Dark Matter

*The Root * $\sqrt{k}uel$ ‘Dark, Black’*

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Abstract

The assumption of a root * $\sqrt{k}uel$ ‘dark, black’ offers new possible etymologies for Arm. *šatax*, Gk. *πηλός*, Toch. B *kwele*, Hitt. *kuḫaliu-*, Gk. *κύλα*, Lat. *culex*, and Lat. *color*, whose derivational background will be dealt with in the course of this paper.

Keywords

šatax – *πηλός* – *kwele* – *kuḫaliu-* – *κύλα* – *culex* – *color*

1 The Root * $\sqrt{k}uel$

In the *Indogermanisches etymologisches Wörterbuch* (p. 629), J. Pokorny mentions a root * $\sqrt{k}uel$ - ‘schlammig’ (‘muddy’) with a question mark, the evidence for which is claimed to be limited to Armenian (*šatem* ‘to moisten, to mix the mortar’, *šatax* ‘clay, mud, mortar’), and Lithuanian (*švelnùs* ‘soft, smooth’). It is not easy to derive the latter from a proposed meaning ‘muddy’, so we will have to leave it aside for now.

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The Armenian words, however, can be interpreted quite straightforwardly: It seems plausible that *šatax* should be analyzed as **šat-* plus a denominal suffix or enlargement *-ax*.¹ The verb *šatem* can then very easily be explained as denominative from this presumable *o*-stem **šat* in the very same way as *gnem* ‘I buy’ is based on the *o*-stem *gin* ‘purchase price’, etc.²

Concerning its prehistory, one might find it easiest to reconstruct **k_ulno-* or **k_ulso-* which would have regularly given Arm. **šat* in accordance with Armenian sound laws, namely **k_u-* > Arm. *š-* as in the word for ‘dog’ (Arm. *šown* < **k_uōn*³), **l-* > Arm. *al* (parallel to **r-* > Arm. *-ar-* as in *mard* ‘human’ from **m_urto-*⁴), and **ln-* or **ls-* > Arm. *-t-* (as in *get* ‘beauty’ from **uel-no-*⁵).

As a matter of fact, it seems to have remained unnoticed that there is an exact equivalent of Arm. **šat* elsewhere in the IE languages: The very same pre-form **k_ulso/no-* does indeed also account for Gk. *πηλός*, (Dor. *πᾶλός*) m. ‘clay, earth, mud, mire’ [Hdt.+].⁶ The semantic match is impeccable, and also phonologically the outcome *πηλός*, *πᾶλός* is precisely what we would expect according to Greek sound laws.⁷

A neat Graeco-Armenian isogloss is in itself certainly a good thing and definitely an asset, but to round out the argument we would of course want to adduce further material in favor of setting up a root **√k_uel*. It would therefore be advisable to look for other potential cognates within the Indo-European languages. For that reason, it will first be necessary to ascertain a possible basic

1 The derivational function of *-ax* is not clear. It appears in words of different semantic fields, some of which are thought to be of foreign origin; cf. Martirosyan 2010:220, 660, 761.

2 For more examples cf. Klingenschmitt 1982:140.

3 Cf. Klingenschmitt 1982:259; Olsen 1999:133 f.; Martirosyan 2010 s.v.

4 Cf. Klingenschmitt 1982:100; Olsen 1999:40; Martirosyan 2010 s.v.

5 Cf. Klingenschmitt 1982:242; Olsen 1999:51.

6 “Without a convincing etymology. Pre-Greek?” (Beekes 2010 s.v.).

7 **pālō-* < **k_ulno-* or **k_ulso-* with **k_u-* (~ **k_u-*) > Gk. *p-* before *-al-* < **l-* as in *πάλιν* from **k_ulhi-*. For the development of **(-)k_u-* in Greek cf. Balles 2002:13 ff. As G. Kostopoulos (Vienna; p.c.) points out to me, we cannot exclude *a priori* a parallel development of an anlauting **k_u-* to Gk. *k-*, similar to the development in internal position (**k_u-* > Gk. *-pp-* and *-kk-* [ἵππος, ικκος (onomast.), πέλεκκος, etc.]), for which the exact dialectal (or otherwise conditioned) distribution has yet to be defined (cf. also Peters 2000:388⁵⁷). In any case, if we may assume a likewise legitimate outcome **kālō-* < **k_ulno-* or **k_ulso-* it becomes possible to account for the substantive *κηλὶς ἴδος* f. ‘stain, spot, defilement; stain, blemish; naevus’ [trag., Antipho, x., Arist.] as a denominal derivative in **-íd-* (thus Kostopoulos fthc.) from the adjective underlying *πηλός*. The semantics of this formation (‘dark spot’) will become evident in the course of this paper. Cf. also Hsch. *κηλῖν η μέλαινα*. For a different etymology of *κηλὶς* (via **keh₂l-*) cf. Lipp 2009:39 f.

meaning of the root in question. As it happens, typological evidence suggests that words for ‘clay, mud, mire’ tend to be derived from roots denoting color concepts in the range of ‘dark, black’. This can be seen from several examples, including Gk. ἄσις f. ‘slime, mud’ [*Il.* 21.321, Nic., Hsch.] as ‘the dark one’ from a root $\sqrt{h_2}ems$ ‘black, dark’ (cf. Nikolaev 2005:50 ff.), Lith. *mólis*, Latv. *māls* ‘clay’ from an underlying ‘blue, black’ (Lith. *mélas* ‘blue’), or, presumably from pre-*einzelnsprachlich* times, Gk. ἰλύς -ύος f. ‘mud, slime’ [Ion., *Il.*, Arist.] and OCS *ilъ* ‘bog, mire’ (+)⁸ from $\sqrt{(h_x)}ih_xlu-$ (cf. Peters 1980:101), which can be regarded as a substantivization of the homophonous adjective underlying Latv. *īls* ‘very dark’ and the Hesychius gloss εἰλύ· μέλαν ‘black’ (with εἰ for /ī/). It thus seems natural to watch out for a root $\sqrt{k}uel$ ‘black, dark’.

2 Toch. B *kwele* ‘Black, Dark Gray’

The most obvious descendant comes from Tocharian B, where we find an adjective *kwele* that is usually glossed as ‘black, dark gray’. The commonly accepted etymology is to assume a reconstruction $\sqrt{k}i-uo-lo-$,⁹ which can be regarded as rather difficult, since there is no external justification for a formation of this structure. The proposed connection to $\sqrt{k}i-uo-$ (attested in Gmc. **hiwa-* ‘(gray) color’: ON *hý* ‘fine hair’, OE *hāw* ‘color’, Goth. *hiwi* ‘appearance’) is semantically rather weak. A connection with Ved. *śyāvā-* ‘dark brown’ (etc.; cf. *EWAia* 11:661) from $\sqrt{k}iēh_1-uo-$ is more plausible on the semantic side, but phonologically impossible, since the underlying root obviously contained a laryngeal, and even a zero-grade $\sqrt{*}uo-$ formation would not have resulted in the needed Tocharian form, not to mention the extension by an otherwise unparalleled $\sqrt{*}lo-$ suffix.

It therefore seems much easier to resort to our newly acquired root $\sqrt{k}uel$ ‘dark, black’ and assume an *o*-grade adjective $\sqrt{k}uol-o-$ ‘black, dark’¹⁰ of the type attested by PIE $\sqrt{h_1}roudh_1-o-$ ‘red’ as in Lith. *raūdas*, Goth. *raups*, OIr. *ruad*

8 Synchronically, *ilъ* inflects as an *o*-stem, but this is not surprising, given that inherited *u*-stems and masculine *o*-stems both ended in *-ъ* in the nom.-sg.; cf. Vaillant 1958:108 ff.; and Derksen 2008:211 for the Slavic forms. Further evidence for the originality of the *u*-stem comes from the derivatives Russ. *иловатый* (*ilovatyj*) ‘silty’, *иловай* (*ilovaj*) ‘lowland, marshland’, SCr. *ilovača* ‘loam, clay’, etc. according to Vasmer 1953:478.

9 Cf. Hilmarsson 1993:184; Adams 2013:258.

10 As a funny coincidence, in one attestation (319b1) the adjective refers to *kärkalle* ‘mud, mire’; cf. Fellner 2005:133 f. for the details.

etc.¹¹ Again, this account seems to be in line with the apparent development of **k̥u*-sequences (as opposed to **k̥u*) in Tocharian, though the minutiae are still disputed. It is impossible to recapitulate the different doctrines here, but see Fellner 2005 for an exhaustive overview. It will suffice for our purposes to compare the supposed development of **k̥uol-o-* > B *kwele* to **k̥uon-ŋ* > obl. *kweŋ* ‘dog’¹² or to **h̥ek̥uos* > B *yakwe* ‘horse’ (as opposed to a “real” labiovelar in similar positions: **tek̥uos* n. > B *cake* ‘river’, **k̥uol-* > B *kele* ‘navel’).¹³

3 Hitt. *kuḫaliu-* / *kuliu-* ‘?’

Blažek 1997 was the first to compare Toch. B *kwele* to Hitt. *kuḫaliu-* / *kuliu-* with a possible meaning ‘dark, blue’ (but see below) under the reconstruction **Kuwo-lo-* / **Kuwo-li-*. If we were to explain Hitt. *kuḫaliu-* as descending from the root **√k̥uel*, we would have to accept the following derivational scenario:

The adjective **k̥uol-o-* ‘black, dark’ would have formed a regularly derived¹⁴ *i*-abstract **k̥uol-i-* ‘darkness, blackness’ (the type **h̥ro/euḫ^h-i-* ‘redness’ underlying Lat. *rūbidus* 3 ‘red’, cf. Nussbaum 1999:401 ff.). According to the model SUBSTANTIVE → POSSESSIVE *u*-ADJECTIVE that can be observed quite nicely within Hittite,¹⁵ an adjective ‘having darkness, blackness’ (virtually **k̥uol-i-u-*) was then derived, which regularly developed into Hitt. *kuḫaliu-* and—via optional syncope of *-uḫa-* to *-u-* (cf. Melchert 1984:52 f.)—*kuliu-*. Note that the desinence *°iu-* is quite unique within Hittite and therefore favors the interpretation as an “enlarged” *i*-stem.

The problem with this account, however, is that the meaning ‘dark, blue’ is by no means secure. Other interpretations include ‘rein, hell’ (Weitenberg 1984:117 f.) or ‘ruhig, verhalten, stillstehend’ (*HED* IV:303 f.; *HEG* I:624 f.; cf. also Blažek 1997 for the references). It is therefore impossible to add Hitt. *kuḫaliu-* to the probable continuants of our newborn root **√k̥uel*.

11 Cf. *NIL*:580 f.

12 Maybe an inherited biphonemic sequence **k̥u-* in antevocalic anlaut position generally developed a “pseudo-Lindeman” realization with an anaptyctic vowel **Kuḫ-* in the prehistory of Tocharian? Cf. in any case also Pinault 2008:445 ff.

13 This view—viz. that inherited **K̥u* and **K̥u* behaved differently in Tocharian B—is essentially the one outlined by Ringe (1996:42) and also Kim (1999:149 ff. and 158).

14 For the process cf. Schindler 1980:390; Nussbaum 1999:399; Weiss 2009:314 f.; Nussbaum 2014c:304 f.

15 Cf. *ma/iliddu-* ‘sweet, honeyed’ from *ma/ilitt-* ‘honey’, etc.; cf. Rau 2007:291; Rieken 2013:274 f.

4 **kul-o-* ‘Dark, Black’

Within the Caland system, one would not be surprised to find an additional zero-grade thematic adjective of the type **h₁rud^h-o-* ‘red’ as in Lith. *rùdas*, Latv. *ruds*, subst. Lat. *rubus* m. ‘bramble(berry)’, or **luk-o-* ‘bright, clear’ as in Ved. *rucá-* ‘id.’, Welsh (*am-*)*lwg* ‘obvious’, so in our case **kul-o-* ‘dark, black’. Apparently, this adjective served as the basis for two independent substantivizations that are marginally attested in two separate branches of the Indo-European languages.

In Greek we find a neuter plural κύλα ‘the parts under the eyes’ [Hp., Sor., Hsch.]. It is often unnecessarily emended to κοῖλα ‘hollows, cavities’,¹⁶ which does appear as a *varia lectio*. But the existence of a “real” κύλα is further guaranteed by some derivatives (κύλλια, κύλλαβοι [see below]; κυλίδες, -άδες [Poll., Eust.]), compounds (κυλ-οιδιάω ‘to have a swelling under the eyes’ [Ar., Theoc.]), and also by onomastic material (PN Κύλων [Argos], Κύλασος [Larisa], Κύλαχος [Argos]; cf. Solmsen 1909:88 f.),¹⁷ so there should be no doubt about its authenticity.

Hesychius’ gloss of κύλα reads τὰ ὑποκάτω τῶν βλεφάρων κοιλώματα. τὰ ὑπὸ τοὺς ὀφθαλμοὺς μῆλα. τὰ ὑπώπια. ‘the cavities underneath the eyes, the μῆλα [apples?] under the eyes, the parts under the eyes’. K. Latte (1966:545) emendates μῆλα ‘apples’ to κοῖλα, but this is unnecessary. In *LSJ s.v.* μῆλον (B) ‘apple’, we find a separate definition (II.3.) for the plural μῆλα as ‘swellings under the eyes’ exclusively for this Hesychius gloss (which, however, is emended *s.v.* κοῖλα to κοῖλα ‘hollows, cavities’). In all the other instances where μῆλα is used in a metaphorical sense, it stands for things that do in fact have a closer resemblance to apples than a potential swelling under the eye, such as cheeks, tonsils, or a girl’s breasts.

It would thus be far more plausible if μῆλα referred to the cheeks in this case. As G. Kostopoulos (Vienna; *p.c.*) kindly points out to me, the use of μῆλον for ‘cheekbone’ is well-attested in Roman and Byzantine times¹⁸ and also in Modern Greek, where μῆλο means both ‘apple’ and ‘cheekbone’. M. Divjak-Mirwald (Vienna; *p.c.*) very cleverly adduced the typological parallel from French, where *pommette* (diminutive of *pomme* ‘apple’) likewise means ‘cheekbone’. The gloss could then be understood as ‘(either) the cavities underneath the eyes, (or) the cheekbones under the eyes, (in general) the whole area under the eyes’.

16 Cf., e.g., *LSJ s.v.* κοῖλος.

17 For the forms cf. Frisk *s.v.*; also Beekes 2010 *s.v.* (“rather [...] Pre-Greek”).

18 Cf. Sophocles 1900:757 *s.v.* μῆλον “cheek-bone, the part that blushes”.

But at this point it might be advisable to have a look at another related gloss, namely κύλλια, which is explained as ὑπώπια μελανά¹⁹ ‘black areas under the eyes’ [Hsch.]. From this, we may conclude that both κύλα and κύλλια denoted only the dark area underneath the eyes, viz. dark circles under the eyes, and not necessarily also the cheekbones. For it now becomes possible to read μέλανα (or μελανά) for μῆλα in the other gloss as well, so τὰ ὑπὸ τοῦς ὀφθαλμοῦς *μέλανα ‘the black areas *or* spots under the eyes.’²⁰ But of course, such a conjecture is not a trivial emendation of the actual text, even if it may be semantically justified.

Another option would therefore be to take μῆλα ‘dark parts’ at face value and try to find a morphological explanation for it.²¹ One would not even have to give up the connection with the root *√mel ‘black, dirty’ of Gk. μέλας,²² but only see in it a formation with a lengthened grade, viz. *mēl-o- n. ‘dark spot’ that is attested in this very same meaning in Germanic (Goth. *mel**, OHG *māl*, Germ. *Mal*; cf. Kluge/Seebold 2002²⁴:592). It could be regarded as an insurmountable obstacle, though, that this would be the only attestation of a presumed μῆλα ‘dark parts’ in the whole of Greek literature.

In this respect it might also be worth clarifying that the word ὑπώπιον of both glosses κύλα and κύλλια, which appears again in a third relevant gloss²³ κύλ-

19 The accentuation (μελανά; Latte 1966:546) would point to the adjective μελανός ‘μέλας’, which is attested late [Gp., Stad.] and quite common in the Roman and Byzantine periods (cf. Sophocles 1900:741 and Mod. Gk. μελανός ‘dark, blue’).

20 A similar use of the neuter plural μέλανα for ‘dark parts, black spots’ can be found in Xenophon’s *Cynegeticus*: καὶ τὰ μέλανα τὰ περὶ τὰ ὦτα ἄκρα οἱ μὲν ἐπὶ πολὺ, οἱ δ’ ἐπὶ μικρόν. (Xen. *Cyn.* 5.23) “The black at the tip of the ear is broad in the one species, narrow in the other.” (E.C. Marchant u. G.W. Bowersock, Loeb Classical Library) and also in the gloss πράκνον: μέλανα ‘black marks, dark spots’. Note that the explanation by the neuter plural μέλανα seems to rule out the reading of πράκνον as an adjective (cf. περκνός ‘dark, dusky’), but rather suggests that it be regarded as a neuter substantive denoting something like ‘speckled mark or area (perhaps in the fur of an animal)’ (with etymological backup by Ved. *pṛśni*- ‘dappled, pied’, Welsh *erch* ‘mottled, speckled’; cf. *IEW*:820 f.) which, of course, can be paraphrased as ‘collection of dark spots’ = μέλανα. See also below under 5.

21 This valuable suggestion was made to me by José Luis García Ramón (Cologne).

22 Cf. Peters 1980:162 ff. with arguments in favor of an anīṭ-root.

23 The exact formation of κύλλια and κύλλαβοι with respect to κύλα is also an open question. For κύλλια one could hypothesize a diminutive *κύλιον or *κυλίον (cf. χάδος m. ‘jar’ → κάδιον or πῖλος m. ‘felt cap’ → πῖλιον) with spurious geminate. The suffix of κύλλαβοι is very obscure but can, in principle, be compared to other (perhaps vulgar) formations in ὄαβος, as, e.g., χέραβος ‘chasm’ [χάσμα γῆς; Hsch.] (: χαράδρα ‘mountain stream; ravine’?), σάραβος ‘pudenda muliebra’ [*Com.Adesp.*] (: σάρον ‘broom’?), or δκαβος ‘bracelet, armlet’ [Hsch., *EM*] (: ὄκχος ‘eye’ [Hsch.]?), cf. Buck/Petersen:385; Schwyzler 1959³:496.

λαβοῖ· ὑπώπια [Hsch.], does mean ‘the part of the face under the eyes’ at least etymologically and in *Il.*12.463, but is normally used in later literature for ‘a blow in the face, a black eye’ [E., Ar., Apollonh., Lys.], or ‘any bruise, weal’ [Thphr., Gal.]. Cf. also the adj. ὑπώπιος ‘with a black eye’ [Poll.], and the verb ὑπωπιάζω ‘to give someone a black eye’, pass. ‘to have a black eye’ [Ar., Arist., D.L.]. It is almost undoubtedly this very meaning of ὑπώπια that is reflected in all three glosses.

Taken together, the evidence therefore strongly suggests that the Hesychian gloss of κύλα is to be understood as ‘the cavities underneath the eyes, the dark areas under the eyes, black eyes’. Accordingly, we can surmise that κύλα was most probably the Greek term for ‘dark circles under the eyes’ and/or ‘black eyes’ and continues a substantivization of an adjective **kul-o-* ‘dark, black’.

The very same adjective was perhaps also the basis for a marginal Latin formation. Within Latin, or rather the prehistory of Latin, a suffix containing a velar²⁴ could apparently be used as a prototypical enlargement of color adjectives, denoting ‘such-and-such a color’ or ‘such-and-such a colored thing’.²⁵

For instance, we need to assume a form like **albex*, gen. **albicis* ‘whitishness, white color’ (*albēre* ‘to be white’) to account for the adjective *albicāns* ‘whitish’ [Catull.+], *subalbicāns* [Varro]. The latter can then be explained as a possessive denominative formation in *-ant-*,²⁶ literally ‘having **albex*, having whiteness’ that was only secondarily reinterpreted as a present participle, which gave rise to the verb *albicāre* ‘to have a whitish tinge’ [Varro+].²⁷ For the formation compare *gemmāns* in a possessive sense ‘decorated with jewels’ from *gemma* f. ‘jewel; bud’, which likewise cannot be a present participle, since the verb *gemmāre* means ‘to come into buds’.

According to this model, we can nicely account for the analogical creation of other color verbs in **icāre* (*nigricāre* ‘to verge on black’ [Plin.+], *splendicāre* ‘to be bright’ [Apul.], *clāricāns* [Apul.], *uiridicāre* [Ital. *verdicare*] etc.) that would otherwise remain obscure in their formation.²⁸

A substantive of the same kind, namely **rubex*, **rubicis* ‘reddishness, red color’ (*rubēre* ‘to be red’), is necessary to explain the formation of *Rubicō(n)*

24 On (other) Latin *k*-stems cf. Weiss 2009:306 f.; and recently Vine 2015:144.

25 Cf. also Gk. φοινός ‘blood-red’ [*Il.*16.159] → φοινίξ m. ‘(the color) purple, crimson’ [Hom.+], with an oblique in *-ix-*.

26 Cf. Leumann 1977:583; Balles/Lühr 2008:117 with references.

27 Similarly and perhaps old: **candex*, gen. **candicis* (*candēre* ‘to shine’) → *candicāns* [Varro+] → *candicāre* ‘to have a white appearance’ [Scrib. Larg.+].

28 For the type of verbs cf. also Leumann 1977:550 (without a derivational proposal).

m. 'name of the river Rubicon', which can be interpreted as 'the one having red color, the ruddy one'²⁹ (cf. Luc.1.214: *puniceus Rubicon* 'the crimson Rubicon'), and perhaps also *rubicundus* 3 'ruddy'³⁰ [Plaut.+].

A third case might be **uïrex*, **uïricis* 'greenery, green color' (*uïrêre* 'to be green') → *uïrectum* n. 'area of greenery' [*Dirae*+], parallel to *arbor oris* f. 'tree' → *arbustum* n. 'area of trees; wood, copse',³¹ unless, of course, this is an analogical formation with a complex suffix *°ectum* taken from *frutectum* 'thicket of shrubs' [Col.+] ← *frutex* 'shrub' (thus Weiss 2009:294¹⁴¹).

This being the case, we could, in principle, project a substantive **culex*, gen. **culicis* 'dark color' or 'dark colored thing'. And indeed, this is what seems to be attested in Pliny's *Naturalis Historia*, book 25, in a description of remedies for diseases of the eyes:

Oculorum aciem centaurio maiore putant adiuuari, si addita aqua foueantur, suco uero minoris cum melle culices, nubeculas, obscuritates discuti, cicatrices extenuari, albugines quidem etiam iumentorum sideritide.

PLIN. *Nat.* 25.142

It is believed that the greater centaury strengthens the eyesight if the eyes are treated with a mixture of water; with the juice of the smaller kind, mixed with honey, one can dispel *culices*, *nubeculas* and *obscuritates* and diminish scars; the ironwort, it is believed, heals albugo in beasts of burden.

The textual evidence itself—in the guise of an evident *tricolon* or *hendiatris*—suggests that *culices*, here, is to be regarded as a synonym of *nubeculas* and *obscuritates*, i.e., 'small clouds' and 'spots of darkness' that appear in the field of view, perhaps as a result of a macular degeneration. The mentioning of *albūgō*

29 Either exhibiting the so-called "Hoffmann suffix" or the substantivizing/individualizing *n*-suffix attached to a possessive adjective **rubicus* 'red(dish)' (cf. Old Ital. *rubicchio* < **rubiculus*).

30 I would suggest a formation **rubex* 'redness' → *rubicundus* 'having the property of a **rubex*, **rubex*-like = ruddy' in a similar manner as *rota* 'wheel' → *rotundus* 'having the property of a *rota*, *rota*-like = shaped like a wheel, round, circular'. Accordingly, I do not think that *rubicundus* is directly comparable to the quasi-participles in **cundus* (*fācundus* 'eloquent', *fēcundus* 'fertile', *iūcundus* 'agreeable', etc.), which might have a completely different origin (for which cf. recently Garnier 2015).

31 For this process cf. Nussbaum 2014c:292.

inis f. 'a white opaque spot in the eye' in the following sentence strengthens the view that *culices* has to be interpreted as something like 'dark spots' in the present case.

For want of other obvious instances of this word, however, one usually regards *culices* as the plural of *culex* m. (f.) 'gnat, midge, or a similar insect' [Plaut.+]. The evident difference in meaning has either been tentatively bridged via the assumption of a metonymical use of the word 'gnats' in this case (e.g. "*culices* (sc. *imaginarios*)" according to the *TLL* s.v. *culex*; the *OLD* s.v. *culex* recognizes a special meaning "Moving spots appearing before the eyes" exclusively for this attestation), or one has simply taken it literally and translated "gnats are removed"³² or even "small flies [sc. may be] removed which have got into the eye".³³ Apart from the fact that one might easily think of better methods for removing gnats that have gotten into one's eye than using the juice of a plant (why not use a finger?), both strategies seem difficult to justify from the text itself and may be regarded as obsolete in view of the possibility that there might have been two homophonous words *culex*.³⁴

In any case, we might as well want to question the commonly accepted³⁵ etymology of *culex* 'gnat' and its Celtic equivalents (*i*-stem OIr. *cuil* 'fly', Welsh pl. *cylion* 'flies', OBret. *colaenn*, Corn. *kelionen* [singulative]) as related to Ved. *śúla-* m.n. 'spit, skewer' [RV+]. This connection is semantically attractive—at first sight at least—since *culices* are sometimes described as stinging insects. Cf. Hor. *Sat.* 1.5.14: *mali culices ranaeque palustres auertunt somnos* "evil mosquitos and the frogs in the swamps avert my dreams", or Eug. Tolet. *Carm.* 38.3: *mor-daces culices* "biting mosquitos".

Morphologically, one would have to accept the following scenario: As is clear from Indo-Iranian, Ved. *śúla-* has to be segmented *śú-la-* and belongs to Ved. **śū-cí-* >> *sūcī-* f. 'needle' and YAv. *sū-kā-* f. 'id.' (cf. *IEW*:626; *EWAia* II:739). The

32 "while by the juice of the lesser centaury with the addition of honey gnats are removed, cloudiness and films are dispersed, and scars smoothed out." (W.H.S. Jones, Harvard University Press).

33 "and that by employing the juice of the smaller kind, in combination with honey, films and cloudiness may be dispersed, marks obliterated, and small flies removed which have got into the eye." (J. Bostock & H.T. Riley, London: Bell & Sons).

34 Both *IEL* reviewers very kindly point out to me that eye floaters (threadlike specks in the visual field) are commonly known as "mouches volantes" ("flying flies") in several languages, so basically the idea of "*culices* (*imaginarios*)" does after all remain a serious possibility.

35 Walde/Hofmann s.v.; *IEW*:626 f.; de Vaan 2008 s.v.

actual basis of *śúla-*, *culex*, PCelt. **kuli-*, and perhaps also Arm. *slak* ‘arrow, javelin, pike’,³⁶ would then have to be an otherwise unattested adjective **kū-lo-* ‘pointy, spiky’.

This is, of course, not impossible, but proves somewhat more difficult on the phonological side, for one would have to account for the short *ũ* of Latin and Celtic as opposed to the long *ū* of Vedic. One could certainly invoke shortening of the *ū* in accordance with Dybo’s Law,³⁷ but since there is no external evidence for the position of the accent in the predecessors of Lat. *culex* and OIr. *cuil*³⁸ and the operation of Dybo’s Law in Italic and/or Celtic is quite disputed,³⁹ we might as well remain doubtful about this etymology altogether.

On the other hand, assuming a connection with **kul-o-* ‘dark, black’ seems gratuitous at first sight as well, since it is only idle conjecture that the gnat or the fly was named after it being dark or black. However, coincidentally a similar formation can perhaps be seen in another word for an insect, i.e. Lat. *cimex icis* m. ‘bed-bug’ [Liv. Andr.+], which seems⁴⁰ to be a derivative exhibiting the same velar suffix from an underlying color adjective **k̑eh₁-mó-* ‘dark’ that can be reconstructed on the basis of Vedic *śyāmá-* ‘dark gray, black’, Lith. *šėmas*, *šėmas* ‘bluish gray’ (cf. also **k̑eh₁-uó-* above under 2).⁴¹ Note that the appearance of **k̑eh₁-mó-* in the zero grade **kih₁-mo-* (→ *cimex*) is exactly in line with what we assumed above for **rubex*, **uirex*, and, for that matter, **culex*.

In Celtic, the derivation of an *i*-stem animal name from an underlying thematic color adjective (viz. **kul-o-* ‘dark, black’ → **kul-i-* ‘the black one’ > ‘fly’) can be paralleled by **gabro-* ‘white’ (OIr. *gabor* ‘light-hued, white’) → **gabri-* f. ‘the white one’ (*gabor*² ‘white horse’) (cf. Weiss 2013:350).

36 Cf. Martirosyan 2010 s.v. with references.

37 Cf. Schrijver 1991:527 who alternatively proposes a laryngeal metathesis, viz. **kuH-* >> **kHu-* > **kü-*, whose operation does not seem to follow strict methodological rules. Cf. the criticism in Garnier (fthc.).

38 Thus also Matasović 2009 s.v. *kuli-* (“I think it is more likely that the similarity of Skt. *śúla-* to these words is accidental.”).

39 Cf. most recently Weiss 2009:99 (as “Dybo’s Phenomenon”); Matasović 2012 (with newly formulated phonological limitations for the Celtic material); Zair 2012:132 ff.; Garnier fthc. (with a withering assessment of Dybo’s law).

40 Thus Walde/Hofmann s.v.; skeptical de Vaan 2008 s.v. (“(...) not compelling”).

41 Another “(a)nnoying animal” (Weiss 2009:306) with a velar suffix is *pūlex* ‘flea’, but this is from the *i*-stem **pusli-* << **plusi-* (Ved. *plūṣi-*). As derived from color adjectives, one might additionally compare Lat. *illex icis* f. ‘holm-oak’ [Enn.+] as ‘the dark one’ from the “root” **(h_x)ih_x-* ‘dark’ mentioned above under 1, since the holm-oak is usually described as having a blackish bark, but this is mere guesswork.

But of course, we would have to assume two individual substantivizations in two separate branches, namely Latin and Celtic, of an unspecified color adjective ‘dark, black’ to happen to designate a quite specific species of insect, namely a ‘gnat’ or ‘a fly’, as ‘the dark one’, so we might remain reserved about this proposal.⁴² Nonetheless, the interpretation of *culices* as ‘dark spots’ in Pliny seems compelling.

5 Arm. *šat and Gk. πηλός

It is now time to return to our point of departure, namely Arm. *šat and Gk. πηλός, for which an exact morphological analysis has been left open. Phonologically, both a *-no- and a *-so-suffix are equally workable alternatives. In both cases, we would have to assume an underlying adjectival formation ‘dark, black’ that came to be substantivized as ‘dark matter’ leading to ‘clay, earth, mud, mire’.

A *-no-adjective formed from a color root can be easily paralleled, for example Ved. *kṛṣṇá-* ‘black’, or Lat. *cānus* ‘gray’ from *kas-no-. We also find many substantivized *-no-adjectives: take for example Gk. *πράκνον· μέλανα* ‘black marks, dark spots’ [Hsch.] (see note 20) next to *περκνός* ‘dark, dusky’ [Hp., Arist.], or OIr. *rían* ‘a plant producing red coloring matter’ from *h₁rudh-no- with the vocalism remodeled after *ráad* (cf. Stifter 1998:208). A substantivization *k_ulnó- ‘dark matter’ developing into ‘mud, mire, etc.’ is therefore a justifiable morphological analysis.

Further support for this interpretation might be obtained if the Greek adjective *πελός* ‘dark-colored, dusky (mostly of animals)’ (or *πέλλος*) [S., Arist., Theoc.] could be regarded as the “Aeolic” continuant of a full-grade *-no-adjective *k_uel-nó-⁴³ that would bear relation to substantivized zero-grade *k_ulnó- in the same way as the above-mentioned *περκνός* ‘dark, dusky’ does to

42 Note, however, that one could hypothesize a pre-*einzel sprachlich* i-stem *k_uli- ‘the black one’ > ‘gnat, fly’ (directly attested by the continuants of PCelt. *k_uli- ‘id.’) which was enlarged only within Latin by the velar suffix as *k_uli-k- ‘id.’ (parallel to *pusli- >> *pusli-k- ‘flea’, see previous note). The variation between nom.-sg. °ex and °ix is still poorly understood (cf. Leumann 1977:375), but the first attestation of the nom.-sg. of *culex* is, after all, in the guise of *culix* in Plaut. *Cas.* 239.

43 A pre-form *k_uel-ió- would work in any of the canonical dialects if we ignore the development of anlauting *k_u- (which should have given *t-* in most dialects except Aeolic). In any case, *p-* could be analogical to the synonymous adjective ‘dark’ (underlying πηλός ‘clay, earth’).

πράκνον. At least semantically, πῆλλός is actually closer to our root ‘black, dark’ than to the root **√pel* ‘gray, pale’ under which it is usually (*IEW*:804 f.; *DELG*:876) listed.

On the other hand, there are also arguments in favor of the second possibility, viz. **kúl̥só-*, which would have to be interpreted as a thematic derivative⁴⁴ from an *s*-stem basis. In principle, derivatives of this kind are widespread among virtually all the Indo-European languages, though often well-hidden as obscure or unexplained formations due to *einzel sprachlich* phonetic developments that make an immediate identification quite difficult.

The idea of thematic derivatives from *s*-stem bases with a double zero grade in the root and the suffix of the base word goes back to J. Schmid and P. Persson, who as early as 1893 both published their very similar analysis of Lat. *russus* ‘red, red-haired’ [Enn.+] as a derivative of an *s*-stem attested in Gk. ἔρευθος n. ‘redness’ (cf. Schmid 1893:387 and Persson 1893:270), in a modernized fashion: **h₁réu^hd^h-es-* ‘redness’ → **h₁rud^h-s-ó-* ‘having redness’. For the sake of convenience, and because *russus* is actually a very iconic example, I would like to use the term “*russus* adjectives” as some kind of abbreviation for “thematic possessive derivatives from neuter *s*-stems with a double zero grade in root and suffix of the base word”.

More examples of *russus* adjectives can be found in, e.g., Ved. *rukṣá-* ‘bright’ continuing **luk-s-ó-* ‘having light’ from the *s*-stem **léuk-os* (as in Av. *raocah-* ‘day, light’), or Gk. ῥαμψός ‘crooked, curved’ continuing **urmb^h-s-ó-* ‘having a curve’ from the *s*-stem **uremb^h-os* (as in Gk. ῥέμφος ‘mouth, nose’ with a presumable basic meaning ‘curve, bending; and: something curved, something bent’).

Some comparable simple substantivizations of *russus* adjectives can be found in, e.g., Lat. *saxum* ‘rock, boulder’ < **s₁k-s-ó-* ‘having cutting, cut’⁴⁵ from the *s*-stem **sek-os* ‘cutting, division’ (as in Lat. *secus* n. ‘sex, gender’), or Middle Welsh *cas* ‘foe, enemy’ < **kh₂d-s-o-* ‘hateful’ (MW *cas* ‘id.’) from the *s*-stem **keh₂d-os* (as in Gk. *κῆδος* n. ‘care, anxiety, grief’ and Goth. *hatis* n. ‘hatred’; cf. Weiss 2013:350).

An interpretation along these lines for Arm. *šat** and Gk. *πηλός* could, of course, only be granted a certain amount of cogency if we were able to establish

44 For possessive adjectives with the suffix **-ó-* cf. Schindler 1984; Peters 1999:453; Widmer 2004:32 ff.; Meier-Brügger 2006:120; Nussbaum 2014b:245.

45 Since possessive derivatives of verbal nouns could have either an active or passive meaning (cf. Nussbaum 2014a:244), the same adjective **s₁k-s-o-* ‘having cutting’ might be continued by Gmc. **sahsa-* ‘knife’ < ‘having cutting = the cutter’ as well. Note that for **sahsa-* an *o*-grade preform **sok-s-o-* is equally possible.

the existence of an *s*-stem **k_uel-os* n. in the sense of ‘darkness, dark color’ somewhere within the IE languages. And as it happens, this *s*-stem might in fact be the basis of a very fundamental color term, namely the word *color* itself.

6 Lat. *color*, *colōris* m. ‘Color’

Lat. *color*, *colōris* m. [archaic nom.-sg. *colōs* well attested in Plaut., Lucr., Varro, etc.] ‘color’ is a seemingly isolated formation within Latin. It is therefore conceivably one of the cases where a masculine *s*-stem in *-ōs*, younger *-or*, *-ōris* continues an inherited formation, namely an internally derived masculine from an underlying neuter *s*-stem, as opposed to the vast majority of stems in *-or*, *-ōris* that were productively formed within an inner-Latin Caland system alongside verbs in *-ēre* and *-ēscere*, and adjectives in *-idus* (cf. Rau 2009:124 f.; Stüber 2002:57 ff.).

The commonly accepted etymology⁴⁶ of Lat. *color* connects it to the root **√kel* ‘to hide, conceal’. This is phonologically possible, and one usually refers to Ved. *várṇa-* ‘color’ from the root **√var* ‘to cover’ (VIA:235 f.) for the semantics. Admittedly, this account is not impossible, but aside from the fact that an *s*-stem **kel-os* n. is not securely attested anywhere (cf. Stüber *loc.cit.*), it might be regarded as an additional obstacle that its presumable semantics should have been something like ‘hiding, concealment’, which would at first have had to develop into ‘something that provides concealment in the form of a covering’, whence ‘cover’ and then ultimately ‘color’.

If we therefore concede the possibility that Lat. *color* derives from a hypothetical neuter **k_uel-os* in the sense of ‘darkness, dark color’⁴⁷ that developed into a general term for the concept of color, we do not have to search long to find examples of the same semantic development: Arm. *nerk* ‘color’ derives from **neg^h-ró-* ‘dark’ (cf. Griepentrog 1995:476³⁵), and Welsh *lliw*, Bret. *liou* ‘color’ are obviously related to OCS *slīva* ‘plum’ and Latin *liuor* ‘bluish color, bruise’ from **slih_x-uo-* ‘purple’ (cf. Nussbaum 1999:404). Note that in Old Breton, the meaning of *liou* still was something like ‘thing of a dark color’, since it glosses Latin *naeuum* ‘dark spot’ (cf. Bauer 2008:143), which makes it a quite decent comparandum. And of course, one can add Mod. Engl. *shade* as in *50 Shades of Gray* and Germ. *Schattierung*.

46 Cf. Walde/Hofmann s.v.; Ernout/Meillet s.v.; IEW:553 f.; Stüber 2002:116; de Vaan 2008 s.v.

47 For the phonological development (**k_uelōs* > **kuolōs* > **kolōs*) compare **k_uelh₁ō* > *colō* ‘I dwell’.

The alleged basic meaning of *color* as ‘dark color’ might perhaps still be seen in the denominative verb *colōrāre*, which basically means ‘to give something a darker color’ as in Cato’s *De agri cultura* in a description of how to make a certain kind of pastry: *item unguito coloratoque caldum ne nimium* (Cato Agr. 80) “spread it [sc. the cake] in the same way (with honey) and let it become brown, but at a moderate heat.” Though, of course, an interpretation as ‘to give something a different color’ is possible here as well.

However, the participle *colōrātus* does not usually mean ‘colored’ as in ‘colorful, multi-colored’ or ‘died a certain color’, but rather ‘sun-burnt, tanned, dark-complexioned’ or ‘swarthy’ (cf. *OLD* s.v.), as, e.g., in Plaut. *fr.*107: *coloratitem frontem habet* ‘he has a tanned forehead’; Man. 4.720 f.: *perque coloratas subtilis Graecia gentes / gymnasium praeferit uultu fortisque palaestras* ‘Quick-witted Greece proclaims in the tanned faces of its peoples the gymnasium and the manly wrestling-schools’;⁴⁸ etc.

Therefore, an original meaning ‘dark color’ of *color* is all the more plausible, and a derivation from the proposed root **√k_uel* ‘dark, black’ might, after all, be the preferable option.

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