



The Journal of the Polynesian Society.

VOL. XI. 1902.

THE POLYNESIAN NUMERALS

ONE, FIVE, TEN.

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(Continued from page 177, Vol. X.)

PART II.—THE NUMERAL “ FIVE.”

THE first thing that I have to say on this head I will write down as Proposition IV:—*The Polynesian word for ‘five’ is lima, which also means the ‘hand’; it is therefore probable that language-names for ‘five’ are founded on words for ‘hand.’* And that is not merely probable, but certain; and it is also so natural that no proof of this Proposition is needed. I will here mention only three facts:—the Turkish word for ‘fifty,’ that is, *five* tens, is *éli*, and that is formed from *el*, ‘hand,’ *il-ik*, ‘hand’; the Dravidian dialects of India have *kei*, ‘hand,’ and *ei-du* (for *kei-du*), ‘five’; the Indo-Persian *atilang* and *laman* both mean ‘five’ and also ‘hand,’ from roots *ati* and *lam*, as below. Observe here that the Dravidians form the word for ‘five’ from ‘hand,’ not ‘hand’ from ‘five.’

Proposition V.—*Words for ‘hand,’ in several languages, show that the meaning of their base is ‘to hold,’ ‘to grasp.’* The hand is the ‘grasper’; that also is a natural meaning. In science, the monkeys are classified as *quadrumana*, because they use their four extremities as hands for grasping. In Scotland, *hadd* means ‘to hold’; even a child will understand you if you say “Hadd it fast; don’t let it fall.” It is a stronger word than ‘have’; *have* simply implies possession

after acquiring; *hadd* means 'to grasp firmly and to hold in continued possession.' And so English legal documents conveying property use a double term, 'to have and to hold.' The original force of the verb *to have* in English has been much weakened by the use of *have* and *had* (*hav-ed*) as auxiliaries, but *hadd* is not used in that way in Scotch.

Language, which, in the process of forming words, has stereotyped many of the original ideas of man, conveys this notion of 'grasping' in the name for 'hand.' *Hand* itself is only a strengthened form of *hadd*; the Sanskrit* has *har-ana*, 'taking,' 'seizing,' and, as a noun, 'the hand,' from the verb *hri* (*har*), 'to seize, to take, to steal.' From this root comes the Greek ἀρ-πύζω 'I take, I steal,' and possibly also the noun χεῖρ, 'the hand.' If you should ever be among the courtly Hovas of Madagascar and there wish to be considered polite, you must not use the common word *tanana* for 'hand'; you should say *fandray*, 'the taker.'

It is clear, then, that the hand is that with which we 'take or seize' anything.

Proposition VI.—*In the Aryan languages there is a simple root ga, ka, which means 'to take, to seize.'* As usual, this monosyllable may be amplified by adding on to it single consonants or single syllables. Thus arise the root-forms *gam, gab, kap, kat*; for *m* and *b* on oriental lips are almost the same in sound. Examples here are:—Pāli *ga-hi*, 'taking'; Latin *kap-io* (*capio*), 'I take'; English *grab*, where the rough *r* is thrown in to intensify the sound and the meaning; Malay *chap-ei*, 'seize.'

Proposition VII.—*The consonant of this root ga, gam, etc., may be changed, according to established rules; for example:—*

1. The guttural *g, k* may be softened into a sibilant; as, Sk. *sam*, 'with,' which is akin to Lat. *cum*; Sk. *ṣat-a*, 100, Gr. ἑ-κατ-ὀν; Lat. *can-is*, 'a dog,' Sk. *ṣvan*; Sk. *paq-u*, Lat. *pec-u*, 'cattle.'

2. The *g* may be softened into *h*; as, Sk. *ha* (a particle), for the Vedic *gha*, Gr. γῆ; Sk. *hams-a*, 'goose,' Lat. *ans-er*, Germ. *gans*, Eng. *gand-er*.

3. The *g* may be softened into *y*; as, Sk. *yam-a*, 'twin,' Lat. *gem-inus*.

4. The *g* may become the dental *d*; as, Gr. γῆ, 'earth,' whence, *Dē-mētēr*, "Mother-earth." Our children say *dood* for *good*.

* It should be understood everywhere that I quote the Sanskrit merely as a very ancient tongue, which, by means of its oral and written literature, has preserved many of the oldest forms of Aryan speech in a proximately pure condition. The richness of its vocabulary helps one also to see how easily words were at first made from simple elements. I hold likewise that the Aryan, Semitic, and Turanian families of language are closely related in their elemental stock of words.

5. The *g* having been changed into *d*, that *d* may become a liquid *l* or *r*; as, Sk. *daha* (in compounds), 10, Prākṛit *raha*; Lat. *lingua* (for *dīngua*), Eng. *tongue*.

6. The *g* may become *p*, *b*, simply or through the influence of an intrusive *v* or *w*; as, Beloochi *gwith*, Persian *bād*; Bel. *gist*, Pers. *bist*; Gr. κῶς and πῶς; Gr. λῦκ-ος, Lat. *lup-us*.

7. The guttural *g* or *k* may become a palatal; as, from root *kap*, Malay *chap-ēi*, 'to seize,' as above.

8. The *gh*, that is, *g* aspirated, is dropped when it comes between two vowels, or it becomes *v*; as, Sk. *lagh-u*, 'light,' Lat. *lev-is*; so also *bh*; as, Irish *gabh-ar*, 'goat,' pronounced like *gau-ar*, Lat. *cap-er*.

9. The labials *b* and *p*, when aspirated, are sounded like *f* or *v*; and *m*, when aspirated, becomes *v*, and then *y*; as, Sk. *kām-a*, '(hot) desire'; Dravidian *kāy*, 'to be hot, to burn.'

10. The *k* may become *t*, a process which is going on in Polynesia.

11. In eastern languages, especially in Polynesia, the initial *g* or *k* is very often dropped.

Proposition VIII.—From this root *ka*, *ga*, are formed many words in the languages of Europe, Asia, and Oceania, meaning 'to take hold of,' the 'hand.'

I give some examples of each of these two meanings:—

(A.) To seize, grasp, etc.

1. kapi-o (Lat.), I take (*capiō*)
2. kap-o (Maori), to seize
3. kapa-kapa (New Britain), to handle
4. kube-ta (Fiji), to lay hold of
5. ga-hi (Pali), taking
6. ga-hanam (Pali), holding
7. gan-hāti (Pali), take, capture
8. gāng-am (Malay), to grasp in the hand

and, by Prop. VII.—2, 11

9. 'abh-ati (Pali), to take, seize
10. 'ati, 'adi (Aneityum), to take, to take off
11. 'ave (Samoan), to take
12. 'abia (Motu), to take

and, by Prop. VII.—7

13. chap-ēi (Malay), to grasp in the arms

(B.) Hand.

1. kai (Weddahs of Ceylon)
2. kei—*for* kamh, kav, kay? (Dravidian)
3. keka (Polynesian of Paumotu)
4. kha (Naga tribes of India)
5. kappi (ancient Akkadian)
6. kan-im (New Caledonia)
7. khut-i (Caucasian)
8. ga-tu (old Assyrian)
9. ge-tō (Torresian)
10. got (Vayu of Nepal), hand and arm
11. gub-blem (Vayu), hand (blem = 'flat')
12. gabh-asti (Sk.), arm

and, by Prop. VII.—2

13. 'ati-lang (Panjab)

and, by Prop. VII.—2

14. hat; hath (Nepal)
15. hatth-o (Pali)

and, by Prop. VII.—2

14. hop-u (Maori), to seize

and, by Prop. VII.—5

15. labh, lambh (Sk.), obtain, get
 16. lâ (Sk.), to take
 17. lâbha (Sk.), acquisition
 18. leb (Maithili), to take
 19. leh (Aneityum), to take
 20. lau (Fiji), handle
 21. lamb-ano (Greek), I take
 22. lab-ē (Greek), a handle
 23. labh (Beloochi), obtaining

and, by Prop. VII.—6

24. pam (Tukiok Is.), to hold
 25. pam-pam-ina (Tukiok Is.),
 to handle
 26. pa-lum (N. Brit.), to handle
 27. pa-ksh (Sk.), to seize

Other examples are:—

28. grah ; gras (Sk.), to seize
 29. sham-ala (Arabic), to grasp
 30. adā (for kada ?) (Pali), to take
 31. gamu-ta (Fiji), to take hold of
 32. juw-it (Java), to nip, pinch
 33. chub-it (Malagasy), to nip
 34. a-ngkub (Malagasy), pincers
 35. kham-as (Hebrew), to grasp
 36. 'um-i-ki (Hawaii), to pinch
 37. khab-as (Arabic), to take, grasp

16. hath (Maithili)
 17. hath-na ; át (Kashmir)
 18. hasta (Sk.),

and, by Prop. VII.—7

19. chak ; yak (Naga tribes)

and, by Prop. VII.—1

20. çam-an (Sk.)

and, by Prop. VII.—5

21. lamh (Gadhelic)
 22. lá (Nepal)
 23. lam-an (Kashmir)
 24. lag (Magar of Nepal)
 25. las (Pukshto)
 26. a-ring, 'my hand' (Nager to
 the north of Gilgit, in the
 eastern Hindu Kush)

Other examples are:—

27. yam-an (Hebrew), right hand
 28. immi (old Assyrian), right
 hand
 29. ni-kman (Aneityum)
 30. lima (Polynesian)
 31. thab-ung (Iaian of Loyalty
 Islands)
 32. lima-na (New Britain)
 33. no-kob-en (Erromanga)
 34. rim-ata (Tasmanian)
 35. 'a'a-o(=kakao)(Samoa), the
 hand of chiefs
 36. gav-é (Santo)
 37. sham-aleh (Gipsies of Egypt)
 38. ada (New Guinea)

EXPLANATORY NOTES.

(A.)—*To grasp.*—No. 1. From *capio* comes *cap-istrum*, 'a handle,' with which compare Nos. 3, 20, 22, 25, 26.—No. 3. New Britain is one of the islands (Melanesian) of the Bismarck Archipelago, east of New Guinea.—No. 5. Páli is one of the Prákrit or original and common languages of India.—No. 18. Maithili is one of the dialects of the Behar district in Bengal.—No. 19. Aneityum is the most southerly island of the New Hebrides (Melanesian).—No. 23. Tukiok Island is a small island close to New Britain. In the eastern Pacific there is another Duke-of-York island ; so I call this one Tukiok, the native pronunciation of its name,

(B.)—*Hand*.—No. 1. The Weddahs are the aborigines of Ceylon.—No. 2. The Dravidian languages (Tamil, Telugu, etc.) are mostly in the Madras Presidency of India. They are non-Aryan and pre-Aryan.—No. 3. The Paumotu group of islands is far east in the Pacific. Although Polynesian, its dialect has many striking peculiarities, as if from a strong admixture of previous inhabitants.—No. 4. The Naga tribes (Turanian) are on the N.E. frontier of India.—No. 7. Caucasian; *khu-ti* is from one of the many languages spoken in the Caucasus region.—No. 10. Torresians are the Papuan natives of the islands in Torres' Straits between New Guinea and Australia.—No. 11. The Vayus are non-Aryan aborigines in the Central Himalaya region, subject to Nepal.—No. 21. The language of the Scottish Highlanders.—No. 31. Isian is the native name for the language of Uvéa Is. there. Nengonese is the language of Maré Is. of the same group.—No. 33. Erromanga, one of the southern New Hebrides.—No. 36. Santo, a large island, most northerly of the New Hebrides.—No. 38. The *ada*, 'hand,' of the Koiari tribe on the southern coast of New Guinea, may be the Pâli *ādā*, 'to take.'

Proposition VIII.—Lima, *the Oceanic word for 'five,' which also means 'hand,' comes from the root ga, ka, and is connected with Aryan, Semitic, and non-Aryan words for 'hand.'*

This Proposition implies that the mode of counting from five upwards has been by hands—the *quinary* system. I must give some proof of this statement. Hence the three sections that follow.

I.—FIVE IS 'HAND.'

(a.) The Roman numerals VI., VII., VIII., are founded on V., which is 'five.' Now V. is a picture of the side view of the thumb and the forefinger when the hand is held up in a natural way; VI. is these two and one finger more, VII. two fingers more, VIII. three fingers more, which exhausts the hand, when the thumb and the forefinger of that hand have been used for 'five'; therefore, the symbol for 'nine' is not based on V., but is IX., that is, X. or 'two hands' with one finger less, as will be shown further on.

(b.) The numeral signs of the old Mayas of Central America correspond with the Roman system; for the numbers under five, they used simply dots; for five a bar, for six a bar and one dot, and so on; for ten, two bars; for nineteen, three bars and four dots; for twenty, four bars.

(c.) The islanders of the Andaman group in the Bay of Bengal are a very primitive people. Their numeration resembles the Australian; for they say 'one,' 'two,' and no more; all beyond is 'several, many, numerous, innumerable.' When they wish to indicate other numbers than 'one,' 'two'—the number 'nine' for instance,—they tap the nose with the fingers of either hand in succession, beginning with the little finger, saying *ūbatūl* ('one'), *īkpôr* ('two'), and for each of the other fingers of that hand, *ankā*, 'and this'; then four fingers of the next hand are held up together, the thumb being turned down; that is 'nine'; at the same moment they say *ardūru*, 'all.' For 'ten,' the one hand is used as for 'five'; but, before the two hands for 'ten'

are held up, they are brought together at the sound of the word *ardāru*, 'all.' They do not use the toes in counting higher numbers. The 'first' in a row of objects is called *ō-kōtap*, the second *tō-koyo-lo*.

(d.) In the Admiralty Islands (Northern Melanesia), *sangop* is the word for 'ten'; but, when using it, the natives hold out the two hands with the fingers pointing forwards, bring the two open hands together, and clap them *once*. They use subtraction to express 'eight' and 'nine'—*anda sip*, 9; *anda huap*, 8; *sip* is 'one' and *huap* is 'two.'

These examples are sufficient, I think, to show that 'five' is 'a hand.'

II.—'LIMA' IS FROM 'KA.'

Next, my Proposition requires me to show that *lima* comes from the root *ka*, *ga*. That is an easy task. Thus:—

Root *ka*, *ka-m*

- | | |
|--|--|
| 1. <i>gam-a</i> , i.e., <i>kam-a</i> ,
'hand' | 3. <i>dim-y</i> (Prop. VII.—4), i.e.,
<i>dim-é</i> or <i>dim-a</i> , 'five' |
| 2. <i>ni-k(a)m-a-n</i> ,
'hand' | 4. <i>lim-a</i> (Prop. VII.—5), 'hand'
and 'five' |

(1.) is Sanskrit; (2.) is from Aneityum, of the New Hebrides, where the *ni* is a common demonstrative prefix; (3.) is from Madagascar; and (4.) is the Oceanic word in question.

III.—ARYAN AND OTHER COGNATES OF 'LIMA.'

Next, *Lima* is cognate, in origin, to some Aryan, Semitic, and non-Aryan words for 'five' and 'hand,' all of which come from the same primal root *ka*.

(a.) Aryan.

1. †*ka-ka*; cf. Prop. VII.—(B),
3 and 35
2. †*kam-ka*
3. †Gr. (old) *κεν-κε*
4. Lat., *quin-que*
5. Gadhelic, *co(mh)-ig*, *eu-ig*
6. Gr., *πέμ-πε*, *πέντε*
7. Sk., *pan-cha*
8. Old Pers., *pean-che*, *pan-dj*
9. Pre-Roman tribes, *pum-p*
10. German, *fün-f*; Goth., *fim-f*
11. English, *five*

All these words mean 'five'

† These are obsolete in the Aryan tongues.

(b.) Semitic.

1. Old Assyrian, (y)*im-mi*, 'right hand'
2. Hebrew, *yam-an*, 'right hand'
,, *hham-esh*, 'five'
3. Arabic, *khams*, 'five'
,, *sham-aleh*, 'hand'

(c.) Non-Aryan.

1. Akkadian, *kap-pi*, 'hands'
2. Dravidian, *kei*, 'hand'; (k)*ei-du*, 'five'
3. Santo, *gav-é* (*gamh-e*), 'hand'
4. Aneityum, *ni-kman*, *ni-jman*,
'hand'
5. Vayu, *gub-blem*, 'hand'
6. Tasmanian, *rim-ata*, 'hand'

Strange as it may seem, this evidence shows that the Gaelic *lamh* of Scotland and the Polynesian *lim-a*, 'hand, five,' are of the same origin, but with many intermediate links to connect them.

Proposition IX.—*Lima is Melanesian, Polynesian, Micronesian, Papuan, and Indonesian in its distribution.*

(A.) *Melanesia.*

(a.) For 'hand,' these are the variations found in the New Hebrides:—*Lima, rima, jima, juma, ma, nel-limi, lime-gi*; irregular words for 'hand' are *gav-é, no-kob-en; raga; vari, vera, fera, ver.*

(b.) For 'five':—*Lima* (alone, or with *i-, e-, a-, ki-, mo-*, prefixed), *rima, lim*; also *tava-ligma, gai-lima, kadi-lum, kari-lum, suk-rim*, all of which five words mean 'one hand.'

(c.) For 'hand,' Fiji says *lig-a*, that is, *lim* nasalized, and New Britain has *lima-na*.

(B.) *Polynesia.*

(a.) In Fornander's list of Oceanic numerals, there are fifteen examples of words for 'five' from the islands occupied by the brown Polynesians. Of these words 5 are *lima*, 6 are *rima*, 1 is *nima*, 1 is *ima*, 1 is *ringa*, and 1 (Paumotu) is *aggoka*.

(b.) In his list also there are twenty-two words for 'five' from the islands of the East Indian Archipelago. Of these 10 are *lima*, 3 are *rima*, 1 is *nima*, 2 are *limo*, 1 is *lima-k*, 1 is *lema*, 1 is *lep-lim*, 1 is *lumi*, 1 is *run-toha*, 1 is *ma-toha*; the last two appear to me to mean 'one hand.'

(C.) *Micronesia.*

(a.) *Lima* in all Micronesia.

(b.) Although Formosa and the Philippines are only *adjacent* to Micronesia, yet a census of their words for 'five' may be taken here. I have a list of thirty-two localities in these islands. Of these 15 have *lima*, 2 have *tima*, 5 *rima*, 3 *rima* with a prefix (*da-, tu-*), 1 *hrima*, 1 *lima-ngan*, 1 *nimo*, 1 *magal*, 1 *hasub*, 1 *rassoum*, 1 *laleup*.

(D.) *Papuan.*

(a.) Of eighteen districts on the south coast of New Guinea (British territory), 1 has *lima* with the prefix *ko*, 1 has *limi*, 4 have *ima*, 1 has *nima-na*, 1 has *nim* with the prefix *kwei*, 1 has *ima'a*; the other words seem to have no connection with this root.

(b.) The Torresians have no words for 'five,' but the Australians at Cape York, opposite to them, say *ungatua*, 'the whole' (*sc.* hand) for 'five.'

(E.) *Indonesia.*

This term, as I use it, includes the whole area of the East Indian Archipelago. For this area I have Wallace's list of words from 59 localities, and Crawford's from 14. Of words for 'hand,' Wallace

gives the following varieties, viz., *tangan*, *lima*, *rīma*, *nīman*, *lima-mo*, *fahan*, *gia*, *ala*, *kanin*, *mot*; additional words from Crawfurd are *hasta*, *chas*, *langan*, which three are evidently from the root *kam*. *Hasta* is a Sanskrit word for 'hand,' and, although my Sanskrit Dictionary gives a different account of it, I take it to be for *ha(m)s-ta*, from *kam*; *chas* is for *kams*, and *lang-an* is from *kam* nasalized.

In Wallace's list, *lima* appears seventeen times for 'five'; variations are *rīma*, *nīma*, *lim*, *en-lima*, *de-lima*, *lep-lim*, *lima-nu*. In Crawfurd's fourteen, *lima* appears 6 times; other forms are *limo*, *la-lima*, *lime*, *lema*, *rim*, each once, *dimé* once; other words for 'five' are *gangsāl*, *poncho* (Sk.), *luwi*. Crawfurd cannot explain the derivation of *gangsāl*. I take it to be for *gams-al* from our root *gam*.

In fine, from all these considerations and arguments, I am clearly of opinion that the Polynesian word for 'five' is the 'hand' as the 'grasper,' and that it comes from a primitive root *ka*, *kam*.

While this is going through the Press, an important confirmation of the basis of my arguments has come under my eye. Philologists are sometimes asked, Where is this root of which you make so much? Does it exist anywhere? Those who read these pages will see that it has many guises and disguises in many languages, yet it is clear that the root *gam*, *kam* did once exist. But I can produce proof that it exists now. In a recently published dictionary of the language of the island of Efaté, New Hebrides, I find (page 88) these entries:—" *kam*, 'native tongs,' literally, that which seizes, grasps; (dialects)—*kau*, as a noun, 'tongs,' as a verb, 'to grasp with the hand'; *kam-kam*, 'scissors'; *kam-ut-ia*, 'to grasp with the fingers'; *kam-i*, 'to seize, grip, take with the fingers'."

(To be continued.)