Into the Taurus and the KUR.KUR.KUG
(the mountains of precious metals)

In several Akkadian texts the Silver Mountains in Anatolia are mentioned. The term KUR.KUR.KUG was used in an inscription of king Sargon of Akkad. The term means “the mountains of the precious metals”\(^1\). One assumes that the Akkadians were pointing to the Bolkardağ mines in the Taurus mountains near the famous Cilician Gates. The term rightly described that in the land of the Silver Mountains not only silver could be found.

Professor Aslihan Yener stated that the area of the Bolkardağ Mines contained a whole spectrum of critical resources, including gold, silver, iron, copper, lead and zinc have been mined from ancient times on.\(^2\)

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\(^1\) Sargon text C2 : to express the border of his empire.

The valley of Bolkardağ Mines is located near the highway and about 40 km north from the Cilician Gates.

The “Mountains of the precious metals” in the Taurus had made a great impression to the kings in Mesopotamia. They were often mentioned in combination with other famous lands, in which the Cedar Forest (Lebanon) and the lapis lazuli mines of Badakhshan (Afghanistan) were situated. The valley of Bolkardağ is 15 km long. The mines, more than 800, are located largely along the southern slopes, alt altitudes of 1950-2000 m. The region is deeply cut by several rivers; it is highly forested and attest to the availability of wood resources for mining and smelting operations. Some of the mines consist of large natural caves and caverns 20 m wide and 10-15 m high, and penetrated the mountains as deeply as 4 km in places.

The Bolkardağ Mines. During the Ottoman period, the occurrences of natural electrum (72.4% gold and 27.6% silver and silver sulfides (argentite 87.1 silver) were noticed (K.A. Yener 1989:481). Copper is present in some of the rich lead ores of the Taurus (K.A. Yener 1991, Stable Lead Isotope Studies, 546). Map of the article of Aslihan Yener, H. Özbal, A. Minzioni-Deroche and B. Aksoy 1989, Bolkardağ: Archaeo-metalurgy Surveys in the Taurus Mountains, NGR 5(4): 479.

Stones from the Bolkardağ valley with iron and copper compounds, May 2016

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Natural Bronze in the Bolkardağ

In 1985 Dr. Hadi Özbal (Boğazi University) analyzed substantial quantities of tin in the surveyed polymetallic ores of Sulucadere, Bolkardağ (B6). The ore was subsequently examined by Dr. Ahmet Çağatay (MTA) and found to contain stannite tin in association with zinc and lead. The intrinsic attribute of stannite tin, a natural alloy of copper and tin, is that, when smelted, it becomes a natural bronze. The other, more widespread form of tin is casseterite, or tin oxide, usually found in alluvial stream beds, much like gold. Both have been found in Bolkardağ, as well. The atomic absorption analyses of the ores indicated that there were major deposits of silver, lead, copper, zinc, arsenic, iron and gold present, as well as tin in concentrations as high as 3,400 ppm. Were a tin source such as the Bolkardağ ore used to make bronze many of these elements in the tin ore would be retained in the finished product, originating from the tin source and not the copper core.  

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5 Text from the article of K.A. Yener 1986, The archaeometry of Silver in Anatolia: The Bolkardağ Mining District, AJA 90, 472.
The control of the Silver Mountains in the bronze time period.

The rich ores in the Taurus were an important reason to the merchants and kings of North Syria, Assur, Babylon and Akkad to maintain trade connections with kings in Anatolia in the 3rd Millennium.6 In Kanesh and Purušhanda many bullae and seals of the late 3rd Mil. from kingdoms of North Syria and Mesopotamia have been found.7 Purušhanda would have controlled the cities along the Cilician Gate and a part of the Cilician Plain. One knows from the onomastics that the main towns on the road through the Cilician Gates and the “Silver Mountains”, Tuwanuwa, Tunna and Zabarašna existed in this period. Massimo Forlanini stated that the control of Purušhanda of this trade route can explain why Cilician towns, such as Adaniya, Tarša, Zunnaḫara, Kummanni and Zabarašna, never appear in the Old Assyrian texts,8 during Zunnašara was a centre of Kizzuwatna, located to the east of Adaniya, and Šinuwanda dominated the Cilician Gates on the Central Anatolian side.9 It is striking that on the other site of the Taurus mountains, many people lived there who have spoken Luwian. We do not know how far into Kizzuwadna the control and influence of the Great King of Purušhanda was effective. But the control and the trade relations with the rulers of Adaniya and cities along the sea coast, like Mersin, Tarsus, and Ura were of very great interest to the Great King.10

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6 The trade between these regions were probably of an older date, for instance Anatolian obsidian must have been transported to the Near East from the time period of ca. 10,000 BC.
7 Fikri Kulakoğlu and his team has recently found many ancient bullae from Mesopotamia and North Syria (late 3rd Mil) in Kanesh. Sabahattin Ezer (Adiyaman University)2014, Kültepe-Kanesh in the Early Bronze Age, Current Research, 5–24.
8 Forlanini 2008, The Historical geography of Anatolia, 64.
9 Ibidem 64. Many cities names are known from tablets about the rebellion of the Prince of Purušhanda against king Hattusili I.
10 Astour 1967, Helleno-Semiticca, 26 : Adana was a separated land, the old boundary follows the river Samir indentified with Saros-Seyhan, it is not known how far.

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Joost Blasweiler 2016, The kingdom of Purušhanda in the Land of Luwiya, 58.
An old mine in the south wand of the valley of Bolkardag, May 2016.
It is almost certain that the control of the “Land of Silver Mountains”\(^{11}\) was a fundamental element of the power of the king of Purušhanda. The Akkadian myth “The battle of the King”\(^{12}\) narrates the struggle between the king of Purušhanda and Mesopotamian merchants, who were active in Anatolia.\(^{13}\) The merchants asked in the palace of Sargon of Akkade for his support: "[By your god Zabab]a, who travels the ways, who takes the road, who watches over the world, [...] of the thrones, that from the rising sun to the setting of the sun". “We invoked [Sarg]on, king of the world: Come down to us! We face opposition, we are no warriors. (The cost of) provisions for the road, O king impose (on us), that which we shall pay, O king."\(^{14}\) The merchants promised to pay gold and silver when Sargon had sent his army to the kingdom of Purušhanda. They also stated: "[How] shall we transact our [business] while dishonesty/treachery is being carried out in the place where your god Zababa rest?". The mighty king decided to go and to give Nur-Daggal, the king of Purušhanda, a lesson. It was written of Sargon that “daily 5.400 men ate his presence”, which may refer to existence of a standing army”.\(^{15}\) In the narrative of the myth Sargon of Akkad conquered the capital of king Nur-Daggal by a surprise attack, probably from the direction of Kanesh.\(^{16}\) According to the myth, Sargon left the Land of Purušhanda after a stay of three years and [5 months ?]. The land is described as fruitful, with apples, figs, plums, vines, pistachios, olives and sweet pomegranates. When he returned he treated the city harshly. The myth described that Sargon never came back, therefore in the myths of Naram-Sin, the grandchild of Sargon, the Cedar Forest is the northern border of the empire of Akkad.

\(^{11}\) In the Cuthan Legend, the Silver Mines were called in Akkadian the šadi aspi (Johan Goodnick Westenholz 1997, Legends of the Kings of Akkade, 311).

\(^{12}\) Benjamin Student-Hickman and Christopher Morgan 2008, The Ancient East, 22-29. In myths the ancient people made “their view of the world” explicit. Myths always describe a specific time and location in which the narrative has taken place. Myths are historical narratives according to the tradition of a specific area or town. These myths changed during the centuries. They are not theological texts nor fairy tales, but narratives, which hold or sometimes have connection with ritual.

\(^{13}\) The myth mentioned perhaps also Kanesh, which was a kingdom along the Kizil Irnak, northeast from Purušhanda, but the text is too damaged to make the relation with the narrative clear. According to Joan Goodnick Westerholz it is also possible to read as KUR-ka = your land or to relate these words with HUR.SAG = mountains (1997, Legends of the Kings of Akkade, 110). In Sumerian the Silver Mountains were written as hur-sag-ku-ga-se (page 312).

\(^{14}\) Ibidem 2008: 27. Several texts of the “The king of the Battle” have been found in the Near East, in Amarna, Assur, Nineveh and Hattusa from ca. the 14\(^{th}\) century BC., which was c.900 years later than Sargon of Akkade lived. The text of Kanesh is from the 18\(^{th}\) century BC. On the reverse of the tablet of Amarna the scene of the narrative shift to the court of Nur-Daggal, the ruler of Purushanda.

\(^{15}\) Marc van de Mieroop 2016, A History of the Ancient Near East, 68

\(^{16}\) Joost Blasweiler 2014, Sargon Kings into the Taurus Mountains, www.academia.edu, 16.
Remnants from mining activities.
During the early 2nd Millennium Puruṣhanda developed into a great kingdom. About 1770 BC at Acem Höyük, which was most likely the location of the capital of the king of Puruṣhanda, a large palace Sarikaya Sarayi was built. The Old Assyrian texts from Kanesh and the artifacts of Acem Höyük show an immense trade of silver in the city Puruṣhanda. Anatolian and Assyrian merchants were buying silver against copper and textiles. Several scholars have wondered why Puruṣhanda had need of so much copper ore. One has to think of the kingdoms of North Syria as clients, because it is known that Syria did not have much copper mines. There was even a huge amount of copper from Cyprus which was traded to these kingdoms, like Mari and Ugarit. The traders from Ebla participated in the Anatolian market. Several Eblaite merchants bought a lot of copper from the palace in exchange of Amurrum silver. But also other products of Puruṣhanda have been traded: a palace servant of the king of Mari is asking for stock of first class dates, raisins, honey and pistaz (nut) quickly from Puruṣhanda to Mari as recorded in one tablet. In Level III Acem Höyük (ca. 1770 -1700 BC), the excavators found thousands of seals of the Old Assyrian trading period, and in particular many seals from North Syria and the Assyrian merchants. The recent statement of Nimet Özgüç, that extant silver, copper and lead ingots and a total of 55 crucibles has been excavated in Acem Höyük is striking.


18 Many seals with gods, goats, lions and sphinxes accompanying them, were found. The seals, the bullae, texts and their relations all prove, that Acem Höyük was a large and impressive royal city, that had trade connections with Mari, Karkemish, Shubat Enlil, Mamma, Alalakh and Kanesh in the Bronze Age. Finds of clay bullae with cuneiform inscriptions and texts attested that Assyrian merchants lived in Acem Höyük. OA texts (Karum Kanesh Level II) testify that the Assyrian merchants had a karum in the city Puruṣhanda and some of them had a house and lived there.


21 Ibidem 1996:164 - ATHE 32 text.

22 Nimet Özgün 2015, Acemhöyük - Buruşhaddum I, 23. According to Forlanini it is very likely that this was the palace of Purushanda by the text of ATHE 63. (2008, The Historical Geography of Anatolia, 63).


24 Seals in the four different styles were found (the Old Assyrian, Old Babylonian, Old Syrian and Old Anatolian). Info from the TAU project website: Acem Höyük is an oval shaped tepe and with its diameter of 650 meter NE- SW and 400 meter NW-SE (approximately 44 hectares in size) it belongs to one of the biggest sites from the Bronze Age in Anatolia. Acem Höyük is located at about 19 km to the west of Aksaray in Cappadocia and is almost entirely surrounded by the modern village Merkez of the district Yeşilova. The Melendiz river (Uluirmak), originating from the Melendiz mountain, earlier used to flow around the hill to the lake Tus Gölü. Nowadays, the river disappears in the fields because its water is used for irrigation purposes in the agriculture.

25 One imprint of a seal mentions the name of king Shamsi-Adad, which has got an important connection to the time period of Karum Kanesh IB. Also imprints of a seal with the name Naghiba[null?] of the daughter of Yaḫunu-Lim, the king of Mari, a seal of king Aplahanda of Karkemish and one of his servants, and a seal of Anum-Hirbi king of Mama (18th c. BC) were found in the supply rooms of the palace.

Modern mine activities May 2016 in the south wamd of the valley of Bolkardag.
Alalakh, the Silver Mountains and Ebla

Professor Aslihan Yener has described the relation between “the Silver Mountains” and Alalakh during the Middle Bronze Age. The (reactivation of) excavations at Kinet Höyük, Mersin and Tarsus provided a new input into the research. She stated that the Silver Mountains in myths are of course the Taurus Mountain range where hundreds of silver and gold mines were located, and also the Kessel tin mine, which have been documented (Yener 2000). An interesting point of her argument is that a number of metal artifacts from Assur (OA level), Acem Höyük silver from the Sarikaya palace, as well as Kültepe bronzes demonstrate that all these cities were supplied from the same resource zone, i.e. from the Taurus mountains. In 1991, Yener described the early distribution of metal objects from the Central Taurus throughout Cilicia. She highlighted the salient features of the ivory and bone found in Alalakh and the artifacts which were made from these materials in Kanesh and Acem Höyük. Yener stated that in terms of transportation and route of access, the Amuq valley and its territorial center Alalakh, which may have been a major recipient of luxury items, as well as serving as a gateway to the Syrian and northern Levantine cities.

Ebla was an ancient kingdom located in North Syria, the city Ebla was situated on the site of Tell Mardikh, 55 km South of Aleppo. The name "Ebla" means "White Rock", and refers to the limestone outcrop on which the city was built. After the fall of the UR III empire around 2000 BC, the kingdom of Ebla expanded to the west and to Tuttul along the Euphrates. Michael C. Astour stated that Muskiš became a direct possession of Ebla. So in that time period till the Hurrian troops and armies moved to the west, the kingdom of Ebla had bordered Kizzuwadna. Muskiš had much boxwood, which was popular and expensive. However, the armies of Mari were very powerful. Ebla paid the king of Mari a lot of silver and gold for the Mariote evacuation of Eblean territory. Astour stated that the principal, and perhaps the only source of the highly valued boxwood for the ancient Near East was an area of low mountains south of Atakya known as Zalḫe/Zalḫi (Salḫe/Salḫi in the modern times Gebel Qṣeir). Yahdun-Lim, king of Mari (ca. 1750 BC) marched to the Mediterranean sea and: “entered the Cedar and Boxwood Mountain, the great mountains”. In an list of offerings one finds a offering of the queen to “KURA Si-la-ḫa (= the deity Mountain Silaḫi).”

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28 K. Aslihan Yener and others1991, Stable lead isotope studies of Central Taurus ore sources, JAC 18, 567.
29 K. Aslihan Yener 2007:159.
31 Offerings of statues, figurers of ravens and eagles, cups and other items. Michael C. Astour 2002, History of Ebla (part 2), Eblaitica vol. 4, 106. [4] Kura Si-la-ḫa = the deity Mountain Sīlaḫi. KUR is here mountain and not land and Sīlaḫ is an epenthetic.
Cultic and magic meaning
The mountains of the precious metals of the Bolkardağ were not only economic and strategically important. One can assume that they had a cultic and magic meaning, as well. Volkert Haas has described the supernatural significance of metals and stones in the ancient.\(^{32}\) Stones with magical powers were used in the Hittite cultic and magical practices. Not only the animals and the fauna of the mountains belonged to the mountain-gods, but the hidden stones in the mountains were their property as well. So to appease and honor these deities of the Bolkardağ was of vital importance.

Many minerals from the mountains were used in rituals and sometimes its originated from area’s far away, like Lapis Lazuli (Bleu Stone\(^{33}\) ZA.GIN) form the Hindukusch and Badakhshan in Afghanistan. Rock crystal (\(^{34}\) DUH.ŠÚ.A) was magical by its clarity and purity. In Hellas it was called “petrified ice”. From east Elam originated Dušu crystals. However Anatolia, itself contained a lot of rich ores and all kind of stones or crystals. Volkert Haas mentioned for instance alabaster from the mountains of Hupišna (Ereğli), Agate\(^{32}\) NIR and Japis. Often the origin of the place is of importance. Common flint stones of sacral streams, road crossings and springs have had a cultic importance (Haas 1982:174, 206).

Whoever was able to use the power and features of the metals was protected against all evil. The kings of Hattusha had according to a ritual text of the Sun- and Stormgod, a body of tin, a head of iron, eyes of an eagle, and teeth of a lion. Silver ore (KU.BABBAR), “the shining white”, is the pure element par excellence.\(^{33}\) Statues of deities were made from silver already before the kingdom of Hattusha arose i.e. before 1700 BC. Silver was able to purify and to protect against daemons, curses and diseases. Volkert Haas suggested that in the ancient one attributed this quality to silver, because silver easily and fast oxidizes. The black oxidation is a proof that the silver had taken the evil substances. The purification with silver occurred by wearing silver at the body or to take it in one’s mouth. Often was water of purification added, to raise the magical power. Water could purificate evil: “Reiningen soll das reine Wasser böses Verleumdung, Unreinheit, Bluttat, Frevel, Fluch – Wie der Wind das izzan (Salz ?) verjagt und übers Meer bringt”.\(^{34}\)

\(^{33}\) Ibidem 177.
\(^{34}\) Heinrich Otten 1958 Hethitische Totenrituale, 127
With silver, water and oil the statues of the gods were cleansed. The priest took away the clothing of the god and one put the water to feet of the deity, and added some oil and silver. One gave silver and other metals and gemstones to the gods as kind of ransom or compensation.\(^\text{35}\) Volkert Haas stated that stones and metals were also able to withdraw evil substances.\(^\text{36}\) Therefore these materials were turned above polluted people, deities or places, so that the stones or metals would incorporate the unclean substances. By a similar ritual one could heal a sickness or nullify a bewitched act. Before the Sungoddess one set an offer table, on which some bread was laid. All kinds of seed were strewed upon the bread and minerals: gold, silver ore, lapis lazuli, ZA.GUL (semi-gemstone), rock crystal and the Stone of Life, as well. The concerned person had to take all these ingredients in his hands after several magical procedures and these had to be given to the Wise Woman. By the touch of the materials the sickness or curse was handed over, and the patient would heal. Deities were also cured with silver, when one was afraid that a god would complain about the king and queen. “One brought the gods to the river and threw silver, gold and kibbled bread into the river”. And they have spoken the following words “When any god for the gods would complain, then his mouth will be closed by this silver, gold and bread. And he will not complain to the gods”.

**Salt** (MUN) was used to heal, but also to make an object or an area infertile. In many texts it is written that salt could not contain seed, which could germinate. To neutralize evil, often salt together with natrium (\(^{\text{NA4}}\) nitri-), tallow, strings have been used.

**Bronze** (ZABAR) could withstand evil and it was used to pay compensation to the gods, as well.

**Carnelian** (\(^{\text{NA4}}\) GUG) “red stone” was appropriate to heal, most of all by its red collar.\(^\text{37}\)

**Babylon Stone** (\(^{\text{NA4}}\) KÁ.DINGIR.RA) was kind of glass and originated from Mesopotamia.

\(^{\text{35}}\) Volkert Haas 2003, Die Materis Magica et Medica, 216.

\(^{\text{36}}\) Volkert Haas1982, Hethitische Berggötter und hurritische Steindämonen, 175.

\(^{\text{37}}\) Volkert Haas 2003, Die Materis Magica et Medica, 204.
Bedding of the stream near Maden Köy, May 2016.
Gold (GUŞKIN) had in the ancient a close relation to the sun, because its yellow shine. Golden objects were often used in the cult of the Sun deities and ceremonies of the king. In Hittite texts gold had the qualities of eternity and salvation. The mountains Aralu and Hub’u were called the mountain lands of Gold.  

Tin (NAGGA) was called “the dark”. The mountains Zarcha and BAR-gun-gun-nu were called the mountain lands of Tin. Evil substances could be bound to a piece of tin with a bowstring and attached to a mouse, which would then take away the tin and evil (the ritual of Ambazzi text).

Iron (AN.BAR) was known a long time before mankind was able to make iron by heating iron ores. This was the iron sent by the gods in the form of meteor stones from heaven. Haas stated that perhaps one saw meteor-iron as a part of the heaven. In a text “a heaven of iron” was described. The old-Anatolian insignia of rule, the throne, were made from meteorite ore.

“Black iron” (AN.BAR.GE₆) was described in texts together with gemstones and “the Stone of life”. The magical quality of iron is usually its hardness, and iron ores were often used in Hittite magic. Magnet iron was the best to take away the evil out of the body, to become healthy again.

Lead (A.BAR) was according to Haas the metal, which was used the earliest by mankind. Manny cultic amulets, tools and hieroglyphs of lead were made and used in rituals.

Copper (URUDU). Famous mountains like Magan (in a Babylonian text called the mountain land of Copper) and Takata (in Alasiya = Cyprus) were related to copper in ancient texts. Copper was able to repel evil. For instance copper was put under the doorstep of the city gate in a ritual to purify the city Hattusha from the evil of an epidemic. One could use a tablet of a copper-silver alloy to draw the tongue of the person, who had said a curse, on the tablet, to repel the spell. A dagger of Obsidian glass (N₄₄ ZU) was often used as a weapon against “the evil tongues”.

In the valley of the Bolkardağ one would have found many minerals, which one had to use in the cult and in healing rituals. It was an obligation in the Hittite kingdom to bring offers regularly to mountains, springs and rivers. Often the local people of some villages had to take care for the subsistence of these offers. In the Bulgarmaden text of the 8th century BC, which was found in the north mountain wall (B4) King Warpalawa of Tuwana advised the future rulers to give offers to the Mount Muti (possibly the Bolkar Mountain).

38 Volkert Haas 2003, Die Materia Magica et Medica, 217.
39 Ibidem 218
41 Ibidem 181.
42 Volkert Haas 2003, Die Materia Magica et Medica, 222.
From the village Maden several roads (paved and unpaved) are to Ivriz and Ereğli (Hittite Hubišna). There are many paths from the Anatolia plateau through the Taurus mountains to the coast, into the land of Kizzuwadna\textsuperscript{43} and to cities from the 5\textsuperscript{th} mil. BC, like Tarsus, Mersin, Soli (Ura).

In the beginning of the Bolkardag valley a hieroglyphic Luwian inscription has been found. It is about 400 meters above the road and covers an area of 1.5 meter by 1.3 meter. It mentions the name of the ruler Tarhunaza who is apparently a vassal of King Warpalawa of Tuwana. The text indicates that Tarhunaza received the Mount Muti (possibly Bolkar Mountain) as a gift from Warpalawa, and Tarhunaza thanks him and the gods. He also advices future rulers to make offerings, and adds a protective curse against anybody who damages the inscription. It is dated to the second half of the 8th century BCE (info from www. Hittitemonuments.com).

\textsuperscript{43} Massimo Forlanini 2010, How to infer ancient roads and itineraries from heterogeneous Hittite texts, 7.
I like to express my gratitude to Debbie Turkilsen for the improvement of the English text.

Appendix: pictures from the route from Maden köy to Ivriz.
A view to the Medesiz Tepe, the highest top of the Taurus, 3524 m high.
Kilan, a village between Yeniyıldız and Darboğaz. May 2016.
Kayasar near Kösere, May 2016, view to the Aydos Dağı, 3480 m High.
Ivriz is located just at the northern edge of the Taurus mountains. The relief depicts King Warpalawa, a king of Tuwana. He worshipped the storm-god Tarhunza, who holds ears of wheat in one hand and bunches of grapes in the other. The god wears a horned helmet, a symbol of divinity. Furthermore, in the vicinity of the relief at least three other inscribed rock fragments were found which appear to be parts of other monuments. King Warpalawa is known from Assyrian sources as Urballa. He was in power at least in between 738-710 BC.

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