatoos, and would therefore superimpose many of their customs upon those already existing amongst the indigines. These darker people did not reach Tasmania, but they wandered to the remotest Southwestern corner of Australia, and it is there that the remnant of this probably once numerous people has been found. Their purity of type (of the Cockatoo and Crow) was remarkable, and until the coming of the whites, they did not generally go beyond their own prescribed boundaries in search of women, though occasional raids were made by the younger members on outlying or strange tribes over the hill boundaries and hence in a measure the breed was kept comparatively pure. It is owing to the undoubted antiquity of this remnant that it faded away so quickly after the arrival of the white people; the older and more unmixed the race, the quicker its disappearance when brought into contact with civilisation. From their very antiquity their hold upon life was of the slightest, and the very breath of the new civilisation was fatal to them. Indeed their own observation, as they watched the rapid extinction of their kind at the first advance of white settlement, was "Janga meenya bo'mun'gur" - the smell of the "spirits", i.e. white men, has killed (us).

Nowhere in the State was there such homogeneity of type observable as amongst the White Cockatoos and Crows of the Southwest, and in every camp that still boasts a few of the older and purer strains, the "family" or "race" resemblance may still be seen.

It is curious to note the universality of the fear and contempt in which every White Cockatoo holds a Crow. Fear, because of their more powerful magic, and contempt from their darker complexions, harder features, and less symmetrical forms. In no other tribes has this feeling towards one or the other of its divisions been discerned. The Northern and Central tribes sometimes show great variation of type, quite as much as Gregory observed during his explorations, but through all of them a certain homogeneity will be found. The north and northwest coasts have undoubtedly been visited from time immemorial by nomads of the sea. Some may have been wrecked on the coasts, others may have arrived on voyages of explorations, but each and all appear to have left their mark upon the native inhabitants. Between Jurien Bay and the Nor'West Cape there are several isolated tribes of aggregates of families with special dialects and special class divisions, marrying within themselves, and holding the neighbouring tribes, except during special ceremonies, in great fear. Their dialects, of which unfortunately only one or two could be obtained in the limited time occupied in investigation, undoubtedly show traces of foreign influence of some kind or other. The "line of travel" or "road" of these people (for there are regular "routes" throughout the whole of the west, along which certain tribes can travel,) being east and west in a zigzag direction, would probably account for the mixture of strains in this particular portion of the State, noticed by Gregory and other explorers. The similarity of customs of the Northern, Central, South Central and Southern aborigines is even more remarkable than that existing amongst the coastal natives between Jurien Bay and Esperance, the area of the former being so much larger.

The Rev. Dr. John Fraser, B.A., LL D. (Aborigines of New South Wales) sums up the facts favouring the Dravidian theory as follows :-

1. Ethnologists recognise two pre-Aryan races in India.
2. The Dravidian and Kolarian languages have inclusive or exclusive forms for the plural of the first pronoun, so has the Australian language. (The Outline of Grammar and the

Vocabularies of the West Australian dialects, particularly those of the Southwest, will, if compared with Dr. Caldwell's Dravidian Grammar, incontestably prove the linguistic affinity, more especially in the pronouns, of the two peoples.)

- 3. The native boomerang has been found in Kattywar, Bombay, India, also in Thebes, Egypt (4 specimens of boomerangs from Kattywar, and 3 from Thebes are now in the British Museum, side by side with the Australian weapon.)
- 4. The modes of burial correspond.
- 5. Circumcision prevailed amongst the Dravidians and obtains throughout Central Australia. (It does not appear however to have ever been practised by the Southwest Australians, who are nearest of kin in language etc. to the Dravidians.)
- 6. The Dravidian tribes, though homogenous, have varying dialects, so have the Australians.
- 7. The natives throughout almost the whole of Australia point to the north and northwest as the quarter from whence their ancestors first came.
- 8. Class marriage laws are similar in both races. (In Dr. Fraser's view, Australia seems to have received its native population in two different streams, one from the north, the other from the northwest.)

Huxley considers that the link between Australia and Egypt is the Dravidian race of India, and both Huxley and Fraser state that the immediate ancestors of the Australians were the Dravidians. These Dravidians are considered by the best authorities as being certainly negroid. Professor Flower, from an examination of their crania also classes them as kinsmen of the Australians. At present the Dravidians are only represented by the tribes of the Deccan and perhaps the Veddas.

Lydekker mentions the possession of the boomerang, by the Australians, certain primitive Caucasian tribes of Southern India, the Egyptians and Abyssinians, and a Boomerang is said to have been discovered in central Celebes which may have belonged to the Toadas, the aboriginal inhabitants of that island.

C.H. Risley (*Census of India 1901, Vol I, p. 143*) furnishes the following description of one of the Dravidian tribes called Sonthāl, Santal, or Saontar : "The Santals may be regarded as typical examples of the pure Dravidian stock. Their complexion varies from a very dark brown to a peculiar, almost charcoal-like blackness; the proportions of the nose approach those of the negro, the bridge being more depressed in relation to the orbits than is the case with Hindus; the mouth is large, the lips thick and projecting, the hair coarse, black and occasionally curly; the zygomatic arches prominent, while the proportions of the skull, approaching the dolichocephalic type, refute the hypothesis of their Mongolian descent. Among the Santals a man may marry his brother's widow."

The Southern Group of W.A., the Kurnai tribes of Gippsland, the Kabi of Queensland, are those amongst the most known tribes of Australia who most nearly resemble their far off Dravidian ancestors. Many Southern types are almost similar in physique to the Todas of India who are presumed to be the descendants of the Dravidians. The kinship between the Tamilian and Australian languages has been referred to by Dr. Fraser. The Tamils also have class marriage laws similar to those of the Southwestern Australians. The Todas, being the oldest existing branch of the Dravidians, are nearest of kin to the Australians. Lieut. Col. Marshall says of them, "They have no desire for work under any conditions, the absence of vigorous qualities, disregard of gain and thrift, together with the lowest measurement of the dolichocephalic head place them side by side with the Australians in primitiveness."

According to Dr. Carroll (*Science of Man, 1903, p. 52*) "One of the many proofs of the Dravidian (or 3rd migration) is in the old Indian names of rivers and places in Australia, such as Indi (Indus), the Upper Murray, Meru, or Meroo, 'Mount or Plain', and other Dravidian names. These names go further back than the Dravidians to their old Hamitic teachers, as Meru - the Snowy Mount - near Killimanjaro in Central Africa."

The influence of the Dravidian language over those of the preceding migrations has been demonstrated by the Rev. Dr. Fraser

and others, and may also be noticed in the S.W. dialects. Traces of other tongues are visible in some of the other dialects of W.A. Many Murchison words appear to have no affinity with either the Northern or Southern dialects of this State. The Illimbirree dialect (Sanford River) has also its own special peculiarities of dialect, which are to be found over a limited area only. The inland dialects also appear to have undergone many changes during their progress Southward, though the Nulagine district word for man - mulba - is also met with in Balladonia district, north of the "90 Mile" west of Eyre, the two places being many hundreds of miles apart. Northwards from Roebourne, on the 90 Mile Beach, and at Beagle Bay and Sunday Island, there are distinct changes in the dialect, and the initials "l" and "r" which Mr. Mathew assigns to the Papuan are here found.

Prof. Keane says (Living Races, Pt. XIX, p. 583) that it is a universal law that in all racial conflicts the races usually intermingle but the languages never, one or the other alone surviving. This being so, the influence of the Dravidian language on that of the Southwestern dialects alone, is proof of the connection between the two peoples.

The links or chains of kinship between the Australians, and the Dravidians, Papuans and Negritos may be summarised as follows :-

The Australian-Dravidian links are the Toalas of Celebes, discovered by the brothers Sarasin, who consider them the aborigines of Celebes, their description being thus given : Similar in height and appearance to the Veddas of Ceylon, hair wavy but not frizzly, colour not so dark as the Veddas. Their bodily form is light and graceful, nose broad and flat, and of considerable depth at the root, lips full and thick, and moustache and beard." Messrs. Sarasin discovered in a cave a number of chipped stone implements, spearheads, scrapers and adzes very like the palaeolithic implements of Europe and Australia. No traces of Neolithic implements were detected. They had a throwing stick and probably a boomerang.

Akin to the Toalas, and also to the Australians are the

Veddas of Ceylon - an offshoot of the Dravidians. The affinity of these people with the Australians has been attested by the leading scientists of the day, but one of the difficulties in connection with this view had been the absence of any native tribes between India and Australia, manifesting a similarity to both peoples - the Veddas and Australians. This difficulty has apparently been removed by the brothers Sarasin's discovery of the Toalas of Celebes.

R. Lydaker, commenting on this, says it is not improbable that the Kubus of Sumatra - also a primitive people - form another link in the chain. The connection between the Australians and Papuans has been clearly demonstrated by the Rev. J. Mathew in his valued work (Eaglehawk and Grow, Melbourne). The only difference between Mr. Mathew's theory and that favoured in these pages, is, that he assumes the first arrivals to have been Papuans, not Negritos, yet in a footnote on page 5 Mr. Mathew says, "That in them (the Papuans) there may be a strain of Negrito blood is not questioned; on the contrary I incline to that opinion." Further on (p. 61) Mr. Mathew says, "It is not affirmed that they (the first occupiers) were purely Papuan; the Negrito and the Melanesian may both have been represented and fused together." There is no evidence that can be accepted as definite regarding the invasion of a Malayan peoples into Australia.

During historic times Malaysians visited the northern and northwestern coasts in their canoes or catamarans for trepang fishing, but their intercourse with the Australians was very slight. Here and there individuals probably intermarried with the Australians and went inland amongst them, but they made no lasting impression either upon the race or the language. Malaysian physical characteristics are found amongst many natives between Kimberley and Eucla along the route of the circumcised tribes only. When Malay terms are used by the Northern natives, and they are asked the dialect to which these words belong, they say, "They are Malay." Wreckages and desertions from fishing boats can readily account for the presence of Malay types amongst the inland western people. I have not found one Malay

type in the whole of the Southwest.

With reference however to the Malay elements which are discernible in the north and northwest, it has been noticed that the full length painting discovered by Grey in some sheltered caves near the Glenelg River, and sketched by him, very much resembles the full dress of the women of the Royal family of Perak, Malay Peninsula. Grey's principal figure is robed from neck to feet in a long garment of reddish hue. The face in which only the eyes are portrayed, is surrounded by what appears to be a succession of circular bandages or rollers, somewhat resembling the "halos" of mediaeval saints. These bandages were in three colours, red, yellow and white. The full dress of the Royal women of Perak consists of a long straight robe reaching from neck to feet. Necklaces, chains and other jewels ornament the upper portion of the dress. Round the head and worn well off the forehead is a band or coronet, and this band might with a little exaggeration represent the halo affixed upon almost all the paintings discovered in these regions. The photograph suggesting this idea may be found in "Living Races of Mankind", Part IV, p. 107. Mr. Mathew (Eaglehawk and Crow, P. 61) states that "there is proof positive that the best cave paintings have been executed by people of Malay blood from the island of Sumatra," and that "the Australian message stick is a childish imitation of Malay writing upon bamboo and rattan cane as practised in Sumatra." This statement of Mr. Mathew's, taken in conjunction with his contention that circumcision was also derived from Sumatra, would argue a greater migration of the Malay peoples into Australia than is generally favoured. Their influence however in West Australia appears however to be confined to the northern and central areas, ^{as far as MacDonnell Ranges, not south of these.} and as has been said before, they have left no mark whatever on the West Australian languages, as far as these are known.

The Negritan-Papuan-Dravidian theory demands a great antiquity for the Tasmanians and Australians, but as it is now almost generally conceded that West Australia is the oldest land mass on the surface of the globe, there is strong evidence

of great antiquity in its possession of a people who even now, in their wild state, use weapons and implements the most primitive that could ever have been fashioned by human hands. Primal man in all lands has been found to have used the chipped flints and many of the simple weapons now in use amongst the Australian aborigines, but in all other lands these weapons have been superseded by others as a higher level of culture was reached by their human fashioners. The isolation of Australia throughout the successive ages of "Iron", "Bronze", etc. has caused her aborigines to remain in the Stone Age, "the First Age of the Humans." With minerals of all kinds around them, with materials for manufactures such as other races of mankind have become proficient in through the passing of the ages, the Australian has never improved upon his few simple primitive weapons. Many of the hills of the Weld Range (Murchison district) are masses of almost pure haematite, whole hills amongst them averaging 70% of pure iron, yet, on the top of one of these hills, where the decomposed red oxide of iron, which forms such an important part in the principal native rites and ceremonies, was discovered many ages back by the ancestors of the present day owners of the ground, the "hole" has been worked throughout the thousands of years of its existence with the primitive wooden drill and diorite hammer used by the earliest races throughout the world. In this mine or hole there are drives some 150 feet in length, "pockets" are opened up wherever the richest veins of ochre showed, but the "tailings" are still thrown but "dog fashion" - the hands scraping away the dirt which is thrown backward between the outstretched legs. Magic and mystery have surrounded this mine, the only one of its kind, it is believed, in Australia. The fact of the mine being on the summit of a hill of almost pure iron, with specimens of the ore lying in quantities round its foot, and no use having been made of it for drilling purposes as is evidenced by the hundreds of broken wooden drills met with in digging through the "tailings", shows the absolute primitiveness of its human inhabitants, in the entire absence of inventive faculties. The tribes of this district used chipped flint implements and handleless axes.

The frequent discovery of fossil remains, footprints upon rocks, stone implements, etc., together with traditional and legendary evidence showing that man was co-existent in Australia with the giant kangaroo and other species of extinct fauna, all these tend to postulate a very early period for the existence of mankind in Australia.

At Warrnambool, footprints were found upon Pliocene rock and are now in the Warrnambool Museum. Dr. Klaatsch, who visited Warrnambool in the pursuit of his investigations, is of opinion that the sandstone formation of Warrnambool was once part of an extensive flat beach which, in prehistoric times, was probably the camping ground of primitive races then existing, and that Australia was at that remote period connected with an Antarctic continent and also with Asia and Africa.

In the neighbourhood of Sydney, R. Cliffe Mackie (*Science of Man*, July, 06) states that on an old land surface now below sea level, the remains of a dugong were found, the bones evidently cut with a stone axe. In the same neighbourhood three axes were found at about the same level. Dr. Howitt fixes the locality of this find at Shea's Creek, N.S.W. The shell mounds, found in Victoria, N.S.W. and the Nor'West of this State, are also evidence of the presence of early man in Australia. J. Bonwick (*Daily Life and Origin of the Tasmanians*, Vol. I, p. 364) mentions the discovery of a stone tool found by some Ballarat miners some 22 inches below the surface.

A number of fossils, supposed to be those of aborigines, have recently been found at a depth of 60 feet at Manilla Station, N.S.W., while excavating for a well.

Flint chips, several bone awls or needles, a stone tomahawk, and many bones of animals were discovered by Messrs. Wilkinson and Forde in the Sand dunes near Cape Otway.

Traces of early man's presence have been met with in West Australia where a phallic emblem was discovered in the Kimberley district. The emblem, now in the Perth Museum, carved from freestone, shows both rites, that of circumcision and subincision, the latter being a deep groove along the entire length of the stone, and showing the urethral canal at its opening.

Hardman's discovery of the *Diprotodon australis* in tropical West Australia and the discovery of the remains of the giant kangaroo and wombat and other marsupials in the Mammoth Cave, S.W., give promise of further interesting archaeological finds when thorough and scientific investigation of the less known portions of the State is undertaken.

Many of the palaeolithic implements of the West Australian resemble in their crudity of manufacture those of the Tasmanians, particularly the stone implements of the Swan, Eastern Goldfields, Tableland and Murchison and Eucla areas.

Prof. Tylor called the stone implements submitted to him from the Murchison district for classification "quasi-palaeolithic", and in a lecture delivered to his class at Oxford, the Professor stated that the West Australian implements were identical with the Tasmanian.

The stone axe in use at the present day by the natives of the Tableland district and part of the Kimberley district was a ground implement, but the hammers, axes, knives and flints of the West Australians were generally chipped or flaked. A hammer from the Beagle Bay district only differed from one made by a Swan River native in the shape of the handle attached, the southern implement having a rounded handle made of jamwood inserted between the two flints, a sharp and a blunt one, composing the head, while that from the Nor'West was fixed in the bight of a piece of rattan, the two ends being brought together and tied with fibre or opossum string or the sinews of the kangaroo or opossum. In the Murchison, Eastern Goldfields and Eucla districts, an axe was merely a piece of chipped flint and had no handle. The neolithic "koj" (axe) sent to Prof. Tylor from Perth was bartered from North.

Lydekker says (Living Races Pt. IV) that the Australians may be said to be still living in the Stone Age, and in a phase of that age in which great crudeness and imperfection in the treatment of the materials available are highly conspicuous.

In "Science of Man", 1902, March, mention is made of the discovery of some bones of an extinct marsupial found embedded 200 feet beneath the lava beds of Victoria. The bones had been shaped by human hands into some necessary form before their

interment, showing that in Australia there existed a race of people contemporaneous with the extinct marsupial fauna.

Mr. De Vis, Director of the Queensland Museum, identified the bone as a portion of a rib of a nototherium which had apparently been adapted for some use by human hands.

In the Eucla and Eyre areas, legends of wombat and weal throw a traditional light upon the Great Bight.

Miss Georgina King (Science of Man, May, 1903) quotes Prof. Tylor with reference to the modern use of unground implements in West Australia. Prof. Tylor is of opinion that the stone implements were fragments or flakes of stone, in no case ground, but edged by shipping on one face only, and trimmed to some extent to scrapers etc., belonging to the cave and drift periods in Europe. These quasi-palaeolithic implements, old or new, have to be considered apart from the few cases of ground stone hatchet blades fixed in handles, which are now admitted to have been introduced into Australia in modern times. -
bartered from the North.

A West Australian hatchet, hafted with gum on a stick handle was brought to Prof. Tylor from the Perth district by W.A. Sandford. The blade of this instrument with its unsymmetrical edge formed by chipping along one side of the original flake, is simply undistinguishable from the ordinary Tasmanian form placed by it. Prof. Tylor, unwilling to judge hastily from a single specimen, by communicating with the Bishop of Tasmania and Mr. A. Morton of the Hobart Museum, received intelligence that the latter on a visit to the Murchison district of W.A. found the natives using chipped stones quite similar to those used by the Tasmanian aborigines. These quasi-palaeolithic implements not having yet been dispossessed in this district by the ground stone hatchets, which apparently were introduced from the Torres Strait region, it would seem that the neolithic invasion was of no remote date, and that the vast area including Australia as well as Tasmania, may have been till then peopled by tribes surviving at a level of the Stone Age which had not yet risen to that of the remotely ancient European tribes of the drift gravels and limestone caves.

Prof. Tylor called attention from this point of view to the importance of the similarity between the Australian skulls and the prehistoric skulls of Neanderthal, Spy, Paelbuba, etc. The chipped glass spearheads, made by the Kimberley natives, are of course modern, but they made spearheads of stone before they discovered the insulators, bottles, etc. The delicacy of touch, which, on such a brittle substance as bottle glass, is capable of forming those fine serrated ridges, terminating in a point less than one-thirtieth of an inch in diameter is the most remarkable feature in connection with these modern implements.

In "Science of Man", April 1904, Dr. A. Carroll, discussing the various palaeoliths found all over the world, says of the Australian palaeolith: "Some were chipped on one side only, others on both sides, some with a sharp edge, some obtuse, some acute, some acuminate, some worn with use, some discoloured from age."

Of the Neolith axes, some were light weights, others heavy.

"The oldest Australian implements," says Dr. Carroll, "are like those of Europe, the rudest being roughly chipped celts with a few flakes struck off at the smaller end, or flakes sharp at one edge to be used as knives or pointed piercers to open shell fish with. They are also like those found in India, Africa, Algeria and Natal. Some authors have pointed out many resemblances between the dolichocephalic Neanderthal race of European quaternary times and the Australian blacks in some of the tribes, the chipped implements were alike in these two races. As one of the racial elements of the Australians were the Negritos, who made smaller palaeolithic implements than other races (as they were for a people 12 to 18 inches less than Europeans), it is not surprising that these smaller implements are found in Australia. Some of the Australian Palaeoliths are very like those of the Miocene and Pliocene period of Europe, especially the scrapers found in France, and Kent (England). In some of these stones the chipping is so rude that it points to the very beginning of the art of working these stones.

W.H. Cusack, Tableland district W.A., states that with the exception of the ground stone axe, the implements used by the natives of the Tableland district were chipped. The axe, a specimen of which Mr. Cusack forwarded to Prof. Tylor, was a wedge-shaped piece of hornblende.

No eoliths have yet been discovered in West Australia, although several have been dug up in Victoria and elsewhere on this continent, but no systematic/scientific research for evidences of early man has yet been undertaken in this State. (W.A.)

Mention may be made here of the similarity of customs between the Australian people and other dark races. (Taken from Curr's Australian Race)

Circumcision is practised by the Upper Congo Pygmies, Uganda, Welle Basin, Gold Coast Amins, Slave Coast Yorubas, Oedos of Benin, Mpongwes of the Cameroons, West Sudanese, Lower Congo Bafiots, Zulu Kaffirs, Bechuanas, Basutos, Makuas of the East Coast, and the Malagasy, and in the northern and central parts of Australia.

According to Featherman (Living Races, p. 515) the early Hottentots practised subincision but not circumcision. Subincision always follows circumcision in Northern and Central W.A. & S.A.

Many of the Masai and Nilotic people extract two or more front teeth in the upper jaw. In some districts of W.A. this custom is also followed, also in Central and South Aus. and across S.A. - W.A. border

A few African tribes pierce the septum of the nose. (This custom prevails throughout West/and Central Australia, and forms, with a body coating of red ochre, the principal part in the initiation of the Southwestern people.) The Gallas, Southern neighbours of the Abyssinians, exchange each other's sisters for wives, and also name their children from some incidental circumstance occurring at birth. Nearly all West Australian names are bestowed from some circumstance attendant at or after birth.

Omens of sight, sound, dream, or other incident held to convey a message of future good or evil tidings from some unknown source are held in belief by the inhabitants of Kavirondo land, also by the West Australians.

Patriarchal government - the head of the family being absolute master of his own household only - obtains amongst the African Bushman, and the Hottentot, this system being also general throughout W.A.

The Bushmen of Africa paint their caves and rock shelters, and Prof. Keane is of opinion that the bushmen aborigines brought the taste for "mural-fresco-painting" from their distant northern homes in prehistoric times (Living Races, Pt. XV, p. 468). In the northern part of W.A. these rock paintings are mostly to be found.

That there is an affinity between the Western aborigines and the tribes of the Eastern United States is shown by the group ownership of territory. These tribes had fixed and definitely bounded habitats, and their wanderings were in the nature of temporary excursions to points resorted to from time immemorial. (Major Powell in "Living Races", Pt. XXII, p. 700). In all parts of W.A. definite tribal boundaries exist containing tribes or aggregates of families who wandered to certain portions of their ground, according to the products of such ground, etc.

Every clan in a tribe (North American Indians) receives a special name which has come to be known as its totem. Thus in a tribe there may be a buffalo clan, a cloud clan, a wind clan. . . . The clan name or totem is used to distinguish the members of one clan from the members of another. It is never used in the first or second persons but always in the third person. In direct address the kinship name, expressing relative age must always be used (ibid 716-717). (Similarity between the above "clans" and Eucla area people.)

The Southern tribes of W.A. had what may also be called totem clans, which were peculiar to certain districts. The country of the dog totem men was in the Victoria Plains district, that of the kangaroo totem men in the Dandarraga district, of the emu totem men in the Bunbury and Vasse districts, and so on. These people were alluded to as "dog totem" etc., but addressed personally by the relationship term due to them, and their names were given from some totemic circumstance - Beenaran (dingo totem), beena - dog digging for water, Balbuk - female kangaroo totem, Perth bal bal nyin - warr (female kangaroo) sitting, etc. (dingo totem in Nyeerrgu - Victoria Plains)

"Wakanda" (J. McGee, *Living Races*, p. 722)"of the Dakotas . . . is rather a quantity than a definite entity. Among certain tribes the "fetishes" were considered wakanda. The idea expressed by the term is indefinite and cannot justly be rendered into spirit, much less Great Spirit . . . Caves were wakanda; hills, birds, insects were wakanda. The extraordinary similarity between the wakanda of the Dakota and the winnaitch of the Southwestern aborigines is surely more than a coincidence. Winnaitch is not an entity, its meaning in the southwest has been taken to be "taboo" or "forbidden". Certain hills are winnaitch and must not be climbed; certain places, stones, trees, are winnaitch and must be strewn with rushes - a propitiatory ceremony - when passing them. Certain insects were winnaitch and must not be killed, and the mother-in-law was winnaitch to her son-in-law. The woggal, a huge mythical carpet snake inhabiting certain hills and pools, was winnaitch, and so on, resembling in almost every respect the wakanda of the Dakotas.

Belief in witchcraft is very deeply rooted in the minds of the North American Indians . . . things in connection with witchcraft are in the hands of the "medicine men" (*Living Races*, XXII, p. 723). To the control of these medicine men, whose duties might also be undertaken by women, were confided all religious ceremonies, as also the ceremonies connected with the initiation of youths, with war, hunting, fishing. . Diseases are indeed regarded by the North American Indians as due to special irritation from unseen supernatural beings, or to witchcraft, and it was the business of the Medicine man to exorcise and expel these unwelcome visitors." A similar belief, in all respects, holds throughout West Australia.

Another custom (*ibid*, p. 724) amongst the Dakotas is that when young people abscond and live together in solitude as man and wife, if they maintain themselves there till the birth of a child, the marriage becomes thereby legalised, and it is in this way alone that a "love match" can be effected.

This custom is followed in some parts of W.A. Again (ibid, 726) food was provided for the spirits of the deceased in the next world. In W.A., fire, water, and sometimes food, may be placed near the grave of the recently dead.

Among the Sioux tribes of the Missouri district it was the custom to expose the aged and useless members of the community . . . to a lingering death by starvation. In the Murchison and also the Roebourne districts of W.A. the aged members of a family have frequently been abandoned and left to die of starvation. (So also in the Eucla area.)

~~(Put the following in Broome portion.)~~

Then again there are similar features observable between the aborigines and the Malabar natives, who indulged in snake worship. In W.A. the woggal (carpet snake or mythical snake) is appealed to in the Gascoyne district for rain, in the Victoria Plains district for the healing of wounds, and in the Southwestern district for the punishment of offenders. The Malabar Paniyans changed themselves into certain animals for nefarious purposes. Native sorcerers in W.A. can change themselves into certain animal forms in order to work evil magic. The Vasse members of the Crow division, subdivisional name Nagarnook, could change themselves into emus at will, but not for nefarious purposes. One of the four Northern Coastal class divisions is Banaka. Would the term Paniyan have any possible relation to Banaka or Panaka as it is sometimes called?

The Paraya, one of the aboriginal group in the state of Cochin, practised black magic, and were consulted on the recovery of stolen property, demoniacal influence and the killing of enemies, also taking a human bone from a burial ground and throwing it into the enemy's house after it had been recited over to endow it with magic powers. (This last custom was practised by the Aztecs in pre-Columbian times.) The Paraya can also make himself invisible, or can change himself into a bull, cat or dog, and bewitch people. Paraya is not unlike the Northern Paljeri (or Parrajer), one of the four Northern Coastal Class divisions. Amongst the

Paljeri are native doctors who can possess the qualifications enumerated above. A magic bone or stick has often been thrown into an enemy's hut to bring evil to him.

The Korumba were Wilgeri hill men and were dreaded as potent wizards with powers to cast the evil eye and thus cause sickness and death. (The Northern Class name karimba, a variation of Kaimera, is closely identified with Korumba, and amongst the Kaimera also were "potent wizards".)

The Panan were hereditary sorcerers and exorcists. This word might be converted into Poorung'oo, a variation of Boorong, a Northern Coastal Divisional name. Amongst the Boorong, as amongst all the other class divisions, there were sorcerers and "exorcists". Attention has not been hitherto drawn to this curious resemblance between the four Northern Class names and those of Malabar and Cochin.

The Brahmin cuts off his hair during certain rites. There was a formal hair cutting ceremony amongst the young men of the Southwest at some period of their initiation, and the hair and beard were sometimes cut off on the death of a relative.

Amongst the Celtic races, the belief in fire as a safeguard against magic is universal. The West Australian aborigine believes in the efficacy of fire over magic, and always places a fire between the recently dead and his camp so that the spirit of the dead should not be obliged to come to the camp fire of the relatives. When a native is startled at night by some unaccountable noise which he attributes to supernatural agency, he will throw a firestick in the direction of the ghostly sound.

The above summary of the affinity between the aborigines and other dark races of the earth shows them to occupy a certain position amongst the world's humans, and the presence of so many customs followed by races in so many different parts of the world, is one more proof of the undoubted antiquity of the Australian aborigines.

The theory favoured in these pages may be thus summarised : Australia is postulated as having been first peopled by a Negritan race or Papuanian who are otherwise spoken of as brachycephalus or roudheaded Asiatic Negroes, frizzly haired, short in stature, their weapons being the club and spear, and probably the flint. These autochthones probably travelled over dry land to Tasmania.

The second invasion was a Papuan horde, taller and lighter in colour than the Negritans and being moreover a straight haired race. These invaders followed their predecessors throughout the continent, mingling with or exterminating the Negritans as the case might be, but always travelling southward, south-eastward, or southwestward. Tasmania had not yet been cut off from the mainland, therefore the progress of the Papuans continued to its southernmost point.

The last principal invasion was that of the straight wavy haired Dravidians or Indo-Egyptians, who being pressed onwards by invading hordes from their own dominions took the route of least resistance which eventually landed them in Australia. They either came by rafts across the sea of Timor, then probably narrower, or by New Guinea. The Dravidians were evidently a powerful and dominant people, and left unmistakeable impress, both in language and customs of their contact with the previous dwellers of the land. They may have come in hordes or in detachments to Australia. In any case it is the Dravidian migration which has left its indelible mark upon the Australian languages, but more particularly upon the dialects of Southwest Australia, the point from which Professor Müller expected the closest affinity to the Dravidian language.

Mr. W.D. Campbell of the Government Geological Department, Perth, stated that during his travels in the inland part of the State, he came upon a native with hair and beard arranged exactly in the form seen on Egyptian Sculptures. The shape of the head was dolichocephalous, but the beard was arranged in almost a square, the hair falling at either side in thick waves or curls (somewhat like a barrister's wig) and mingling with the beard above the ears.

Measurements, etc., which occur here, may be found in the
later typed version, P. 26 ff.

Marginal note to Page 4

So much depends upon the standard of comparison,
where the tribes are located, the season of the year,
and other circumstances.

Eucla dist. and other E. Goldfields, short stature, curly
hair.