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KHOTAN SAKA METAL AND MINERAL NAMES

Metals and minerals receive frequent mention in the various Saka texts. A general name to cover all these things is *hira-* 'thing, substance', where Zor.Pahl. (Zoroastrian Pahlavī) has *gōhr* and Sogdian *γōš*, the N. Pers. (New Persian) *gōhar*, *ǰauhar*. In the following references are not given since the full documentation will shortly be in the hands of the Printer in dictionary form.

1. *āljsata-* 'silver' from base *arz-* 'be bright', with unusual *-ljs-* (= *-ldz-*) for older *-lz-*, to Av. *arəzata-*, O.Pers. *ardata-*, but O.Ind. (Old Indian) *rajata-*.

2. *tralo* 'tin', *ttralau*, BS (Buddhist Sanskrit) *trapus-*, Tib. *čhon-mo-ster* ('tin, lead'), adjective *tralīnaa-*. From *\*tra-la-* to base (s)*tar-* : (s)*tr-* 'shine (tremblingly)'. Elsewhere 'tin' is the 'bright' or 'white' metal in contrast to the 'dark' lead. Thus Zor.Pahl. 'lčyč *\*arčīč*, Armen. lw (loan-word) *arčīč* used for the 'bright' tin and the 'dark' lead, N. Pers. *arziš*, from the base *ark-* 'to shine'. The three metals silver, tin and lead are associated in Oss.Dig. (Ossetic Digoron) *ävzestä*, Iron *ävzīst* 'silver' beside Hungarian older *ezwest*, later *ezüst* 'silver', Votjak *azveš*, Zyrjen *eziš* 'silver', Votjak *uzveš* 'tin, lead', Zyrjen *öziš* 'tin, lead', Vogul *ätveš* 'tin, lead', from the base *zvai-* 'to shine', Lithuanian *žvai-* in *žvaišnas* 'flecked with silver, white-eyed', direct, and not deviously from some word meaning 'star', as Lit. *žvaigždė*. The word *tra-* (from *stra-*) occurs also in Khotan Saka *ttrahā-* 'radish' named as the 'white' and 'red' root. Both words indicate a base *star-* : *str-* 'be bright', with increment also *strap-*, attested in Oss. *st'älf-* : *st'älf*, (ä)*st'älfä*, *st'älfän* 'fleck, spark', *st'älf xalas* 'dappled horse' (Dig. *xalasä*, Iron *xalas* 'frost; gray (of a horse)'), Iron *sau st'älf* 'dark star' (Dig. *sai-näg st'älu*), with verbal *st'älfun* 'tremble' from *strap-*, with Greek *στειροπή*, *ἀστραπή* 'flashing light', *στέροψ* 'flashing, dazzling' and

ἀστράπτω 'to flash', beside *star-* in the many words for 'star', Saka *stāraa-*. In the Rāma text *ttralau* 'tin' is classed with other metals as a heavy object: *ca burā hīra īde garkha, saṃgā, hīśaṃ ttralau śā* 'whatever are the heavy things, stone, iron, tin, copper'. O.Ind. *trapus-* 'tin' is also from this base (*s*)*trap-* as the bright metal. There is no connexion with N.Pers. *sabuk*, Pašto *spuk*, Zor.Pahl. *spuk* 'swift, light' which should be placed with *čāpuk* 'swift' (with variant *s-* and *č-*) rather than traced to *\*θrapu-*.

3. *daujsā* 'lead', BS *sīsa-*, Tib. *ra-ñe*, as the whitish metal, 'burnt white', from *dau-* 'to burn', hence *\*dāvača-* to O.Ind. *dunoti*, *dunva-*, *dūna-*, *duta-* 'burn', *dāva-* 'burning', Greek *δαίω*, *δαῦσαι*, Celtic O. Irish *dōim* 'I burn', *dōud* 'burning' (= O.Ind. *davathu-*). The metal is named from the colour. Hence it is like Germanic *\*blīwa-* 'violet-coloured', Old High German *bliō*, later *Blei* 'lead'; and Zor.Pahl. *sruβ* 'lead' from *\*subra-* to base *saub-*, O.Ind. *śobh-* : *śubh-* 'shine'; similarly Zor.Pahl. *arčīč* 'tin, lead' (see above s.v. *tralo*) from *ark-* 'to shine', see also Lit. *švīnas* 'lead', s.v. *svaṃdūm* below.

4. *paṃjalau* 'alloy of five metals, bell-metal', adjective *paṃjālīnaa-*, BS *kāṃsa-*, Tib. *khar-ba*. From *pañca-* with suffix *-ala-*, or possibly loan-word from O.Ind. *pañca-loha-*.

5. *ysīrra-* 'gold', beside *vasutā ysīrrā pahā* 'pure refined gold', BS *suvarṇa-*, Tib. *gser*, from *\*zar(a)nya-*, Av. *zaranya-*, O.Pers. *daranya-*, O. Ind. *hiraṇya-*, Oss.Dig. *zārinā* in *suzārinā*, Iron *syγ-zārin* (with *-inā* from *-anya-*, not *-aina-*) to base *zar-* 'red, yellow, green', see Mémorial J. de Menasce, 1974, 370.

6. *śāva-* 'copper-coloured; copper', nom. gen. sing. *śā*, BS *tāmra-*, Tib. *zaṃs*, thus *saṃgā hīśaṃ ttralau śā* 'stone, iron, tin, copper'; adjective *śāvā byūsā-gūna ysara-gūna sphālye māñadau hiṃji ttyau jsa brrūñāri* 'copper-coloured, reddish-coloured, golden-coloured, red like crystal, with these the Buddhas shine (in body)', BS *tāmra-aruṇai rajata-sphāṭika-lohita-anga-*; adjective to *śāva-* 'copper', *śāvīnaa-*, *śśātīnaa* : *śśātīṃje māje mūre* 'our copper *mūrā*-coins'; *hīśanya bājinaña ā vā śāvīña* 'in a vessel of iron or copper', BS *āyase tāmra-pātre vā*; *śāvī mūra* 'copper coin'. To Av. *syāva-* 'dark', Turfan Parthian *sy'w*, *sy'wg*, Armen. lw *seau*, Oss. *sau*, Sogdian *š'w*, Waxī *šīu*, beside Zor.Pahl., N.Pers. *siyāh*, and O. Ind. *śyāva-* 'dark', Lit. *šývas* 'whitish', all from IE *kei-*.

7. *hīśśana-*, *hīśaṃ* 'iron', BS *ayas-*, Tib. *lčags*, *hiśinakä* 'iron tool', adjective *hīśanīnaa-*, *hīśanīje bajsīha* 'in an iron mortar'; from \**aśṃ-anya-*, Waxī *īśn*, *yīśn*, Av. (dialectal) *haosafna-*, Oss. *āfsän*, Sarīkolī *sipin*, Sogd. Christ. *sfnyq*, adjective Bud. 'spn'yn'y, Christ. 'spnynč, Turfan Parthian ''swn, Turfan Pers. ''hwn, Zor.Pahl. *āsen*, N.Pers. *āhan*, Balōčī *āsin*.
8. *īra-* 'stone; jade-stone', rendering BS *śilā*, of which the adjective *śaila-* occurs in the BS name of the Jade River of Khotan *Śailodā* (*uda-* 'water'); adjective *īrīnā garī* 'the Vajraka mountain'; and in the Vajrayāna text *īra-* translates the *vajra-* of the *Vajra-kula-*. If this *īra-* is from \**urya-* it can be set with Oss. Dig. *urä* 'stone', *uirag* 'stony'.
9. *ūdāra-* 'crystal', BS *kāca-*, Tib. *mčhiṅ-bu*, from *vart-* : *urt-* with suffix *-āra-* (as in *gitsāra-* below s.v. *gatsa-*) to *varta-* 'stone', Waxī *wurt*, Kurd. *bard*, Khowar *bort*, Kati *woṭṭ* and in O.Ind. *rāja-varta-*, N.Pers. *lā-zaward* 'lapis lazuli'. The *urvārīnai garī* 'crystal mountain' is either from *uru-* with suffix *-āra-* or from *ūdāra-* through error of *-rv-* for *-d-*.
10. *uysma-* 'soil, clay', BS *mṛttikā*, adjective, *aysmīnaa-*, *āmysmīnaa-*, from *u-* and *zm-a-* to *zam-* 'earth', connected with Oss. Dig. *āzmesä*, Iron *zmīs* 'sand'. The *u-* may be a prefix *u-* 'large' (to a base *au-* : *u-* 'to extend') formed like *hu-*, O.Ind. *su-* from IE *esu-*. O.Pers. *uzmayā* 'in the earth' may have initial *u-* or *hu-*, but Khotan Saka keeps *hu-* distinct.
11. *karkīyana-* 'chalcedony', *kirkīyaṃ*, *kärkīyina*, *karakīyina* to Zor.Pahl. *karkēhan*, Armen. lw *karkehan* 'a red stone', Syriac *qrkdñ-*, Arab. *karkuhan*; O.Ind. *karketana-*, *karketila-*, *karketara*, Jaina Sanskrit *karkeraka*, Tib. *kekeru* with Greek *καλκηδών*, Lat. *calchedonius*.
12. *gatsä* 'gypsum' and 'a gypsum vessel', from \**gašya-*; and with suffix *-āra-*, *gitsāra-*, *gītserä*, adjective *gitsīrīñā*. To Akkadian (Zagros) *gaš-su*, Zor.Pahl. adjective *gašēn*, N.Pers. *gač*, Arab. *jašš*, *jīšš*, *qašš*, *qišš*.
13. *gūla* 'clay', as building material, *cakala gaysa gītsārū gūla* 'wood, reeds, gypsum and clay', parallel to *cakala gaysa kīdā auysmama* 'wood, reeds, withies, clay', as in Pali *kaṭṭham*, *vallim*, *tiṇaṃ*, *mattikaṃ*. From \**gṛda-* in Zor.Pahl. N.Pers. *gīl*, *gīr* 'clay'. See below also *mūla*.
14. *namva* 'salt', *nimva*, oblique *nemve*, BS *lavaṇa*, Tib. *lan-čhva*, from \**namadā-*, adjective *namvīnaa-*, to Parāčī *namā*, and with *-ka-*, Sogd. Bud. *nm'δkh*, Man. *nm'δk'ynčh*, Yidya *nəmālyo*, Sarīkolī *namoδj*, *nīmaδj*, Pašto

*mālga*, Turfan Pers. *nmyhq*, Zor.Pahl., N.Pers. *namak*; but Turfan Parthian *wl*, possibly Av. *uru-*.

15. *bīma-* 'rock', loc. plur. *bīmṽā*, adjective *bīmīla-*, to Av. *vaēma-*, Turfan Pers. *wym*, Armen. lw *vēm*, Zor.Pahl. *vēm*, possibly in the name of the yakṣa-goblin *Vema-citra-* guardian of the Palhava land, Khotan Saka *Bīma-cātra-* (but Pali *Vepa-citta-*). From *vai-* 'to cut', see W. B. Henning Memorial Volume 1970, 24.

16. *mūrā-* 'mūrā-coin' and 'precious stone, rendering BS *ratna-*', from *mudrā-*, Zor.Pahl. *mōdr* \**muḍr* and *mühr*, N.Pers. *mühr* 'seal', *mūrah* 'stone', Zor.Pahl. *muhrak*, with O.Ind. *mudrā-* 'seal'.

17. *mūla* 'clay', once in the passage *pātea mūla sūttauña nīśāña* 'then the clay is to be put in vinegar'. To Yidya *mily<sup>a</sup>*, Munjānī *mīlyā* 'white clay', Dardic Prsaun *mirë*, O.Ind. *mṛd-* 'clay'.

18. *mrāhā-* 'pearl', BS *muktā-*, Tib. *mu-tig*, plural *mrāhe*, *mirāhe*, *mārā-hyau*, from \**margāθā-*, to base *marg-* 'to press into a lump, to press round', as in Khotan Saka *muṇḍa-* 'lump', Sogd. Bud. *mrywntk*, Man. *mrywundy*, N.Pers. *muḡund*, *muḡundah*; Greek *μᾶργαρον* 'mother-of-pearl', *μαργαρίτης* 'pearl', whence Turfan Parthian *murg<sup>ryd</sup>* \**murγārīḍ*, Zor.Pahl. *murvārīt*, N.Pers. *murvārīd*, Abxaz *a-mærkæld* 'mother-of-pearl', Syriac *margānīθ-ā* 'pearl'.

19. *ysamyä* 'vitriol', plural *ysamyē dvī* 'the two vitriols', BS *kāsīsa-dvaya-*, Tib. *nag-éhur*, of blue colour, N.Pers. *zamč*, *zamč*, *zinč*, *zāy*, *zāy-čāšm* 'blue-eyed'; Arab. *zāg*, Oss. Dig. *āsmäg*, *ismäg*, *smäg*, Iron *smäg* 'vitriol of copper' to a base *az-* : *z-* with suffix *-am-*, with *aysūra-gūna* 'of blue (?) colour'.

20. *ysīrā* 'red arsenic, ochre', BS *manaḥ-śilā*, Tib. *ldoṅ-ros*, from \**zar-yāka-* to base *zar-*, see above s.v. *ysīrra-*.

21. *ysīrai* 'yellow arsenic, auripigment', BS *ala*, Tib. *ba-bla*, from \**zrya-ka-*, to base *zar-* (see *ysīrra-*), with N.Pers. *zarnī*, *zarnīk*, *zirnīx*, Armen. lw *zārik*.

22. *saka*, *saṃka* 'coral' (considered to be a stone), BS *pravāla-*, Tib. *byiru*; *saṃka-hāra-* 'coralline necklace' (BS *hāra-*), adjective *sakīnaa-*, Zor.Pahl. *sakēn* 'coralline' glossed by *vissadēn*, N.Pers. *bussad* 'coral'. From base *as-* 'sharp' (IE *ak-*), hence \**asana-ka-* to *saṃka*, beside \**asan-ga-* to *saṃga-*, below.

23. *saṅga-*, *saṅga-*, *saga-*, diminutive *saṅgaka-*, BS *aśmarī*, Tib. *rdehu*, adjectives, *saṅgīnaa-*, *sagūḍa-*, from base *as-* 'sharp' (IE *ak-*), to Av. *asənga-*, O.Pers. *aθanga-* (a#0#g ), Turfan Parthian 'sng \**asang*, Sogd. Bud. *snk*, Zor.Pahl., N.Pers. *sang*, to Greek *ἀκόνη* 'hone', O.Ind. *aśani-* 'thunderbolt'.
24. *siyatā-* 'sand', *syata*, *sya*, oblique *sye*, BS *bālukā-*, Tib. *bye-ma*, to O.Pers. *θikā-*, Sogd. Bud. *šykth*, Turfan Pers. *sygd*, Oss. Dig. *sigit*, Iron *sydžyt* 'soil', Yidya *siyiya*, Pašto *šaga*, Wanetsī *səga* to O.Ind. *sikatā-* (with *s-*, not *ś-*), Kroraina *siḡata*, Khowas *šuyur*, Kalaša *šigal*.
25. *skara-* 'coals', BS *angāra-*, Tib. *me-mdog*, to Av. *skairya-* 'charcoal', Sogd. Christ. *sq'r*, 'try *sq'r* 'spark', Oss. *äskärmäg* 'spark', Pašto *skōr* 'coal', plural *skāra*; *skar* 'charcoal', N.Pers. *sikār*, *sakār*, *sukār* 'coal', Kurd. *askil* 'embers', Waxī *škorč* 'burning coal'. From a base IE *sker-* to either *ker-* 'to burn' or *ker-* 'of dark colour'.
26. *svaṃḍūṃ* *svaṃḍū* *svaḍū* 'sulphur', BS *gandhaka-*, Tib. *mu-zi*, as liquid, BS *gandhaka-rasa-*, Tib. *mu-zihī khu-ba* (*khu-ba* 'fluid'), for which however the Khotan Saka translation has *svaṃḍū hīya cūṇya* 'powder of sulphur' (BS *cūrṇita-*). From \**savana-* or \**savana-* and *dānu-* for a 'bright flux', to base *sau-* 'be bright', O.Ind. *śoṇa-* 'red', with increment *-k-*, Av. *suxra-* 'red', O.Ind. *śukra-*, *śukla-* 'white'; Greek *κῦανος* 'blue stuff, enamel, plant name cornflower', Hittite *kuwanna* 'blue (of copper)'. The second component *ḍūṃ* may derive from \**daunu-* or *dānu-*, Oss.D. *säuāndonä*, Iron *sondon* 'sulphur' is from the same \**savana-* and either \**daunu-* or *dānu-* to Av. *dānu-* 'stream', glossed by Zor.Pahl. *rōt* 'river'.
27. With Khotan Saka suffixes there are the loan-words: *virūlīnaa-* 'of beryl', BS *vaiḍūrya-*; *sauvīraṃjaṃ* 'antimony', BS *sauvīra-*; *vaśārāmaa-*, *vaśrāmaa-*, *vaśīrinaa-*, *vīśgrīnaa-* 'of vajra-diamond', and *gara vīśgrīnā*, *gara vījarīnā* 'adamantine mountains' with a parallel *garī vajrrāka nāma* 'the mountain by name Vajraka' from BS *vajra-*; *bagala aśmagarbīnai* 'smaragdine tree-trunk', to BS *aśma-garbha-*, *aśva-garbha-* 'emerald'; *ratanīnaa-*, *raṃnīnaa-*, *raṇīnaa-* 'jewelled' to BS *ratna-* 'jewel'.

