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The following elections were announced :—

ASSOCIATES :—C. K. Marr, Esq., London; Alex. Leslie, Esq., London; Robert Gordon Orr, Esq., Madras; Rev. Granville R. Pike, M.A., United States.

The following paper was then read by the author :—

THE POLYNESIANS AND THEIR PLANT-NAMES. By H. B. GUPPY, M.B.

IT is possible that we may find in the plant-names of Polynesia a clue to the mystery that hangs like a cloud over the origin of its inhabitants. Yet such an inquiry is beset at the commencement by many difficulties, not merely linguistic, but also botanical and ethnological, and a number of questions at once present themselves.

We ought at first to inquire into the worth of the materials at our disposal, and into the extent to which they can be legitimately employed. Then after discussing the methods of employing such data, we ought to define with some precision the particular view we entertain of the vexed question relating to the ethnological position of the Polynesians amongst the other Pacific peoples. It would then be requisite to determine to what extent the Polynesians at the time of the early voyagers were isolated from the rest of the world, and to notice the amount of intercourse that then prevailed between the different groups. But even then we would only be on the threshold of the inquiry. It

would be necessary to attempt some distinction between the parts man and the other natural agents have taken in stocking this region with its plants; and this would involve us in discussions as to the geographical distribution, the uses, and the antiquity of the plants concerned. Coming to the plant-names, we would deal first with those of individual plants, making each plant tell its own story anent the Polynesians in the light of varied general, historical and botanical data. Then we would proceed to compare the vernacular names of the different sub-regions with the object of ascertaining the direction of the stream of migration over this large area. All these are very large questions, and it would be barely possible to do them justice, even in a single volume, and much less in an ordinary paper. It will therefore be only practicable to deal with the subject in an illustrative fashion; but even then the matter is not free from difficulty, as it is not easy to select the facts that are at once the most pithy and the most weighty from the abundant materials that I have been gathering for years.

When we come to consider whether the plant-names of the Polynesians can afford any indications of the unknown history of this race, either by supplying us with the means of determining the locality of their ancient home or of following the line of their migration, we are led to ask whether they can be fitly employed for this purpose. We have only to turn to the works of Hehn, Kern, Schrader, and other philologists, to learn that when subjected to the test of strict linguistic principles they can be thus used. On the other hand, amongst botanists, who look to a vernacular name for information, not as to the home of a people but of a plant, there is much difference of opinion as to their value on account of the frequent confusion of species. This is a real danger to the botanist. The ethnologist, however, has to recognise the fact that all the world over the history of plant-nomenclature has been too often a story of fancied resemblance and occasionally of grotesque imagination. Botanical classification has often no place in vernacular nomenclature, and through some resemblance in habit or in utility plants are often placed together that to the botanist lie far apart. Thus to take an example; amongst the food-plants of primitive man in these regions were doubtless *Tacca pinnatifida* and *Amorphophallus campanulatus*, which bear the same generic name of "Takka" in Malay. This is occasionally repeated in Polynesia; and in Fiji, "Ndainga,"

the equivalent of the Malay name is applied only to *Amorphophallus*. Then, again, I will subsequently show that the Tacca plant, as the source of the Polynesian arrowroot, has carried the Malayan name of the Sago Palm into the most distant islands of the Pacific. Thus *Tacca pinnatifida* is linked on either side by means of its vernacular names with such dissimilar plants as *Amorphophallus campanulatus* and the Sago Palm: in the one case, the resemblance is concerned with the foliage and habit and the edible character of the tuber; in the other, with the production of a farina.

It will thus be seen that in following up the names of a particular plant we often stumble upon a set of names that includes plants of very different characters. It may be some archaic word for tubers or edible roots applied here to the taro, there to a fern-root, as in New Zealand, and again, in a third place, to the yam, or the sweet-potato, a subject to which I will again refer. In order, indeed, to find the affinity of a plant-name we have not infrequently to cast our net rather widely. For instance, in the case of *Pritchardia pacifica*, the Polynesian Fan Palm, as the genus does not occur in the Indian Archipelago, we look for the equivalent of the Polynesian name of "Piu" in connection with other fan palms in that region, and we find it in "Wiru," the Sundanese generic term for *Licuala*. Then, again, the names of Pandanus are sometimes traced solely through the mat-words. For a long time I was puzzled by a Malagasy name for these trees, viz., Vakoana. At length I came upon "Bangkoan" as a term for large mats in the Philippine Islands, and subsequently the word came under my notice as a Pandanus name in other languages of the Archipelago. We have only to turn over a few pages of Tregear's Comparative Dictionary of the Maori language to perceive how wide may be the range of the affinities of a Polynesian plant-name.

That the vernacular names of this region can afford a trustworthy basis for such a discussion as this there can be no doubt; but this can only be the case by compliance with the laws of linguistic comparison. De Candolle, in his work on the *Origin of Cultivated Plants*, starts with the assumption that a naturalist possessed of an ordinary general education can recognise the connection or the fundamental difference between plant-names in different languages. "It is not necessary," he adds, "to be initiated into the mysteries of suffixes or affixes, of dentals and labials." This depreciation

of the special labours of the philologist led this celebrated botanist into some grave errors,* and it is evident that without a special study of the phonetic laws of a region any conclusions based on its plant-names are often likely to be erroneous. For instance, an inquirer not versed in these laws would never imagine that "Ahia" and "Nagveg," the names of *Eugenia malaccensis* in Tahiti and the Banks Group, are both forms of the Fijian "Kavika" (see Table appended). On the other hand, he would fall in with the suggestion thrown out by Nadeaud, that there is a connection between "Ahi," the Tahitian name for Sandal-wood, and "Ahi," the Tahitian word for fire, on account of the wood making fire readily when struck with an axe. When, however, we look for these two words in other Polynesian languages, we find, according to the letter changes, that the original forms occur in Samoa as "Asi," Sandal-wood, and as "Afi," fire, both words being radically distinct.

With regard to the particular standpoint from which I will view the relation of the Polynesians to the other peoples of the Pacific, there is, I think, no serious difference of opinion as to the contrast in physical characters presented by an Australian, a Solomon Islander, a Tahitian, and a Ponapean. In the present distribution of the Australians, the Melanesians, the Polynesians, and the Micronesians, we have clearly exhibited the stratification of race-varieties which are arranged, owing to the peculiar geographical conditions, in chronological order. Regarding Further India as the ancient home at different periods of all these peoples, I infer that each in its turn left the Asiatic mainland to find a home where best it could. Along the highway of the Indian Archipelago travelled successively the ancestors of the present Australian, Melanesian, Polynesian, and Micronesian peoples; and it may be assumed that it was not the exercise of any deliberate choice that led them to their several homes. In their movement southward through the Archipelago, the Australians came in contact doubtless with an earlier race, a stratum in man's history that has suffered the fate of most old formations by being largely concealed by those more recent in the series. Shunning the open sea, the Australians followed the trend of the Archipelago and

* This is especially true of his uncritical use of the Sanscrit names. *Vide* also Schrader's *Prehistoric Antiquities of the Aryan Peoples*, Eng. edit., p. 21.

arrived at their present home. The Melanesians, as I take it, took the same road, and, on finding Australia already peopled, they occupied New Guinea, and their course became diverted into the archipelagoes of the Western Pacific. The Polynesians, in their turn obstructed by their Melanesian predecessors in the Indian Archipelago, took the path of least resistance, and trusting their future to the waves they ultimately reached the distant isles of the Pacific by way of the Philippine Islands and through the Caroline, Marshall, and Gilbert Groups. Last of all came the Micronesians, the scouts of the great host of Mongolian peoples that has since appropriated Eastern Asia, and intruded itself into the Archipelago. These pioneers of a new race made but a short sojourn in the Archipelago. Before them lay a region already occupied by their predecessors, and, retreat being impossible, they followed the footsteps of the Polynesians and took up their abode in Micronesia.

Now, I assume that no retrograde movement was possible in any of these migrations. The same *vis â tergo* acting through the ages urged them on, and we appear to have in the distribution of these peoples successive deposits of the different varieties of the human race resting unconformably on the Negrito stratum and illustrating seemingly man's racial development in this portion of the globe. Yet it is but reasonable to suppose that we have here but indications of a general ethnic movement from the north which we might expect to find indicated in the distribution of the varieties of man in other parts of Asia. Looking at the Indian Peninsula and Ceylon we seem to find in the arrangement of the Kolarians, the Dravidians, and the Aryans, etc., a repetition of the phenomenon of racial migration which appears to be clearly recorded in the ethnic history of Further India and Australasia. With the appearance of the Dravidians, the aborigines found a refuge in the hills. The Dravidians were in their turn pushed by the incoming Aryans to the southern part of the Peninsula, and on the flanks of the Himalayas, in the rear of the Aryan, the Mongolian appeared.

Coming to the bearing of these views on the subject proper of this discussion, I assume that the Melanesians of the Indian Archipelago were the original possessors of that language which has given birth to the Malayo-Polynesian family of speech. They have carried to the distant islands of the Fijis those linguistic characteristics which we find

amongst the spoken tongues of the later settlers in the Archipelago—to wit, the Malays proper and the Javanese. From them, during a long sojourn in the Archipelago, the Polynesians derived those common characters in language which now link together peoples that in physical characters stand far apart. The Melanesians in their turn had, doubtless ages before, been influenced by contact with the aboriginal Negrito population of the Archipelago. Probably enough they in this manner became possessed of the names for wild roots and tubers employed by the aborigines, and it is likely that the Australians before them carried away with them some similar linguistic mementoes of their sojourn in that region. Thus, on *à priori* grounds, we might expect to find similar terms for edible roots and tubers amongst the Negritos, the Australians, the Melanesians, the Polynesians, the Micronesians, the later Malayan immigrants in the Archipelago, and even in Further India. Professor Kern, in his *Stamland der Maleisch-Polynesische Volken*,* if I understand him rightly, regards the Malayo-Polynesians as taking the part that I have here ascribed to the Melanesians. It is, I venture to think, unlikely that a people so long adapted to the conditions of tropical life could have received their words for the staple articles of their vegetable diet, such as those for the yam, the taro, the banana, etc., from the Malayo-Polynesians, who were more recent sojourners in the tropics. The view I here uphold as to the relation of the Polynesians to the other peoples of the Pacific is based therefore on their geographical position. As regards the argument from language, I infer that after the passage of the Australians the Melanesian speech has acted as a linguistic leaven on the numerous languages that have come in contact with it.

With regard to the conditions of isolation in which the Polynesians were found by European navigators, it is well known that although they were provided with numerous varieties of the banana, breadfruit, yam, taro, etc., the inhabitants of the different groups had but little communication with any but their immediate neighbours. The conditions that provailed in the time of Bougainville, Cook, and others could only have led to the local distribution of useful plants, but not to their extension over the Pacific. They would

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* *Versl. en Mededeel. der Koninkl. Akad. v. Wetensch: Afdeeling Letterkunde*, 3de Reeks, Deel vi. Amsterdam, 1889.

explain the limitation of the shaddock to Tonga and Fiji, but not the wide distribution of the banana, the bread-fruit, the tubers, the Malay apple, and the turmeric over the length and breadth of the tropical Pacific. Yet there is sometimes an element of exaggeration in the accounts that have been given of the extent of the isolation in which they lived. We have all read the interesting account given by Williams, in his *Missionary Enterprises*, of his discovery of Rarotonga, how the Raiateans who accompanied him were greeted by the Rarotongans in style truly Homeric and in language that would have fitly come from the lips of an inhabitant of the Cyclades. They inquired as to the removal of Rarotonga to its present position by the gods and as to the place of abode of the god Tangaroa himself. Yet I find from the journal of Barela, the pilot of the Spanish expedition despatched from Peru in 1772, that the Spaniards were acquainted with the existence of the island half a century before the time of Williams. These islanders seem reticent on the subject of previous visitors to newcomers. It is well known that Captain Cook was not acquainted with the fact that between his second and third visits to Tahiti some Franciscan priests had spent nearly a year on the island.* Then again Cook, when he re-discovered Easter Island in 1774, imagined that since the arrival of Roggewein in 1722 no Europeans had visited the island. I have, however, come upon a short description of the island, its monuments, and its people, as they appeared to the Spaniards four years before the time of Cook. Facts of this kind make us a little suspicious of the accounts given of the extreme isolation of some of these islanders, whether as regards their neighbours or with reference to the outside world. The Spaniards have exercised such a miserable spirit of jealousy and mystery in these seas that their part in plant-distribution will always remain an unknown element in such discussions as these. There is a curious story told of an American sailor wrecked in the Pelews, who in the full conviction that he had for years lived amongst natives entirely cut off from the world presented a vocabulary to Hale containing the Spanish and French words for a hat.

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* These devoted men were certainly the first missionaries in Polynesia. I am now translating their journal, which presents a terrible picture of Tahitian life, not that, I would scarcely add, which was presented to the navigators, Bougainville, Wallis, and Cook.

We have now to answer the question as to the manner in which the Polynesian Islands became stocked with plants. It is frequently not at all difficult to distinguish between the parts played by man and other natural agents in the dispersal of plants in this region. The low coral islands and the shores of the more elevated and mountainous islands are occupied by plants such as *Barringtonia speciosa*, *Calophyllum inophyllum*, the Mangrove, *Morinda citrifolia*, the Pandanus, *Thespesia populnea*, etc., that are known to be dispersed by the currents; and they are all plants that are widely distributed over the Indian and Pacific Oceans.* The only doubt arises as to the particular route along which the floating seed were drifted, and if that can be established we may obtain a clue as to the route pursued by the Polynesians. Now a species that, like *Barringtonia speciosa* or *Thespesia populnea*, is almost universally distributed in the tropical islands of the Pacific can scarcely aid us in the matter. If, however, we can find a littoral plant that has only partly performed the traverse of this region, then we shall possess in the interrupted operation an important piece of evidence. The Mangrove (*Rhizophora*, *Bruguiera*, etc.) is absent, or very rare, in Eastern Polynesia, but unfortunately for our purpose this is in great part explained by the lack of a suitable station on the precipitous shores of the larger islands. We have, however, in *Nipa fruticans* a plant well fitted for our object, and one well known to be dispersed by the currents. For a littoral species it has a limited range. It is found on the tropical shores of Asia east of the Ganges and in the Indian Archipelago, where it abounds; and there is no question as to its great antiquity in this region. Now, the Nipa Palm, as it is sometimes termed, has attempted to reach Polynesia by two routes from the Indian Archipelago, viz., by Melanesia and Micronesia. Along the first route it has in the course of ages reached the Solomon Islands, where I found it in 1884. Along the second route it has extended its range to Ualan or Kusaie, at the eastern end of the Caroline Group, where it was observed by Kittlitz about seventy years ago. Since its intrusion so far into the Pacific seems to have escaped the notice of later botanists, and as no reference is made to it by Hemsley in his account of the floras of oceanic

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* *Vide* a paper by me on the "Dispersal of Plants," published by this Society in 1890.

islands, given in his *Botany of the "Challenger,"* I may here remark that it is described in general terms in the narrative of Kittlitz,* and is figured in his *Views of the Pacific Vegetation*, where it was also identified and noted by Dr. Seemann in his English edition of the *Views*. Now, the island of Kusaie lies in the course of the Pacific Counter Current which runs to the eastward from the Malay Archipelago right across the Pacific between the parallels of about 4° to 8° N.† Here the Nipa Palm has reached the last spot where it could find a station. Beyond lie the coral atolls of the Marshall Group that could afford no home to a plant that frequents the extensive coast swamps and lines the mouths of large rivers in Asia and in the Archipelago. Most of the familiar littoral plants of Polynesia have probably reached their present home by the path attempted in vain by the Nipa Palm. Since they for the most part frequent coral islands, the atolls of the Marshall, Gilbert, and Ellice Groups would form so many stepping-stones by which, in the season of the north-west winds, they would be able to find their way to Samoa and Fiji in spite of the westerly drift of the Equatorial Current. The Polynesian, I assume, has entered the Pacific by the route followed by the floating seed, or, in other words, by Micronesia.‡

Passing from the agency of the currents we turn to those of birds. The fruits of species of *Eugenia*, *Ficus*, and of plants like *Kleinhovia hospita* and of some of the palms, like *Kentia*, are known to be eaten by pigeons, parrots, and other birds, and probably in many cases birds have stocked these islands with such plants.

With reference to man, there can be but little doubt that he was first instrumental in introducing into this region the cultivated plants, all, or almost all, of which have their home in the Indian Archipelago. We may safely postulate the fact that Nature unassisted has not laid herself out to provide the Polynesian with the fruits he there enjoys. The fern-root was the principal spontaneous offering of New Zealand to the Maori, who brought the sweet-potato and the taro

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* *Reise nach russische Amerika, nach Mikronesien*, etc. Gotha, 1858, vol. ii, p. 35.

† Bedford's *Sailor's Pocket Book*.

‡ It is of course possible that floating fruits like those of *Barringtonia speciosa* have been carried by the Counter Current across the Pacific and back again by the Equatorial to Polynesia.

with him. Nor is there reason to suppose that Nature has acted differently in the warmer latitudes. Aboriginal man could have found but poor sustenance in the virgin forests of Fiji and of Tahiti; and, as far as I know, there are no accounts of any island possessing the banana, the yam, the taro, and the breadfruit, which can be shown to have been never occupied by man. In lat. 20° 30′ in the South Atlantic, South Trinidad presents us with an island, in all probability never inhabited, which when discovered was clothed with tree-ferns and arboreous vegetation, but possessed, as far as is indicated in Hemsley's *Botany of the "Challenger,"* none of the useful edible plants of the adjoining mainland of Brazil. It is probable that the seeded mountain plantain, *Musa troglodytarum*, is truly indigenous in Polynesia; but no one has ever suggested that the seedless cultivated bananas have been produced by man's art in this region from an indigenous plant. In truth, in the light of the fact that Mendana in 1595 found not only bananas, but also pigs, hens, and pumpkins in the Marquesas, such a supposition seems quite gratuitous. It has been suggested by Dole in the case of the Breadfruit of Hawaii, though I do not remember that he is countenanced by Hillebrand, that the cuttings necessary to propagate the tree in that group would not have withstood a long sea voyage. This difficulty, however, was surmounted by the Maoris when they carried the paper-mulberry to New Zealand. Excepting perhaps in the case of *Tacca pinnatifida*, which is a common littoral plant, I have little doubt that all the tuber-plants and other edible plants which are cultivated both in Polynesia and the Indian Archipelago have been introduced by man into the former region; and here I would include the banana, and the breadfruit; the sweet-potato; amongst the yams, *Dioscorea alata*, *D. sativa*, *D. pentaphylla*, *D. aculeata*, etc.; amongst the aroids, *Amorphophallus campanulatus*, *Colocasia antiquorum* or the common taro, *Alocasia macrorrhiza* (Sch.), etc.; and amongst the fruit-trees *Spondias dulcis*, *Eugenia malaccensis*, etc.

Of the antiquity of the cultivated plants in Polynesia and in the other regions of the Pacific the number of varieties is sufficient evidence, even although many of them are not varieties in the eye of the botanist. Taking the banana in its most general sense, it may be noted that Banks and Solander enumerated as many as 28 varieties in Tahiti. Ellis, who takes the native view of the matter, places the number at about 50. Seemann distinguished 18 kinds of bananas in

Fiji. Lesson in Kusaie and Forster in Tonga found several varieties under cultivation. The natives of Kiwai in British New Guinea, according to Thompson, name as many as 36 kinds of cultivated bananas. The numerous varieties of the breadfruit afford similar evidence. Cuzent and Ellis mention the occurrence of nearly 50 varieties and sub-varieties in Tahiti, and Kubary observes that the inhabitants of the Hogoleu Islands in the Caroline Group distinguish nearly 60 varieties. Seemann refers to the great number of varieties in Fiji, and gives in 13 cases the names. Turning to the tubers, we learn from Jouan that in New Caledonia there are at least 21 varieties of taro under cultivation: in Fiji, as Horne states, there are 18 varieties, and in Tahiti, according to Cuzent, at least 13, whilst Ellis says that 33 kinds are named. As regards yams, there are 20 kinds cultivated in Fiji (Horne). Facts of this kind abound; but those here given are sufficient for the purpose.*

Having thus shown that we have to deal with an ancient culture in these regions, I pass on to consider very briefly the plant-names. Professor Kern some few years since in his brilliant paper on the home of the Malayo-Polynesian people, before quoted, drew up a list of some of the plants and animals, the knowledge of which the several peoples took with them from their early home. He included here the coco-nut, banana, sugar-cane, pandanus, yam, taro, and one or two other useful plants, and expressed the conviction that a large number of additional plant-names would be found surviving in the original language. If there is nothing else of any value in my paper, I claim to have shown in the accompanying table the correctness of this opinion; and since this has been accomplished by only a very partial use of the abundant data that exist in the Dutch publications relating to the Archipelago, it follows that there is a promise of results greater still.

This table has been compiled from materials obtained from

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* A list of authorities for the various facts given in this paper and in the appended table would have been far too lengthy for a paper of this kind. The authorities for the statements in this paragraph are Seemann's *Flora Vitiensis;* Ellis' *Polynesian Researches;* Lesson's *Voyage autour du Monde;* Forster's *Catalogus Plantarum Esculentum Australiæ;* Thomson's *British New Guinea;* Cuzent's *Tahiti;* Kubary in *Ethnogr. Anthrop. Abtheil. des Museum Godeffroy* of Schmeltz and Krause; Jouan in *Mém. Soc. Sci. Nat. de Cherbourg,* tome xi; Horne's *Year in Fiji.*

a great variety of sources during several years.* It does not aim at completeness in any one respect, nor can it be claimed to be always free from error. It presents, however, a more extended view of the subject than, I think, has ever been presented before. And yet to draw up a mere list of names without further comment, and without any critical observations on their nature, is not a very satisfactory method of dealing with the subject. The names, for instance, of the sweet-potato only awaken curiosity, and it is obvious that in order to learn the true meaning of the term "kumara," we must discuss the history of this plant over the whole Pacific, and extend our inquiries to the Indian Archipelago, and even to Mexico and Peru, or even to India, if we follow Tregear, though I think in that respect he is wrong. We must indicate the localities where it is mostly used. We must look into the antiquity of its culture, and we must be sure of its uniform specific identity. De Candolle has pointed out the uncertainty that surrounds its origin. From a large number of facts I have formed the opinion that the sweet-potato is like the yam, a very prosaic vegetable; that it neither bears the name of an Aryan deity, nor find its home in the heights of Ecuador; that it has been for ages cultivated in the Pacific, and has found its way there from the Archipelago in a matter-of-fact fashion, in the sober society of the taro. The history of the sweet-potato in the Pacific is the history of its name "kumara," and a great deal more; and the same may be said of many other of the plants included in the table. The discussion of the various questions connected with the origin of the bananas in the Pacific must precede any inquiry into their names, and the demarcation of the great "Vundi" region is itself a task of no small labour.† In order to deal at all satisfactorily with plants like *Morinda citrifolia* and the turmeric we have to open up the question of colour-names, to inquire into the history of dyeing processes amongst savage peoples, and in the case of the turmeric to mark out the range in time and space of an ancient ceremonial custom whilst we are investigating the distribution of its names.

One curious result, which is but slightly illustrated in the

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* For the Indian Archipelago I have made free use of Filet's *Plantkundig Woordenboek voor Nederlands Indie*, Blanco's *Flora de Filipinas*, Kern's *Stamland* paper before quoted, etc., etc.

† This was first attempted in Codrington's *Melanesian Languages*.

table, is the frequent crossing of the tuber or root names. This carries us back to that distant epoch when plants with edible roots or tubers were known under a very few general terms to primitive man over a wide region of the tropics. The word "taro" in the form "tara" is applied by the Tasmanians to *Pteris esculenta*, and according to Mitchell "tao" is the name of a cichoraceous plant the root of which was commonly eaten about the Darling. With the Maoris "roi" is the general word for edible fern roots. In Cochin China "ray" is a generic word applied to the edible *Colocasiæ* and *Alocasiæ*. Then again "mamagu" or "mamaku," the name of an edible fern in New Zealand is a name of *Tacca pinnatifida* in the Solomon Islands, and apparently also in the Marshall and Caroline groups. In the dialects of British New Guinea we find the connecting link between the names of the sago palm in the Indian Archipelago and those of *Tacca pinnatifida* in Fiji and Polynesia, both farina-yielding plants. There is also a singular group of tuber or root names typified in the words "koko," "kuka," "kuku," "kakau," etc., which are commonly applied to plants of this description in different localties. Thus "koko" in the Solomon Islands is a word for the taro. In the Loyalties it is given to the yam. Kuka is the Maori word for the edible roots of the bulrush and of the Cordyline. "Kuku" is the general term for ferns in Fiji. "Kaukau" is the Tongan word for a kind of yam, and "Kakau" is the ancient name of the Maories for the sweet potato. "Kokau" is a Pelew word for the taro. "Lau'o'o" in Samoan is a species of Alocasia, and "'Au'o'a" a yam. It is difficult to believe that we have not here some primitive word for a wild edible tuber or fern-root, although the direct linguistic connection, as far as the vowel-changes are concerned, is often now not possible. We will no doubt be able in time, from the evidence of language alone, to frame the dietary of primeval man in this part of the world.

Before concluding this paper I would point out that by giving a numerical value to the data in the table we can obtain some interesting indications of the affinities of the plant-names of each region taken collectively. I will first take the Malagasy words. Out of 26 that admit of comparison, 22 occur in the Indian Archipelago, 15 in the West Pacific, 15 in Fiji, 12 in West Polynesia, 8 in East Polynesia, and 5 in Further India. It would appear from these figures that as far as the names of several of the cultivated and littoral

plants are concerned, the Malagasy may be referred to Melanesian stream of migration rather than to the Polynesian. Nearly half of the names are to be found in the Philippine Islands, and there is nothing in these data to connect the Malagasy offshoot with any particular part of the Archipelago, except, perhaps, with the Philippines.

In the subjoined table I have given some rough results of the numerical treatment of the subject. We notice there that Malagasy contains the largest proportion of Indian Archipelago plant-names and East Polynesian the smallest. This appears at first sight not to be consistent with the inference that Malagasy is more closely connected by its plant-names with Fiji, or in other words with the Melanesian migration, than it is with East and West Polynesian; but it must be remembered that whilst Malagasy was carried direct to Madagascar in the course probably of a few weeks, the Melanesian and Polynesian migration must have covered many generations, and their peoples must have been exposed to many vicissitudes on the way. That mere geographical propinquity may count for little is shown in the case of the Micronesian region which is less connected with the Philippine languages by its plant-names than Malagasy.

	Indian Archipelago.	Philippines.	Further India.	
Fiji	60 p.c.	29 p.c.	11 p.c.	*Note.*—The Indian Archipelago is here regarded as including the Philippine Islands.
West Polynesia ..	55 „	37 „	10 „	
East Polynesia ..	50 „	28 „	9 „	
Micronesia ..	60 „	35 „	12 „	
Malagasy ..	85 „	46 „	19 „	

"LIST OF PLANT-NAMES."

"LIST OF

Note.—The names in the last column

	Indian Archipelago.	Malagasy.	West Pacific.
Aleurites moluccana	Saketa (T.)	..	..
	..	..	..
Amorphophallus campanulatus.	Takka (M.)	..	..
	..	? Tavulu (Tacca)	..
Bamboo ..	Bokavi (Tg.)	..	..
	Kavayang, Kauayan (P.) ..	..	..
	Bĕtung (M.)	..	..
	Bĕtong (D.)		
	Batong (L.)		
	Botung (Bs.) ..		
	Pĕtung (J. Bl.) ..		
	Patung (Sg. Mo.) ..		
	Patang (Slo.)		
	Tiling, Tiring (Ph.) ..	Teri (Tall grass)	..
	(Dendrocalamus) ..		
Banana ..	Punti (J. Lm. Su. B. Sn.)	Funtsi Untsi	Fugi, Fudi, Wegi (NG.)
	Unti (Mk.)		Un (NI. DY.)
	Uti (Bu.)		Vudi, Huti, Hugi, Fuki, Wunti (Sol.) ..
	Vuri, Fud (Ce.) ..		Futi (Sik.) ..
	Hudi (Tm.)		Fusi, Butsh, Nobos, Nandi (NH.)
	Huni (Rt.)		Nandi (Lo.) ..
	Udi (Lt.)		Puin (NC.), etc.
	Ure (Am.), etc. ..		

PLANT-NAMES."

are provisional comparisons as a rule.

Fiji.	West Polynesia.	East Polynesia.	Micronesia.	General.
Sikethi.				
Tuitui	Tuitui (Fu.)	Tutui (Ta.) Tuitui (He.) Kukui (Ha.)		
Ndainga				
? Tivoli (Dioscorea)	Teve (To.)	Teve (Ta. He.)		
.. ..	Kofe (To. Fu.) 'Ofe (Sa.)	Kohe (Mq.) Ohe (Ta. Ha.)		
Bitu.				
..	..	..	..	Tleri, Tre (CC.) (Dendrocalamus.)
Vundi	Fuji (To.) Futi (Sa. Fu. Ne. Ke)	..	Une, Ush (U.) Ut, Uc (Pn.) Uut (SD.) Us (Ml.) Ush (St.)	Chuoi (CC. An.) Tsiao Tsiu Dzio Pa-tsiao Pa-tsiu Po-tsiu (Ch.)

"LIST OF

Note.—The names in the last column

	Indian Archipelago.	Malagasy.	West Pacific.
Banana—(*cont.*)	Muk (Te.)	..	Mukle (MC.) ..
	Mu (TL.)		Mogar (MC.)
	Muu (Ks.)		
	Mah (My.)	..	..
	..	..	..
	Saguing (Tg.) ..	..	..
	Saing (Ph.)		
	?Pisang (M. Ph., etc.)		
Barringtonia speciosa	Buton (M.)	Futu-be (be = great)	Puputu (Sol) .. ..
	Butun (S.)		
	Putun (Bn.)		
	Hutum (Am.) ..		
	Botong (Tg. Bs.) ..		
	Bitung (Bs.) ..		
	Bitun		
Batatas edulis	Kamotas (Ph.) ..	..	Kaemadahu (Mt.) ..
	Kamoti (Tg.) ..		
	..	..	Kumara (Ma. Au.) ..
Bread-fruit ..	Kolo (Tg.)	..	Kuru (Fe. Ft.)
	Kaluwi (M.) ..		Ulu (Na.) ..
	Kluwi		Kŭru (Sik.) ..
	Kulor		Kununu (Bm.)
	?Umare (Am.) ..	..	Mei (V.) ..
			Miuue
			Inma (NH.)
			Nemar
			Nemara
			Nime
			Noho-anma

PLANT-NAMES "—*continued.*

are provisional comparisons as a rule.

Fiji.	West Polynesia.	East Polynesia.	Micronesia.	General.
..	Mo'e (Sa.) Muka (To.) (the bud)	..	..	Hakmuk (Sm.)
..	..	Meka (Ra.) Meika (Mq.) Meia (Ta.) Maia (Ha.)	Mei (G.)	
..	Fa'i (Sa)	Fei (Ta.)		
Soanga	Soa'a (Sa.)			
Vutu	Futu (To. Fu. Sa.)	Hutu (Ta. Mq.) Utu (He.)	Kubary says that the Samoan name occurs in Nukuor Islands, Caroline group.	
..	..	..	Komuti (Or.)	Kamotli (Az.) Kamote (NM.Pa. Qui.) Kamicha (Cr.)
Kumara	Kumala (To. Fu.) 'Umala (Sa.)	Kumara (NZ. Mg. Pau.) Kumaa (Mq.) Umara (Ta.) Uala (Ha.)	..	Kumar (Qui.)
..	'Ulu (Sa.) Ul (Ro.)	Kulu (Ra.) Kuru (Pau.) Uru (Ta.) Ulu (Ha.)		
..	Me (Ne. To.) Mei (Fu.)	Maiore (Ta.) Mai (He.) Mei (Mq.)	Mai (Fn. Mr. Pn. Sl. SD. Mey (Ml.) Mosse (U.) Mailles (LM.) Mei (G.) Mah, Me (Mrs.)	

"LIST OF

Note.—The names in the last column

	Indian Archipelago.	Malagasy.	West Pacific.
Bread-fruit—(*cont.*) ..	..	..	..
Broussonetia papyrifera ..	Saai (S.)	..	Sihi (Mt). .. ..
	..	..	..
	..	..	..
	Mala (Ce.)	..	..
	..	..	..
Calophyllum inophyllum ..	Bintangor (M. J.) ..	Vintanina ..	Pit (N. C.) ..
	Bitangur, Bitau, Betau (M.) ..		
	Bitaog (Bs. Pm. Y.)		
	Bitanhol (Tg.) ..		
	Fitaku (T.)		
	Hatau, Hutaula (Am.) ..		
	Tamauyan (Ph.) ..	..	..
	..	..	..
Casuarina ..	..	..	..
	..	Filau	..
Coco-nut palm	Niyur (M.)	Vua-nihu	Niu (BNG. Lb.)
	Nur (Aru.)		Niu (Ast.) ..
			Niehm (HB.)

PLANT-NAMES"—*continued.*

are provisional comparisons as a rule.

Fiji.	West Polynesia.	East Polynesia.	Micronesia.	General.
Uto				
Masi	..	..	..	Kaasi, Sjo, etc. (Jp.)
..	..	Aute (Ta. He. NZ.) Ute (Mq.) Wauke (Ha.)		
..	Uka (Ne.) U'a (Sa.)			
Malo	..	..	Meo Mo (G.)	Ma-hlaing (Bh.)
..	Tutunga (Sa.) Tutu (To.)			
Vetau (another species of the tribe Calophylleæ)	Fetau (Sa.)..	..	Ijau (Pn.)	
Damanu	Tamanu (Sa. To. Fu.)	Tamanu (He. Ta.) Temanu (Mq.) Kamani Kamanu (Ha.)		
Dilo	Tilo (Fu.) D'lolo (Ke.)			
Thau	Toa (Sa. To. Fu.)	Toa (He. Ta. Mq.) Aito (Ta. Ra.)	Tog (G.)	
Velau ..	..	..	..	Bela (JB.)
..	..	..	Ni (Pn. Mrs. SD. Sf. G.)	Nuok (the Nipa palm in Cochin China and Annam.)

"LIST OF

Note.—The names in the last column

	Indian Archipelago.	Malagasy.	West Pacific.
Coco-nut palm—(*cont.*) ..	Niog (Ph.)	Vua-nihu	Niwi (Ar.) ..
	Nyu (J.)		Niu (Lou. Sol. V. Tc.)
	Niu (Ba.)		Nu (Ni) ..
	Enuh (Bl.)		Niu, Naniu, Neing (NH.)
	Enjoh (D.)		
	Niyo (Bu.)		
	Niwe (Br.), etc., all over the Archipelago		Nu, Wanu (Lo.)
			Nu (NC.), etc.
	..	..	..
Colocasia antiquorum	Talö (N.)	..	Talo. Mt. V. ..
	Tales (J. Md.) ..		Taro, Ntal, Tal, etc. (NH.)
	Talös (S.)		
	Talung (Bs. Tg.) ..		Natali (Lo.) ..
Large Alocasiæ	Bira (M. Rw. S. Mk.)	Viha	Biako, Biagka, Buagk (NH.)
	Bia (S.)		
	Biga (Bs.)		Piya (Lou.) ..
Coloc. antiq. and large Alocasiæ	Kaba (T.)	..	..
	Gaby, Gavay (Tg. Bs. Pm.)		
	Gabing (Ph.) ..		
Cordia	Totebo, Toteho (T.) ..	..	..
Cycas circinalis	Paku (M. S.) ..	Fahu	
	Pakies (J.)		
Cucumbers, gourds, etc.	Tabogo, Tabayag (Tg.) ..	Tavu	..
	Tabu-tabu (Bt.) ..		
	Tabu (Wg.)		
	Katimun (J. Bl. Tg.)	Tsimundry	Temai (HB.) ..
	Atimun (Bs.) ..		
	Timun (M. J. S.) ..		
	Ansimum (Bt.) ..		
	Tantimon (D.) ..		
	Hantimon (M.) etc.		

PLANT-NAMES"—*continued.*

are provisional comparisons as a rule.

Fiji.	West Polynesia.	East Polynesia.	Micronesia.	General.
Niu	Niu (Sa. To. Fu. Fa. Ne. Ro. E.)	Niu (Ta. He. Ha.)	Nu (U. Ml. Rk. LM.) Niu (Yp.) Naine (Eb.) Nidjiu (Gu.) Niale Allewis Ljus Le (Pe.)	Nuok (the Nipa palm in Cochin China and Annam.)
..	..	Erei (Mg.) Haari (Ta.) Akari (Ra.) Ehi (Mq.)		
Ndalo	Talo (To. Sa. Ne. Fu. Fa. E.)	Taro (Ta. He. NZ.) Tao (Mq.) Kalo (Ha.)	Jaua (Pn.)	Ray Tlang (CC.) Taya (Tp. Cr.) Taia (Gal.)
Via ..	..	..	..	Ray Bacha (CC.)
..	Kape (Fu.) Kabe (To.) 'Ape (Sa.)	Kape (He. Mq.) Ape (Ta. Ha.) Apii (Ha.)		
Tou	Tou (Sa.) To (To.) Toe (To.)	Tou (Ta. Mq.) Kou (Ha.)		
..	..	..	..	Dap (Cm.)
Timo				

"LIST OF

Note.—The names in the last column

	Indian Archipelago.	Malagasy.	West Pacific.
Cucumbers, gourds, etc.—(*cont.*) ..	Fenga (TL.) ..	..	..
	Tungu-tungu (F.) .. ?Bonteng (S.) ..	Vuatangu	..
	?Opo (Tg.)	..	..
Erythrina indica	?Gelala (M.).. ..	..	..
	..	..	..
	Kăne, Kanur (Mk.) ..	..	..
Eugenia malaccensis..	..	..	Kafika, Keviga, Gaviga, Geveg, Gevig, Avika, Havih, Nagveg, Nigauvug (NHB.)
Hibiscus tiliaceus	Baru (M.) .. .. Waru (M. J.) .. Haru (Am.) ..	Baru, Varu	Inbul (Ant.) .. Paui (NC.) ..
Inocarpus edulis	..	..	Te-ifi (Ft.) .. If (NG.) ..
	..	..	Mamape (Fe.).. Mabue (Mal.).. Tumup (NB.)

PLANT-NAMES "—*continued.*

are provisional comparisons as a rule.

Fiji.	West Polynesia.	East Polynesia.	Micronesia.	General.
Vango	Fangu (Sa. Fu.)	..	..	Feng (Sm.)
..	..	Paoteni (Ha.)	..	Tëng (Sm.)
..	Ipu (a cup or vessel).	Ipu (Ha, Mg.) (NZ.)		
Ndrala				
..	Ngatae (Sa. Fu.)	Atae (Ta.	..	Ka-thit (Bh.)
..	..	Kenae (Mq.)		
Kavika	Kafika (Fu.) Fi'afia (Sa.) a specific name.	Keika (Mq.) Ahia (Ta.) Ohia (Ha.)	..	Apiga (Gd. Apega Tr.)
Vau	Fau (Sa. To. Fu.)	Fau (Ta.) Hau (Mq. Ha.) Au (He.)	Gili-fa Gili-fau (Ml.) Gili-fey (Sl.) Sili-fa (Rk.) "Gili" signifies skin or coat. Kubary says that the Samoan name occurs also in Nukuor Caroline Group	Known as "Mahu" in Galibi, British Guiana, and the Honduras.
Ivi	Ifi (Sa. To. Fu. Ro.)	Ihi (Ta. Mq.)	Hi (U.)	
..	Mape (Ro.)	Mape (Ta.)	Marap (Pn.)	

"LIST OF

Note.—The names in the last column

	Indian Archipelago.	Malagasy.	West Pacific.
Mangrove ..	Tongog (Bs.) .. / Tongkir (Bc.) ..	Honko	Tongo (Mt.) .. / Tu-onga (Lou.)
	Tangkal (Tg.) ..	Tanga	..
	Tehi / Tahi (Am.) ..	..	..
Morinda citrifolia	Nino / Anino / Lino (Tg. Bs.) .. / Nenu (Am.)	..	Nĕnehah (NC.) ..
Palms (Fan) of the genera "Licuala" and "Pritchardia"; see text.	..	..	..
	Wiru (S.) (Licuala)..	..	Firo (Sol.) (Licuala)
	..	..	..
Pandanus ..	Pandan (Am. Ph. M. Bt.) .. / Pandan (Bl. J. S. Md.) / Pandang (Mk. Bu.).. / Pangdan (Tg. Bs.) .. / Pandal (F.) .. .. / Paddan (Ib.) .. / Panda (Sb.) .. .. / Panrang / Parang (Mk.) ..	Fandrana / Fandren	Pan (NC.) .. ..
Small species of Pandanus used for mats.. ..	Keker / Kekel (Am.) ..	..	Gerekere (Mt.) ..

PLANT-NAMES"—*continued.*

are provisional comparisons as a rule.

Fiji.	West Polynesia.	East Polynesia.	Micronesia.	General.
Ndongo	Tongo (Sa. To.)	..	Jon (Pn.)	
..	..	..	..	Taga (Ko. Tr.). Tŭga (Ko.). Teng-gunya (Gd.) Tagon-tagon (Rk.). Ba-taga (Ad.).
Tiri	..	..	..	Zi (EM. Mi.). Dea (CC.).
..	Nono (Sa. To. Fa. E.) Nonu (Sa. Fu.)	Nono (Ta. He. Mg.) Noni (Mq. Ha.)	Non (G.) Nane (Car.) Nin (a tree name in Pn.)	Nhau (CC.). Nyau (Ten.). Nyah (Bh.) Nuna } (Tl.). Nona }
..	..	Loulu (Ha.) (Pritchardia).		
Viu (Pritchardia)	Biu (To.) Piu (To. Sa. Fu.) (Pritchardia.)			
..	..	Vahana } (Mq.) Vaake } (Pritchardia) Hawane } (Ha.) Wahane }		
Vandra	Fala (Sa. Fu. Fa. E.) Fa (To.) Fala (mat in Tonga)	Fara (Ta.) Ara (He.) Hala (Ha.) Haa (Mq.)	Fara } (Car.). Farara } Paun (Ld.) Parr (mat in Pelew Is.)	
Kiekie	..	Ieie (Ha.) Freycinetia. Kiekie (Ra. NZ. Pandanus and Freycinetia).		

"LIST OF

Note.—The names in the last column

	Indian Archipelago.	Malagasy.	West Pacific.
Mat words ..	Kihu, Kiel (Ce.) ..	..	..
Pandanus ..	Bangkoan (Ph.) (large mats) .. Mengkuwang (M.) .. Bakkuwang (TS.) (Pandanus) ..	Vakoa, Vakoana (Pandanus)	..
Spondias dulcis ..	..	..	..
Sugar Cane ..	Tĕbu (M. J. Md. Bl. Bu. Su.) .. .. Tepu (Br. Ce.) .. Tobu (Bt. Bs. Tg.) .. Tiwu (S.) .. .. Tewu (Sn. Lt.) .. Tevu (Tm. Rt.) .. Tohu (Ce. Am.) .. Tavuss, Tĕbong, etc. (F.)	..	Tov, Tou, Natuv, Natu, Neto, Toro (NHB.) Tolo (V.) Toro (Tc. Sik.) To (NI.) Tup (DY.) Tou, Tohu, Towu, Tobu, Tepio (NG.) etc.
	..	Fari, Far	Parai na parai (Fe). Poria (Er.)
Wild Sugar Cane of Fiji and Samoa	..	Fisika	..
Sago Palm and Sago	Sagu (M. Gil., etc.)..	..	..
	Rambia (M.) .. Lapia (Am.).. .. Pihir (Sw.)	Rofia	Bia (Sol.) Rabia (Mt.) Iabia (BNG.) Abi (Adm.)
Tacca pinnatifida and Arrowroot	..	..	Rabia (Mt.) .. Pia (Sik.) ..

PLANT-NAMES"—*continued.*

are provisional comparisons as a rule.

Fiji.	West Polynesia.	East Polynesia.	Micronesia.	General.
..	Kie (Fa. E. To.) Gie (To.) 'Ie (Sa.)	Ie (Ta.)	Kie (G.) Kiekey (Rk.)	Chieu Chiec-chieu (An.)
Wi	Vi (Sa. To. Ro.)	Vi (Ta. Mq.)	? Afusz (Ml.) ? Apyt (Yp.)	
Ndovu	Tolo (Fu. Sa.) To (To. Ne.) Thou (Ro.)	To (Ta. Ra. Mq. He.) Ko (Ha.)	Ta (U) Jeu (Pn.) Thip (Or.) Adep (Pe)	Taboka-eem (*i.e.*, sweet reed in Tp.) Taupanna Tupanna Tubanna (Cor Pur.)
Vitho	Fiso (Sa.)			
Songo	..	..	..	Sakhu (Sm.) Sacu (Cm.)
Yambia	Pia (Sa.) ..	Pia (Ta. Ha. Mq.)		

"LIST OF

Note.—The names in the last column

	Indian Archipelago.	Malagasy.	West Pacific.
Tacca pinn. and Amorphophallus camp. ..	Takka (M.)	..	..
Tacca pinn., Arrow-root, and Fern-root	..	..	Mamago (Sol.) (Tacca).
Thespesia populnea ..	..	..	..
Terminalia ..	Talisay (Tg. Bs.) .. Dalisay (Ph.) .. Dalasa (Bs.) .. .. Teliu (Bd.)	..	Talia (DY.)
	Katapang (M. S. J. Katepeng Am. Cel.) Adappo (A.).. ..	Hatafa Atafana Ataf	..
Turmeric plant, Turmeric powder, Ginger ..	Angai (Pm.).. ..	..	Igag (Mkl.) .. ..
	..	..	Ano (Lp.) .. ..
	Leka-leka (T.) ..	..	..
	Halia (M.) .. .. Alea Aliya (Mol.) .. Lea (Cel.)	..	..

PLANT-NAMES "—*continued.*

are provisional comparisons as a rule.

Fiji.	West Polynesia.	East Polynesia.	Micronesia.	General.
Ndainga (Amorphophallus).				
..	Mago (fern in Sa.)	Mamaku (a fern and taro in NZ.) Mamau (fern in Ta.)	Mokamok (Pn.) Mogemok (Mrs.) Mogamog (Car.) Nogonog (SD.) All denoting Tacca or its product.	
Mulomulo	Milo (Sa. To.)	Milo (Ha.) Miro (Ta. Mg. Ait.) Mio (Mq.)	?Loa (Mrs.) ?Lo (U.) Kubary says the Samoan name occurs in Nukuor, Caroline Group.	Milola (Hibiscus used for cordage on the Zambesi.)
..	Talie (Sa.Fu.) Telie (To.)	E-Tara Au-Taraa (Ta.)		
Tavola				
..	..	..	..	Nge Ngai (CC.)
Thango	Ango (Sa.Fu.) Enga (To.)	..	On Eon (Pn. Rk.) Ano (Nk.) Ceneon (Pn.) Teneon (Kd.)	Gung (CC. Gang An.) Khing (Sm.) Kenhey (Cm.)
Rerenga	Lenga (Sa.)	Renga (Pau.) Erea Rea (Ta.) Lena Olena (Ha.) Eka (Mq.)	Ren (Yp.)	
..	..	Erea Rea (Ta.)		

"LIST OF

Note.—The names in the last column

	Indian Archipelago.	Malagasy.	West Pacific.
Turmeric—(*cont.*)	Tommo (M. J. Bor.) Temu (J.)	Tama-tama	Temuli (Sol.)
Yam	Ubi (At. Bt. Bl. Ib. Tg. Bs.) .. .. Obi (M. Md. Br.) .. Uwi (J. Sg. Sn. Bm.) .. Huwi (S.) .. .. Uhi (Ce. Am.) .. Owi (D.) .. .. etc.	Uvi	Uhe (Mt.) Op (NB. DY.) Opie (V.) Ufi Uf Yubi Ta-ufi (NH.) Niobu Nup Nuh Ubi Ufi, etc. (NC.)
	Kaao (Bl.)	..	..
	..	..	..
	Keli Heli (Am.) ..	..	..
Yam, Tacca, Amorphophallus ..	..	? Tavolo (Tacca)	..
Dracæna	..	..	..
Banyans and other species of Ficus	Ara (M.) .. .. Awar-awar (J. S. Bl.) Haiuwara (Bt.) ..	Ara Vuara	T-aoa (Ft.) .. ..
Banyans	..	..	Baka Nebuk Nempagh Namaga Burumbaku Botmbagka (NH.)

PLANT-NAMES"—*continued.*

are provisional comparisons as a rule.

Fiji.	West Polynesia.	East Polynesia.	Micronesia.	General.
Uvi	Ufi (Sa. To. Ne. Fa. Fu. E.)	Uhi (Ta. Mq.) Ui (He.) Hoi (Ha.)	..	Kŭbeai Guweai (Km.)
..	..	Kawau (sweet potato in NZ.)	..	Karo Kowar (Que.) Kara (Tp. Oy.)
Kawai	'Ave'ave (Sa.)	..	..	Khoai (CC.) Kywæ (Bh.)
Kaili Kaile				
?Tivoli Tavoli (yam)	Teve (To.) (Amorph.)	Teve (Ta. He.) (Amorph.)	..	Taole (Sch.) Tahula (Ts.) T'owla (CN.) (All yams.)
Ti	Ti (Sa.) Chi (To.)	Ti (Ta. NZ. He. Ha. Mq.) Ki (Ha.)		
..	Aoa (Sa. Fu.)	Aoa (Ta. He. Mq.) Oraa (Ta.) Aoaoaoa (He.)	A-uan (Car.)	
Mbaka.				

"LIST OF

Note.—The names in the last column

	Indian Archipelago.	Malagasy.	West Pacific.
Banyans—(*cont.*)	Nuno (Am.) .. .. Nonok (Ph.) .. Nunu (Wg.) ..	Nonoka	Nunu (DY.)
Ficus sp. sp., with rough leaves used for polishing	Ampelas (MS.) .. Ampaleh (SC.) ..	Ampali	

ABBREVIATIONS EMPLOYED IN

A. = Alfuros of Minahasa.
Ad. = Andaman Is.
Adm. = Admiralty Is.
Ait. = Aitutaki.
Am. = Amboyna.
An. = Annam.
Ant. = Aneityum.
Ar. = Arimoa, New Guinea.
Aru. = Aru Is.
Ast. = Astrolabe Bay, New Guinea.
At. = Atcheen.
Au. = Aurora I., New Hebrides.
Az. = Aztec.
B. = Bulusch in North Celebes.
Ba. = Bima.
Bc. = Banca.
Bd. = Banda.
Be. = Bentenan in North Celebes.
Bh. = Burma.
Bl. = Bali.
Bm. = Brumer Is.
Bn. = Bantam.
BNG. = British New Guinea.
Bor. = Borneo.
Br. = Buru.
Bs. = Bisaya.
Bt. = Battak.
Bu. = Bugis.
Car. = Caroline Is.
CC. = Cochin China.
Ce. = Ceram.
Cel. = Celebes.
Ch. = China.
Cm. = Cambodia.
CN. = Car Nicobar.
Cor. = Coroados of Brazil.
Cr. = Carib.
D. = Ngadju-Dyaks.
DY. = Duke of York I.
E. = Ellice Group.
Eb. = Ebon.
EM. = Errub and Maire Is.
Er. = Eromanga.
F. = Formosa.
Fa. = Fakaafo.
Fe. = Fate.
Fn. = Fananu in Caroline Is.
Ft. = Futuna in New Hebrides.
Fu. = Futuna in West Polynesia.
G. = Gilbert Is.
Ga. = Galela.
Gal. = Galibi (S. America).
Gd. = Gudang, Cape York.
Gil. = Gilolo.
Go. = Gorontalo.
Gu. = Guaham.
Ha. = Hawaii.
HB. = Humboldt Bay, New Guinea.
He. = Hervey Is.
Ib. = Ibanag, Philippines.
J. = Javanese.
JB. = Jervis Bay, Australia.
Jp. = Japan.
K. = Kisar.
Kd. = Kadogube (Carolines?).
Ke. = Keppel or Cocos Is.

PLANT-NAMES"—*continued.*

are provisional comparisons as a rule.

Fiji.	West Polynesia.	East Polynesia.	Micronesia.	General.
..	..	..	..	Noaña (Tur.)

THE FOREGOING TABLE.

Km. = Kamilaroi, Australia.
Ko. = Kowrarega, Torres Sts.
Ks. = Ke Is.
L. = Lawangan.
Lb. = Lobo, New Guinea.
Ld. = Ladrones.
LM. = Los Martieres in the Carolines.
Lm. = Lampong.
Lo. = Loyalty Is.
Lou. = Lousiades.
Lp. = Leper I., New Hebrides.
Lt. = Letti.
M. = Malay.
Ma. = Mota, Banks Is.
Mal. = Malo, New Hebrides.
MC. = Maclay Coast, New Guinea.
Md. = Madura.
Mg. = Mangareva.
Mi. = Miriam, Torres Sts.
Mk. = Makassar.
Mkl. = Malikolo.
Ml. = Mortlock Is. in Caroline Group.
Mo. = Mongondou in North Celebes.
Mol. = Moluccas.
Mq. = Marquesas.
Mr. = Morileu (Carolines).
Mrs. = Marshall Is.
Mt. = Motu, New Guinea.
My = Mysol.
N. = Nias.
Na. = Niua, New Hebrides.
NB. = New Britain.
NC. = New Caledonia.
Ne. = Niue, West Polynesia.
NG. = New Guinea.
NHB. = New Hebrides and Banks Is.
NH. = New Hebrides.
NI. = New Ireland.
Ni. = Nifilole in the Santa Cruz Group.
Nk. = Nukuor, Carolines.
NM. = North Mexico.
NZ. = New Zealand.
Or. = Orulong, Pelews.
Oy. = Oyampi (S. America).
P. = Ibanag, Tagalog, Bisaya.
Pa. = Panama.
Pau. = Paumotus.
Pe. = Pelew Is.
Pel. = Pelelew.
Ph. = Philippines.
Pm. = Pampango in Philippines.
Pn. = Ponape.
Ps. = Ponosakan.
Pur. = Puris, Brazil.
Que. = Queensland.
Qui. = Quichua.
Ra. = Rarotonga.
Rk. = Rockhampton, Australia.
Ro. = Rotuma.
Rt. = Rotti.
Rw. = Riouw.
S. = Sundanese.
Sa. = Samoa.
Sb. = Sumba.

ABBREVIATIONS EMPLOYED IN THE FOREGOING TABLE—*continued.*

SC. = West Coast of Sumatra.
Sch. = Schowra, Nicobar Is.
SD. = St. David, Carolines.
Sf. = Suf, Carolines.
Sg. = Sangir.
Sik. = Sikyana.
Sl. = Sonsol, Pelews.
Sla. = Sula.
Slo. = Solok.
Sm. = Siam.
Sn. = Sangar.
So. = Society Is.
Sol. = Solomon Islands.
St. = Satawal (Carolines).
Su. = Sumbawa.
Sw. = Sarawati.
T. = Ternate.
Ta. = Tahiti.
Tb. = Tobelo.
Tc. = Tucopia.
Te. = Teor.
Ten. = Tenasserim.
Tg. = Tagalog.
TL. = Timor-laut.
Tl. = Tamil.
Tm. = Timor.
To. = Tonga.
Tp. = Tupi, Brazil.
Tr. = Saibai, Torres Sts.
TS. = Toba, Sumatra.
Ts. = Teressa, Nicobar Is.
Tur. = Turribul, Brisbane.
U. = Ualan or Kusaie.
V. = Vanikoro.
Wg. = Waygiou.
Y. = Ylocano, Philippines.
Yp. = Yap, Pelews.

Explanation of the construction of the Table.—The names are grouped in the vertical columns according to regions, which may be geographical, *e.g.*, the Indian Archipelago, or linguistic, *e.g.*, East Polynesia. The letters in brackets indicate the island, language, or dialect, and are explained in the list of abbreviations. The horizontal lines are employed to separate the names according to their linguistic affinities; thus, there are five sets of names given for the banana and two for the sweet-potato. The laws of the letter-changes for the Indian Archipelago and Polynesia may be found illustrated in Prof. Kern's "*Stamland*" paper and in his *Fidji-taal*, etc. For Polynesia only, see Tregear's *Comparative Maori Dictionary*.

The CHAIRMAN (A. McARTHUR, Esq., D.L., Vice-President).—I am sure we all concur in presenting our best thanks to Dr. Guppy for his interesting paper. (Applause.) We shall be glad to hear remarks upon it after some communications have been read.

The HON. SECRETARY (Captain F. PETRIE, F.G.S., &c.).—Two communications have been received from authorities upon the subject, to whom proof copies of the paper had been sent. The first is from Professor Max Müller:—

"Dear Captain Petrie,—I wish, indeed, I could be present to hear Dr. Guppy's paper, but I am too busy to spare a day. I am much obliged to you for having sent me the proof. It seems an excellent paper written in the right spirit. Such researches, if continued, ought to lead to very important results, and I hope Dr. Guppy will continue them."

The second is from Colonel C. R. Conder, R.E., D.C.L., LL.D., who, in expressing his approval of Dr. Guppy's paper, adds, "it is both interesting and sound."

Mr. W. F. KIRBY, F.L.S., F.E.S., referred to the view advanced by some that Polynesia was peopled from a great southern continent, which, it is alleged, once stretched across a great part of the Southern Pacific. He also referred to the voyagings of Asiatic navigators in the past.

The Rev. H. B. HYDE, M.A., spoke of the high interest attaching to the subject of the paper.

The CHAIRMAN referred to his long acquaintance with, and voyagings among, the islands of the Pacific, especially alluding to the food-producing plants found in them; also to the characteristics of the various Islanders; and trusted that the author would, as suggested by Professor Max Müller, soon add to those obligations under which he had placed the Institute.

Captain F. PETRIE, F.G.S. (Hon. Sec.) alluded to the paper of the Rev. S. J. Whitmee,* F.R.G.S. (Vol. XIV.), who had been for some

* This author, referring to the Ethnology of the Pacific, says, "There are three classes of peoples inhabiting those islands of the Pacific Ocean which I include under the term Polynesia. In the western islands, from the east end of New Guinea and Australia eastward, as far as and including Fiji, we find a black frizzly-haired people. In all the Eastern islands there are large brown straight-haired people (these are found also in New Zealand); and in the western islands north of the equator there are smaller brown straight-haired people.

forty years among the Pacific Islands, and an essay on "The Botany of Australasia" by the Rev. Dr. Woolls.

The AUTHOR, in reply, said: With reference to the remarks which Mr. Kirby has kindly made concerning my paper, I may observe that the evidence of language does not support the idea that Polynesia may have been peopled from a southern continent; for myself, I think we are scarcely warranted in introducing great movements of upheaval or subsidence as factors in the distribution of the races of man. The endemic element in the flora of Polynesia is comparatively small, and the geological structures of such islands as those of the Fijis and of Tahiti are not what we would expect to find in the highest peaks of a continent. In conclusion, I have to thank those present for the kind way in which they have received my paper.

The meeting was then adjourned.

COMMUNICATION RECEIVED ON THE FOREGOING SUBJECT.

Mr. JOHN FRASER, LL.D., New South Wales, writes:—

Everyone who has examined the Oceanic languages—from K. W. von Humboldt and Gabelentz down to the present hour—notices the fact that there are many words, both root words and derivatives, which the Malays, the black Melanesians, the brown Polynesians, and the Micronesians have in common. Some writers have ascribed this to the influence of the wandering Malay; but I hold that the Malayo-Polynesian theory is utterly wrong, for the Malays are a recent people in Indonesia; the eastern Polynesians are quite unlike them in physique and temperament; and it is impossible that the fierce Papuak natives of New Britain, the Solomon Islands and the northern New Hebrides should have adopted so many essential elements in their daily speech from the Malays. I have long maintained that the true

solution of this linguistic and ethnic problem will be got by regarding the black races as the first occupants of India, spreading thence into Further India, Indonesia, Australia and the whole of Oceania; then a light-coloured race came into Indonesia, and, uniting with the blacks there, became the ancestors of the brown Polynesians of the eastern isles; and, lastly, a race of Mongolian origin, the Malays, invaded the Archipelago and adopted much of the Polynesian language which they found there. Thus I see in the Archipelago an amalgam of black, brown, and yellow elements which, however, show themselves to us, independent and yet cognate, in Melanesia, Polynesia and Malaysia. Mr. Guppy's view of the matter is much like this, as I judge from the sixth paragraph of his paper.

These views are also supported by the plant-names which our author has collected from so wide an area. All over the Oceanic area, the name for "banana" is formed from the same root syllable, *bu, pu,* "white," represented in the Indian languages by *bha, ba, ma,* "to shine," "to be bright in colour," as in the Pâli *pandu, pandaro,* "white," "light-yellow," of which the Indonesian forms are *pūtih, ma-pūti, ma-bida,* "white." Hence come the varying forms of the name for "banana" in the black, the yellow, and the brown areas. And this name is sufficiently descriptive to prove its own antiquity. The Fijian *vundi* is so near the Pâli *pandu* as to make it unnecessary for anyone to say that the Fijians borrowed it from the Malays. And since New Britain has *vudu, wundu* and the Solomon islanders have *vudi*—black regions to which the Malays never penetrated—it seems almost certain that the Melanesians, when they were in sole possession of the Archipelago, had that word for "banana," and that *they* gave it to the Polynesians. The Malayo-Polynesian theory asserts the kinship of the brown Polynesians to the Malays on the ground of similarity of some word in their languages, but, on the same principle, I might declare that the Microsians came from the New Hebrides; for their word *ush, us* "banana" is the same as no-*bos* in Tanna and *ves* in Malekula—corruptions of *fusi, fudi.*

Another of Mr. Guppy's examples—*koko, kuka, kakau*—is also a descriptive word. It must have a general meaning in its origin, for it is applied, as he tells us, to *taro, yam, ferns, sweet potato.* The original root is *ka* "to eat," as in Sanskrit khād, *ad,* Latin *edo,* English *eat.* Maré Island (Loyalty Islands) says *kaka,* "to eat,"

the Maori says *kai*, the Samoan *'ai*, Fiji *ka-na*, New Britain (k)*an* and various islands of the New Hebrides have the same root in the forms *ca-ig*, *ka-ni*, *ga-ni*; the Malay word is *ma-kan*. Indeed, this root is so widely spread in all Oceania that it is impossible to believe the Malays—the most recent comers—brought it there; it must belong to the speech of the earliest occupants, the blacks. And further; in Oceania there is the frequent interchange of *k* and *t*; hence the root *ka* is also *ta*. From these two roots come many of the plant-names in Mr. Guppy's lists; they mean merely "that which is edible," "that which is used as *food*"; *e.g.*, *ka-ba*, *ka-pe*, *kaka-u*, *ta-ka*, *ta-lo*, *ta-ro*, etc., qq.v. The earliest forms of the name for "sweet potato" lead me to think that *ku-mara* comes from this root ka, with *mara* added to mean "sweet," for there is in some of the islands the word *mada*, *mala-ri*, "sweet."