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From Mining Site to Mining City. A Spatial Reading of Mes Aynak, Afghanistan

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This paper discusses the role potentially played by the Buddhist community in boosting the social complexity of the mountain copper site of Mes Aynak in Afghanistan between the Late Kushan/Kushano-Sasanian (c. 3rd/4th century CE) and the Turkic-Hunnic phase (6th-7th century CE). Granted the limited stratigraphic data available, I conjecture that the Buddhist community, known in ancient times for their ability to establish new enterprises, might have played a role in managing the activities of extraction and processing of copper at Mes Aynak. Based on the spatial reading of Buddhist complexes within the city and on comparisons with other archaeological case studies in South Asia, I suggest that the "business virtuosity" of the Buddhist communities, in concert with local governmental and non-governmental authorities, led to overcoming local environmental constraints to such an extent that this inauspicious mining site transformed into a city.

1. Introduction

As human creations, cities are not limited to any particular natural environment. They are constructed on riversides, coastlines, large fertile plains, mountain spurs as well as in deserts and in the middle of forests.[1] Perhaps, to build a city, human creativity needs less an ideal natural environment but rather a good set of reasons. Consider a mining site. Such sites exhibit a set of trans-cultural and trans-temporal features, preventing them from becoming sustainable and attractive spaces for urban life: hard-to-reach locations, environmental degradation – such as deforestation, air and water pollution – negative health impacts of working underground, dependence on not-renewable resources and, hence, the predictability of site's decline once the resources are exhausted or extraction is unviable.[2] It is not by chance that the mining city is quite a rare

[1] Monica Smith, Cities. The First 6,000 Years, New York 2019, p. 80.

[2] Moreover, exploitation and production activities at mining sites have ups and downs due to external (e.g. market demand) and internal (e.g. ability to face technical problems in extraction) factors. Cf. Cristina Martinez-Fernandez et al., The Shrinking Mining City. Urban Dynamics and Contested Territory, in: International Journal of Urban and Regional Research 26:2, 2012, pp. 245-260, here pp. 247f.

phenomenon across space and time.[3]

In particular, when looking at historical examples, it is noticeable that most mining sites – when permanently exploited – developed into mine-centered villages rather than cities. Even though the interest of archaeologists in technological aspects and trade networks may have played a role in underestimating the urban environment of mining sites (research here is mostly associated with mining archaeology)[4], it is a fact that only very few of the ancient mining sites documented by archaeologists around the world bear evidence of the urban. Rather, cities that grew thanks to their close association with mine exploitation usually developed at some distance from slag heaps and the smokes of the industrial area.

The flourishing of the mining city of Mes Aynak in present-day Afghanistan, developed on top of the second largest copper site in the world in the first millennium CE, is certainly an extraordinary exception to this paradigm. What made Mes Aynak different from other mining sites in the world? Why did this mining site develop into a city? Was the greater livability of its natural landscape the key to its urban bloom? This is not beyond imagination. However, once we look at the local natural landscape, we notice that the fortune of this site cannot be linked exclusively either to the exceptionality of its deposit or to its particular location.

Afghanistan is a country well known for its rich soil.[5] Deposits of gold, silver, tin, iron, copper and lapis lazuli were, and still are, ground for competing interests in this territory and in this regional geology Mes Aynak is certainly not a unique mineral deposit. Still, none of the ancient mining sites identified by archaeologists in this land (and beyond) so far show an urban development on the scale documented at Mes Aynak. In regard to its location, the site, located on the eastern side of the Baba Wali mountains at an average altitude of approximately 2.500 m above sea level (Figs 1-2), though not particularly far from Kabul, located about 40 km to the northswest, and from the roads that connected Kabul to the southern ancient cities of Ghazni and Gardez, did not enjoy a particularly exposed strategic position along any of the ancient trade routes.

[3] With a few exceptions, especially in modern times, see for example Johannesburg, sometimes informally called "the city of gold".

[4] However, for a wider approach of Montanarchäologie see Thomas Stöllner, Methods of Mining Archaeology (Montanarchäologie), in: Benjamin Roberts/Christopher Thornton (eds.), Archaeometallurgy in Global Perspective, New York 2014, pp. 133-159.

[5] Major mineral deposits are in the areas of Herat (mostly copper), Zarkashan-Anguri (copper, silver, tin, gold), Mes Aynak (copper and iron), Balkhab (copper), Panjshir (silver, copper, tin, lead) and Badakhshan (tin, gold), cf. Judith Thomalsky et al., Early Mining and Metal Production in Afghanistan. The First Year of Investigations, in: Archäologische Mitteilungen aus Iran und Turan 45, 2013, pp. 199-230.

Therefore, geology and topography do not seem to offer compelling reasons for the urban success of Mes Aynak.

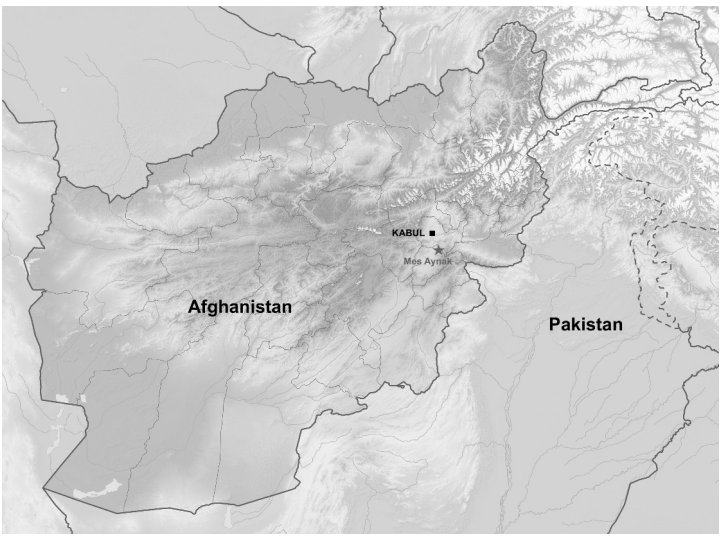

Fig. 1: *Physical map of Afghanistan with the location of Mes Aynak.*

Fig. 2: *View from the east of the western and central quarters delimited by the fortification wall.*

Rather, I argue that the particular dynamics of interaction between the mining landscape and the practices and ideas of local actors triggered a set of developments that led to the inhabitants overcoming local environmental constraints to such an extent that they transformed an unwelcoming place into a city. Following this, the foremost question to ask is, who these actors were. Which were the driving forces that fostered the social complexity on this mountainous copper site of Mes Aynak? Last but not least, as we will see, the question arises on what role religion played in this.

To put Mes Aynak's urban development in context would of course require a multi-scalar and multi-lens approach, something that is not possible with the available data. However, a spatial reading of the city may be a good way to start looking at Mes Aynak as a specific socio-spatial setting and to sketch conjectures on the dynamics that brought the rise of the city about.[6]

2. The City of Mes Aynak

Mes Aynak was first identified as an archeological site during geological surveys in the early 1960s[7], but only in the last ten years has our knowledge about this historical site increased. Unfortunately, the reason of Mes Aynak's fame is not the outcome of a successful, well-planned and long-term archaeological campaign. Rather, it is the result of rescue excavations launched after the signing of a mining project which, if it were to continue, would transform the site into a giant open pit mine.[8] Thanks to the activism of the Afghan Institute of Archaeology (AIA), Mes Aynak has become internationally recognised, drawing the attention of archaeologists, UNESCO, cultural heritage organisations and international media.[9]

6 Excavated cities in eastern Afghanistan with chronological overlap with Mes Aynak are: Begram and Kandahar, cf. Roman Ghirshman, Bégram. Recherches archéologiques et historiques sur les Kouchans, Le Caire 1946; Joseph Hackin, Recherches archéologiques à Begram. Chantier no. 2 (1937), Paris 1939; Joseph Hackin, Nouvelles recherches archéologiques à Begram (ancienne Kâpicî) (1939-1940), Paris 1954; Svend W Helms, Excavations at Old Kandahar in Afghanistan 1976-1978, Oxford 1997; Anthony McNicoll/Warwick Ball, Excavations at Kandahar 1974 and 1975, Oxford 1996.

7 See Gérard Fussman et al., La prospection archéologique de la Bactriane orientale 1974-1978, in: Mesopotamia 13-14, 1976, pp. 99-154.

8 In 2008 the Afghan government granted a 30-year lease for US$30 billion to a Chinese state-owned Mining Company (MCC) for the extraction rights of the copper mine.

9 Although at the moment both mining and archaeological activity are paused for security and funding reasons, the Mes Aynak case is still pending. During the review process of this text, the political situation in Afghanistan has changed and it seems that under the recently established Islamic Emirate of Afghanistan, the Mes Aynak copper-mining project has resumed operations.

The campaign for international recognition – and thus arguably for protection – was fueled not only by the scientific interest in preserving Mes Aynak as an ancient mining site. The outstanding quantity and quality of conserved Buddhist sculptures, wall paintings and monuments brought to light during the excavations was the key factor in this. Although its stunning value is undeniable, the Buddhist heritage revealed has dominated the attention of media and scholars for years to the extent that it sidelined the urban features of the site and the fact that what was emerging from the ground was indeed the largest pre-industrial mining city of Eurasia.[10] Furthermore, despite the extensive rescue excavations, the haste in which the excavations were conducted, the unsystematic documentation of the finds and the lack of coordination and cooperation among the numerous partners involved in the excavations prevent any coherent reconstruction of the biography of the city.[11]

As far as chronology is concerned, Mes Aynak's urban development can be placed in the Late Kushan/Kushano-Sasanian phase (c. 3rd /4th century CE). This dating can rely on some indirect elements such as architectural features, style and iconography of wall paintings and sculptures as well as some elements of material culture.[12] Its development most likely peaked during the Turkic-Hunnic phase (6th-7th century CE), although in all likelihood the exploitation and occupation of the site started much earlier. Even though the available data do not allow to get an insight into the urban fabric of Mes Aynak, the general territorial-spatial organization of the city, its main paths and urban landmarks are still visually legible.

[10] Symposium on Mes Aynak, Kabul, 13-14 July 2019.

[11] Hans H. Curvers, Mes Aynak (Afghanistan), Global Standards, and Local Practices, in: Paul Newson/Ruth Young (eds.), Post-Conflict Archaeology and Cultural Heritage. Rebuilding Knowledge, Memory and Community from War-Damaged Material Culture, New York 2017, pp. 263-283.

[12] Cf. Anna Filigenzi, Remarks on the Wall Paintings from Mes Aynak. Recent Archaeological Works in Afghanistan, in: Preliminary Studies on Mes Aynak Excavations and Other Field Works, Kabul 2013, pp. 41-52; Deborah Klimburg-Salter, Contextualizing Mes Aynak, in: Afghanistan 1:2, 2018, pp. 213-238; Nicolas Engel/Omara Khan Massoudi (cf.), New Excavations in Afghanistan, Mes Aynak. Published at Occasion of the Exhibition "Mes Aynak – Recent Discoveries Along the Silk Road" at National Museum of Afghanistan, Kabul, Cologne 2011; Michael Alram, From the Sasanians to the Huns. New Numismatic Evidence from the Hindu Kush, in: The Numismatic Chronicle 174, 2014, pp. 261-291; Judith A. Lerner, A Prolegomenon to the Study of Pottery Stamps from Mes Aynak, in: Afghanistan 1:2, 2018, pp. 239-256; Noor Agha Noori/Luca M. Olivieri/Elisa Iori, Fashion Ware in Mes Aynak, Logar. Chronology and comparison (with an Appendix on a single specimen of tulip-bowl from Site MA-100), in: Afghanistan 2:1, 2019, pp. 91-114.

3. A Territorial-Spatial Reading

The city, at its maximum extension, covered a surface of approximately fifty hectares with a core fortified area of about eleven hectares extending between the western slope of Kuh-e Aynak – where the main entrance to the mines (in the form of galleries or shafts and vertical pits) was located[13] – and the hill of Shah Tepe or MA006 (Fig. 3).[14] Access to the city was from the West, where the stretch of an external fortification wall was documented in 2019.[15] The pathway that led from the main gate to the narrow gorge that gave access to the fortified city was lined with graveyards consisting of cenotaphs lined by large stones and probably covered by earthen tumuli (Fig. 3, orange shade). Once passed the gorge, the ancient visitor could access the fortified city, sided at north by other buildings with mostly residential and religious functions. To the opposite side of the fortified city, on the southern slope of Kuh-e Aynak, was another necropolis with cenotaphs, while monumental (kurgan-like) funerary complexes for urban elites were immediately outside the southern stretch of the fortification.

The fortified city and its three quarters

The core of the city, defined by the fortification wall, consisted of three distinct spatial zones (here "quarters") with different functions. In the "western quarters", the manufacturing area spread out on interconnected terraces along the eastern slope of Kuh-e Aynak (Figs 2-3, green shade). This area had an intricate and dense layout made of numerous small rooms and narrow passages with a Buddhist shrine at the extreme south. Two entrances to the copper mines were located within the quarters itself, while others were in the immediate surroundings.[16] In this zone, copper was partially extracted, processed (crushed, ground up, sieved, sorted, and roasted), refined.[17]

[13] Thomas Eley/Philippe Marquis/Noor Agha Noori, Archaeometallurgical Evidence at Mes Aynak, Logar Province, Afghanistan, in: Archäologische Mitteilungen aus Iran und Turan 48, 2019, pp. 265-281.

[14] The fortification wall has been uncovered on the ridge of the Kuh-e Aynak (western and northern stretches) and on the slope of the Kuh-e Aynak (southern stretch). Another stretch of the southern side of the wall appears in the central quarters. See for instance Jiri Unger, Preliminary Findings and Results from Sites 005 and 034, in: Preliminary studies on Mes Aynak excavations and other field works, Kabul 2013, pp. 20-34.

[15] Symposium on Mes Aynak, Kabul, 13-14 July 2019.

[16] Eley/Marquis/Noori, pp. 269-272.

[17] Manuscripts found in a small room in the northern part of the quarter are currently being translated by Dr. Charles DiSimone. However, from the most recent communication it

Fig. 3: *Satellite image from Google Earth of the archaeological area of Mes Aynak giving the location of the Buddhist complexes (Buddha icon) and Shah Tepe (temple icon) and approximate extension of the "western quarters" (green shade), "central quarters" (red shade), "eastern quarters" (blue shade) and industrial area (grey shade).*

Copper smelting was carried out in the nearby industrial area extending to the south of the western quarters, immediately outside the fortification wall (Fig. 3, gray shade). Furnaces and slag heaps extending from mount Aynak down to the lower plain mark the industrial and discharge area of the city that was topographically contiguous to the area were copper was processed and partially extracted.[18]

The "central quarter" (Figs 2-3, red shade) on the lower plateau had a more articulated street network with a clear node in a central massive building possibly with administrative functions[19], located in proximity to what has been tentatively interpreted by local excavators as (Zoroastrian) fire temple. The pres-

seems that, rather than an administrative character, the fragments contain "Buddhist material in Sanskrit spanning both Mahāyāna and Śrāvakayāna (Mainstream) Buddhist thought as well as the presence of Bactrian documentation, a language that was not typically used in the transmission of Buddhist textuality". From the final lecture "Buddhist Manuscript Discoveries at Mes Aynak. A Tricky Philological In Situ-ation" of the Ghent Center for Buddhist Studies Spring Lecture Series by Dr. DiSimone, 11.05.2021.

18 See Eley/Marquis/Noori, pp. 269-272.

19 Now, this function is only suggested by the recovery of weights.

ence of workshops here is indicated by the recovery of a complex for the production of copper coins at the eastern limit of the quarter.[20]

The "eastern quarters" on the slope of the hill facing Kuh-e Aynak (Fig. 3, blue shade) consisted of a residential area with large buildings separated by a well-defined road network, water channels and minor urban Buddhist shrines containing small stupas and sculptures. The presence of luxury artifacts such as silver plates with Sasanian-like decoration attests to the wealth of the residents of this part of the city.[21] The recovery of a cache containing jewelry made from gold, copper and semi-precious stones along with bronze tools suggests the presence of skilled artisans in this area, who worked on the production of luxury objects also made with imported materials.[22]

In the extreme east of the fortified city, on the top of the hill that stands above the residential quarters, is an imposing monumental building, the so-called Shah Tepe (MA006), towards which the northern and southern stretches of the fortification wall seem to converge (Fig. 3). This must have been the most important urban building. Interestingly, the monument, which was heavily looted in the past, does not seem to be Buddhist, while similarities with other centro-asiatic non-Buddhist cultic monuments and Kushan dynastic temples may be noted.

The Buddhist complexes

At Mes Aynak, the fortification wall – more a symbol of security than an actual means of protection – did not represent the topographical boundary of the city which actually extended beyond it, with an industrial area in the south and other religious and residential buildings in the north. Instead, the religious complexes encircling both the fortified core and the extra-mural quarters of the city fixed the boundary of the urban space physically and symbolically.

There are five Buddhist complexes strategically located: at the main entrances of the city (MA 001, MA 003)[23], on the top of the hills that naturally enclose the city to the North (MA013) and East (MA007) and on the rocky spur of the Kuh-e Aynak ridge (MA045) that marked the southern limit of the city

[20] Although there is no certain evidence of the presence of a mint at Mes Aynak, the fact that coins were produced here is highly possible, see Eley/Marquis/Noori, pp. 275-278.

[21] See for instance Alram, fig. 3a, p. 270.

[22] Barbara Faticoni, First Notes on a Treasure from Mes Aynak, in: Borja Antela-Bernárdez/Jordi Vidal (eds.), Central Asia in Antiquity. Interdisciplinary Approaches, Oxford 2014, pp. 23-36.

[23] MA001 or Ghol Hamid is immediately outside the second fortification of the city; MA003 or Kafiryat Tepe is in proximity of the gorge that gave access to the fortified city from the west.

where the Siso Khwar river ran (Fig. 3), which today has almost dried up. Their placement around the edge of the city in highly visible locations illustrates that the monumental Buddhist complexes, together with Shah Tepe, were urban landmarks arranged in such a way as to create a sort of symbolic "belt" around the city (Fig. 3).

Although the data available do not allow us to be more specific on the chronological aspect, these Buddhist complexes clearly show several structural phases. If the analysis of preserved wall paintings suggests the late 4th century CE as terminus *post quem*[24], earlier structural phases – well documented at MA003[25] – suggest an earlier date for the construction of the Buddhist foundations. Therefore, a contemporaneity between urban development and monastic foundations in the late Kushan/Kushano-Sasanian phase is likely.

The complexes, although quite different from each other in terms of architecture and decorative apparatus, shared more or less the same layout. With the exception of MA045[26], constructed on the rocky spur of the Kuh-e Aynak, they consisted of two connected terraces developed on two different levels: the area with stupas, shrines and chapels was on the lower terrace, while the monastery, consisting of a central courtyard and small rooms, was on the second one.[27] The monumental buildings are richly decorated with wall paintings, painted or gilded sculptures of Buddhas and Bodhisattvas (also functioning as pillars of pillared hall of a two-floor monastery in MA003), woodcraft, schist steles with stylistic influences from both Central Asia (for example Fayaz Tepe, Miran) and Gandhara.[28] What we see today can only give us a feeble impression of how spectacular these monuments must have appeared in the past, and it is indeed surprising that Mes Aynak was not included into the coeval Buddhist pilgrimage road network extending between India and Central Asia and passing through the Kabul valley. Rather, its network of devotees and donations must have had a more regional character.

4. The Role of the Buddhist Complexes

The economic capital invested by laymen in the Buddhist complexes, who were often represented as donors or worshippers in Mes Aynak's sculptures and

[24] Filigenzi, p. 42-43.
[25] Engel, p. 10.
[26] Because of its particular location, MA 045 has a different layout with different units on different levels. However, some rooms might have had a residential function.
[27] In MA013, the monastery is still uncovered. However, archaeological remains visible on the ground suggest its presence to the north of the sacred area.
[28] Cf. Filigenzi; Klimburg-Salter.

paintings, was substantial. We can assume that the urban services offered by the monastic community and the social prestige gained in exchange for such investments must have been equally high. If we look at the city from above, Mes Aynak's Buddhist complexes seem to have quite a peripheral position. Placed at the edge of the city, they seem to frame the city together with the riverfront in the south and the wall in the west, whereas the putative Zoroastrian fire temple and Shah Tepe are more centrally located within the fortification. However, once we walk through the city and we start considering other parameters like elevation and intervisibility, the picture changes and what in a horizontal reading was peripheral becomes visually "intrusive" and symbolically central. Indeed, the Buddhist complexes were an integral part of the cityscape and urban daily life as ever-present landmarks located on the access to the city (MA001, MA003) and on the top of the hills overlooking the walled city (MA 013, MA 007, MA045). In framing the city, they are a crucial component of its skyline. This, in a city whose central urban religious monuments (Shah Tepe and the so-called fire temple) and burials practices (cenotaphs and kurgan-like funerary complexes) may even not be linked to a Buddhist tradition, is quite remarkable.

With this spatial reading of the city, it may be assumed that the practice of encircling the city with Buddhist sites placed in highly visible and strategic locations might have been a staging of religious power and a symbolic appropriation of the urban space. But was this spatial practice only part of a religious strategy? Or was it connected to a more worldly hold on authority over the city by Buddhist communities and their supporters? Finally, did the socio-economic role of the Buddhist communities have anything to do with the rise of a city at this mining site?

With the little data we have in hand, it is not possible to give a sufficient answer to these questions. However, comparisons with other types of sources and archaeological case studies from other regions of South Asia invite conjectures that I am going to sketch out below as a purely speculative exercise. As we learn from textual and epigraphical sources, Indian Buddhist monks ran private and collective business, could own money and properties and engaged in urban dynamics.[29] Moreover, their role as "human infrastructure" for the economic and socio-political empowerment of the urban elites has been suggested based on the archaeological evidence. In fact, in the last decades, archaeological surveys and investigations carried out in South Asian regions such as the Swat valley in northwestern Pakistan[30] and the Sanchi hinterland in Madhya

[29] Cf. Gregory Schopen, Buddhist Monks and Business Matters. Still More Papers on Monastic Buddhism in India, Honolulu 2004.

[30] Luca M. Olivieri et al., Archaeology and Settlement History in a Test Area of the Swat Val-

Pradesh[31] provide insights into the role of Buddhist communities within the wider land-use system and urbanisation phenomenon in early historic South Asia.

The landscape approach to the study of water infrastructures, settlement pattern and religious sites has archaeologically demonstrated that during the late centuries BCE and the first centuries CE, Buddhist monastic communities, with their well-qualified and hierarchically organized staff as well as their close connection to urban elites, were capable of managing extra-urban resources, in most cases agricultural land. Particularly in Swat, the engagement of Buddhist monks with leaders of the local economy and, hence, local power, triggered a phenomenon of "urban sprawl" with the development of infrastructures, monastic settlements and Buddhist monuments in the hinterland of the city of Barikot. Here, in spatial terms, the result of religion and the urban working in concert was the creation of a peri-urban zone that provided the basis of the economic fortune of the city as well as the monumentalisation of urban aspirations and self-representation of local authority.[32] A similar model, *mutatis mutandis*, may be found in Mes Aynak, though it is necessary to replace some aspects, that is (a) the type of natural resource managed by the Buddhist community and (b) the spatial form taken by the urban development.

The ecological landscape of the Logar valley is indeed quite different from that of the fertile Swat and central India and whereas agricultural land was probably not a good resource to invest in, another profitable natural resource was at stake here, the copper mines. That local authorities could have signed "mining contracts" with local partners who would have ensured the continuity of exploitation in these off-site locations was, in all likelihood, a known practice. The *Arthaśāstra*, the most famous Indian theoretical treatise of political economy (final recension of the manuscript c. 3rd century CE)[33] recommends that: "Those [mines] requiring heavy expenditure to work out should be given

ley. Preliminary Report on the AMSV Project (1st phase), in: East and West 56:1-3, 2006, pp. 73-150.

31 Julia Shaw, Buddhist Landscapes in Central India. Sanchi Hill and Archaeologies of Religious and Social Change, C. Third Century BC to Fifth Century AD, London 2007.

32 Cf. Daniel P. S. Goh/Peter van der Veer, Introduction. The Sacred and the Urban in Asia, in: International Sociology, 31:4, 2016, pp. 367-74.

33 Traditionally associated in its original form to the royal advisor of Candragupta Maurya (4th century BCE) Cāṇakya, Olivelle has recently suggested three phases of the composition of the text: the first redaction is dated to the mid-first century BCE; the "Kauṭilya recension", which integrates that earlier work with various other literature, dated to 50-125 CE; and the "Śāstric recension", dating to 175-300 CE, the final recension of the text as it has come down to us. Patrick Olivelle, trans. King, Governance, and Law in Ancient India. Kauṭilya's Arthaśāstra, New York 2013, pp. 25-31.

to (actually leased out) non-governmental enterprises against the payment of shares and other dues, something analogous to a licensing fee".[34] Thus, it seems that the engagement of non-governmental actors in the extraction and management of mining sites was a known practice in South Asia. That Buddhist communities, well-known entrepreneurs of rural areas, might have served this role of non-governmental partners at Mes Aynak is not such a far-fetched hypothesis.[35] Likewise, monks granted mining rights for metal and salt extraction and processing is widely attested for Medieval Europe.[36]

The second element to consider is related to the form of urban enlargement. According to the urban model attested in Swat and Madhya Pradesh, the exploitation of the rural area managed by the monastic community may lead to a phenomenon of peri-urbanisation of the hinterland. If we tentatively presume that at Mes Aynak the Buddhist community might have held some mining rights or played some role as partner in managing the mining resources together with other governmental or non-governmental actors, we could conjecture that here as well the interplay between Buddhist community and local authorities led to a settlement growth in proximity to the economic arena of these monks. However, if so, at Mes Aynak this mechanism might have taken not the form of the urban "sprawl", as attested in Swat, but rather this might have actually fostered the bloom of a city where before there was probably only a mining-centered village, as is common in mining sites. Indeed, as stated at the beginning of this paper, the vibrant urban fabric of Mes Aynak is a clear exception within the category of ancient mining sites that cannot be explained simply by favourable environmental conditions. It is rather the intentionality of human action which is the determining factor here.

[34] Quoted by Ranabir Chakravarti, Mineral Resources and Patterns of Communications in Early Rajastan, in: Journal of Ancient Indian History 27, 2011, p. 7.

[35] Cf. Filigenzi, p. 50.

[36] Cf. Paul Benoit/Daniel Cailleaux, Moines et métallurgie dans la France médiévale, Paris 1991; Louis Lekai, The Cistercians. Ideals and Reality, Kent, OH 1977; Philibert Schmitz, Geschichte des Benediktinerordens, Einsiedeln 1947-60M Francesco Cuteri, I Cistercensi in Calabria. lo sfruttamento delle risorse minerarie e l'attività, in: VII Congresso Nazionale di Archeologia Medievale (Lecce, 9-12 settembre 2015), Firenze 2015, pp. 379-383 ; Beatrix Romhányi, The Role of the Cistercians in Medieval Hungary. Political Activity or Internal Colonization?, Budapest 1994; Katerina Charvátová, The Mining and Metallurgical Activities of the Cistercians of the Medieval Kingdom of Bohemia, in: Arnaud Baudin et al. (eds.), L'Industrie cistercienne (XIIe-XXIe siecle), Paris 2019. I am grateful to Katalin Szende and Judit Majorossy for bringing these references to my attention.

5. Conclusion

Which was the driving force that fostered the development of a city at the mountain copper deposit of Mes Aynak? I suggest that it was the "business virtuosity" of the Buddhist communities as well as their distinctive ability to set up and manage new enterprises outside the boundary of the city space in concert with local elites or authorities. The good management of this originally rural resource might have created work opportunities not only for labourers in the mines and monasteries, but also for artisans, carpenters, goldsmiths and accountants. As a result, the settlement might have grown to the point of becoming attractive also for other entrepreneurs driven by urban aspirations. Consequently this might have augmented the practice of patronage activity, painters and sculptors who created the remarkable sculptures and wall paintings of the Buddhist complexes. This new constellation of activities and actors might have stabilized the ever-fluctuating economy of the mining sites, and eventually the mining settlement developed into a city, thus leading to the formation or relocation of urban elites who decided to settle in and to be buried there.[37] Buddhist monastic communities were probably a key factor in the formation of the city of Mes Aynak, not only in spatial but also in socio-economic terms, as a sort of centripetal force that bound together the socio-economic trajectories of actors who arrived in Mes Aynak for different reasons, through different channels and with different competences. Although our scant knowledge of the stratigraphy of Mes Aynak does not allow us to confirm with any degree of confidence the conjectures outlined above, our knowledge from texts and comparative archaeological case studies of the active role played by Buddhism and the monastic community to boost urban dynamics together with the peculiar spatial distribution of Buddhist complexes at the site open up different possible scenarios, among which the one discussed above seems likely.

Illustrations

Fig. 1: Physical map of Afghanistan with the location of Mes Aynak. Source: Wikimedia Commons.

Fig. 2: View from the east of the western and central quarters delimited by the fortification wall. Source: photo by E. Iori.

Fig. 3: Satellite image from Google Earth of the archaeological area of Mes Aynak.

[37] Cf. Thomas Stöllner, Mining and Elites. A Paradigm Beyond the Evidence in European Metal Ages, in: Tobias L. Kienlin/Andreas Zimmermann (eds.), Beyond Elites. Alternatives to Hierarchical Systems in Modelling Social Formations, Bonn 2012, pp. 433-448.