

On the etymologies of Ancient Greek *κίννα*, *κιννάβαρι*, *κιννάμωμον*, *κορίανδρον*; Hattic *kinawar*; Sanskrit *kustumbari*; and very much more .: steps towards further discoveries

Alexandru Gheorghiu  
Researcher in Linguistics

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## Abstract

A hypothesis that the Ancient Greek word *κίννα* (*Hordeum murinum*, “wall-barley”, the ears of which often turn crimson<sup>1</sup>, whereas true barley ears do not turn red) and the *κιννά-* element in Ancient Greek *κιννάβαρι/κιννάβαρις*<sup>2</sup> (meaning “cinnabar”, which is mercury sulfide/mercuric sulfide, a naturally occurring compound of the chemical elements mercury and sulfur, from which an important but toxic vermilion pigment was obtained<sup>3</sup>; cinnabar is also the form in which mercury is most commonly found in nature, and so most of the mercury of the ancient world was obtained by processing it out of cinnabar) share the same etymon with the *kina-* element in Hattic<sup>4</sup> *kinawar* (the Hattic word for copper) and Hurrian<sup>5</sup> *kinahnu/kinahhu* (meaning red and/or purple); and that the second element in *κιννάβαρι(ς)* (*-βαρι-*) shares the same etymon as the second element in Hattic *kinawar* (*-war* being the second element). Also included in this paper is the hypothesis that the meaning of *κιννά* was blood (and also red and/or various shades/hues of red, with the semantics including purple and violet and shades of purple and violet, and reddish-brown shades/hues as well) from an older group of connected meanings which will be explained in this paper. The first elements of the Ancient Greek words *κιννάμωμον/*

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<sup>1</sup> *Hordeum murinum*: The inflorescence measures 3--12 cm, 7--16 mm wide, and is green to glaucous, sometimes red or brown at maturity.

<sup>2</sup> Both *κιννάβαρις* (masculine form) and *κιννάβαρι* are attested. Also attested is the form *τεγγάβαρι* (*tenggabari/tengabari*).

<sup>3</sup> Earliest attestation of *κιννάβαρι(ς)* is in Theophrastus' work, *On Stones*, where it is attested as *κιννάβαρι*, and which seems to be applied to several different substances, one of which is mercury sulfide/cinnabar. Most likely *κιννάβαρι(ς)* could also refer, at times, in some Ancient Greek usage, to red lead (lead tetroxide). And the word was known to also be applied to a red resin obtained from certain trees, a red resin which was known as “dragon's blood” in India. The resin is extracted from many different tropical tree species commonly called dragon trees. These may come from the plant groups *Calamus*, *Croton*, *Pterocarpus*, *Daemonorops* or *Dracaena*. The dragon's blood known to the ancient Greeks and Romans was mostly collected from *Dracaena cinnabari*, and the product was mostly imported from ancient Socotra, an island located off the coast of the tip of the Horn of Africa, near the mouth of the Red Sea, and more specifically between the Guardafui Channel and the Arabian Sea.

<sup>4</sup> Hattic is an ancient extinct language of ancient Anatolia (central to eastern and northern Anatolia), which is currently an isolate language, since it has not yet been grouped with any other language.

<sup>5</sup> Hurrian is an ancient extinct language of ancient eastern Anatolia; the area south of Lake Van; and parts of ancient Syria. Hurrian is grouped with Urartian/Urartian in a Hurro-Urartian/Hurro-Urartian language family, which has not yet been definitely linked to any other language family.

*κίνναμον/κιννάμωμον* (the first elements being *κίνν(ᾶ)/κίνν(α)/κιν(ᾶ)*) may also share the same etymology as the first element of *κιννάβαρι(ς)*, rather than deriving from Old Chinese \**Dzin*, as is often assumed, even though *Cinnamomum verum* (true cinnamon, still considered the best kind of cinnamon) originates from Sri Lanka and was known to the Ancient Egyptians by 2000 BC at least, maybe further back.

Keywords: *Ancient Greek, Hattic, Hurrian, Anatolian, Proto-Indo-European, Peri-Indo-European*

## 1. Hurrian, Akkadian and Hattic examples

In ancient Hurrian texts, we find the term *kinahnu*, which is thought to mean red or purple or a shade of red or purple. In Akkadian we find *kinahhu* meaning “purple”<sup>6</sup>. The Akkadian word is most likely a Hurrian loanword<sup>7</sup>. In Hattic we find *kinawar* meaning “copper”. I’m not sure why the Hattic word for copper contains a word also found in Hurrian, but I’m sure that that is in fact the case. Whether the Hattic word is a loan from Hurrian (or a loan from a sister language of Hurrian) or whether the Hurrian words are loans from Hattic, or whether both picked up the words from another language not grouped with Hattic or Hurrian, is as yet undetermined, but those questions are among the questions that will be studied in this paper.

In 1936, Ephraim Avigdor Speiser<sup>8</sup> put forward the theory that the name of Canaan derives from Hurrian *Kinahhu/Kinahnu*. That has not been ruled out yet; but that theory of Speiser’s, whether it’s correct or not, does not concern my work in this paper. In fact, the Hurrian and Akkadian examples themselves are rather superfluous, and the Akkadian example in any case is quite certainly a Hurrian loanword.

## 2. Establishing the etymology of Kinnabari(s)

It is unclear from what language(s) did *κιννάβαρι(ς)* and *κιννάμωμον* enter the ancient Greek dialects (Herodotus stated that the word *κιννάμωμον* is of Phoenician origin; and in Hebrew the word is found as **קִינָמוֹן** = *kinamón* or *qinamón*). It cannot even yet be ruled out that Hattic may have had a sister language which was one of the pre-Greek Aegean languages which the early Indo-European Greeks encountered in Greece and/or on some Aegean islands and/or in Thrace. However, I will in this paper hypothesize that it is “more likely” that *κιννάβαρι(ς)* and *κιννάμωμον* and *κίννα* (*Hordeum murinum*) entered the Greek language at a somewhat later date (later than the time of the intermingling of Greek with pre-Greek in pre-Mycenaean times), and that the words were imported from Anatolia or Syria: but it appears that none of those three terms (three not counting variants) ultimately derive from a Semitic language; Hurrian, which was not Semitic, was spoken in parts of Syria as well: so the words geographically could derive from the land that is now Syria, but linguistically they are probably not of

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<sup>6</sup>See *A Concise Dictionary of Akkadian*, edited by Jeremy A. Black, A.R. George, J.N. Postgate, Tina Breckwoldt. Pg. 158.

<sup>7</sup>Ibid. pg. 158.

<sup>8</sup>Ephraim Avigdor Speiser and Robert H. Pfeiffer, *One Hundred New Selected Nuzi Texts*. 1936.

Semitic origin.

The components of Ancient Greek *κιννάβαρι(ς)* (aside from the Greek suffix “ι(ς)”) were (at least before the publication of this paper) considered to be of unclear meaning and unclear origin. Is the word of Hattic origin, from *kinawar*? Or was the Hattic word a loanword from another language? Or was only one part of *kinawar* a loanword in Hattic? And which part was native to Hattic, which part was a loan? If the *-βαρ-* element was a loan, was it a loan from Sumerian, where *-bar* is often found as a morpheme in nouns <sup>9</sup>? Or was it not from Sumerian? What did/what does the *-βαρ-* part of the word mean, and does it have the same meaning as the *-war* in *Kinawar*? Were the words divided *kinnab-ari(s)*, *kinaw-ar*, or *kinna-bari(s)*, *kinaw-ar*? I’m sure it’s the former, not the latter, as I will show in this paper, so *kinnab-ari(s)*/*kinaw-ar* are dismissed as too unlikely.

If *-βαρ-* and Hattic *-war* have the same meaning and share the same etymon, could the *-βαρ-* element be from Proto-Indo-European, or from a language that was a sister language to Proto-Indo-European (both languages descending from a common ancestor)? The form *-βαρ-* in the Indo-European context at first appears to be reminiscent of two PIE root words <sup>10</sup>: 1) PIE *\*b<sup>h</sup>uH-*, “to become, grow, appear”, from which many Indo-European words derive, such as English “be”; Latin “fi”; and 2) PIE *\*b<sup>h</sup>er-*, “to bear”. In what way do *-βαρ-* and *-war* (the latter extracted from Hattic *kinawar*) suggest a possible connection to PIE *\*b<sup>h</sup>uH-*, “to become, grow,

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<sup>9</sup>-*Bar/-bar-* is sometimes found as a morpheme of unknown meaning and unknown status (because the usage is mysterious and the meaning unknown, in a number of Sumerian words it is unclear whether “-bar/-bar-” is a word having specific meaning or instead a morpheme serving sometimes as a noun-base/noun-suffix in Sumerian. I should explain here though that *-bar/-bar-* in those Sumerian words is not expected to have been a morpheme without meaning, serving only as noun-base/noun-suffix; even the *bar* which is found as a component in some Sumerian verbs is expected (see Fumi Karahashi’s paper from the year 2000, Sumerian Compound Verbs). Karahashi, an authority on Sumerian, says that in Sumerian compound verbs, “bar” is expected to be a word with definite meaning which has been used to create new words/verbs. Though in his paper he doesn’t address the use of “-bar/-bar-“ in various Sumerian nouns, from what I’ve gleaned of Sumerian from the experts and from the dictionary database, when one finds *bar* in a Sumerian noun, that *bar* most likely meant something specific: for example, in *sibar* (“copper”), *si* meant “red/brown/blood”, while *bar* in that word is thought by many to have meant “bright (metal)” (and later in this paper I discuss my theory for the origin of that meaning in that word). However, such a meaning for the *bar* in *kinnabari* is not mandatory or compelling, because cinnabar is usually not bright or lustrous, but instead dull (the luster level of cinnabar is usually dull; though cinnabar occasionally occurs in crystals that have a subadamantine luster). Besides that, this paper presents a lot of reasons to expect that *bari/baris* in *kinnabaris* meant “dragon/snake/serpent”. There were also other meanings of *bar* in Sumerian which are as yet undetermined and/or disputed: such as in the Sumerian word *gishnimbar* (=palm tree), where *gish*=tree, *nim*=high, while *bar* is of unclear meaning, though I have a hypothesis or two about that, though I’m not sure if they’re ready for publication. For those not so familiar with the Sumerian language: Sumerian stands out as a language that had a high number of homonym words, so much so that the ancient Sumerians and/or the Akkadian scribes who were writing Sumerian had to develop a superscript notation system to distinguish the homonyms in cuneiform writing. The element *bar* is one example of a Sumerian morpheme with many different meanings, pertaining to at least two different roots which were homonyms. I’m pretty sure that the *βαρ* in *κιννάβαρι(ς)* and the *-war* in Hattic *kinawar* do not derive from Sumerian, but were instead part of an ancient Sprachbund.

<sup>10</sup>The reminiscence to these two PIE root-words was first mentioned by me in this work; the observations do not derive from anyone else’s research. I mention them to show that these two alternatives are actually not more likely than the hypothesis that *bar*=dragon, snake, serpent, in the case of *kinnabari(s)*.

appear"? It is possible that the *-βαρ-* in *κιννάβαρι(ς)* and the *-war* in *kinawar* meant “being” or “thing” (with copper and cinnabar both being a “red-being” or “red-thing” or “blood-like thing”), in which case those forms would be very similar in sound-form and meaning to PIE *\*b<sup>h</sup>uH-*, “to become, grow, appear”, and could possibly have an etymological kinship to that PIE root: perhaps deriving from that root, or from an older root which is the ancestor of all three forms.

Alternatively, a kinship to PIE *\*b<sup>h</sup>er-*, “to bear” is possible; in which case *kinawar* and *κιννάβαρι(ς)* would have meant “red-bearing” or “blood-bearing”. And as with the previously mentioned PIE root-word, the Hattic *-war* and the Greek *βαρ* may not derive from PIE *\*b<sup>h</sup>er-*, but instead from a root-word ancestral to PIE *\*b<sup>h</sup>er-*.

I think that a more likely theory is that *-βαρ-* meant “dragon/snake/serpent” in an as yet unidentified and unclassified language of ancient Anatolia and/or some lands surrounding Anatolia, and *κιννάβαρ* meant “blood (of the dragon)/”blood (of the) serpent/blood (of the) snake”<sup>11</sup>. The meanings “dragon/snake/serpent” come from the older meanings of the root-word, which meant “to curve, turn, bend, coil, twist; circle, round”. Part of the evidence for my hypothesis, new evidence that I discovered in 2021 months after I published the previous version of this paper, is the source-word from which “ginger” derives, which underwent changes that look very similar to the forms that the word *kinnabari(s)* has in the Middle East and passing through India: that source-word for “ginger” is Proto-Dravidian *\*cinki-wēr*: in this compound noun, *-wēr* meant “root” as the linguistic sources on the subject already say, while *cinki* for reasons as yet undetermined, referred to the plant and/or referred to the root of the plant. I believe that *cinki* referred to the root of the plant, and the most likely meaning was “burning, pungent”, referring to the taste of the root. So while the word *cinki* does not involve the *kinna-* in *kinnabari(s)*, the *-wēr* word I believe is cognate to the *-bari(s)* seen in *kinnabari(s)* and *-war* seen in Hattic *kinawar*: because the meaning “root” for this word I believe developed from the same older meaning of “to curve, turn, twist, bend, coil”, as I will show further in this paper.

Another part of the evidence for my hypothesis is that at some point in Ancient Greek, the word *κιννάβαρι(ς)* was also applied to the red resin of Socotra island’s dragon tree, which was also called *αἷμα δρακόντιον* (*haima drakóntion*), “dragon’s blood”<sup>12</sup>: I hypothesize that the reason that *κιννάβαρι(ς)* was used as a synonym for *haima drakóntion* was because there were some ancient Greeks (or some non-Greek people who were in

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<sup>11</sup> In this connection, see also in ancient Greek (in Theophrastus' work, *On Stones*, for example) the name of the stone *haimatitis* (red jasper? haematite?), which derives from the Ancient Greek word for blood, *haima*. And the English word “iron” may derive from a PIE root that meant “blood”.

<sup>12</sup> See Jean Tinquier, *Cinnabaris and Dragon’s Blood: Ancient “Cinnabar” between Mineral, Plant, and Animal*, in *Revue Archéologique*, Volume 56, Issue 2, 2013, pages 305 to 346. Tinquier either assumed that *kinnabari(s)* had no etymological link to “dragon’s blood”, or the idea never occurred to him that there could be an etymological link to such a conception.

contact with the ancient Greeks) who knew that that is what *κιννάβαρι(ς)* originally meant; of course, some can say that that is not so, that the only thing linking mercury sulfide and that tree resin was that both were red and both were used as pigments and dyes. I don't believe that that was the only linkage, and this paper explains why I don't believe that.

As will be detailed further, the Ancient Greek element *κιννά-* in *κιννάβαρι* and also seen in *κιννά* (*Hordeum murinum*) had an older meaning of "blood", and was either a word of Proto-Indo-European origin or found in both the Proto-Indo-European language and in some Peri-/Semi-Indo-European languages, and perhaps also in some clearly Non-Indo-European languages (such as Hattic). I do not believe that *κιννά(-)* in its meaning of "blood" was native to Ancient Greek's PIE inheritance (see my discussion of the etymology of *κιννά* further in this paper), though Ancient Greek did have some kindred words, but which were in a different part of the semantic range.

The *βαρ* word meaning "dragon/serpent/snake" is even more Non-Greek than the previous term *κιννά* discussed in the paragraph above, though it is very likely Indo-European (possibly, for example, from PIE *\*wer-*, "to wind, twist, turn, bend, curve", referring to the movements and body of a serpent/snake). So the entire word *κιννάβαρ/κιννάβαρι* was very likely a loanword from an Indo-European language of Anatolia, or a language that was Semi-Indo-European/Peri-Indo-European, a sister language to Proto-Indo-European.

This Indo-European language or Semi-IE language may have had some contact with and influence on Sumerian, and vice-versa: Sumerian and Hattic had some influence in the area of vocabulary on Proto-Indo-European/Eteo-Indo-European. Unless the not-small list of Sumerian and Indo-European lexical correspondences represent a linguistic parallel deriving from some psychological-linguistic (the way their minds developed and associated certain morphemes to refer to certain things and certain abstractions) similarities without there having been much contact between the groups; but it is not known to what extent such psychological-linguistic correspondences occur (but globally common nursery words and many similar onomatopoeic words are proof that to some extent it happens,

It's quite likely that the word *Bar* meaning "dragon/serpent/snake" derives either directly from PIE *\*wer-*, "to wind, turn, twist, bend", or from an exactly parallel word in a Non-Indo-European language<sup>13</sup>; or from a root-word which was ancestral to the PIE root word. The Sumerian word *bir* meaning "locust" and the *bir* portion of the Sumerian word *bir-gir* (which meant "scorpion") is akin to the snake word *-βαρ-*; because I've found (I have identified this root in Sumerian, if no one before me has) that *bir* was a Sumerian root/lemma that meant "bent, curved, twisted, winding; to bend, curve, twist, wind". The *gir* part of *bir-gir* is already known to have meant

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<sup>13</sup> See the Concluding evidence portion of this work, the concluding section of this paper, for a discussion of a root-word *\*bal/\*mal* which likewise meant "to curve, turn, bend, twist, encircle; round".

“sharp/pointy/sharp point” in Sumerian (parallel to an Indo-European form *gir-* with the same meaning, from PIE *g<sup>w</sup>ṛH-*). So *bir-gir* meant “curved spike”, “curved stinger”, referring to both the curved stinger and the curved tail of the scorpion. The Ancient Greek word *σκορπίος* itself is most likely from PIE *\*(s)ker-*, “to turn, bend, curve”, I believe, due to some evidence weighing a bit more on that side than on the side that derives *σκορπίος* from PIE *(s)ker-* “to cut”: both are very possible and in any case the word derives from one of those two (this question will be returned to later in this paper). Another word for “scorpion” in Sumerian was *gir-tab*, which had the same meaning as *bir-gir*, “curved spike”, because *tab* is already known to have been a Sumerian word that meant “to curve, turn, twist, encircle”, as seen in Sumerian words such as *gu-tab* (=collar), where *gu* is the known Sumerian word for “neck”; *nunuztaba* (=necklace of beads), where *nunuz* is the known Sumerian word for beads and ovoid shapes; and *kiritab* (=bridle), where *kiri* is the known Sumerian word for “nose” (a horse’s or ox’s bridle wraps around the snout of a horse or ox, or other such animal).

The reason that *bir* meaning “locust” also derives from this Sumerian root is because of the very bent hindmost legs of the locusts/grasshoppers. Likewise, the Latin word *locusta* (the source of English “locust”) was hypothesized by Julius Pokorny to derive from the PIE root *\*lek-*, which also meant “to bend, twist, be jointed”, referring to the locusts/grasshoppers hindmost legs (the English word “leg” also derives from PIE *\*lek-*, as was determined at least since the time of Pokorny’s work). I’m sure now that Pokorny was right about that.

It’s also true that in many languages, such creatures perceived as/or actually harmful were given names which sometimes shared the same etymology, so especially in ancient people’s minds, snakes, scorpions and even locusts were closely associated (see also how long and worm-like/snake-like the locust’s abdomen portion is, sticking out the way it does). Both Pokorny<sup>14</sup> and De Vaan<sup>15</sup> and surely others think that Latin *lacerta* (=lizard, and the source of the English word “lizard”) is a close cognate to Latin *locusta*, deriving from the same root (though De Vaan does not derive the words from any root, he thinks that *locusta* and *lacerta* are close cognates). So there we have an association between lizard and locust; as with the Sumerian case though, the association is not from the lizard being perceived as harmful (lizard species are rarely harmful to man, and only if they are thought of as the kin of snakes or wicked dragons are they perceived in a bad light), but goes back to an old root word that referenced the very bent legs of both lizards and locusts: both are very fast-moving, agile, and their agility and speed derive from their limbs: even the lizard’s legs are jointed and skewed in a peculiar way, not the mammalian way; so the link/connection was/is their bent/skewed legs/limbs which propel them so fast, and

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<sup>14</sup> Pokorny, Julius (1959), *Indogermanisches etymologisches Wörterbuch [Indo-European Etymological Dictionary]*, in German, volume II, Bern, München: Francke Verlag, p. 673.

<sup>15</sup> De Vaan, Michiel, (2008), “locusta”, in *Etymological Dictionary of Latin and the other Italic Languages* (Leiden Indo-European Etymological Dictionary Series; 7), Leiden, Boston.

the lizard's body, snake-like, curving, bending, twisting, also propels it. Sumerian *bir* ("locust") had the variant forms *bur* ("locust"), and *buru* ("locust").

Now I'm going to detail the many additional Sumerian words on which I base/with which I developed my hypothesis that *bir/bur/bar* was a Sumerian root/lemma which meant "bent, curved, twisted, winding; to bend, curve, twist, wind". There's little doubt that I'm correct about that. The next Sumerian word that derives from that root is the *bir* element in Sumerian *birtu* (=castle, fort), which comes from the idea of "walled around/enclosed", as do many words for town/city/settlement/fort in Indo-European languages and other languages. One other example being Slavic *Grad* ("city, town) from a PIE root *\*g<sup>h</sup>erd<sup>h</sup>-* which meant "to enclose, encircle, to gird; enclosure; fence; belt", from which the English words "gird", "girdle" and "garden" derive (et al.). There is at least one Indo-European example that is very similar *in form/sound* as well as in meaning to Sumerian *birtu*, because it derives from a root whose form was nearly identical to the Sumerian: Middle Persian *War* (castle) and Avestan *Vara* ("entrenchment, moat") derive from PIE *\*wer-*, "to wind, twist, turn, bend, circle".

The next Sumerian word that derives from the Sumerian root I am describing is possibly (not as certain as the others) Sumerian *bar* meaning "fleece (of sheep, lambs, rams)", because the wool of a sheep is very curled. That word also makes it more likely that the *bir/buru* root also had a variant *bar*. It is also possible though that that Sumerian word for fleece comes from a word for white, *bar/babbar*; but the sources are not clear on whether a Sumerian word *bar* meaning "bright, white" actually existed (but it most likely did); if it did, then I suppose that it is often considered that *babbar* is a duplication of *bar* (*bar-bar*-->*babbar*), though I have no reference for that at the moment; or maybe another word "bab" was combined with "bar". In Sumerian *ud* is another word for "white", while *udu* is a Sumerian word for "sheep"<sup>16</sup>, and *Utu* is the Sumerian sun/sun-god (the blazing white radiant sun), so a derivation of *bar* (fleece) from the idea of "white" remains a possibility. However, a derivation of *bar* meaning "fleece" from the idea of white (if anybody derives that word so) rather than curled seems to me less likely, but not by much. Considering and comparing examples in other languages, such as the PIE root *\*h<sub>2</sub>welh<sub>1</sub>-* ("hair; wool") being so similar to PIE *\*welH-* "to turn, twist", is not enough to say for certain, since there may be words for "fleece" and "wool" in some languages that derive from the idea of "white", not "curled", and Sumerian could have been one of them. It's interesting that in the case of *bar* ("bright"; this led to the meaning of "metal/metallic sheen") and *babbar* ("white"), I have to come to a conclusion of very high confidence that they

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<sup>16</sup> Another Sumerian word for "sheep" is *gaba*: but I don't think that both *gaba* ("sheep") and *babbar* ("white") derive from "baa-baa", the sound that sheep make, most sheep having white wool: so in that scenario, the sound "baa-baa" led to "gaba" as one of their words for "sheep" and "babbar" as one of their words for "white". However, it's more likely that *gaba* derives from Sumerian *ga* (milk) + *ba* (to give, portion out) as proposed by a linguist some years ago; the similarity to the sound that sheep make is curious though, but unless a variant *baba* is found, I think the "milk-giver" etymology is more likely; while *babbar* and *bar* which meant "bright, white" I'm sure both derive from a Proto-Sumerian *\*bar*=circle of the sun.

both derive from a Proto-Sumerian word *\*bar* which meant “circle” (from the meaning of “curved”), referring to the disk of the sun. So I’m quite certain that this was the progression *\*bar*=curved→*\*bar*=circle→*\*bar*=disk/circle of the sun/sun→*\*bar*=bright (like the sun)/white (like the sun). And from there we have *bar*=bright; metal; metallic sheen, and *babbar*=white. So even if *bar* =fleece derives from “white”, “white” in this case derives from the curved disk/orb of the sun, from *bar*=to curve, bend, to be round <sup>17</sup>. From the meaning of “sun circle/sun disk” also developed the meaning of “to burn” seen in Sumerian *bar* meaning “to burn”. Compare Sumerian *gur*=circle; *gurum*=to bend, curve, wrap around, to roll up; and once again the homonym *gurum*=to burn (see the ePSD Sumerian dictionary/database). Compare also *gur*=circle, loop, hoop; and *bur*=bowl.

A third possibility is that *bar* meaning “fleece” derives from a Sumerian word *bar* that meant “to cut/cut off” <sup>18</sup> (sheared off wool and stripped off animal skin, if the hide is also removed, not just the wool cut off by shears), as well as some additional like-meanings (“to peel”, see note #18). A fourth possibility is that *bar* meaning “fleece” derives from a Sumerian word *bar* which meant “outside”, “outer”, “side” (the wool/hide being the outside of the animal); but with both of those options, there would be the question of why this *bar* word didn’t also mean “skin, leather, hide; fur; hair”, meanings which are not attested for *bar*: if this Sumerian word referred to the curl of the wool, then you would not find the meaning of “leather” or “hide” or “skin” attested for the form in Sumerian, and since not all hair or fur is curled, you could also expect to not find such a word applied to hair or fur, only to curled hair such as found on a piece of fleece from a lamb/ram/sheep.

The next Sumerian word that derives from the Sumerian root I am describing is the Sumerian word *bar*. which means “outside”/“outer”/“side” (mentioned in the paragraph above). I have determined without a doubt and no question that the earlier meaning from those three was “side”, and that that meaning derives from an older meaning of “rib/ribs/the ribcage”, from the way the ribs are curved, from the Sumerian root-word *bar/bir/bur*, meaning “to curve, turn, bend”. I invite anyone to study that etymology of mine by looking at the Sumerian evidence, and see for themselves. In Akkadian, it is known that a word *silu* meant “rib” and also “edge”. An analogy was made, among the Sumerians and Akkadians and other ancient peoples, between the ribs/sides of humans and vertebrate animals and the curving edge of the horizon, the ribs of the known world, of the earth and sky and sea; the far-off edge beyond the horizon, the encircling edge of the earth. From the meanings of “outer”, “outside”, “edge” developed the meanings of “from far-off, foreign, strange, foreigner, stranger” also attested in

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<sup>17</sup> So I do not believe that the *bar/babbar* words meaning “bright/white” derive from a Proto-Sumerian word that meant “tooth”. Though there are a number of cases where that happened in Sumerian (cf. *zu/zug*; *za/zag*; *ku/kug*; *ka/kag*), it is not to be expected that that is the origin of all of their words for “bright, white”; that would be absurd. The human mind is very creative, and my etymology deriving those two words from the circle of the sun sounds just like what one can expect to have happened in a number of ancient languages.

<sup>18</sup> See the ePSD dictionary/database. The existence of Sumerian “*bar*” meaning “to cut, cut off, split, peel” and “*bir*” meaning “to tear, shred, destroy” suggest a possible Proto-Sumerian *\*bar* meaning “tooth; fang; claw; something pointed”.



Sumerian for *bar*. In Latin and the Romance languages, to name some of the many other languages where the same semantic development happened from “rib” to “side, edge, limit”, we find that from the Latin word for rib, *costa*, developed the meaning of *coast*, the edge of the earth, where the sea/ocean begins.

The additional meanings of “behind”, “back” and “shoulder” for *bar* most likely derive from the curvature of the shoulders and the buttocks, but also because the shoulder is a prominent edge/side of the body (the meanings of “edge/side” developed from rib, as described above), and the idea of “behind, back” also was influenced by/derives also from the notion that that which is “back, behind” is on the “other side”, with the meaning of “side” deriving from rib. So if *bar* meaning “fleece” were to derive from the notion of “outside part”, that notion of “outside part” in the word *bar* derives from the fact that *bar* was a Proto-Sumerian word for “rib/ribs/the ribcage”, from the root-word meaning “to curve, turn, bend”. The later Sumerian word for rib was *tī*, a word from a different root, which was possibly a loanword that entered Sumerian later, displacing the ancient *bar* which developed so many meanings in later Sumerian.

The next Sumerian word that derives from the Sumerian root I am describing is *buru*, a homonym to the locust word, but this time meaning “crow; bird of prey; vulture”. The reason *buru* is the word for those kind of birds is because birds of prey and vultures have very curved and hooked beaks, and even the crow has a very curved beak (the upper beak, not the lower). So I have no doubt about my etymology of those words. If they derive instead from an unattested Sumerian root that meant “to eat, bite”, there would be the question of why jackals and dogs and other such creatures were not named so, besides the fact that a Sumerian word *bar/bir/bur* meaning either “to eat, bite” or “tooth” is not attested<sup>19</sup>. Nor do I think that *buru* in reference to those birds came from the notion of “pointed” or of “tooth” (with “tooth” developing to “beak” and/or “mouth”). The notion in the etymology is the curvature of the beaks.

Though added in September of 2021, this next etymology was already completed in my notes in December 2020 or early January of 2021: this is the new etymology I add here: there are also two Sumerian words *bir* and *buru* which refer not to “crow; bird of prey; vulture” but instead to “small birds, sparrows”, and this instance of *bir* and

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<sup>19</sup>Though I haven’t found a Sumerologist/Assyriologist (or anyone else) who states that there was a Sumerian word *\*bar* that meant “tooth” (from which “to bite, chew, eat” could have developed, as seen in some languages), there are some slight indications/hints that there may have been such a word in early Sumerian. But just as likely, there was not. And these words for “crow; bird of prey; vulture” do not suggest that they come from such a word, if one like that even existed in their language. If such a word existed, then Proto-Sumerian *\*bar* meaning “tooth” could have derived from an earlier meaning of “curved fang” and/or “curved beak”, from the same root-word meaning “to curve/curved/to turn”. But regardless of such a word’s relation to the notion of “curved”, a Proto-Sumerian/Archaic Sumerian word “bar” meaning “tooth” is possible, but not the explanation for these “crow; bird of prey; vulture” words, nor for the “small birds; sparrow” words. In a future paper, I may investigate the question of whether such a word “bir/bar/bur” with the meaning of “tooth; something pointed” existed in Sumerian.

buru are often translated simply as “sparrow”. This instance of buru is written differently from the ones referring to “crow; bird of prey; vulture” and it is catalogued as buru #5 (=small birds; sparrow) in the modern classification system of cuneiform combinations. Sparrows do not have much curvature in their beaks, not particularly so (slightly curved); so what is the etymology for these words? Does this disprove the etymology given for buru in the preceding paragraph? Not at all, in fact it makes it more likely. As I determined in the year 2020 (I thought about it even before I first wrote it down in December 2020 or January 2021) these two words bir and buru were applied to sparrows and other small birds from the way that little birds and sparrows turn, dart and move all the time. I thought of that on my own, then I soon found that such a semantic is attested in Latvian, where their word for sparrow, *zvirbulis*<sup>20</sup>, derives from PIE \*werb-, \*werp- (a suffixed form of PIE \*wer- “to turn, twist, to bend”, suffixed by -b and/or -p) plus the IE suffix -ulis, plus a prefixed z/s sound. That initial Z is either from an s-mobile, or from the influence of some other term for this bird species (e.g., dialectical Latvian *žīgurs*, *žvīgurs*, *žvingurs*, apparently from the same stem as Latvian *zviegt*, “to neigh, to whinny”, in other words, a noisy bird). The Latvian word *vērpt* (“to spin”) is a word cited by Karulis as part of the primary evidence for his etymology of *zvirbulis*<sup>21</sup>. I’m sure that’s the correct etymology, and to his evidence I will add two Romanian words, *zvârcoli* (“to make spasmodic movements; to turn in bed from one side of the bed to another, e.g. to toss and turn in bed; of a child who is turning back and forth from one place to another in a house or room of a house, acting unsettled and agitated”;---and what I said here is found in the dictionaries verbatim, I just translated into English) and *zvâr* (an expressive interjection used to portray the sound of something that is flying rapidly through the air, or of something thrown at high velocity into the air; analogous to English “whirr” and “whizz”). In his work, Karulis stated that Proto-Slavic *võrbь*, “sparrow”, also derives from \*werb-, “to turn, twist, curve”.

The next Sumerian word from this root is the *bir* part of *birig* “to roll up; contract oneself; to turn up the nose/contort the lips in the act of sneering/to sneer”. The next Sumerian word likely to be from this root is the *biri* part of *dibiri*, meaning “con artist”/“swindler”, in other words “twisted, crooked”<sup>22</sup>.

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<sup>20</sup> The dialectical Latvian forms are: *zvirbulis* and *zvirblis*. The Lithuanian form is: *žvirblis*.

<sup>21</sup> Karulis, Konstantis (1992), “*zvirbulis*”, in *Latviešu Etimoloģijas Vārdnīca* (in Latvian), Rīga: AVOTS.

<sup>22</sup> In this updated version of my paper, I have removed the Sumerian compound verb “*zu bir*”, because it is too ambiguous and the etymology of “*bir*” in that word may pertain to a different root-word meaning “to shred”, a homonym to the one I am discussing in this work. While the meaning of “*bir*” in this phrase is debatable, Sumerologists/Assyriologists think that the “*zu*” found in this phrase is the Sumerian word “*zu*” meaning “tooth; something sharp/pointed”. See the ePSD database’s entry for “*zu bir*”. In previous versions, I had mis-typed this word as “*za*”, but I gave the correct meaning: tooth. I suspect that in this instance, “*zu*” may stand for “mouth”, while “*bir*” is from the “*bir*” which meant “to curl, twist” (hence, curled up/twisted up mouth standing for “to laugh” as is seen in such agglutinative languages). But it’s too ambiguous for me to place it in the main body of my work, so I will note it here instead. If “*zu*” here stands for “voice” (but why use “*zu*” and not one of the many Sumerian words which were known to mean “voice”?), then “shredded voice” would make sense to stand for “to laugh”. I have not seen anyone saying that “*zu*” in this phrase stands for “voice”, but that may be the case, and so it’s an ambiguous example.

The next Sumerian word is the *bir* part of *birgun* (a type of cheese). The connection here is illustrated by the Albanian word *brëndës* (intestines), which is considered to be the most likely source of or cognate to the source of the Romanian word *brânză* (nowadays means feta cheese; sometimes cheese in general; in the plural form especially often means any type of cheese), because the word originally referred to cheeses prepared in a sheep's stomach by reacting with the rennet inside. The PIE root of Albanian *brëndës* and Romanian *brânză* is I believe the PIE root *\*g<sup>wh</sup>ren-*, "soul, mind", older meaning "midriff, stomach", oldest meaning "intestines" and maybe also "brains"; in ancient times, the soul/mind was often believed to be located in the gut or the solar plexus. We still speak of a gut instinct and gut suspicions. The Old Norse word *grunr* ("doubt, uncertainty; cause of suspicion; aspersion") derives from *\*g<sup>wh</sup>ren-*, as does Ancient Greek *φρήν* (*phren*, meaning "midriff, stomach; the seat of intellect, wits, mind"). The Romanian word *brână* ("girdle, belt, thong") also derives from *\*g<sup>wh</sup>ren-*, as does the variant form *brâu* (same meanings) and the Albanian cognate *brez* (same meanings). Latin *brandeum* ("shroud; linen; silk") loaned into Latin from an unidentified language (most likely), also derives from the root perhaps, either from an older meaning of "girdle", "wrapping around the body", or because PIE *\*g<sup>wh</sup>ren-* is likely akin to PIE *\*g<sup>wh</sup>iH*, "tendon, string, intestine", the source of PIE *\*g<sup>wh</sup>iH-(s-)lo-*, the source of Latin *filum* ("thread, string, filament, fiber"), by way of the intermediary Proto-Italic *\*fi(s)lom*, cognate to Lithuanian *gýsla* ("vein, thread, nerve"; with "intestine" as the likely older meaning, given the similarity of PIE *\*g<sup>wh</sup>iH* and PIE *\*g<sup>wh</sup>ren-*; with even older meanings likely including snakes, eels, and worms). The PIE *\*g<sup>wh</sup>ren-* and *\*g<sup>wh</sup>iH* as well as PIE *\*g<sup>wet</sup>-* / *\*gūt-* (a rounded form; the belly: stomach, gut; womb) probably derive from or are part of the same cluster as PIE *\*g<sup>wu</sup>-* / *\*gū-*, "to bend, curve, bow, camber, vault, distend". The root *\*g<sup>wh</sup>iH* ("tendon, string" etc.) is part of that group from the way a length of string or thread twists and turns and curves.

I do not believe it is likely that Latin *brandeum* derives somehow from *bri-*, an Indo-European form which sometimes means "needle", so that *brandeum* would be "that which is made using a sewing needle": a mere speculation from Orel 23 which even he realized cannot explain Albanian *brëndës* (meaning "intestines"), so no surprise he didn't include that word in his theory. As further possible evidence for my theory, there is Proto-Celtic *\*brinika*, from Proto-Celtic *\*brinos*, meaning "filament, fiber" (apparently this has not been traced to a PIE root yet). From *\*brinika* derives Spanish *brenca* (=fiber), *brinza* (=blade of grass, filament) and French *brin* (=blade of grass; sprig, twig; wisp, strand (of hair, fiber, etc.); a bit of something, a hint of something). The semantics here appears to be closer "thread, string" (and therefore "intestine") rather than to "something pointed", "horn", "needle" (though the meanings of "sprig" and "twig" are close to that as well). It's interesting how the two different theories on whether Latin *brandeum*, meaning "shroud, linen, silk", derives from "needle" (as Orel went with) or from

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<sup>23</sup>Vladimir Orel seems to be the source of that etymology, the same Orel who thought that the Kjolmen inscription is in a Para-Phrygian language, not a Thracian language, and the same Orel who published a no doubt wrong translation of the Kjolmen inscription in the late 1990s, with that Para-Phrygian theory of his in mind.

“thread, fiber” (as I suggest is probably the actual case) blend in those Celtic examples.

The second part of Sumerian *birgun*, (*gun*), is most likely either identical with Sumerian *gun* meaning “load” (“loaded in the intestine/stomach”) or with the *gun* seen in a Sumerian word for ointment, *ugun*, variant *ugunu*, similar to Latin *ungō* and to the root from which that Latin word derives, *PIE* *\*h<sub>3</sub>eng<sup>w</sup>-*, “to smear, anoint”; similar also to *PIE* *\*ongw-*, “to salve”.

The next Sumerian word probably deriving from the root I am describing is the first part of Sumerian *bir-un*, meaning “threshing-floor”. There are two types of threshing-floors, outdoor and indoor (the indoor ones were in barns); the Sumerians mostly used the outdoor kind; and the outdoor kind was “a specially flattened outdoor surface, usually circular and paved”. Usually circular, hence my etymology from *bir* “to curve, turn, twist, encircle, coil”. Since one of the many homonymous meanings of the morpheme “bir” in Sumerian was “to scatter, disperse” and another meaning was “to shred”, it’s possible that the “bir” in “bir-un” derives from that, referring in a muddled way to the act of separating the grain from the chaff, the act of threshing and/or flailing. But as noted, that’s muddled and those meanings (“scatter, disperse” or “shred”) aren’t a very good fit. Another word in Sumerian for “threshing-floor” (they had several, apparently) was *mašgana*; after studying the Sumerian evidence for the meanings of *maš* in Sumerian, the meaning of “curved” for most of their *maš* words is quite likely, since *maš* occurs in words that they have for “goat”, “ram” and “gazelle”, and since most livestock has curved horns, *maš<sub>2</sub>-anše/maš-anše* meant “livestock”. *Maš* was also the word for “drainage tile”, which is a ceramic pipe, again involving curvature and something horn-like (pipe, tube, horn). The second element “gana” means “field”. So “*mašgana*”=circular field. Many ancient settlements were encircled with walls creating a circular area of settlement, and “*mašgana*” also meant “settlement”. But there is even more definite evidence: <sup>du</sup>*g**maš-ha-lum* meant “sieve”, and nearly all sieves in ancient Mesopotamia and ancient Egypt were circular, whether they were made of fired clay/ceramic/earthenware or made from wicker/reeds/plant matter (this Sumerian word refers to an earthenware/clay/ceramic sieve, as seen by the unpronounced superscript notation: <sup>du</sup>*g*). And “*maš-li-um*” meant “bucket” (again, circular). So it’s quite likely that “bir-un” meant “circular-area”. Proto-Semitic *\*mašaz-* (=goat) probably shares the same etymon and same root-meaning (“curved”, “bent”) as Sumerian *maš* (=goat).

The next word akin to the Sumerian root I am describing is Akkadian *birru*, meaning “string; net; lattice; trellis”. The semantics of the word fit the root perfectly. I do not know whether this word has Semitic cognates, but even if it does, they all may derive from Sumerian or from another Non-Semitic language. But it’s possible that such a word may have once been part of Proto-Semitic, especially given the occurrence of Proto-Semitic *\*baraḫ-* (“lightning”) and Proto-Semitic *\*birk-* (“knee”): both “lightning” and “knee” easily could have come from the idea of “bent”, from *bar/bir/bur*=curved, bent. In Akkadian there is also *nirrum*, meaning “a rope or braided string”. My

etymology of these words is made even more likely by the fact that Akkadian *biritu* means a “bond, chain, fetter, clasp”---something that encircles and binds.

The next Sumerian words that derives from this root are probably *bar* (the *bar* that referred to an as-yet unidentified type of fish; this is one of the words that has several homonyms in Sumerian) and *bara* (the *bara* that referred to an as-yet unidentified type of fish; this is one of the words that has several homonyms in Sumerian): the as-yet unidentified fish is probably an eel, since eels are among the most common fish found in the Tigris and Euphrates rivers, going back to Sumerian times <sup>24</sup>. These words *bar* and *bara*, perhaps meaning “eel”, bring us back to the *-βαρ-* seen in *κιννάβαρι(ς)*, since the form of one is identical to *-βαρ-* and the form of the other nearly so, and since in ancient times the semantic link between serpents, snakes, dragons and fish/sea-creatures was strong, linguistically and in mythology/religion.

There was also in Sumerian a root *mir/mar/mur*, a variant of *bir/bar/bur*, which actually does great in establishing the *bir/bar/bur* variation in Sumerian which I am describing. Both *mar* and *mur* were Sumerian words that meant “worm/earthworm”, while *mir* was a type of mythical serpent who in Sumerian mythology was believed to encircle the world, and *mirduna* is one of the Sumerian words for “belt”; *mar* meant “chariot/wagon” in Sumerian, I believe referring to the round wheels (curving/curved/round). These Sumerian words are in my opinion akin to Proto-Germanic *\*murhō*, “wild carrot”, Proto-Slavic *mъrky*, “wild carrot”, PIE *\*mérkuh<sub>2</sub> ~ \*mṛkwéh<sub>2</sub>*, “carrot/wild carrot”, Proto-North Caucasian *mṛqwǎ*, “=“root, carrot”, from the windings and twistings of roots, and from either the snake-like appearance of a carrot, and/or from the fact that a carrot is a root, so the meaning would have shifted easily from “root” to “carrot”. Ancient Greek *βράκανα* (“wild vegetables”), already considered to be a Pre-Greek word by Beekes et al., very likely derives from the B-initial form of the root-word (*bir, bar, bur*) which I am describing in this paper. The meaning of “wild vegetables” would have developed from “root vegetables”, with the foreignness of the loanword contributing to the meaning of “wild”

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<sup>24</sup>In this note, I will describe some alternative etymologies for *bar* and *bara*, in this case both referring to one or more as yet unidentified aquatic creatures, probably some type(s) of fish, and likely the reference was to eels. An alternative etymology I have is that the words could derive from a possible Sumerian word *bar* that meant “white, bright”, referring to a silvery-scaled fish, such as the *Tenualosa ilisha*, a type of shad commonly found in Mesopotamian rivers, which was and is eaten by people there. Any other etymology besides these two is probably less likely. So I might also say that the words derive from a possible Proto-Sumerian word *\*bar* meaning “tooth, fang, pointy, spike”, and the reference was to the fangs or spikes on an aquatic creature. Many of the eels in those rivers are spiny eels. Or I might say that the words derive from an unattested *\*bar* that could have meant “to eat, bite”, because it could have been a biting fish, or a voracious fish, or because the fish was often eaten by people. Or I could say that there could have been another *bar* word that meant “large”, but I have found no evidence for that in Sumerian, besides instances where *bar* refers to the liver, the largest internal organ in the human body, which in Akkadian was called *kabattu*, presumably from the Semitic root *K-B-R*, meaning “big, thick, great”. However, the Sumerian *bar* meaning “liver” could well have a different etymology: for example, from the fact that the liver can be thought to be “on the side” (on the right side), so the *bar* word meaning “liver” could derive from the *bar* word meaning “side”, which derives from “rib”, which derives from “to curve, turn, bend”.

(“barbarous”). The second element “ko/ky/kuh/kweh/qwa” may have meant “food”<sup>25</sup>: so “root-food”. And this would apply also to the “-kana” in Ancient Greek “brakana” (=wild vegetables). See also Latvian burkans=carrot, and kindred examples in the Russian and Baltic area.

The Sumerian word *bala* (to rotate, turn over) probably derives from the root *bar/bal* as a semantic extension of it. The first part, *bal*, of the Sumerian word *balak* (meaning “spindle”) derives from *bala*. The second part of the word I have not yet seen in any other Sumerian word, and so *ak* may have meant “spike” as in Indo-European (a spind is spun/rotated when in use).

These hypothetical *Bar* and *Var* and *War* words meaning “dragon/serpent/snake” and the attested Sumerian *Mir* meaning “snake/a mythical serpent” are very similar to Persian *Mar* meaning “snake”<sup>26</sup> and are also somewhat similar (and even more similar when taking into account the *bal/mal* forms which I will discuss in the concluding section of this paper) to the Latin word *bēlua* (“beast, monster”); Albanian *bollë* (at least three different meanings: any of various nonvenomous snakes of the family Colubridae or Boidae; the glowworm; and in Albanian mythology, an early form of the Hydra, before it changes to its larger forms); Albanian *bullar* (at least three different meanings: the European glass lizard, *Pseudopus apodus*; the slowworm, *Anguis fragilis*; and also meaning an early form of the mythical Hydra in Albanian mythology); and Romanian *balaur* (“dragon, monster”).

The Latin *bēlua* is considered to very likely be cognate to (not the source of) Albanian *bollë*. Albanian *bollë* is considered to derive from Proto-Albanian *\*belva*, cognate to Latin *bēlua*. The Romanian word *balaur* (“dragon, monster”) does not derive from Latin *bēlua* according to the literature on the subject, and is usually considered to be a Pre-Roman cognate to Latin *bēlua* and Albanian *bollë*. There is no established etymology for Latin *bēlua*, nor for Albanian *bollë*, *bullar* and Proto-Albanian *\*belva*, nor for Romanian *balaur*. Since the British Classicist Geoffrey Kirk stated that *Βελλεροφόντης* (=Bellerophon=Bellerophon) means “Slayer of Bellerus”<sup>27</sup>, then *Bellerus* is probably a cognate to the Latin and Albanian and Romanian words. The name of a Thracian tribe, the *Triballi*, may mean “three dragons”, since a three-headed serpent occurs on a Thracian metal plaque artwork found in Letnitsa in Bulgaria, in or near Triballian territory (Letnitsa is located in what was Northwestern Thrace/Moesia),

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<sup>25</sup> See Sumerian “e.ku”=food/a type of food; “kubulum”=foodstuff/an edible substance; “kuerin”=a type of food; “kurum”=food ration/food allocation.

<sup>26</sup> I have known about this Persian “mar” meaning “snake” since at least the year 2004 when I first know that I saw the word in a Persian-English dictionary that I have had since the 1990s. But I did not mention it before because I could not find what previous linguists have said about its etymology. But I have decided to mention it here now. The word is also found in other Iranian branch languages including Zazaki and Kurdish. In that same dictionary I also first saw in 2004 that “marcube” is a word for “carrot”, which looks to me like mar (root)+cube (=food), cube being so similar to Sumerian kubulum, meaning “food”. See note 25 above. I have not been able to find what previous linguist have said of “marcube”, nor have I found the word online. I still have the book and when I find the book I will update this. I last looked at that “marcube” entry in the book in 2020, so I know it’s accurate.

<sup>27</sup>Kirk, 1990, p. 178.

and this also links with the Albanian usage, where *bollë* and *bullar* both can refer to an early stage of the mythical Hydra. Albanian *bullar* is believed to derive from *bollë*, but contaminated with the Albanian root *\*bull* 'to be swollen', from PIE *\*b<sup>h</sup>el-* "to blow, swell up". PIE *\*b<sup>h</sup>el-* "to blow, swell up" could be the source of Albanian *bullar*, *bollë*, Proto-Albanian *\*belva*, Latin *bēlua*, Romanian *balaur*, Ancient Greek *phallaina* (= "whale"), Ancient Greek *\*Bellerus* and Thracian *balli* if the older meaning was "large beast/dragon/monster", or even simply because the older meaning was "fat worm", from "to be swollen, puffy".

If that is the etymon for those words, then the Latin word was probably a loan from another language, and the Ancient Greek *\*Bellerus* would be a loan for sure. Another possible etymon is PIE *\*wel-*, "to turn" (a root nearly identical to PIE *\*wer-*, "to turn"), and if so then again some of those words would be loans in their respective languages (and the Romanian one would still be from Pre-Roman); however Ancient Greek *phallaina* (source of Latin *ballaena/balaena*) is most likely from PIE *\*b<sup>h</sup>el-* "to blow, swell up", not PIE *\*wel-*, "to wind, twist, bend, turn". There may have been a root-word *\*g<sup>w</sup>el-*, "to curve, twist, turn" and maybe also meaning "to bulge out, round out". This *\*g<sup>w</sup>el-* would be akin to *\*g<sup>w</sup>u-/\*gū-*, "to bend, curve, bow, camber, vault, distend".

Though rhoticism from PIE *\*b<sup>h</sup>el-* "to blow, swell up", or rhoticism from *\*g<sup>w</sup>el-* or from from PIE *\*wel-*, "to wind, bend, twist, turn" could be the source of *Bar* meaning "dragon/serpent/snake", I think that PIE *\*wer-*, "to wind, twist, bend, turn, curve" (source of the Germanic word *worm/wurm*, which meant "worm", "snake", "dragon"), is more likely for the *Bar* found in *κιννάβαρι(ς)*; though as described earlier, the word could be from a Peri-Indo-European root, or a root found in both IE and in one or more Non-IE languages: it or an identical/ parallel root was found for sure in Sumerian as the root/lemma *bir/bur/bar/bal* as described above, and also found in variant forms *mir/mer/mur/mar* in Sumerian; and the variant *mal* (not identified in Sumerian yet, at least not for sure, but already confirmed in Dravidian languages and in Ancient Greek) will be discussed further in this paper. The many Sumerian forms that fit the semantic and the form strongly suggest that *\*wer-* is the most likely PIE root for the *βαρ* found in *κιννάβαρι(ς)*, if the word is derived from Proto-Indo-European; but there is the matter of the relation of *\*wer* to the similar *\*bal/\*mal* forms (see the Concluding evidence portion of this paper, which is the concluding section of this work).

Now as I said I would do some paragraphs earlier, I will discuss the etymological possibilities of 1) the *κιννά-* extracted from Ancient Greek *κιννάβαρι(ς)*; 2) the Ancient Greek stand-alone word *κίννα* (*Hordeum murinum*, "wall-barley"); 3) the *κίνν(ᾶ)*- extracted from Ancient Greek *κίννᾶμομον*; 4) and the *kina-* extracted from Hattic *kinawar*.

To establish the etymon, it is necessary to know that there are forms of the word for "cinnabar" in Persian and Arabic which probably share the same etymon with Ancient Greek *κιννάβαρι(ς)*, and very significantly, these



forms mostly show the following consonants: 1) -ndš 28, which is similar to the -nj sound; 2) -ng; 3) -nj; and 4) -nk. These consonants occur in the first syllable of: Persian *šangarf*, *sindšefr*<sup>29</sup>, *sinkarf*; Arabic *kynjar*, *sindšaf*, *sindšarf*, *zingefr*, *zinjaf*, *zinjifra*, *zunjufr*. Old Persian *s-i-k-b-ru-u-š* (= *sinkabruš* (=the red carnelian stone) is a cognate as well, and is sometimes regarded as the direct source of Persian *šangarf*.

In the case of these words, the first distinct lemma in each case is: in Persian/Iranian: *šanga*, *sindše*, *sinka*; in Arabic: *kynja*, *sindša*, *zinge*, *zinja*, *zinji*, *zunju*. The existence of a variant with the initial K sound (see *kynjar* in the Arabic examples) suggests to me that we are dealing with variant forms of a root-word which is also the source of Ancient Greek *κίννα*. See also how *-war/-bar* has shifted to *-fr*, and later to *-rf* in these Persian and Arabic examples.

There is also सिन्दूर (= *sindūra*) in Sanskrit referring to: 1) red lead; 2) vermilion pigment; 3) and a tree from which red resin/dragon's blood was obtained. This Sanskrit word has been hypothesized (not sure by whom) to derive from the Sanskrit lemma स्यन्द् (= *syand-*), which meant “oozing, trickling, distilling, flowing” and also had additional closely associated meanings (“to stream, run, move rapidly”). There is also in Sanskrit

हिङ्गूल (= *Hiṅgūla*) meaning “cinnabar”, which is no doubt another variant, deriving from an earlier *\*singūla*, from the same root as *sindūra* via a different line of transmission.

I myself am certain that 1) Ancient Greek *κίννα* (*Hordeum murinum*, “wall-barley”); 2) the *κιννά* extracted from Ancient Greek *κιννάβαρις*; 3) the *κίνν(ᾶ)* extracted from *κίννᾶμωμον*; 4) and the *kina-* extracted from Hattic *kinawar* all referred to the blood-like color of: 1) the ripe crimson-colored ears of *Hordeum murinum*; 2) the deep red color of cinnabar and the vermilion color of the pigment processed from cinnabar, and the red resin obtained from dragon's blood trees; 3) the red of cinnamon; 4) the reddish hue of copper. All these words referred to the blood-like color because the older meaning of the word was “blood”, which came from an even older meaning of “oozing out, flowing out, trickling out, bursting out”, from a root word which was actually very similar to PIE *\*key-*, “to set in motion; move”, from which Ancient Greek *κινέω* (*kīnéō*, “to set in motion, move; to urge on, stir on, change”, etc.) and *κίννμαι* (*kīnumai*, “I go, move”) and a number of other Ancient Greek words derive 30. It's quite likely that PIE *\*key-*, “to set in motion, move” is the actual etymon: the Hattic and Hurrian words could be loanwords; quite likely the Hattic word *kinawar* (copper) was a loanword from an early IE or IE-like language; but

<sup>28</sup> Š is the sound usually rendered in English orthography as SH, and in IPA as [ʃ], which I've placed in brackets.

<sup>29</sup>In Christian Keferstein's *Mineralogia Polyglotta* (1849; in German), p. 187, I found the attestations of *sindšefr* in Persian and *sindšaf* and *sindšarf* in Arabic (both from Persian), all meaning “cinnabar”. Supposing Keferstein's forms are not actually attested, that does not impact my theory, which does not rely on those particular attestations.

<sup>30</sup>See Julius Pokorny, *Indogermanisches-Etymologisches-Woerterbuch*, p. 538, for more Ancient Greek cognates and many other Indo-European cognates.



the Hurrian words (*kinahnu*, *kinahhu*) are more likely cognates, since other IE cognates seem to exist in Hurrian and Urartan.

In a very similar/nearly identical semantic progression, English “blood” and its Germanic cognates most likely<sup>31</sup> derive from PIE *\*b<sup>h</sup>leh<sub>3</sub>-tóm*, in turn from PIE *\*b<sup>h</sup>leh<sub>3</sub>-* “to bloom”: the idea of “to bloom” morphed into the sense of bursting or swelling out. Compare Old English *blēd* meaning “a shoot, branch; foliage, leaves, a leaf; a flower, a blossom, a bloom; a fruit”. Old English *blēd* and its Germanic cognates are from Proto-Germanic *\*blēduz*, *blōdiz* (“blossom, sprout”), from PIE *\*b<sup>h</sup>leh<sub>3</sub>-*, “to bloom”.

So the older derivation for: 1) Ancient Greek *κίττα* (*Hordeum murinum*, “wall-barley”); 2) the *κιννά* extracted from Ancient Greek *κιννάβαρι(ς)*; 3) the *κίνν(ᾶ)* extracted from *κίννᾶμωμον*; 4) and the *kina-* extracted from Hattic *kinawar* is probably, for all four of them, PIE *\*kéy-*, “to set in motion; to move”. But that root-word is the source of many PIE and IE stems, and I have not yet reconstructed the stem form very closely to how it actually would have been, so the following reconstructions are approximate: PIE *\*keind-*, *\*keing-*, *\*kand-* or *\*kang-*, and the stem meant “running, flowing, oozing, trickling, distilling”, and the stem/those stems likely derive from PIE *\*kéy-*, “to set in motion, move”, or from an even older root, dating back before the Proto-Indo-European language that has been reconstructed.

It is unclear whether PIE *\*kéy-*, “to set in motion, move” is the source (by way of sibilization of *k̑* to *s*) of Sanskrit *स्यन्द* (=syand) (a Sanskrit lemma discussed a few paragraphs above) and/or of Sanskrit *sindūra* and *hingūla*; the PIE root *\*kéy-*, may, I hypothesize, have had a parallel form *\*sey-*, or *\*tsey-*, having the same meaning or a very similar meaning (to move, to flow, stream, run, ooze, trickle). One reason that I think a parallel root *\*sey-* or *\*tsey-* existed, is because in Sumerian *su*, variant *si* and *sa*, was a Sumerian word for “blood”, from which the meanings “red; red-orange; reddish-brown; brown” developed. This Sumerian *si* word meaning “blood” is also seen in the first part of *sibar*, one of the Sumerian words for “copper”. Those Sumerian words probably derive from an older root meaning “to flow”, which could have had the form *\*sey-* or *\*tsey-*, and could have been part of an ancient Sprachbund in the area.

Note that the lemma *syand-* in Sanskrit and the meanings derived from it do not, from the attestations, show a tendency to refer particularly or exclusively to blood, so in the Sanskrit stem/lemma *syand-* the semantic progression to “blood” was lost or did not develop, but reappeared or developed when *sindūra* was applied to trees from which the red resin called “dragon’s blood” is extracted. However, I believe that the Sanskrit word

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<sup>31</sup>This theory about English “blood” and its Germanic cognates deriving from PIE *\*b<sup>h</sup>leh<sub>3</sub>-tóm*, in turn from PIE

*\*b<sup>h</sup>leh<sub>3</sub>-* “to bloom”, already exists in the literature, though I do not have the name of the originator of this theory or the book it was published in.

*sindūra* did not come from the lemma *syand-*, but instead from a common ancestor root, probably via a different language: this explains the different vowel sounds and the fact that the form *sindūra* focuses on nouns that are all red in color (red lead; cinnabar; vermilion pigment; a tree/or trees from which a red dye/pigment was extracted). I also believe that the *sind-* in *sindšaf* (attested in Arabic, from Persian), *sindšarf* (attested in Arabic, from Persian), *sindšefr* (Persian) and the *sind-* in Sanskrit *sindūra* share the same etymon, but were transmitted via different languages and probably from different forms of an ancient root, and this transmission across different languages and involving variant root-forms explains all the variant forms seen in Old Persian (*sinka-* in *sinkabruš*=red carnelian stone), Persian (*šanga-*, *sindše-*, *sinka-*) and Arabic (*kynja-*, *sindša-*, *zinge-*, *zinja-*, *zinja-*, *zunju-*). Proto-Indo-Iranian *\*sind<sup>h</sup>uš* (“river, stream”) derives from the same root, via a kindred language or the same language which was the source of *sindūra*.

There is also PIE *send<sup>h</sup>ro-*, “coagulating fluid, liquid slag, cinder” from which derives English “cinder” and its many Germanic cognates. PIE *send<sup>h</sup>ro-* no question derives from the same ancient root, *\*sey(n)/tsey(n)*, “to flow, stream, melt, run”, which was somehow akin to PIE *\*key-*, “to set in motion, move”; either deriving from PIE *\*key-*, or else both words were part of the Proto-Indo-European vocabulary, either ultimately deriving from one word or two different similar words.

It's possible that Ancient Greek *σίδηρος* (=iron) derives from an earlier *sind-*, from this root I am describing.

It's also possible that Latin *sanguis* (=“blood”; originally *sanguīs*, from an older *sanguen*) derives not from a hypothetical *\*h<sub>1</sub>sh<sub>2</sub>ŋ-g<sup>h</sup>w-én* from PIE *\*h<sub>1</sub>ésh<sub>2</sub>r*, but instead from the root that I am discussing in this paper (from the form of that root that began with the S or Ts sound, not the form with K). And Latin *saniēs* (ichor, pus, blood mixed with pus) might derive from the root as well, and not from a hypothetical oblique stem *\*h<sub>1</sub>sh<sub>2</sub>-én-*, from PIE *\*h<sub>1</sub>ésh<sub>2</sub>r* (though *saniēs* does look like it likely derives from *\*h<sub>1</sub>sh<sub>2</sub>-én-*, an oblique stem of *\*h<sub>1</sub>ésh<sub>2</sub>r*). Balto-Slavic *\*asinga* (“blood”), source of Curonian *šinga* and Sudovian *asing*, has been explained as deriving from PIE *\*h<sub>1</sub>sh<sub>2</sub>ŋ* (“blood”)+ PIE *\*g<sup>w</sup>eyh<sub>3</sub>-* (“to live”) + PIE suffix *\*-o-m*, in a combination *\*h<sub>1</sub>sh<sub>2</sub>ŋ-g<sup>w</sup>h<sub>3</sub>-o-m*. I bring up the possibility that Balto-Slavic *\*asinga* (“blood”) actually derives from the root that I am discussing.

It is also has to be looked into whether Arabic *ḥinnā'* (=henna pigment/dye, and the *Lawsonia inermis* shrub from which the henna pigment is extracted) derives from the root I am discussing, as well as whether Middle Persian *\*hannāy-*, “to smear, anoint” derives from there.

With the stem *kinna/kinga/singa/šanga/zinja/sindša/sindura* etc., we are most likely dealing with a root-word whose oldest form may have been *\*key-*, “to set in motion, move”, and which may have also existed in a parallel form *\*sey-*, with the same meaning. This root and such stems were found in the Proto-Indo-European language

as well as in some ancient languages of the Anatolian/Lake Van area/Northern Mesopotamian area/Iranian area/perhaps also the Bactrian area and Pakistan area. Some of these ancient languages were most likely languages which were sister languages to the Proto-Indo-European language; some of them were not, such as Sumerian.

### 3. Investigating the etymology of Kinnamon/Kinnamomon

Cinnamon was known to the Ancient Egyptians by 2000 BC at least, and the species of cinnamon that they knew was *Cinnamomum verum*, true cinnamon, the one which originated from Sri Lanka, not from China, and I don't see any reason why a cinnamon species that came from and was imported from Sri Lanka would be given a name that contained \*Dzin, the name of an Old Chinese feudal state which existed from 778 BC to 207 BC. Nor does the phonology suggest that, since in the oldest attestations of the word among Greeks begin with the K sound, borrowed from Phoenicians where it began with the K and/or Q sound (likely there were two variants among Phoenicians, one with K, one with Q sound). *Cinnamomum verum* is still considered to be the best form of cinnamon in the culinary world these days.

So regarding the *κῖνν(ᾶ)* extracted from *κῖννᾶμωμον*, it is actually quite likely that it shares the same etymon with the forms discussed in the paragraphs above, and referred to the blood-like color of cinnamon powder and cinnamon sticks. The etymology for cinnamon that one often sees quoted (which derives it from \*Dzin) is based on Persian *dârčîn* (=the cinnamon tree), where *čîn* is believed to derive from Old Chinese \**Dzin* (\**Dzin* is a phonetically accurate Latin script rendering of the Old Chinese form of the name of an Old Chinese feudal state which existed from 778 BC to 207 BC). \**Dzin* however became *Θῖνα* (*Thîna*), *Θῖναι* (*Thînai*)<sup>32</sup> and *Σῖναι* (*Sînai*) in Ancient Greek, but did not, as far as can be confirmed, become *κῖνν(ν)* in Ancient Greek.

The Persian *dârčîn* (=the cinnamon tree) is attested far too many centuries later than the Ancient Greek *κῖννᾶμωμον* for it to make a convincing case that the *κῖνν(ᾶ)* extracted from *κῖννᾶμωμον* also derives from \**Dzin*. Persian *dârčîn* is composed of *dâr* meaning "tree" (deriving from PIE \**dóru-*, "tree, wood"); and *čîn* derives from Middle Persian *čîn*, likely deriving from Ghandari *cina*, from Sanskrit **चीन**=*cīna*, and Sanskrit *cīna* perhaps derives from (but does not for certain derive from, there are several hypotheses in the literature) Old Chinese \**Dzin*. It is very important to note: the letter *C* used to transliterate the Devangari character **च** in Sanskrit (and the corresponding character in the Ghandari script) had a pronunciation range from a voiceless palatal plosive to a voiceless palato-alveolar sibilant affricate/voiceless domed postalveolar sibilant affricate: it was never pronounced as a voiceless velar plosive (the hard K sound found in Ancient Greek *κῖννᾶμωμον*) nor as a

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<sup>32</sup>Attested in the *Periplus of the Erythraean Sea*, a Greek manuscript. Current scholarship dates the work to between 40 AD and 70 AD (see John Hill, 2009, pp. 244-245).

voiceless uvular plosive/voiceless uvular stop (represented by the Phoenician letter Qōp=Φ=Q) . In the case of the Sanskrit word चीन /cīna, च (=C in the transliteration, but does not equal a voiceless velar plosive as did the Roman C) was pronounced as a voiceless alveolo-palatal sibilant affricate, which is rendered t͡ʃ in IPA. The Ghandari C is in the same range: it is never a voiceless velar plosive.

So in order for that “Chinese scenario” to be the etymon of the κίννα element in κίνναμόμον, the existence of a form *Kin/Qin* (rather than *Dzin*) is necessary to have existed at that time, or at least a form beginning with a sound that was likely to have become a voiceless velar plosive or a voiceless uvular plosive in Phoenician or in an intermediary language (or two intermediary languages) between Old Chinese and Phoenician or Ancient Greek; however, no such forms have been attested. The form *Qin* (the *Q* is pronounced [t͡ʃ<sup>h</sup>], which is simply an aspirated form of t͡ʃ) is first attested many centuries later, not in the time of Old Chinese and Ancient Greek or that period in Phoenician history (in Old Chinese, it would have to have been *Dzin*, as described above; while in the ZhengZhang Old Chinese dialect, it would have been *Zin*). Even in the time of Middle Chinese, the form is expected to have been *Dzin*. Not until Mandarin Chinese, after the time of Middle Chinese, is the form *Qin* attested.

In Classical Syriac 33, cinnamon was known (I don't have the time of the first attestations in Classical Syriac) as *dāršīnī* and *šīndreḡ*, both terms deriving from one or two different Iranian languages (*dār* and *dreḡ* are Indo-European words from the Iranian branch, from PIE *\*dóru-*, “tree, wood”), but phonologically modified (Iranian č sound became the Aramaic š sound, etc.). In Jewish Babylonian Aramaic, cinnamon was known as *daršīnī*. These Classical Syriac Aramaic and Jewish Babylonian Aramaic forms show that *Dzin* became *šīn* in Classical Syriac Aramaic and Jewish Babylonian Aramaic, after being received from an Iranian language, and Iranian received the term from Gandhari or Sanskrit. Likewise, in Arabic the form was *aš-šīn*, and in Arabic the Iranian *dârčīn* became *dāršīn*/*dārsīn*/*dāršīniyy*/*dār šīniyy*/*dārašīniyy*.

But in the time of the Phoenicians, it is expected (due to a statement by Herodotus) that the tree (and the spice derived from the bark of the tree) was already known as *kinamón* (as is found in Hebrew) or a form very close to that, a form beginning with the hard K sound or with a voiceless uvular plosive (Qōp Φ). So from where does *K* or Qōp Φ appear in Hebrew *kinamón*, if *kin-* derives from Old Chinese *\*Dzin*, as some still believe? It therefore

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<sup>33</sup> Classical Syriac is an Aramaic language (part of the Semitic family of languages) that emerged during the first century AD from a local Aramaic dialect that was spoken in the ancient region of Osroene, centered in the city of Edessa, an ancient city in Upper Mesopotamia (not to be confused with the city of Odessa, on the Northwestern coast of the Black Sea in Ukraine; nor to be confused with the city of Edessa in Northern Greece). Classical Syriac flourished from the 4<sup>th</sup> century AD to the 8<sup>th</sup> century AD, and continued to have an important role during the next centuries, but by the end of the Middle Ages it was gradually reduced to liturgical use, since the role of vernacular language among its native speakers was overtaken by several emerging Neo-Aramaic dialects.

seems to me that *kinamón* and Ancient Greek *κίνναμόμων* (and its variant forms) quite likely do not derive from Old Chinese \**Dzin*, since we cannot find confirmation that a form beginning with the hard K sound existed at that time, nor that such a form was likely to be found in a language of the time and region(s), since we have no evidence of such a phonological shift of Dz to K or Qōp 𐀓 in the languages of the time and the region 34.

So now here enters my hypothesis: the *κίννα(ᾶ)* in *κίνναμόμων* does not derive from Old Chinese \**Dzin*, nor from any other Chinese term, but instead from the same root-word from which the *κίννα(-)* in Ancient Greek *κίνναβαρι(ς)* and Ancient Greek *κίννα* (*Hordeum murinum*, “wall-barley”) also derive, as does the *kina-* in Hattic *kinawar*, which meant “copper”. There is no question that the ears of *Hordeum murinum* often develop a rich dark crimson red color, as can be seen from a search of images of *Hordeum murinum* online (and as noted in botanical works describing the inflorescence of the plant), a red not seen in true barley, *Hordeum vulgare*.

Now I will discuss an etymological possibility for Ancient Greek *ᾶμόμων* (*ámōmon*), which was a word on its own (probably referring to “black cardamom, *Amomum subulatum*” in Ancient Greek, though it could have referred to a different aromatic spice plant, or to several, including *Amomum subulatum*) and also found in ancient Greek *κίνναμόμων* (*kinnámōmon*, referring to the Sri Lankan cinnamon *Cinnamomum verum*, while the Chinese cinnamon was at first referred to as *Kassia*; though later *kinnámōmon* probably referred to both *Cinnamomum verum* and *Cinnamomum cassia*) and in Ancient Greek *καρδάμωμων* (*kardámōmon*, meaning “cardamom, *Elletaria cardamomum*”, in English).

The only cognate for Ancient Greek *ᾶμόμων* is considered to be Classical Syriac *ḥamāmā* (from which is derived Arabic *حَمَامَا* = *ḥamāmā*), which is of unknown etymology and unknown origin. I will put forth here a hypothesis that both Ancient Greek *ᾶμωμ-* and Classical Syriac *ḥamām-* derive from a root of similar form (which I cannot reconstruct yet, I would need more cognates) which meant “aroma, breath” and probably also “breeze”. There is in Proto-Indo-European a root \**h<sub>2</sub>enh<sub>1</sub>-*, “to breathe”, from which is derived Ancient Greek *ἄνεμος* (“wind, breeze, gale”), Latin *animus* (“life-force”, “soul”), Old Frisian *omma* (“breath”), et al. Again, as mentioned in some previous cases, *ᾶμωμ-* and *ḥamām-* might not derive from that PIE root \**h<sub>2</sub>enh<sub>1</sub>-*, but instead from a root ancestral to the PIE root. If *ᾶμωμ-* derives directly from PIE \**h<sub>2</sub>enh<sub>1</sub>-*, it could still be a loanword from another Indo-European language: an Anatolian Indo-European language. If *ḥamāmā* derives from PIE \**h<sub>2</sub>enh<sub>1</sub>-*, then *ḥamāmā* is of course a loanword that entered Classical Syriac from an Indo-European language. It is also possible that we are dealing with a Non-IE form of identical meanings and nearly identical form to PIE \**h<sub>2</sub>enh<sub>1</sub>-*, which is quite likely as

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<sup>34</sup>Eventually in some languages many centuries after the time I am writing of, there did develop words that show the hard K sound and could ultimately come from Old Chinese \**Dzin* via a number of intermediaries (and many centuries later). Albanian *Kinë*, Danish *Kina*, Finnish *Kiina*, Modern Greek *Kína*, Icelandic *Kína*, Lithuanian *Kinija*, Norwegian *Kina*, Romanian *China* (ch=k in Romanian, as in Italian), Swedish *Kina*, and some more, all in modern languages.

well.

It is usually believed that Ancient Greek *κίνναμόμον* derives from an earlier *κίνναμον*, which is attested in Ancient Greek, but apparently attested later. The later attestation however does not prove that *κίνναμόμον* is the older form. If *κίνναμον* is the older form (compare Hebrew *kinamón*) then the form *κίνναμόμον* was modelled on that of *ἄμωμον* (=black cardamon, and probably some other aromatic spice plants as well), and/or, due to folk etymology, on that of *ἄμωμος* (*ámōmos*, “blameless”). If *κίνναμον* is the older form, then there is the question of the etymology of *-(α)μον* (seen in the Ancient Greek word) and *-(a)món* (seen in the Hebrew word): the etymology may be the same as the etymology of *ἄμωμον*, making the substitution of one for the other very natural.

#### 4. Additional evidence: the etymologies of Koriandron, Kustumbari, et al.

There are some additional words that furnish additional evidence for the hypothesis I present in this paper (among the many new etymologies I present in this paper) that the *βαρ* in *κιννάβαρι(ς)* meant “dragon, serpent, snake”. The additional words I refer to are, surprisingly, a number of words in various Eurasian languages that refer to the coriander plant. Bear with me, I know this is coming out of the blue. But I’m actually pretty sure I’ve got it right with these coriander words which I’ve been working on deciphering since early 2019. After ruling out a number of alternative theories as being too unlikely, I now present this work here, as part 3 of this paper.

In early 2019, I found that *kustumbari* (*कुस्तुम्बरी*) was the most or one of the most common names for the coriander plant in Sanskrit. Since then, I had tried deciphering that word and its variant forms in other languages and dialects, and its cognates, all of which have no etymology in the references.

In the year 2020, I found some information that coalesced my new theory on the etymologies of these coriander words, new information which I combined with what I learned from my analysis of *κιννάβαρι(ς)*, (I deciphered *κιννάβαρι(ς)* before I deciphered these coriander words). I found out that coriander plants were believed, in India and in ancient Egypt (and in other parts of the world), to have the power to fight off the ill effects of snake venom (the coriander plant does have the ability to help the body expunge excess heavy metals; and its possible efficacy against snake-venom has perhaps been studied as well). Likewise, cinnabar was used in ancient India to cure snakebite and other poisonings and is still employed in traditional medicine in India for that purpose (however, mercury is highly toxic). The Indian goddess *Hingula* (from the Sanskrit word for cinnabar) is thus believed to possess powers which can cure poisoning and other diseases. This use of cinnabar for treating snake-bites most likely comes from the fact that cinnabar was thought of as dragon’s blood in a number of ancient Eurasian languages: so the idea that like (dragon’s blood) can counteract like (a snake-bite).

I then started looking into whether the -bari in *kustumbari* could be the same -bari seen in Ancient Greek *kinnabari*, with both -bari components having the meaning of “snake, serpent”. I could tell from my past research that the *kustum-* portion was not likely to mean “blood”, but I knew from my earlier research that it could have meant “to strike”. So my new hypothesis was that *kustumbari* meant “Striker of the snake”, “Slayer of the snake”, which can be transposed into English as “Snake-Slayer”, “Dragon-Slayer”.

So now here are some of the variant forms of *kustumbari* found in other languages and dialects: *kothimbir*, *kothmir* (both in Marathi), *kothambir*, *koththamalli* (in Senghali), *kothamalli*, *kottamalli*, *ketumbar* (Brunei Malay, Malay and Indonesian language), *katumbar* (Brunei Malay), *ketumbal* (somewhere in SouthEast Asia). Notice the m/b variation (mir/bir/bar/mal/bal), seen in the Sumerian forms I was discussing earlier. These words are already believed to share the same etymology with the Akkadian forms *kisibirru/kusibirru*, also meaning “coriander”; but that etymology was unknown. Now I’m pretty sure I have deciphered it.

Both Akkadian *kisi/kusi* and the Indian forms (the South-East Asian/Indonesian words derive from India) *kustum-/kotham-/koththa-/kotta-* meant “to chop, cut, strike, hit” (the Indian forms are derived from Dravidian languages, where these meanings are known for those forms, as I will describe later in this paper), from the older meanings of “chop” and “cut”, from the older meaning of “sharp/pointed object/sharp point/tooth”. These words are most likely akin with Ancient Greek *κόττειν* (“to hit”), *κότταβος/κόσσαβος* (an Ancient Greek game where wine-lees were thrown to hit targets), *κόττος* (a “cube”; probably originally a small cube like those used in playing dice, which look like teeth), *κοτύλη* (small vessel, cup; hollow of the hand; socket of a joint; cymbals; all of which meanings derive from “hollowed out”, from “scooped out/cut out”, which also applies to the cymbals, the way they are concave like bowls; the word “cymbal” derives from an Ancient Greek word for “bowl”) and *κοττίς* (“head” in Doric Greek, from the well-known semantic cluster of “head, mound, lump, eminence, projecting point”<sup>35</sup>; “back of the head” in other dialects, from the earlier meaning, I think, of “protuberance”, which links to tooth; also meaning a type of hairstyle involving tufted hair above the forehead which also often extended down over part of the forehead; this meaning also fits due to the semantics of a pointy tuft of hair; the hairstyle can also be described as not involving a tuft of hair, but rather like a Roman Caesar hair style, involving fangs/points of hair coming down onto the forehead). Also most likely akin to a name of a Thracian goddess whom the Greeks identified with Artemis: *Kotys*, *Kottyto*, from the meaning of “to strike with a pointed sharp object”, referring to her shooting of

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<sup>35</sup>I didn't mention this additional Doric Greek definition of “head” earlier because the explanation involved a new etymology that I was saving for another research paper of mine. But now I've published that new paper as well. So I can discuss this. The examples in IE languages are many: see for example Occitan French *gavoche* referring to a goiter lump on the neck, and French *caboché*, referring to a head of cabbage. The PIE root *\*g<sup>h</sup>ébh<sup>h</sup>-l̥ ~ g<sup>h</sup>b<sup>h</sup>-l-és, \*g<sup>h</sup>ébh<sup>h</sup>-ōl* (“head”) itself derives from a root *\*g<sup>h</sup>ébh<sup>h</sup>* which meant “projecting, lump, mound; point; pointy, tooth”, as well as sometimes having the semantic “sharp”, linked to “pointy”. See my new research paper available at this URL: <https://zenodo.org/record/4404870> .

arrows.

So here now is the Akkadian, Sumerian and Hittite evidence which matches the Ancient Greek: in Akkadian, *kissatu(m)* meant the “(action of) gnawing”, from a root *kis/kus/kas* which meant “tooth, fang, point, sharp/pointed object”. From that root also comes Akkadian *kasistu* (“gnawer”); *kasimum* (“chopper”, as in a reed-chopper); *kasumum* (“to cut up, chop”); *kasmu* (“chopped”); *kasapum* (“to break into bits”, as teeth do with food); *kasau(m)* (“to chew, gnaw”); *kusasu* (“chewed bits”), *kusipu* (“bread crumbs”), *kusapu* (“crumbs, scraps”), *kusussu* (“gnawed”), *kusarikku(m)* (“bison”, referring to the horns), *kissalum* (“ankle”, which is a bony projection, like a tooth); and probably also *kissu*, which in *A Concise Dictionary of the Akkadian language* is defined as “a part of a plough and a part of a chariot”. From Punic/Phoenician, related to Akkadian, most likely comes Latin *cuspis* (point, tip, sting, spear) for which no Indo-European etymology has been established. In Assyrian, the word for coriander is attested as *kisibarru(m)*, showing the *bir/bar* variation also seen in the Aramaic and Arabic descendants. So I expect that the *kisi-/kusi-* in *kisibirru/kusibirru* most likely meant “chopping”, from the older meaning of “tooth”, and *kisibirru/kusibirru* meant “Chopper of the snake”/“Slayer of the snake”, as did *kustumbari* and its variants and the loanwords derived from it.

In Sumerian, there is *guz* meaning “to bare teeth; gnash teeth; cut; clip”, derived from Sumerian *gug* (“tooth”, one of several Sumerian words for “tooth”: *za, zu, ka, ku* and perhaps *\*ku* being most of the others). The Sumerian words *gu* (variant *ku*), “to eat, feed”, also derive from the *gu/gug/ku/kug* word for “tooth, pointy/sharp object”. The Sumerian word *guz* also meant “tufted”, from the sense of “pointy”. There is also Sumerian *gurus/guru* which meant “trim, strip, cut, clip” from the same root with the variant ending with the *-r* sound, and the Sumerian word *kur* (“mountain”, from the sense of “pointy”) is another variant of the *ku* form (“tooth; fang; pointy/sharp object”). The Sumerian words *ku/kug, ka/kag, za/zag* and *zu/zug*, all developed the meaning of “gleaming stone/pearl/glass etc.”, from the earlier meaning of “tooth” (the gleam of the enamel of teeth). There is also some affinity with the idea of a stone being a “chopped off piece”. There is also Sumerian *kishik* (“a thorny bush”) and *kishib/kishi* (“mouse”, reference to the gnawing teeth of rodents), reminiscent of the *kisi-* in Akkadian *kisibirru*.

The Indo-European languages of the Hittites and the Luwians provide us with some similar forms (from parallel root-words) and more information about the semantic developments. In Hittite, *hazziya* meant “to stab, strike, push”; *hazziknu* meant “to beat, hit, strike; to fight”; *hattarai* meant “to prick”; *hattalwant-* meant “the bolt of a lock”; *hattalu* meant “buckle”, referring to the pointy part that is inserted into holes in the belt, or some such pegs/hooks on the buckle; *hattai* meant “to cut off; kill; slay”; *hattessar* meant “hole, trench” (from the sense of cut/scooped out). In Luwian, which I haven’t searched through yet, *hattala* has been translated as “a club (weapon)”, which could also have been a spiked mace.



In Ancient Greek and Mycenaean, the Ancient Greek word *κορίανδρον* (koriandron; which Beekes correctly realized preserves a form *koria<sup>n</sup>dro-* that is probably older than the Mycenaean *koria<sup>n</sup>dno-/koria<sup>n</sup>dna-*, which as Beekes says were more likely dissimilations of *koria<sup>n</sup>dro-*) meaning “coriander” (and the source of the English word “coriander”, “cilantro”, and the source of the word for coriander in most European languages) likewise meant “Snake-slayer”, but this time the first part of the word, kori-/ *κορί*, meant “snake”, deriving from the same root as Ancient Greek *κορώνη* (“wreath”; “garland”; “crow”, etc.) from PIE *\*(s)ker-*, “to turn, bend, twist, curve” (the “crow” meaning derives from the crow’s curved beak; not from the sound of the crow nor the color of its plumage). Proof of my derivation is furnished by the fact that in Ancient Greek, *κορίῳνον* meant “a ring worn on the forefinger”. As Ancient Greeks forgot the meaning of *κορίανδρον*, the word became *κορίῳνον* in some dialects, either confused with the word for a ring or dissimilated so that they became the same.

The *-ανδρον* part of the word comes from another forgotten Archaic Greek word which originally meant “sharp point, pointy object, tooth, spike, stinger” and also “an eminence” (the “eminence” meaning is seen in the Ancient Greek word *andron*, meaning “a raised border”, “any raised bank” of a river, etc.). The stinger meaning is seen in *anthrene*, which meant “hornet, wasp”. There was also *ἄντρον* meaning “cave, cavern, grotto”, which like the Hittite word *hattessar* (hole, trench) comes from the “cut out, scooped out” semantic progression. The Ancient Greek word *ἄνθος* (“flower, blossom, bloom”, and also, importantly, meant “peak”) is also part of this group, because the Proto-Indo-European root *\*h<sub>2</sub>endh-*, thought to mean “to bloom”, comes from the actual/older meaning “to project up/eminence; a bud/tooth/lump/bump/spike/point”.

From the older meaning of “sharp/pointed object” developed the meaning of “to strike with a sharp/pointed object”, seen in the *-ανδρον* part of the word *κορίανδρον*, “snake-slayer”, “snake-striker”; possibly even translatable as “snake-fang”. It may have been called “snake-fang” because it was used against snake-bites. But I think the semantic progression to “striking, slaying” had already happened.

The Ancient Greek word *σκόροδον* (“garlic”) most likely has the same etymology using similar words: a word-base *σκόρ-* referring to snakes and scorpions, from PIE *\*(s)ker-* “to curve, bend, twist”, and *οδον* akin to *ὀδούς*, meaning “tooth, tusk, fang; anything pointed”, from PIE *\*h<sub>3</sub>dónts-* “tooth”, from PIE *\*h<sub>3</sub>ed-* “to bite” (from an older source word meaning “tooth, anything pointy”) plus the suffix *-όντς*. In the case of garlic especially, *σκόρ-* implied any bringers of “poisons/toxins/illness” (before germs were conceived of), not just snakes and scorpions. Garlic was against any such bringers of harmful poisons.

The garlic when growing grows on a very curving stalk, so that the curving stalk and the growing head of garlic at the end, with its spear sticking out, looks very much like a scorpion’s tail, as can be seen from pics online or if you have some garlic growing nearby: so this makes my etymology even more certain, because *σκόροδον* can

also be translated as “curling spike”, which is just like the etymology of English “garlic” (“gar”=spike/spear; “lik”=bending, curving). It could also have been translated as “Scorpion’s Stinger”. So in the case of garlic, it was not necessary for it to have been used against snake bites and/or scorpion stings, and yet due to the customs of sympathetic magic (seen also with cinnabar, “dragon’s blood”, being used to treat snake-bites), it likely was used for scorpion stings, and so from there probably also snake-bites; so it could have been translated as “Scorpion-Striker/Snake-Striker”, if that semantic progression which I describe had occurred. In the case of coriander, there is no spike and no thorns, so my translation of *κορίανδρον* as “snake-slayer” or “snake-fang” are the two translations indicated, translations/etymologies supported by the words *σκόροδον* and *kustumbari*.

The *-adne* element in the name of *Ἀριάδνη* (*Ariadnē*) derives I hypothesize from an earlier *-andne*, from an earlier *-andre*, which in Ariadne meant “spike”, the spike used as a spindle to spin and weave yarn, thread, strings of various fibers. Whorl-weighted spindles date back to Neolithic times, while non-weighted simpler spindles also exist, which would have existed even earlier in the Neolithic. The *Ari-* element meant “spinning, revolving”, which I’ve not yet definitely connected to a PIE root word. However there is PIE *\*ure*, “to come back, go back; return; again”; a derivation from that root may not fit Proto-Greek and ancient Greek, but the word may be of Non-Greek origin, from an Indo-European language or a language that had some words similar to some Indo-European words. Even the *-andre/-andra/-andro* word meaning “pointed” could have been found in both PIE and in some non-IE language(s) of the Mediterranean, or the word may have passed from a Non-IE language into PIE; or many centuries after PIE, passed instead into some Eastern Mediterranean branches of PIE, such as Proto-Greek, Phrygian, Thracian and Illyrian, along with the kindred root-word *\*h<sub>2</sub>endh-* (from which *ἄνθος* derives) if that root-word is not attested in other branches of IE further away from the Mediterranean. Yet the PIE root *\*h<sub>3</sub>ed-* “to bite” suggests that a denasalized parallel form, with an older meaning of “tooth”, “pointed”, “protuberance”, “eminence”, “lump”, existed in PIE. So the source language of Ariadne could have been an Indo-European language. It is considered possible that at least one of the Eteo-Cretan Pre-Greek languages could well have been an Indo-European language. But as noted, it may have been Peri-IE/Semi-IE (descending from a common ancestor which was also the source of PIE) or a Non-IE language which had some vocabulary very similar to some PIE words.

For the element *Ari-* there is also the PIE root *\*h<sub>1</sub>reh<sub>1</sub>- ~ \*h<sub>1</sub>erh<sub>1</sub>* meaning “to row” to be considered as akin, if the root meaning referred to a turning/revolving of the arm in the shoulder socket and/or the movement of the oars, both of which are similar to the idea of revolving; and besides revolving, the repetition of rowing suggests “to come back, again” which is linked to the idea of “revolving, returning, turning”, as a spindle is turned and twisted. Sanskrit *aritra* variant *áritra* (meaning “oar”) is already known to derive from PIE *\*h<sub>1</sub>érh<sub>1</sub>-tro-m* or *\*h<sub>1</sub>érh<sub>1</sub>-tlo-m* from PIE *\*h<sub>1</sub>erh<sub>1</sub>*, “to row”.

For the connection of Ariadne to the spindle: besides the ball of yarn that she gave to Theseus, some scholars have posited, because of her associations with thread spinning and winding, that she was a weaving goddess, like Arachne, and support this theory with the mytheme of the Hanged Nymph, since in some Greek myth versions, Ariadne hanged herself, as did Arachne, and this hanging theme is found in other myth-traditions involving weaving goddesses.

The name *Ἀράχνη* and word *ἄραχνη* (“spider”; and “a spider’s web”) I hypothesize likewise derive from an Archaic (perhaps Pre-Greek) word for “spindle”, with *Ar-/ἄρ-* having the same etymology as the *Ari-* in Ariadne, and *ἄχνη* (*ákhnē*) coming from a parallel root which also meant “pointy, spiked; bump; eminence”, and which was very close to *ἀκμή* (*akmḗ*) meaning “point; bloom”, from PIE *\*h<sub>2</sub>ek-*, “sharp, pointed”.

The Etruscan form of the name Ariadne was *Areatha*, which shows *-atha* for *-adne*: that’s because, I think, the Etruscan form of the word *Andra* (pointy; peak; spike; eminence) was *Atha*, which I believe is seen in the name of Mount Ἄθως (*Athos*) in NorthEastern Greece, rather close to the island of Lemnos, where the Lemnians were once found, who spoke a language similar to Etruscan (the Etruscans most likely originate from the Aegean, not Italy). And I hypothesize that this *Ath-* is also found in the name of the city of Athens, *Ἀθῆναι*, referring to the hills of Athens, including Mount Lycabettus. The name of the goddess *Ἀθηνᾶ* (*Athēnā*) derives from the name of the city.

This etymology of *Ἀθηνᾶ* links up with a number of her qualities: as a goddess of wisdom, *Ath-* meaning “sharp, pointed” suggests intelligence and wit, sharp-mindedness; *Ath-* also suggests her spear and her prowess in war, in striking adversaries; and this etymology also gives an additional meaning to Athena’s role as a weaver goddess, who was challenged by Arachne, since *Ath-* could refer to the spike of the spindle (and the needle for sewing).

Whether this word *Andro-* could also be applied to the penis, is not known. The idea had probably occurred to some Ancient Greeks, and some may have thought there was an etymological relationship between *Andro-* (pointy) and *ἀνδρός*, the genitive form of *ἄνθρωπος* (man, adult male), from PIE *\*h<sub>2</sub>nér* (from which the *ἄνθρω-* in *ἄνθρωπος* may also derive, but the derivation of *ἄνθρω-* from *ἄνθρωπος* is still a matter of dispute in the field). It’s possible that PIE *\*h<sub>2</sub>nér* had the older meaning of “penis”, from the older meaning of “pointy, projecting”. In which case, PIE *\*h<sub>2</sub>nér* could share a similar origin far back with the *andro-/anthro-* forms which meant “pointy, projecting”. It’s also possible though that PIE *\*h<sub>2</sub>nér* meant “blood”, deriving from an older verb which meant “to flow”, which would link to *neri*, which some Etruscans think meant “water” in Etruscan; and would also link to Nereus, the sea-god. Unless the name of Nereus is just a reference to Nereus being one of the first men or man-like beings, a reference seen in the name of Proteus.

Quite likely, both the meanings of “to flow” and “pointy” can in this case and in some others go back to the same word in ancient languages, because from the notion of “sharp/pointy”, comes “to prick”, and from “to prick” very often comes “to cause to move, urge on, prod on, to run”, and from “to run/flow” comes words referring to liquids, especially water and blood. I had noticed this possibility awhile ago with PIE *\*kēy-*, which has a number of derivations which show the “to prick, to urge on, to make to move” semantic, and in many languages of the world, words beginning with the K sound denote the quality of “sharp, pointy” (see also the meanings of Sumerian *kin* and *gin* (“mountain”, and pointed-things)).

Some linguists have already noted the resemblance of PIE *\*h<sub>2</sub>ék<sup>w</sup>eh<sub>2</sub>*, “water” (the source of Latin *aqua*, “water”) to PIE *\*h<sub>1</sub>ek̑-* “swiftness, celerity”. PIE *\*h<sub>1</sub>ek̑-* “swiftness, celerity” is considered to be the mostly likely source of the PIE word for “horse”, *\*h<sub>1</sub>ék̑-u-s*, *\*h<sub>1</sub>ék̑-u-m*, *\*h<sub>1</sub>k̑-u-és*, from the stem *h<sub>1</sub>ek̑-u-*, “swift”, a horse being a fast and swift animal (see Latin *equus*, *equa*, “horse”; Sanskrit *asva*, “horse”, et al.); and *\*h<sub>1</sub>ek̑-* “swiftness, celerity” is considered by me to also possibly be the source of the word for eagle in a number of IE languages, since the eagles are fast birds <sup>36</sup>. While a possible derivation of PIE *\*h<sub>2</sub>ék<sup>w</sup>eh<sub>2</sub>*, “water” from PIE *\*h<sub>1</sub>ek̑-* “swiftness, celerity”, has already been noted, I also see that PIE *\*h<sub>2</sub>ek̑-*, “sharp”, could be the source of PIE *\*h<sub>1</sub>ek̑-* “swiftness, celerity”, and PIE *\*h<sub>1</sub>ek̑-* “swiftness, celerity” would be the source of *\*h<sub>2</sub>ék<sup>w</sup>eh<sub>2</sub>*, “water”. The semantic progression from “sharp, goad, prick” to “goaded, pricked, fast, moving violently, swiftly” is known from IE languages and Non-IE languages.

I think that Ancient Greek *κιννά* (*Hordeum murinum*) referred to the color often seen in the inflorescence (crimson and sometimes brown), not to the spikes of *Hordeum* plants. Barley has such spikes as well, so what distinguishes *Hordeum murinum* from *Hordeum vulgare* immediately is the color; plus I have found no instances of *κιννά* meaning sharp/pointed in Ancient Greek. The closest to that meaning is *κῆνέω*, “to cause to move, change, to urge on, stir on; to arouse”; that semantic is close to “to prick”, but the gap shows that there are no instances in Ancient Greek where *κιννά* meant sharp/pointed, and the word for *Hordeum murinum* more likely refers to the

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<sup>36</sup>I recall seeing some IE words for “eagle” with a form similar to Latin *aquila*, and they were explained (don't know by whom) as deriving from PIE *\*h<sub>1</sub>ek̑-* “swiftness, celerity”. I cannot recall whether anyone before has stated that *aquila* (=eagle) possibly also derives from PIE *\*h<sub>1</sub>ek̑-* “swiftness, celerity”, as I have just stated here in this note. The usual etymology derives *aquila* from Latin *aquilus*, meaning “blackish, swarthy”; the only etymology proposed for Latin *aquilus* itself is Pokorny's suggestion that it derives from *aqua*, “water”, since large bodies of water are usually dark. However, others think it's likely that *aquilus* (‘swarthy; dark’) derives from *aquila*, leaving *aquila* without an etymology, or ready for a different etymology, such as a derivation from PIE *\*h<sub>1</sub>ek̑-* “swiftness, celerity”, or a different etymology. A derivation from the meaning of “swiftness, celerity” would not work for *Aquilo*, the Latin name of the North Wind, but that can be explained by my hypothesis that *Aquilo* (the North Wind) may be derived from PIE *\*h<sub>2</sub>ek̑-*, “sharp”, as in a sharp, biting cold wind. And *aquila* may contain a double-reference: to *\*h<sub>1</sub>ek̑-* “swiftness, celerity”, and to PIE *\*h<sub>2</sub>ek̑-*, “sharp”, especially if both *\*h<sub>1</sub>ek̑-* (“swift”) and *\*h<sub>2</sub>ek̑-* (“sharp”) are variants of one ancient root-word. Latin *aquila* may derive from PIE *\*h<sub>2</sub>ek̑-* (“sharp”): the eagle's sharp-tipped though curved beak; the sharp talons; and the eagle's sharp vision.

color. The form *\*sey-* I hypothesize did not include the “sharp, pointed” meanings (though the root-word of *\*sey-* may have); *\*sey-*, having a sibilant, liquid sound, without any consonant after the S, and with light gliding vowels, was associated with liquids and the flowing of liquids <sup>37</sup>. While *\*tsey-* was intermediary between those two in meaning and form.

If PIE *\*h<sub>2</sub>nér* meant “pointy”, then *ἄνθρωπος* could have meant “sharp-eyed”, meaning “intelligent-eyed”, as opposed to most animal eyes. If *\*h<sub>2</sub>nér* meant “blood”, then the *ἄνθρ-* in *ἄνθρωπος* could derive from the *anthro-/andro-* word meaning “pointy/sharp”, not from PIE *\*h<sub>2</sub>nér*, since a number of linguists specializing in Ancient Greek (including Beekes (2010)) already think it’s likely that the *ἄνθρ-* in *ἄνθρωπος* does not derive from *ἄνθρ-*. I have found some Sumerian words that indicate that PIE *\*h<sub>2</sub>nér* meant “pointy”: Sumerian *anir*, meaning “grass”, and *unir* meaning “ziggurat”: “ziggurat” itself derives from a Sumerian word *zig* (variant *sig*) which meant “to rise, project up or project out, issue, sprout, bloom”. So it’s clear what the root meanings of *anir* and *unir* were, and since there are a number of Sumerian and Indo-European vocabulary correspondences (see Sumerian *gir* meaning “spike, pointy, sharp”, just like in PIE and a number of IE languages, as well as Sumerian *bir/bur*, “to curve, turn, twist, bend” so similar to PIE and IE forms; and there are more examples) one more is likely enough.

Now I want to discuss PIE *\*k<sup>w</sup>etwóres*, meaning “four”. On PIE morpheme structure *\*k<sup>w</sup>etwor-* has too many consonants to be a true primitive morpheme, and the feminine stem might simply be proof of one elemental “four” in *\*\*k<sup>w</sup>et-* or *\*\*k<sup>w</sup>etu-*. I have a hypothesis which I’m presenting now in this work that the older meaning of *\*\*k<sup>w</sup>et-* and/or *\*\*k<sup>w</sup>etu-* was “tooth”, from the more general meaning of “projecting; pointy”. We saw how *κόττος* in Ancient Greek meant “cube”, deriving, as I hypothesized above, from an older meaning of “tooth; anything pointy, projecting”, since the molars are rather cube-shaped and the incisors look like rectangles/squares while still attached to the gums; so it’s likely indeed that the PIE word for “four” derives from an older meaning of “tooth”. The word *κόττος* does not derive from PIE *k<sup>w</sup>et-* and/or *\*\*k<sup>w</sup>etu-*; however, that word *κόττος* is from a parallel root (very similar in form and identical in semantic range), and illustrates a common ancient semantic link/progression.

I further hypothesize that from PIE *\*\*k<sup>w</sup>et-* derives Ancient Greek *πέτρᾱ* and *πέτρῆ* (*pétrā* and *pétrē*) meaning “rock, stone”, which progressed from the meaning of “tooth”, as we see in Sumerian and some other languages.

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<sup>37</sup>Note PIE *\*sek-* “to cut, cut off, sharp”, which also existed in PIE in the variant form *\*seg-*, both of which I’ve known about for many years, as I’ve known about *sica* (Illyrian/Thracian/Dacian for “dagger”) for many years, English *sickle*, and from a different root, Ancient Greek/Macedonian *sarissa* (“spear”). So of course I’m not saying that verbs/adjectives/nouns etc. having to do with sharp/cutting are never found with the S sound: they are found. So I want to clarify that point. I’m saying specifically that I have not yet found any such words having to do with sharp/pointed/cutting deriving from this *\*sey-* that I’m describing in this paper. I may find some. But very likely none will be found.

The first part of the Phrygian word *tetrakine* (a type of lettuce, species not yet identified) I'm sure also derives from *\*k<sup>w</sup>et-*, because *tetrakine* likely referred to "rock lettuce" (see also "rock parsley", *petroselinon*, et al.), which grows on rocky soil. In Ancient Greek, we see a variation where PIE *k<sup>w</sup>-* can lead to words beginning with *T* (τέτταρες, τέσσαρες "four") or *P* (ποιέω, "to make, create", considered to most likely be from PIE *\*k<sup>w</sup>ey-*, "to pile up, store, gather"; et al.) or *K*; and Phrygian shows that variation there as well.

PIE *\*k<sup>w</sup>ey-*, "to pile up", is surely akin to *\*k<sup>w</sup>et-* meaning "pointy, projecting". PIE *\*k<sup>w</sup>ēd-*, "to sharpen" is also akin, as is PIE *\*k<sup>w</sup>eyt-*, "white; to shine", showing the common ancient semantic progression from "tooth" to "white, gleaming, translucent, shiny".

For my etymology of Ancient Greek *σαλαμάνδρα* (*salamándra*, the source of "salamander") having meant "Fire-Slayer" in a Non-Greek language, because the salamander was believed to be able to extinguish fires with its ooze, and to be impervious to flames, see my new research paper at <https://zenodo.org/record/4404870> .

## 5. Concluding evidence

In December 2020, I published this work on Zenodo where I predicted (using scientific methods, research and deduction) that *kustum-/kotham-/koththa-/kotta* meant "to strike, hit, hack, chop, cut"; and that is precisely what those words mean in the Dravidian languages and in some Sanskrit words that derive (likely derive from) from Dravidian: see the Proto-Dravidian database available on Starostin's website, *kot-* is listed (see page 41 of the Proto-Dravidian database) as a Dravidian root meaning "to strike, hit, chop, gouge, hack, pierce, peck", found in words such as Tamil *kottan* (=mallet), Sanskrit *kuthaku/kaththrakro* (=woodpecker), *kuthara/kutharaka* (=axe), *kuthi* (=mountain, because of the pointed peaks; also means "tree", probably from the idea of "that which is cut down", as seen in many other languages), and more which I will list soon. In this update I will also discuss a plant, *Dolomiaea costus*, known in India under various names: Sanskrit *kustha*, Hindi *kut/kuth*, *kostum/gostham* in Tamil, *kot* or *kust* in Punjabi, *kostha* in Kannada, *kuth* in Kashmiri. From this source came Ancient Greek *kostus* (= *Dolomiaea costus*), Arabic *kust/qust*, Hebrew *kosht*, Swahili *koto*. All these words derive from that Dravidian root *kot*—"to strike, hit, chop, hack, pierce, gouge, peck" and/or from forms of the root found in other ancient languages as well, and these words were applied to the *Dolomiaea costus* plant most likely because of the pungent taste of the root (Pliny described it as having a burning taste), but maybe also because of the fragrant aroma hitting/striking the sense of smell; but much more likely from the pungent taste of the root. The leaves have jagged, toothed patterns running along their sides, and that would have helped to establish the names as well.

Other plant names that derive from this root (besides those Indic words for coriander/cilantro, already described above) include: *kuthika* (a different species of *costus*, known as *Costus speciosus/Costus arabicus*); *kutkaranga* (= *Caesalpinia bonducella*; "kutkaranga" I think means "Striking the rash", because it was used for rashes and infections, including smallpox infections which cause those red rashes; "ranga" means "red" in a

number of Dravidian languages), also called kutkulega (the second part as yet undeciphered); kushmut (another name for *Dolomiaea costus*, second part as yet undeciphered); kutkey (=hellebore plant, which is thorny); kuth (a name for *Acacia catechu*, which is spiky/thorny). There is “PIE” root *\*ǵhasto-* or *\*ǵhasdʰo* meaning “spear, sharp spine”, so that must be akin to the Dravidian root somehow.

The ancient name of a south-east Anatolian city, Kastaballa, probably got its name from someone who was named “Serpent/Dragon-Slayer”: there is recorded Kostobalon as the name of a Carian general (Caria was in south-west Anatolia). The name of the city is thought to maybe derive from Luwian. In any case, the name is recorded in ancient (though post-Luwian) times. I think the name of the Costoboci (Latin variants include Castabocae, Coisstoboci; Ancient Greek forms to be added later), a tribe of unclear linguistic/ethnic affiliation who lived north of the Dacians in Roman empire times, likely meant “Horns of the ram/goat/or bull”, referring to such horned helmets that many warrior peoples wore. There is no other etymology that I found noteworthy. The “Costo” part would have meant “horn” (see Armenian “kotosh”=horn of an animal; of unknown etymology; Persian “gudash”/“gadash” are most likely cognates), while boci/bokae could derive from PIE *\*bʰuǵ-*, meaning “buck, he-goat, ram” or from PIE *\*ǵʰows*, source of Latin *bos* (=ox, cow, bull), Albanian *ka* (=cow) and *gak* (=boar; from Proto-Albanian *\*gauk*). Proto-Albanian *\*gauk* shows how the -k can appear in words derived from this root.

The plant names kushneez/geshniz/kuthneez (referring to coriander/cilantro, with a number of variations in different languages) I think also meant “Striking the snake”, where gesh- as we see is a variant of kush/kuth, and is reminiscent of gish/gesh, the Sumerian word for tree/wood (gesh/gish: from “that which is cut down” or “that which sticks up out of the ground”?) And niz/neeze/nij is akin to PIE (s)neg-, the source of English “snake” and Sanskrit “naga” (=snake) and somehow probably also the source of Proto-Germanic *\*snagilaz-*, from which English “snail” derives. Linguists of Proto-Indo-European think that (s)neg- in PIE meant “that which crawls along”. That could be the meaning in PIE, and I consider that so unless I find evidence of otherwise. My etymology of geshniz/geshnezz/kushneez (etc.) is made more likely by that fact that “shooniz” is an old name (found in old Arabic manuscripts, for example) for *Nigella sativa*, a plant often used against gut worms, as a larvicidal plant; probably was also used against snake venom, due to the ancient identification of snakes with worms; and “neeze/niz” would have referred to worms as well. Shooneez was also used as a name for the black pepper plant: which was also used against worms, and science backs that since recent findings show that piperine is very larvicidal: piperine found in black pepper. The black seeds of *Nigella sativa* most likely also contain some larvicidal chemicals. If someone wants to pursue the idea that “shooneez” meant “black seed”, they can pursue that; but I don’t think so. Coriander seeds are white to yellowish brown, never black; and yet *Nigella sativa* is known as Roman coriander, Black coriander. Why? *Nigella sativa* does not look like the coriander plant (not even the leaves), the seeds do not taste similar<sup>38</sup>, the plants do not smell similar. Perhaps because both were used against

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<sup>38</sup> See allspicerack.com: “despite (the various names comparing *Nigella sativa* to onions, caraway seeds, and coriander), the flavor of *Nigella sativa* seeds is not similar to onion, cumin, coriander or caraway seeds”.



snakes and worms. All the evidence I've found points to the etymology I publish here.

The discussion of snakes brings us back to the component *mal/malli/mir* seen in those words for coriander/cilantro, described earlier. In the Proto-Dravidian database, I found (see pages 47 to 48), as predicted, that *\*mal-* was a Proto-Dravidian word that meant "to curve, turn, bend, circle". In the database one can find more words from that root than I can post here now, so I ask the reader to check that database. A few I want to describe now are: Proto-Dravidian root *\*malan-* meaning "eel" and *\*malag* meaning "necklace". Therefore, *kottamalli*="Striking the snake", as I published here almost one year ago.

It is quite interesting---and some day much ancient history can be mapped out from this fact---that these Dravidian forms have such close correspondences in Sumerian and in Indo-European languages, as well as other Eurasian and Afro-Asiatic languages (see the Semitic correspondences, discussed earlier). I believe that from *\*mal-*"to curve, turn, bend; circle, round" (or from a form with a different vowel instead of "a") also derive these Ancient Greek/Latin/Armenian etc. words of previously undetermined etymology: *μᾶλον & μήλον* (=apple; various tree fruits of similar shape/size/appearance to apples; swellings under the eyes; the tonsils: all these meanings referring to the round/roundish shapes), *μᾶλη* (=armpit; axilla; from "to bend" and from the turning/rotating movement of the arm allowed by the shoulder socket), *μαλλός* (=a flock of wool; wool; a lock of hair; from the curl of wool; this word is the source of *μαλός* meaning "white", unless one wants to posit, as in Sumerian, a Pre-Greek *μαλ-*=the sun, from the idea of "round, circle"<sup>39</sup>); probably also Old Armenian *մալ* (=mal="cattle"; of disputed etymology; it would be from the curvature of the cattle's horns); *μαλάχιον / μολόχιον* (=a woman's ornament worn around the neck); *μαλάχη / μολόχη* (=the mallow plant; because of the round but flattened seeds, that look like what a round, flattened piece of cheese looks like); Latin *malva* (=mallow; because of the round, flattened seeds); Armenian *bolbok* (=mallow, because of the round, flattened seeds); Georgian *balba* (=mallow; because of the round, flattened seeds): here Armenian and Georgian show the m/b variation, and so this suggests that Ancient Greek *βολβός* (=the bulb of various plants, especially onion; the eyeball) is also akin, as is Armenian *bolk* (=radish), as well as many more cognate words, some of which I'll describe next time. Hittite "malk-" meaning "to spin" also derives from the same root-word(s). Compare also Sumerian *balak* (=spindle) and *bala*=to revolve, turn, spin.

Another ancient root-word in common between Ancient Greek and Sumerian is indicated by the aforementioned Sumerian stem *maš*, "to curve, turn, bend". From that root I think comes Ancient Greek *μασχάλη* =armpit; axilla; bay, gulf; part of the prow of a ship, to which the foresail is fastened; branches, young palm twig. That Ancient Greek word is also of previously undetermined etymology. I will detail this etymology further in my next update.

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<sup>39</sup> so I do not derive this word for "wool" from *μαλακός*, which meant "soft": nor does any linguist I have seen derive it from "soft". For the reader, I will add here that *μαλακός* derives from PIE *melh<sub>2</sub>-*"to grind, crush".



To conclude this version of this paper, I will now share this next fantastic additional evidence that I found many months after I published the previous version of this paper: I found that in Pseudo-Dioscorides 2. 152, ἐλαφόβοσκον = σκόρδον ; and as any good dictionary of Ancient Greek will tell you, σκόρδον is a variant of σκόροδον (=garlic). What does ἐλαφόβοσκον mean? It means “that which is eaten by deer”: if you look up ἐλαφόβοσκον in the Online Perseus Greek dictionary right now, you will see the definition given for ἐλαφόβοσκον : *plant eaten by deer as an antidote against the bite of snakes*.

I will publish the next update soon, so check back soon. Thanks.

My email: [alexandru.gheorghiu.323@gmail.com](mailto:alexandru.gheorghiu.323@gmail.com)

My blog: <https://fresh-philosophies.blogspot.com/> (where I post notifications whenever I publish a new research paper or an update to a research paper)