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The Kizil Caves as an *terminus post quem* of the Central and Western Asiatic pear-shape spangenhelm type helmets

The David Collection helmet and its place in the evolution of multisegmented dome helmets

**Keywords:** Helmets, Spangenhelme, Lamellar, Asia, Iran, Huns, Turkic Kaganate, China, Korea, Kizil Caves

**Introduction**

Over the last few years many new Western Asiatic helmet finds dating to the Sasanian or close post-Sasanian period have been noted\(^1\). Unfortunately most of them came from private collections and the archaeological contexts of these precious items have been lost. Many of those, including examples now in various museums, came from what might be called the “improperly made” archaeological excavations which have increased over the last decade in Asia. It is very clear in the territory of the former Soviet Union where many newly published helmets, now stored in museums, were purchased from or were given by metal detectorists, or had been seized by the principal security agencies, border guards, etc. On one hand this means that he have many unidentified items, with no archaeological context from legal/illegal collections, which is extremely hard for arms and armour researchers. On the other the increasing number of such items gives us a chance to track some extremely interesting characteristics and evolutions of arms and armour. The situation is no different when we look at the so-called pear-shape spangenhelm (Fig. 1) type helmets of the 6th-7th CE, so those of K. G IIa, W. G IIIb, T 3b of A.L. Kubik classification\(^2\) or on the finds clearly related with that type. Even if if almost all such helmets known to the current

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\(^1\) See for example: AKHMEDOV, BIRKINA 2017: 235-248.

\(^2\) KUBIK 2017a: 74-80.
author came from legal collections and museums, not one of them has further archaeological data which would give us some chance for a proper datation of that object. One of them was even wrongly attributed to the Mongol invasion period\(^3\). This paper will, however, try to shed some light on that group of helmets based on comparison to other groups of such helmets, as well to the known art representations of such forms of armour. For the current paper the author will use the term pear-shape helmet only for the ones with clearly visible depression in the upper part of the dome. The helmets with round dome and bowl form/semi round finials will not be placed in that group as it seems that such helmets spread in Western Asia much earlier than the pear-shape ones\(^4\). To start any studies on that topic we need to look closer at the Kizil Caves paintings where both forms of such helmets were shown.

The paintings of Kizil Caves as an *terminus post quem* for pear-shape helmets in Central and Western Asia

The Kizil Caves run along the Cliffs of the Muzalt River, west of Kucha city in China's Xinjiang province. They form one of the largest Buddhist cave sites and were explored in the years 1906 and 1913 by a German expedition team. Among the murals painted in these grottoes we can find several pictures representing mounted warriors in armour. Some of them show pear-shape type helmets so far recognized as spangenhelm type helmets\(^5\) - namely the four-piece dome helmets which constitutes a four segmental construction with four ridges, with a characteristic depression of the upper part of the bowl. In fact those depictions are one of the earliest possible sources of the pear-shape/bell-shape\(^6\) form of the helmets in Central and Western Asia. There are, of course, some Eastern Asiatic finds of so called pear-shape or bell-shape

\(^3\) KUBIK 2016: 79.
\(^5\) KUBIK 2016: 83.
\(^6\) NICOLLE 2017: 227.
helmets dating to an earlier period known from around 5th century CE Korea. Yet to state any clear *terminus post quem* for pear-shape helmet forms in Central and Western Asia we need to look closer at the datation of the Kizil paintings and to involve ourselves in the wider discussion in that topic.

The Kizil Caves, or more correctly the first exploration notes, were published by Albert Grünwedel in 1912. He used differences in style to classify drawings in two styles (in fact he noted three styles there but only the first two in Grünwedel opinion apply to Kizil). Whereas the first style derives from Gandharan art, the second style which was associated with the presence of a stupa-pillar and a tunnel passage derives from Sasanian conventions. Grünwedel's observations were latterly supported by Albert von Le Coq and Ernst Waldschmidt. They attributed the first style to about 5th century CE and the second one to the period 600-650 AD. Their theory became the traditional chronology of the Kizil Cave paintings and was generally followed by scholars at least until the middle 1980’s. It should be noted that, in 1925 when considering the tunnel passage painting piece now held in the Berlin Museum of Indian Arts presenting heavy cavalry warriors in the so called 'Eight Kings of the relics story', Le Coq proposed an even later date of 750 AD. In the 80’s a new chronology began to appear when a Chinese and Japanese group of researchers published their study of the Kizil and Kumtura caves, with a main thesis proposed by Su Bai. Based on the styles of Kizil depictions as well as on the structure of the caves, he grouped them in four groups (a number which increased to six in 1997). These groups were as follows: caves with stupa pillars surrounded by a tunnel passage, those with monumental clay images of Buddha, monastic cells with a fireplace and window, and squarish caves with lanternendeke or domed ceilings. He places the chronology of the Kizil painting into a period between 300 AD to 650 AD, and he also classified the drawings in three phrases. The first phrase spans the period between 300 and 395, and caves from that period seem to be prototypes of the stupa-pillar structure (see cave nr. 38, 47). The second phrase dates to the 5th century CE and early 6th century CE (see cave nr. 77, 35-36) while the third phrase spans the period from the middle of 6th century CE till the early 7th century CE. Furthermore this “new theory” was supported by carbon 14 testing made between 1979 and 1981 in the University of Beijing led by Su Bai, where they made their tests on fragments of wood and straws mixed with mud collected from various of these caves. Based on carbon 14 tests the first phrase spans the period between from 310+-80 AD till 350+-80 AD, second phrase spans the period between 395+-65 AD till 465+-65 AD and the third between

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8 GRÜNWEDEL 1912.
9 GRÜNWEDEL 1912: 5-6, 42; GRÜNWEDEL 1920: 17.
10 LE COQ, WALDSCHMIDT 1922: 27.
545+75 AD till 685 +65 AD\textsuperscript{17}. There were also several further examinations of these Caves\textsuperscript{18}, including the famous Maya Cave (cave nr. 224 where pear-shape helmets were shown and which was formerly in the Berlin Collection [IB 8438], also a mural depicting a group of heavily armoured cavalryman which is now lost – see Fig. 2) carbon 14 tests made in 1989-1990 by the Institute of Archaeology, Chinese Academy of Social Sciences, Beijing, China\textsuperscript{19}. Nevertheless there is still no consensus among researchers on the dating of the Kizil Caves as some radiocarbon test made in 2011 place some cave murals in 1\textsuperscript{st} century BCE\textsuperscript{20}. Nevertheless, stylistic correlation between cave 224 and 205, where inscription referring to a Kuchean noble living at the end of the 6\textsuperscript{th} century CE where found, make it possible to place the Maya Cave in the third phrase of Su Bai’s thesis\textsuperscript{21}.

The best known Western Asiatic pear-shape helmets, as was noted above, appear in the 'Eight Kings of the relics story' mural on Kizil cave 224 corridor wall. This warrior image was given a later date by Le Coq, to the +750 AD\textsuperscript{22}. Now this depiction as well as some other pieces showing pear- shape helmets, as for example The Blue Cave (cave nr. 38) Warrior currently held in the Metropolitan Museum of Art (Fletcher Fund., 1951 nr. 51.94.1), are mainly dated to the 6\textsuperscript{th}-7\textsuperscript{th} century CE\textsuperscript{23}. But to say something more about those helmets we need to focus on the arms and armour depicted on the Maya Cave mural. Most proposals of the date of the Kizil cave depictions came from an analysis of their Buddhist religious art. There are only few efforts known to current author where someone attempted to study the arms or armour presented here, and even in these cases most such analysis has focused on the religious aspects of military equipment\textsuperscript{24}. However, there is one exception. In 2005 a co-work by A. Yu. Borisenko and Yu. S. Hudjakov\textsuperscript{25} was published in Novosibirsk.

Unfortunately, this article did not mention any of the phases of the Kizil depictions and gave no answer for a closer datation of the Kizil arms and armour representations. It simply dated them to the 3\textsuperscript{rd}-6\textsuperscript{th} century CE\textsuperscript{26} period. To start an analysis of arms and armour presented on the walls of the Kizil Caves we need to analyse differences in the two main warrior scenes, namely the one from the Cave of the Painter (Fig. 3)\textsuperscript{27} and the one from the Maya Cave (Fig. 2)\textsuperscript{28}. There are clearly visible differences in the arms and armour presented on both paintings, which confirm the different chronology of these pieces. The main one came from the weaponry carried by warrior representations. On the Maya Cave paintings we can clearly observe the hourglass form of quiver while on the Cave of the Painter there are still visible what might be called the Sasanian type\textsuperscript{29} of cylindrical quiver. We can also note then

\textsuperscript{17} HOWARD 1991: 72, SU 1989: 10-23.
\textsuperscript{19} CASALINI 2015: 69.
\textsuperscript{20} MORITA 2015: 117.
\textsuperscript{21} HIYAMA 2013: 152.
\textsuperscript{22} LE COQ 1925: fig. 32-33.
\textsuperscript{23} See for example: MORITA 2015: 120.
\textsuperscript{24} See for example: ZHU 2003: 693-695.
\textsuperscript{25} BORISENKO, HUDJAKOV 2005: 56-69.
\textsuperscript{26} BORISENKO, HUDJAKOV 2005: 64.69.
\textsuperscript{27} LE COQ 1925: fig. 50.
\textsuperscript{28} LE COQ 1925: fig. 32-33.
\textsuperscript{29} OVERLAET 1993: 93.
that depictions known from the Cave of the Painter are earlier than the ones from the Maya Cave. As was noted by Borisenko and Hudjakov, the swords shown on the Cave of the Painter depiction clearly reflected the ones known from Hunic burials. What is more, Le Coq noted that sword guards were depicted in a very distinctive manner, probably representing the massive rectangle or oval examples decorated with cloisonné ornamentation (Fig. 4) which spread across Central/Western Asia and Eastern Europe about the end of the 4th century CE; there being well-known examples from the Volnikovka “treasure” (rus. Волниковский “клад”) and Kerch (rus. Керчь). We can also observe there, round-dome lamellar helmets; such forms of head protection being known in Euro-Asia since the turn of the 1st/2nd century CE and which became increasingly used in Asia until the late medieval period (and even later). However, as far as the author is aware, lamellar helmets with a bowl form of the helmet finial were first represented on the Arch of Galerius in Thessaloniki in northern Greece. This arch was built in 298 to 299 AD and was dedicated in 303 AD to celebrate the victory of the tetrarch Galerius over the Sasanid Persians.

Fig. 2. Kizil so called Maya Cave painting, (after: Jakubovskij 1954: ris. 25).

30 BORISENKO, HUDJAKOV 2005: 63.
32 RADJUSH, SHEGLOVA 2012: 24, See also later representations in: MIKS 2009: 446-460.
34 KUBIK 2018.
35 CANEPA 2009: 79-99; MAKSYMIUK 2015: 48-49; KUBIK 2017: fig. 6, for the different interpretation see for example: NARLOCH 2014: 136-137.
Fig. 3. Kizil so called Cave of the Painter (after: Le Coq 1925: fig. 50).

Fig. 4. Kizil so called Cave of the Painter, closer view on sword guards (after: Le Coq 1925: fig. 50). Hunic period sword guard from Volnikovka “treasure” (rus. Волниковский “клад”, photo courtesy of O. Radjush).
Yet the first known finds in Eastern Europe of that type came from the village of Kalkni36 (rus. Калкни) dating to the beginning of the 5th century CE37 and Kerch38 dating to the second half of the 5th century CE - second half of the 6th century CE39. We can state that lamellar helmets with a bowl form finial started to spread in Euro-Asia from the turn of the 3rd/4th century CE. The most probably termins post quem of the Cave of the Painter depictions is the 4/4 of the 4th century CE. We also can note that swords presented here are depicted in a nearly vertical position. In the 6th century CE the two-point suspension for a scabbard become dominate in that region40. The most probably termins ante quem of the Cave of the Painter depictions, based on arms and armour representations, is the 4/4 of the 5th century CE. As has already been noted, the Maya Cave depictions came from the later period. The feet of the riders from both caves were shown extended downwards, in a Sasanian-specific, “ballerina” pose41 with no indication of stirrups. Based on the Strategikon as well as on archaeological evidences from Avar graves, we can clearly state that at the very beginning of the 7th century CE stirrups were already introduced to the Nomadic people, extending from China to Panonia42. The mid-7th century CE Afrasiāb43 north and south wall paintings, discovered in 1965 in the residential part of ancient Samarqand, testify to the introduction of stirrups into Central Asia by 7th century CE44. The same form of stirrups could be also observed on Panjikent murals45. Based on the lack of stirrups, we can state that the termins ante quem of the Maya Cave depictions is the 4/4 of the 6th century CE. What is more, the swords on that painting have not been depicted. Heavily armoured warriors are armed only with spears and archery equipment. There were, of course, depictions of armoured warriors with swords and pear-shape helmet in Kizil, like the one dividing the Buddha’s relics showing “elephant riders” published by Grünwedel in 191246. However, the way in which the whole group of Riders was shown on the Maya Cave paintings, without swords or any other form of side arm, can clearly be regarded as evidence of eastern influence which came probably from China47 or Korea48 in the 6th century CE. Similar military equipment was shown on Mogao Cave 285 depiction from Dunhuang49, Gansu, China, dating between 535 AD and 557 AD50. Also on a depiction of the Avadana story of the Five Hundred Robbers, heavily armoured cavalry are armed just with long spears/banners and archery equipment including hourglass form

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36 SALIHOV 1985: ris. V.
38 ARENDT 1932: abb. 1.
39 RADJUSH 2014: 42.
40 TROUSDALE 1975: 95; HOLUBIEV 2015: 68.
41 SKUPNIEWICZ 2017: 108.
42 See for example: CURTA 2007: 297-325.
43 GRENET 2006: 50.
45 See for example so called “Amazon Cycle” AZARPAY 1981: pl. 17, 19, 20.
46 GRÜNWEDEL 1912: fig. 57.
47 For example: BOBROV, HUDJAKOV 2005: ris. 14,15.
49 For Kizil-Dunhuang formulae connection see for example: HOWARD 1991: 72-81.
The David Collection helmet and its place in an evolution of the multisegmented dome helmets

One extremely interesting iron helmet appeared in the David Collection Museum in Copenhagen in 2005, with inventory number 24/2005 (Fig. 5). The helmet itself is of sfero-conical form with a multisegmented dome. It is in fact, of a four-piece spangenhelme construction, where the main triangle-shaped pieces of the main bowl are conjoined by decorative, spade-form ridges54, K. G II, T 1a, P 1, W. G IIIa, T 3b, F 2 type of A.L. Kubik classification55. Each of these ridges possesses a clearly visible axis in the middle. On the top of the helmet there is a wide cone-shaped finial ended with decorative “cross-form” pin. The finial was connected to the main bowl with a line of massive, round form, copper alloy rivets (there is clearly visible copper oxide on them). The rivets on the sides of the ridges are placed in vertical lines and grouped in three groups of one (with frontal exception), four and three rivets (counting from the bottom of the ridge). There are decorative cuts between these groups of rivets. In the front part of the helmet there is a nose-guard attached to main bowl by two rivets. There is a visible line of the going from the nasal around the back part of the helmet, possibly having been used to attach the neck guard or helmet lining. The height of the helmet including the nose-guard is 26 cm, while the diameter is 21 cm. According to the David Collection Museum, this helmet was discovered in what is now Iranian territory but was bought from a private collection so the precise location of the find is unknown.

There are three other helmets known to the current author56 showing some correlations with the helmet in the David Collection. These are the helmet found during Layard’s excavations in Kouyunjik, Nineveh, Northern Iraq57, currently held in the British Museum, the helmet from the Perm Museum in Russia, firstly published by M. V. Gorelik58, and one from the Nasser D. Khalili Collection59. There are,
of course, some differences between those four examples. First of all, based on the decorative cuts on the ridges, the closest aesthetic correlation occurs between the Nineveh, Perm and David Collection helmets. Here the rivets are placed in vertical lines parallel to a visible axis in the middle. In all of them, rivets are grouped into three groups with decorative cuts between them. Based on the location of the finds (Perm region – on the border between Europe and Asia, Iran and current Iraq) we can call that group Western Asiatic. The Nasser D. Khalili Collection helmet ridges possess quite different aesthetic characteristic. The rivets on them were placed in four horizontal lines creating a ladder like pattern. The ridges were cut in decorative ‘oak leaf’ form. Very similar forms of the decorative ridges could be clearly observed on the Tumšuk art\(^{60}\), like, for example, the famous Tumšuk figurines\(^{61}\) or scenes of the Buddha preaching, dating to the 7\(^{th}\) century CE, and currently held in The Museum of Indian Art in Berlin (MIK III 8716)\(^{62}\). The current author would like to call that group of helmets a Central Asiatic type. The main problem with that type of the helmets is the lack of clear archaeological contexts for the mentioned finds.

Fig. 5. The David Collection iron spangenhelm type helmet, Copenhagen, inventory number 24/2005, Iran (photo courtesy of the David Collection, Copenhagen, author: P. Klemp).

\(^{60}\) BOBROV, HUDJAKOV 2006: 94.

\(^{61}\) LE COQ 1925: fig. 60-61.

Fig. 6. From the upper part: Kizil so called Maya Cave painting (after: Le Coq 1925: fig. 32), Korean helmet, Gaya kingdom period (5th CE) Gimhae-si (after: Soo 2010: 65).

To propose any datation of these objects we need to look once again at the Kizil paintings. In the so-called Maya Cave several multisegmental pear-shape helmets were shown, mostly considered as spangenhelmets (Fig. 6)63. Yet their construction seems to be far closer to the later Korean lamellar helmets where

63 See for example: LE COQ 1925: 48; KUBIK 2016: 83.
the number of segments decreases and the construction form seams to evolve towards that known, for example, from the so-called Polish, Great Polish helmets or type II according to A.N. Kirpichnikov’s calcification (Fig. 6)64. A.L. Kubik K. G II, T 4 type65. Here the segments become wider and are conjoined without any visible ridges. There is a complete lack of any visible decorative cuts or spade-spang forms in the Kizil paintings helmets. We can clearly observe here bowl form finials, which are well known from the Avar lamellar helmets, for instance from the Niederstotzingen helmet66. The same form of finial we can note on the Nasser D. Khalili Collection helmet and most likely one was originally placed on the Nineveh find as the smooth tall form of the bowl clearly indicate such solution. A correlation between the main bowl shape as well as the helmet finial type of the Niederstotzingen type lamellar helmets and pear-shape western Asiatic spangenhelmets clearly indicate a close datation of these objects and mutual influence between them. We can state that such a bowl form was invented in Korea and influenced western Asiatic constructions about the middle of the 6th century CE. Nevertheless, the helmet from the David Collection as well as the helmet from the Perm Museum seams to look a little different. The bowl in both of these helmets become a spherico-conical form (Fig. 1) and the finials of both examples start to become a cone form. We can observe such cone form finial on the only known visual representation of the mentioned spangenhelme type helmets in the scenes depicted in the Hall of the Ambassadors of the Afrašiāb painting (Fig. 7)67. On the left end of the Southern wall in front of the white elephant we can observe the remains of a picture of three nobleman and a bodyguard(?). Based on the clothes we can suggest that those persons are related to the other nobles recognized as a Čaḡānīān tribe of Iranian-speaking people by I. Arzhantseva and O. Inevatkina68. On the head of the bodyguard was a multisegmental helmet of a six-piece spangenhelme construction, where the triangle-shaped pieces of the main bowl are conjoined by decorative, spade-form ridges. Based on the cut forms we can state that the helmet ridge was conjoined with the main bowl segments with three groups of rivets just like on the mentioned western Asiatic type of the helmets. We can also state that a similar characteristic could be observed in a group of Caucasian helmets published by Ch. Miks in 2009, dating to the later Lazika Kingdom period69. In the front part of the helmet there is also a nose-guard attached to the main bowl. We also need to note that the Perm Museum example the inner rim and a line of the flat decorative rivets used to attach a neck guard clearly show some correlation with a helmet discovered in Lagerevo (rus. Яярепево)70. It should be noted that the datation of the Lagerevo helmet as well as that of the Kazazovo (rus. Казазово)71 helmets still has not been properly studied.

65 KUBIK 2017a: 75.
66 PAULSEN 1967: 133-137.
67 KUBIK 2017a: 108.
69 MIKS 2009: abb.1, abb. 5.
Fig. 7. From the left: Afrasiāb bodyguard (?) head, mid. 7th century CE, Perm Museum helmet (after: KUBIK 2017a: rys. 58).
Based on the A. Komar study on the Khazar Kaganate belt fittings and the ones found in both graves, we can state that the Kazazovo type of helmets came from the first half of the 8th century CE\(^72\). We can also state that the quite massive finial of the David Collection helmet seems to be an interim version between the forms known from Lagerevo or Kazazovo type and a bowl type known from the Niederstotzingen type helmets\(^73\). It seems that during that period new forms of finials of the new helmet forms in Eastern Europe/Western Asia evolved in a very specific way during the 7th-8th century CE. Whereas bottom part of the finial became smaller and evolved towards a nearly cylindrical form known from the Oskol river find type (rus. Оскол) which date to the second half of the 8th century CE\(^74\). We can therefore place those two objects (Perm and the David Collection helmets) somewhere between the beginning of the 7th century CE and a beginning of the 8th century CE. Based on the Afrāsiāb painting and correlation with Kazazovo type helmets we can try to propose a datation of these two objects to the 2/4 7th century CE till the 4/4 of the 7th century CE. Nevertheless, we need to remember that some versions of these helmets could remain in use even longer, as some fragments of such a helmet were possibly discovered at Gelendzhik (rus. Геленджик), and are currently held in the Moscow Museum\(^75\). However, the current author believes that the Gelendzhik helmet is another example of the so called “long lives” helmets which were placed in the grave decades they had actually been manufactured\(^76\). But to suggest any closer datation of these objects we need to wait for some examples which come from a clear archaeological context.

Bibliography


\(^72\) KOMAR 2001: 103-117; KOMAR 2018: 409-422, see also KUBIK, NICOLLE 2018: fig. 4.
\(^74\) KAINOV 2017: 256-261.
\(^75\) ARENDT 1935: abb. 10.
\(^76\) For “long live” eastern helmets, see for example: KULESHOV 2009: 165-173; KAINOV 2016: 132.
Summary

The Kizil Caves as an *terminus post quem* of the Central
and Western Asiatic pear-shape spangenhelm type helmets
The David Collection helmet and its place in the evolution of multisegmented dome helmets

Current paper consists of two main parts. In the first part the author discusses arms
and armor presented in the Kizil Caves depictions, suggesting a datation of the two well-known
caves, namely so-called Maya Cave and Cave of the Painter. In the second part of this paper
the author discusses a helmet found in Iran and currently held in the David Collection,
Copenhagen. On the basis of a detailed comparative analysis, the author puts forward a thesis
of correlation between the lamellar and spangen pear-shape helmets dating the objects to
late 6th-beginning of the 7th century CE. Specifically, it is suggested that the David Collection
helmet is a later evolution of such forms that was known in the late-Sasanian period.

Keywords:
Helmets, Spangenhelme, Lamellar, Asia, Iran, Huns, Turkic Kaganate, China, Korea, Kizil Caves