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# The Grand'Route of Khorasan (Great Khorasan Road) during the third millennium BC and the "dark stone" artefacts

H.-P. Francfort

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# THE IRANIAN PLATEAU DURING THE BRONZE AGE DEVELOPMENT OF URBANISATION, PRODUCTION AND TRADE

*edited by Jan-Waalke Meyer, Emmanuelle Vila, Marjan Mashkour,  
Michèle Casanova and Régis Vallet*



# THE IRANIAN PLATEAU DURING THE BRONZE AGE. DEVELOPMENT OF URBANISATION, PRODUCTION AND TRADE

ARCHÉOLOGIE(S) // 1

The book compiles a portion of the contributions presented during the symposium "Urbanisation, commerce, subsistence and production during the third millennium BC on the Iranian Plateau", which took place at the Maison de l'Orient et de la Méditerranée in Lyon, the 29-30 of April, 2014. The twenty papers assembled provide an overview of the recent archaeological research on this region of the Middle East during the Bronze Age. The socio-economic transformation from rural villages to towns and nations has prompted many questions into this evolution of urbanisation. What was the impact of interactions between cultures in the Iranian Plateau and the surrounding regions (Mesopotamia, the South Caucasus, Central Asia, Indus Valley)? What was the overall context during the Bronze Age on the Iranian Plateau? What was the extent and means of the expansion of the Kuro-Araxe culture? How did the Elamite Kingdom become established? What new knowledge has been contributed by the recent excavations and studies undertaken in the east of Iran? What was the influence of the Indus Valley culture, known as an epicentre of urbanisation in South Asia? What are the unique characteristics of the ancient cultures in Iran?

While the urbanisation of early Mesopotamia has been the subject of much debate for several decades, this topic has only recently been raised in respect to the Iranian Plateau. This volume is the product of an international community from Iranian, European, and American institutions, consisting of recognised specialists in the archaeology of the Iranian Bronze Age. It provides an overview of the latest research, including abundant results from current on-going excavations. The current state of archaeological research in Iran, comprising many dynamic questions and perspectives, is presented here in the form of original contributions on the first emergence of towns in the Near and Middle East.

*L'ouvrage rassemble une partie des contributions présentées lors du colloque « Urbanisation, commerce, subsistance et production au III<sup>e</sup> millénaire avant J.-C. sur le Plateau iranien » qui s'est tenu à la Maison de l'Orient et de la Méditerranée à Lyon les 29 et 30 avril 2014. Les vingt articles réunis livrent un état récent de la recherche archéologique dans cette région du Moyen-Orient pour l'âge du Bronze. Le développement socio-économique entre le mode de vie rural et la formation des villes et des états soulève de nombreuses interrogations sur le processus de l'urbanisation. Quel est l'impact des relations culturelles entre le Plateau iranien et les régions adjacentes (Mésopotamie, Sud-Caucase, Asie centrale, vallée de l'Indus) ? Quel est le contexte global de l'âge du Bronze sur le Plateau Iranien ? Comment s'opère l'expansion de la culture Kuro-Araxe à partir du Caucase ? Comment le royaume élamite se met en place ? Quel est l'apport des fouilles et travaux récents dans l'Est iranien ? Quelle est l'influence de la vallée de l'Indus, un centre d'urbanisation important en Asie ? Comment se manifestent les singularités du monde iranien ?*

*Alors que la thématique de l'urbanisation en Mésopotamie a été très débattue ces dernières décennies, cette question est abordée depuis peu pour le Plateau iranien. Le présent volume émane d'une communauté internationale d'archéologues d'institutions iraniennes, européennes et américaines, spécialistes reconnus de l'archéologie iranienne de l'âge du Bronze. Il dresse un panorama de l'état des recherches qui se nourrit amplement des travaux de terrain en cours. L'ouvrage rend compte de la dynamique actuelle de la recherche archéologique en Iran, riche de nouveaux questionnements et de nouvelles perspectives, et constitue un apport original à la réflexion sur l'émergence des villes au Moyen-Orient.*

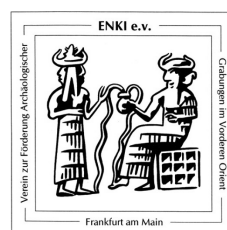


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# THE IRANIAN PLATEAU DURING THE BRONZE AGE

DEVELOPMENT OF URBANISATION, PRODUCTION AND TRADE

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Michèle Casanova and Régis Vallet*

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## Iran and Central Asia

### The Grand'Route of Khorasan (Great Khorasan Road) during the third millennium BC and the "dark stone" artefacts

Henri-Paul Francfort

UMR 7041-ArScAn (CNRS, Sorbonne Universités), Maison René Ginouvès, 21 allée de l'université, 92023 Nanterre

The present paper aims at evidencing the functioning of a road connecting Central Asia, Iran and Mesopotamia during the Bronze Age, via Khorasan, between ca. 2300-1700 BC. It is based on the chronological classification of ornamented chlorite artefacts from Susa by Pierre de Miroschedji in a seminal article. During the first half of the 3rd millennium BC, artefacts of "style ancien" are widespread, many of them carved in Kerman. However we have no evidence of the use of the Khorasan Road. But after ca. 2300, the "style récent" replaces the old carvings and these artefacts appear in Central Asia, the region of the Oxus Civilization. In this region, chlorite and similar dark stones are easily available, in Badakhshan or in Khorasan. A Great Khorasan Road seems to have been in use, connecting Central Asia, Iran and Mesopotamia.

*Cet article vise à mettre en évidence l'existence d'une route de communication entre l'Asie centrale, l'Iran et la Mésopotamie au cours de l'âge du Bronze, par le Khorasan, entre 2300 et 1700 environ av. J.-C. Il s'appuie sur une répartition chronologique des trouvailles d'objets en chlorite gravés de Suse, suivant un article fondateur de Pierre de Miroschedji. Au cours de la première moitié du III<sup>e</sup> millénaire des objets du "style ancien" dominant, pour une part manufacturés dans le Kerman. Cependant rien n'indique que la route du Khorasan fonctionnait. En revanche, après 2300 environ le "style récent" remplace l'ancien et ses productions se rencontrent notamment en Asie centrale, sur le territoire de la Civilisation de l'Oxus, région où la chlorite et des pierres sombres analogues se trouvent sans difficultés, au Badakhshan ou dans le Khorasan. Une Grand'Route du Khorasan semble avoir alors fonctionné, de l'Asie centrale à l'Iran et la Mésopotamie.*

هدف این نوشتار روشن ساختن وجود یک راه ارتباطی بین ایران، آسیای مرکزی و بین النهرین از طریق خراسان در دوره مفرغ، حدود 2300 تا 1700 ق.م است. اساس این مقاله، طبقه بندی زمانی اشیاء کنده کاری شده از سنگ سیاه است که از شوش بدست آمده و توسط پیردو میروسشچی در یک مقاله مقدماتی معرفی شده است. به طور کلی، هیچ شواهد و نشانه ای از دایر بودن راه خراسان بزرگ وجود ندارد. در طول نیمه اول هزاره سوم ق.م، تا حدودی اشیاء به سبک قدیم در کرمان تولید و رایج شد. در حدود 2300 ق.م اشیایی به سبک جدید جایگزین اشیاء به سبک قدیم شدند که بیشتر آنها از آسیای میانه و حوزه تمدنی جیحون بدست آمده اند، ناحیه ای که سنگ کلریت و سنگهای سیاه مشابه دیگر به فراوانی از بدخشان یا خراسان یافت می شوند. بر اساس شواهد موجود، به نظر می رسد راه خراسان بزرگ از آسیای مرکزی تا ایران و بین النهرین فعال بوده است.

## Introduction<sup>1</sup>

The Great Khorasan Road may be called "Northern Route". It links Iran and Central Asia in the North of Hindu Kuch. It has been used during centuries, at least since the Achaemenid period, when it was an

1. I would like to thank warmly Professors Michèle Casanova, Emmanuelle Vila, and all the organizers of this colloquium for the organization of this conference and for giving me the opportunity to present a paper. I extend my thanks to an "anonymous reviewer" for her helpful remarks. This paper is a revised and augmented version of an unpublished lecture presented at the Jiroft Symposium organized by Academy of Arts and Iranian Cultural Heritage and Tourism Organization in Tehran, May 8, 2008.

oriental segment of the Royal Road. Its staging posts are known by various antique sources, such as the itinerary of the “Roman” merchant Maes Titianos or the *Parthikoi Stathmoi* of Isidor of Charax in the first century<sup>2</sup>. For the 3rd and early 2nd millennium the archaeological data prevails. However, in spite of the variously called roads: “lapis lazuli road”<sup>3</sup>, “turquoise road”<sup>4</sup>, or “tin road”<sup>5</sup>, used for transportation of these stones and minerals, but not exclusively, from Central Asia (Bactria) to Mesopotamia, the available data are fuzzy. And recently, the beautiful finds from the Kerman province in Iran (see below) have attracted the interest of the scholarly world towards the Southern itineraries (completing ancient analyses which were taking into account the old data from Shahr-i Sukhte/Malyan/Susa/Shahdad to the fringes of the Lut). Nevertheless, the discoveries made in Sogdiana, in Bactriana, in Margiana and in NE Iran demonstrate, as is well known, that the Southern Road is not all the story and that the “Northern road” has been intensely used during all the 3rd millennium, and that various stuffs, materials, artefacts and shapes were travelling both ways not only from the Near East to Iran, but also deep into to Central Asia<sup>6</sup>. The present paper will focus on dark stones. It is nothing more than a sketchy archaeological and historical overview, and aiming at a preliminary understanding of the functioning and the evolution of this Northern “Khorasan” road. But, in order not to say again things that are well known about lapis lazuli, notably by the researches and recent publications of M. Casanova<sup>7</sup>, I propose to take as vital lead the dark stone variously designated in archaeological literature as chlorite, serpentine or steatite.

Since a quarter of a century, the common terminology in Middle Eastern archaeology for green dark stones found in Iran and Central Asia is “chlorite”<sup>8</sup>. This new terminology replaces the older common denominations of “steatite” or “serpentine”<sup>9</sup>. However, in most of the cases, the real mineralogical characterization and therefore the scientific (mineralogical or geochemical) name of the stone are unknown. And this is why we shall use here the general covering term of “dark stone”. They may be rather blackish or greyish or greenish, more or less crystalline and from various geological origins (some possible names usable or used in literature are: schist, gabbro, chlorite, serpentine, diorite, ophiolite, etc.)<sup>10</sup>. In doing that (by using a general designation out of vernacular names) we presume also that the 3rd millennium inhabitants of Mesopotamia, Iran and Central Asia were too using terms related mostly to colour/provenience for these stones (or at least used taxonomies not based on scientific mineralogical studies!)<sup>11</sup>: what we today discriminate by using scientific tools is not relevant in general, if not for provenience and origin studies (see below).

Comparing the region of Kerman with Central Asia in regard of “dark stones” makes sense since these two regions have been in contact during the third millennium BC<sup>12</sup>. If we consider the types of artefacts, the

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2. Bernard 2005.

3. The most ancient publications, following the model of the Silk Road, draw long straight arrows on maps of the Middle East: Tosi 1974; Dales 1977; Deshayes 1977; Casanova 2013 makes an update of this lapis roads questions.

4. Tosi 1975 made an attempt for qualifying a “turquoise road” from Chorasmia on the model of the “lapis road”. Other attempts deal with other minerals such as carnelian or alabaster.

5. Muhly 1973, the tin question has enormously progressed since Muhly’s book, we shall not expose it here, but in details many questions are still to be solved. Some authors have considered other metals such as lead or gold.

6. For exchanges see: Potts 1994; Potts 1999; Francfort and Tremblay 2010; Kaniuth 2010.

7. Casanova 2013.

8. Hakemi 1997; Kohl 2001; Kohl 1974; Kohl 1978.

9. Amiet 1980.

10. For these uncertainties in our period, and precisions in the terminology in Assyriology, see Potts 1994, p. 183-191; the book of A. Schuster-Brandis concerns a later period.

11. Magan and Markhashi seem to indicate the source of two kinds of dark stones, diorite for the first and “chlorite” for the second (after Kohl and the Kerman and Tepe Yahya studies), but possibly also including in the corpus of artefacts other minerals manufactured in the same shape.

12. Amiet 1986; Amiet 2007.

artistic themes<sup>13</sup> and the style of decoration, as well as the chronological frame<sup>14</sup>, the two regions are different and we shall see below how and why it is a question of origin and chronology of the raw material and of the manufacture of the artefacts. In spite or because of these differences, a question arises regarding not only the use of “dark stones” in Iran and in Central Asia, but also the sources of these minerals in relation with the other countries that used them, mainly Syria and Mesopotamia. Like lapis lazuli, turquoise or alabaster, the “dark stones”, whether called “steatite” or “chlorite”, have been also used for tracing interregional relations and exchanges during the 3rd and 2nd millennia<sup>15</sup>. The question is then to try to explain this apparent absence of morphological or typological relationships between artefacts originating in the Kerman and the Central Asian set of artefacts, their use, and to approach the question of the sources: one unique origin or multiple proveniences for the identical-looking stone raw material and produced artefacts?

We begin with Kerman. Thanks to the recent discoveries, excavations and publications of the Kerman stone artefacts by Pr. Madjidzadeh and others<sup>16</sup>, we may briefly outline the main typological categories and characteristics of this production, according to their shapes and the images carved on them. We can list here some examples:

- the cylindrical bowls with architectural ornament<sup>17</sup>;
- the cylindrical bowls with vegetal, animal, human and composite motives<sup>18</sup>;
- the scorpion, composite beings or bird of prey plaques<sup>19</sup>;
- the conical vases with snake, leopard, zebu, bird of prey, human, mountain, water flow and other motives<sup>20</sup>;
- the cups on stand with vegetal, herbivorous animals (wild sheep, wild goat), human, leopard and other motives<sup>21</sup>.

Two or three possible engraving techniques may be identified, and inlays of white or red, blue coloured stones are frequent.

If we look now at the composition of the artistic schemes engraved on the vases, we may easily recognize the following main categories of patterns of motives, which indicate a high sense of artistic regular compositions:

- the frieze of repeated identical motives: palm trees, animals (bulls, lions)<sup>22</sup>;
- the twist plait pattern (= water flow)<sup>23</sup>;
- the simple binary symmetry including just two figures: for example snake and leopard<sup>24</sup>;

13. Central Asia has generally no figurative or narrative themes on dark stone while many appear on gold and silver vases and bronze artifacts.

14. BMAC or Oxus Civilization mature period extends from ca. 2300 to ca. 1750 BC.

15. See above Ph. Kohl’s studies for example.

16. Madjidzadeh 2003a; Madjidzadeh 2003b; Madjidzadeh 2007; Perrot and Madjidzadeh 2003; Perrot and Madjidzadeh 2005; Perrot and Madjidzadeh 2006; Madjidzadeh and Pittman 2008; Piran and Hesari 2005.

17. Madjidzadeh 2007, p. 67-68, p. 71-74 for example.

18. Madjidzadeh 2007, p. 7, p. 34-35, p. 51-52, p. 58-59, p. 62-64, p. 83-85, p. 95-96, p. 101-102 for example.

19. Madjidzadeh 2007, p. 130-133, p. 135-136 for example.

20. Madjidzadeh 2007, p. 36-41, p. 44, p. 65-66, p. 75-77, p. 86-89, p. 89-94, p. 99-100, p. 110 for example.

21. Madjidzadeh 2007, p. 12-18, p. 23-33, p. 105 for example; Amigues 2009.

22. Perrot and Madjidzadeh 2005, fig. 4b for example.

23. Perrot and Madjidzadeh 2005, fig. 4b for example.

24. Perrot and Madjidzadeh 2005, fig. 8, b-c, e for example.



- the triple axial symmetry: one central axial motif and two flanking figures:
  - ungulates (bovids, caprids) flanking trees<sup>25</sup>;
  - lions flanking trees<sup>26</sup>;
  - snakes flanking a bird of prey<sup>27</sup>;
  - animals flanking a human or a composite being (human-animal)<sup>28</sup>.
- the “one against three” rhythm:
  - one human and three zebus<sup>29</sup>;
  - one lion and three dogs<sup>30</sup>.

If we now look at the themes we face for example:

- the so-called “master of animals”, i.e. a human, principally en face, holding an animal in each hand<sup>31</sup>: the axial, main, figure is human (or nearly) and the secondary figures are animals;
- the vegetation-centred herbivorous, ungulates and zebus<sup>32</sup>: that is the axial image is vegetal (tree or bush) and the flanking, i.e. secondary figures in some sense, are animals;
- the flows of water graphically linked with mountains pattern in the shape of scales<sup>33</sup>;
- the dead animal (turned upside down) pictorially connected with felines, snakes or birds of prey seeming to kill it (if the animal is already dead, the *post mortem* birds of prey are vultures)<sup>34</sup>;
- deities-looking composite beings (according to Mesopotamian standards) that we can identify by their horned heads<sup>35</sup>.

In short, two symbolic antithetic groups appear, in an elementary structural approach:

- the water-mountain/plant/herbivorous/deities group = we may simply call it the **group of life**<sup>36</sup>; that is because in this group we see together the mountain from where the water flows out of springs, the water that makes the plants grow, the plants that feed the herbivorous and the deities, possibly ruling by their invisible power these life connections and cycles;
- the feline/scorpion/snake/vulture/dead ungulate group = we may briefly call it the **group of death**<sup>37</sup>; that is because this cluster contains animals that are either lethal predators, or already dead, or feed on dead animal bodies;

However, the **snakes** seem to have a special status since they look also as if they are linked to water, and not figuring only as deadly beings<sup>38</sup>.

25. Perrot and Madjidzadeh 2005, fig. 4e-f; fig. 5 for example.

26. Perrot and Madjidzadeh 2005, fig. 4d for example.

27. Perrot and Madjidzadeh 2005, fig. 9a for example.

28. Perrot and Madjidzadeh 2005, fig. 11a, f for example.

29. Perrot and Madjidzadeh 2005, fig. 6b for example.

30. Perrot and Madjidzadeh 2005, fig. 7e for example.

31. Perrot and Madjidzadeh 2005, fig. 6a; fig. 11b, f; fig. 12, e-j for example.

32. Perrot and Madjidzadeh 2005, fig. 4e, f; fig. 5 for example.

33. Perrot and Madjidzadeh 2005, fig. 11a; Piran and Hesari 2005, p. 34-35 for example.

34. Perrot and Madjidzadeh 2005, fig. 7d-f; fig. 8h; fig. 9d for example.

35. Perrot and Madjidzadeh 2005, fig. 11-12; Piran and Hesari 2005, p. 34-35 for example.

36. This structural approach should include also the astral symbols present with the mountains and deities. The flow of water has close iconographic relations with bovid also.

37. It is certain that the so called theme of the “fight between snakes and *bearded eagle*” is wrong since the bird of prey is definitely a *Gypaetus barbatus*, the largest of vultures, never attacking a living being.

38. As is well known, the relation between snake and waters is widely represented in many symbolism and mythologies of the past societies.

Consequently, if the central motif of the compositions is the main motif, as it is always in such ancient artistic milieu<sup>39</sup>, we may risk the following basic structural interpretative reading, by using the concept of hierarchical composition on the model of the “master” or “mistress” of animals:

- the deities, the composite beings and the humans master dangerous beasts, or favourable animals, or waters, according to context of the composition;
- the vulture masters the snake, the tree master the ungulates, etc.

In short, these ornamental simple compositions can be seen as depicting the related common cycles of life and death, the importance of water (flowing from mountain, from sky) and of the plants, animals and all beings mastering the exchange cycles, or from which originate the transformation cycles<sup>40</sup>. This group of representations from Kerman reflects an imaginary world, only partly real and natural, really logically structured, in spite of the fact that we are not in a position to interpret all the elements neither the meaning of all the compositions. However it is possible to point out that this natural cycle, which is carved on “dark stone” artefacts in Kerman, appears structurally very similar to a natural-mythical cycle represented in Central Asia, in the Oxus Civilisation (“BMAC”). But there, these images appear rather on metal vases, seals and axes (bronze, silver, gold) than on stone<sup>41</sup>.

These themes, compositions and shapes of artefacts are very different to the Oxus Civilisation (“BMAC”) decorative patterns on “dark stone” artefacts that are much simpler: size, shape, ornaments of vessels or artefacts.

If we look at of the artefacts published in the Jiroft catalogues and publications, some of them (few) appear different from the main typological Kerman series. Actually they look very similar to the Oxus Civilization standards: plain white handled stone<sup>42</sup>, miniature column<sup>43</sup>, flacon with circular neck and square base with dotted circle<sup>44</sup>, bowls and cups with simple or no decoration<sup>45</sup>.

Is it a problem of chronology (a later Kerman production looking more similar to Central Asia)? Or a question of origin (artefacts coming from an area closer to Central Asia)? Or of both time and space? It is difficult to tell without more detailed information. Let us take a brief look to more comparative material.

The Tepe Yahya corpus of chlorite artefacts, well excavated and published in detail<sup>46</sup>, illustrates the problems of time and interregional relations we are dealing with: according to the publications and various commentaries, a key moment in the chronology of the interactions between Kerman and Central Asia is the Early to Middle Akkadian period. Either the “intercultural style” artefacts are still produced there during the Akkadian period, or not any more. But if such artefacts are not any more produced at Tepe Yahya, does it mean that the production was stopped also in all the Kerman or South East Iran? The answer is not simple.

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39. This is practically a rule in the symmetric compositions in ancient arts: the central motive is the more important and the flanking motives are inferior or subordinate to the central one.

40. We shall not comment here at length here on these topics. The most unusual for us is the relation between predators or raptors themselves. Snake and leopard look very equal to each other in basic compositions. We have also to take into consideration, beside such themes, the decorative value of the motives, notably the snake shaping twists.

41. Francfort 1992; Francfort 1994; Francfort 2005a; Francfort 2010.

42. Piran and Hesari 2005, no. 68.

43. Piran and Hesari 2005, no. 71.

44. Madjidzadeh 2007, p. 120 lower left.

45. Madjidzadeh 2007, p. 144-146; Piran and Hesari 2005, p. 53-63, p. 68, p. 72. In Central Asia in general such shapes of alabaster vases are not earlier than the Namazga IV period.

46. Lamberg-Karlovsky and Potts 2001 with all relevant bibliography.

However, before proceeding any further, let us take a short look to some relevant Mesopotamian “dark stones” artefacts.

It seems clear, when looking at the examples presented here, that there is a difference between the Khafajeh vase, probably imported from Kerman, and the others, considered to be manufactures in Mesopotamia, of Mesopotamian origin<sup>47</sup>.

The Khafajeh vase depicts exactly the elementary life and death cycles described above for Kerman, and in the same style (*fig. 1*). We can recognize easily the same three moments of the Jiroft cycle of life and death:

- lion, scorpion and vulture attack or eat a dead zebu (turned upside down, legs up): death;
- a human looking being in skirt, with star or sun, masters symmetrically two lions and two snakes by holding them: a fight against lethal animals;
- a (or the same) human-looking being, with sun and moon crescent, kneels or seats upon two mastered zebus, holding two flows of water that are in contact with trees and a palm tree flanked by two bear-like animals: life.

This cycle, as said before, may be well identified also in the Oxus Civilization. It involves predatory lethal animals (snakes, scorpions, lions, and dragons); a fight between them and a “Hero genius/spirit” either with goat – or eagle – head is also represented. The main difference from the Kerman imagery is that in Central Asia this world is dominated by a feminine spirit or goddess or water/fertility/fecundity who peacefully masters the dragon (references above, note 39). It would be very easy to refer here to some elements of the Vedic or Zoroastrian religion; the late V.I. Sarianidi followed this way of interpretation for a number of Central Asian structures, artefacts and images, by using the covering and questionable concept of “proto-Zoroastrianism”<sup>48</sup>.



Fig. 1 – Khafajeh vase (Aruz 2003, fig. 85).

On the other hand, two other examples of “chlorite” vases, notwithstanding the difference of style, depict more narrative scenes, festivals or cult scenes, in a totally different stylistic manner (*fig. 2a-b*). Those were probably manufactured in Mesopotamia during ED period, according to our view, since no narrative compositions appear on the Jiroft production<sup>49</sup>.

During the Akkadian period, on the other hand, as is known, “diorite” from Makkan, another “dark stone” was probably imported to Mesopotamia by the sea route. This stone was used for manufacturing Akkadian royal bas-relief with war and tribute scenes. One of them depicts a typical Harappan bulbous dish on stand, attesting of long range relations<sup>50</sup>. Large blocks were also used for the sculpture of statues of kings or gods<sup>51</sup>.

47. Frankfort 1963, fig. 9, p. 19.

48. Among other writings, see: Sarianidi 1989, 1998a, 2010. For a discussion of some elements, see Francfort 2005b. More discussion in Francfort 2006.

49. Bismaya vase: Frankfort 1963, pl. 11A; Frankfort 1935, cultic scene.

50. Amiet 1976, fig. 20.

51. Large body of references from texts and archaeological evidence.



But the Susa corpus of “dark stone” artefacts provides another important set of information regarding the problem, with the well noticed difference between the “*série ancienne*” (fig. 3a-b) and the “*série récente*” defined by Pierre de Miroschedji in a seminal article<sup>52</sup> (fig. 4a-b). The first series of artefacts is made of “dark stone” objects decorated with Kerman-type patterns, and it is dated from the ED, ending somewhere between 2400 and early Akkadian period. The second series is made of artefacts just plain, or engraved with line designs of bearing the dot and circle motif. The date of the second series begins around 2300 and last until the beginning of the 2nd millennium. Some artefacts of the “*série récente*” are considered by Pierre Amiet as imported from Central Asia, by comparison with the Bactrian and Margian “dark stone” material that we shall consider soon<sup>53</sup>. Another group has been considered as an intermediary series between the “*série ancienne*” and the “*série récente*”: bowls with undulating “zig-zag” incised lines<sup>54</sup>.

Thus, in spite of the fact that the Kerman vases and the similar Susa “*série ancienne*” material can last until around 2300-2250, as perhaps seen in Tarut<sup>55</sup>, in Shahdad possibly<sup>56</sup> and in Mesopotamia with some very rare vases of this style bearing Akkadian inscriptions (two of Rimush: but possibly inscribed later than their manufacture)<sup>57</sup>. It seems clear that the Susa “*série récente*” is in relation with the similar objects of the Oxus Civilization in Central Asia and begins at some moment during the Akkadian period. This, as we shall see, has consequences for the interpretation of historical questions.

But before we come to the historical interpretations, we must point at an interesting phenomenon in Syria and in Akkadian Mesopotamia: composite statuettes, from pre-Akkadian and Akkadian



a



b

Fig. 2 – a: Bismaya vase (Aruz 2003, no. 230); b: Mesopotamian vase (Frankfort 1935, fig. 53-56).

52. De Miroschedji 1973.

53. Amiet 1986.

54. Potts 2003.

55. Cleuziou 2003.

56. In Shahdad the “*série ancienne*” is rare and most of the dark stone artefacts belong to the “*série récente*”.

57. For an overview and chronological discussion of the two series “*ancienne*” and “*récente*” Potts 1994, p. 252-269; Francfort and Tremblay 2010.

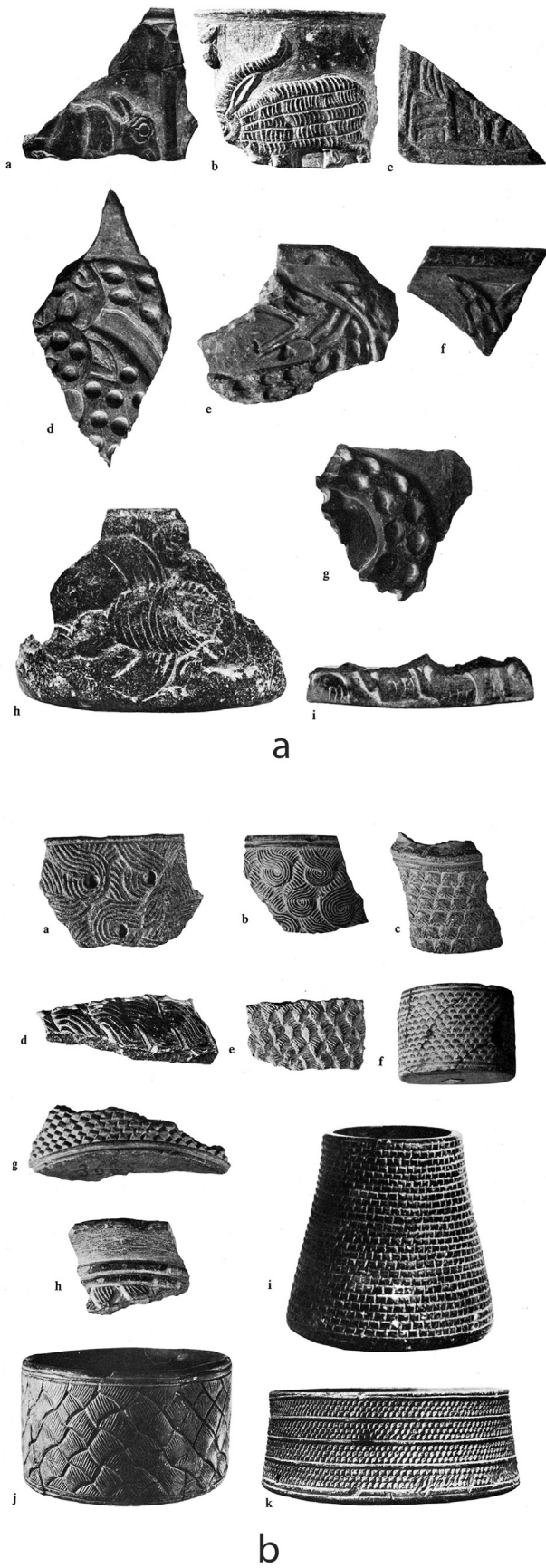


Fig. 3 – Susa "série ancienne" (a: De Miroschedji 1974, pl. I; b: De Miroschedji 1974, pl. II).

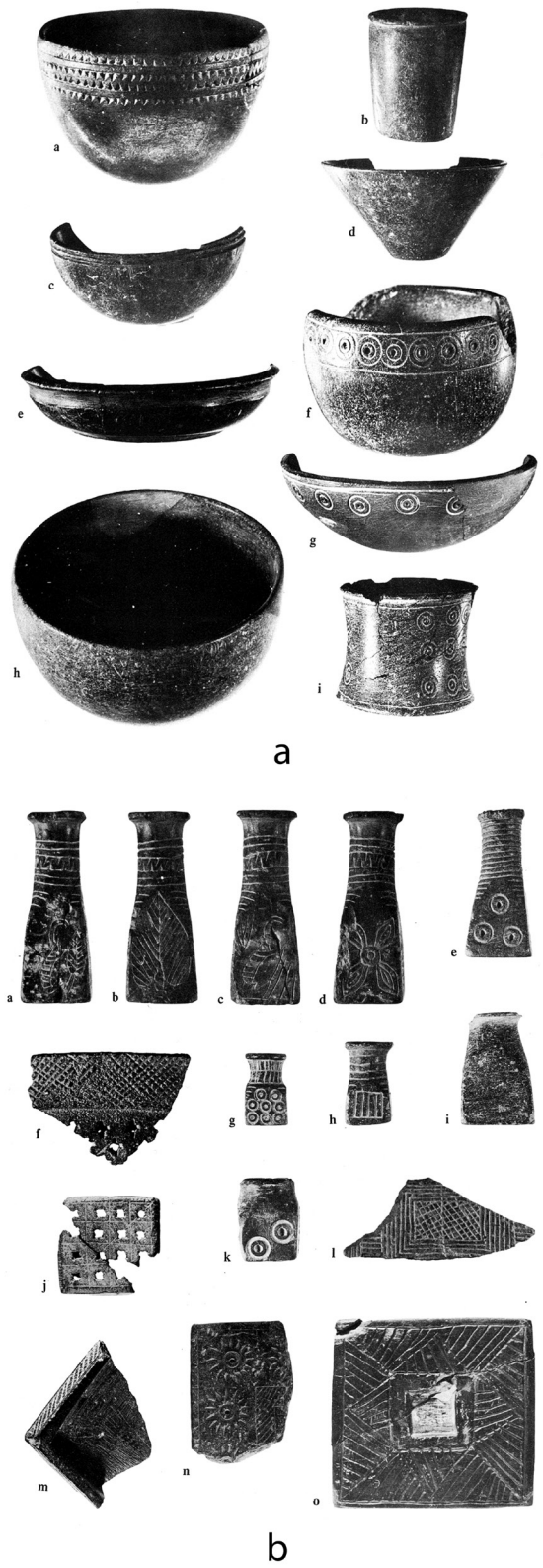


Fig. 4 – Susa "série récente" (a: De Miroschedji 1974, pl. VI; b: De Miroschedji 1974, pl. VIII).



date, discovered at Ebla<sup>58</sup> (fig. 5a-b) and Mari<sup>59</sup> (fig. 6) are probably the models and prototypes of the Bactrian composite statuettes<sup>60</sup> and not the contrary for obvious reasons: the Oxus material is only late Akkadian or post-Akkadian, not earlier, and the artistic and iconographic principles of these statuettes belong to a definite Mesopotamian tradition, absent in Central Asia. All details are consistent: the way to combine body, eyes and arms, the wigs, the inlays for eyes and eyebrows, sometime the *kaunakes* skirt. These composite sculptures are earlier than the presently best dated Bactrian statuettes. We must notice, for example, that the relations between Syria and Central Asia were attested until the time of Zimri-Lim of Mari (1774-1762) and the Elamite Siwepalarhuppak: tin and lapis lazuli were imported to Mari<sup>61</sup>.



a



b



Fig. 6 – Mari head of composite statuette (Aruz 2003, no. 105).

Fig. 5 – a-b: Ebla composite statuettes (Aruz 2003, no. 108, 110).

In Central Asia, the corpus of “dark stones” artefacts dates from the period of flourishing of the Oxus Civilization, that is between ca. 2300 and ca. 1700 BC, or, in Mesopotamian dynastic chronology, between Sargon (ca. 2300) and Hammurabi (1761) or, in Elamite royal chronology, from the mid Awwan to Sukkalmah period<sup>62</sup>.

The corpus of Oxus Civilization dark stone artefacts is made of the following categories of rather small or mobile artefacts (we give here only examples with general references mainly to V. Sarianidi’s regular excavations – many more are known without known provenience):

58. Merola 2008; Matthiae 1980; Aruz 2003, no. 108-110.

59. Aruz 2003, no. 105 and the Mesopotamian type of ornamented “chlorite vase” Aruz 2003, no. 231.

60. Benoit 2004; Khaniki 2003; Meadow 2002; Sarianidi 2007 for example.

61. For syntheses and overviews, see Francfort et al. 1989; Francfort 2005b; Francfort 2009; Guichard 1996; Joannes 1991; Michel 1999; Potts 1994; Kozhin, Kosarev and Dubova 2010; Lamberg-Karlovsky 2012; Salvatori 2008a; Salvatori 2008b; Sarianidi et al. 2008.

62. Francfort 2009; Francfort and Tremblay 2010; Francfort et al. 2014.



- anthropomorphic monster or dragon statuettes (however, yet no one still found in any regular Central Asian excavation)<sup>63</sup> (*fig. 7*);
- composite statuettes of women, princesses or goddesses, sitting or standing, with white stone head and arms, but body and wig carved out of “dark stone”; interestingly, one has been found in Neyshabur some years ago<sup>64</sup> (*fig. 8a-c*);
- long staffs (ca. 1 m) sometimes ornamented, carved or with metal ornaments, symbols of power<sup>65</sup> (*fig. 9*);
- miniature columns sometimes decorated with colour stones inlays (here in a burial in Togolok 1 in Margiana)<sup>66</sup> (*fig. 10a-b*);
- goblets with simple geometric engraved decoration, small boxes, trays and flacons, some of them decorated with incised patterns are not uncommon<sup>67</sup> (*fig. 11a-e*);
- small dish on stand decorated with an incised pattern and derived from Middle Eastern art, and the typical Bactrian picture of a tulip (from Gonur Depe)<sup>68</sup> (*fig. 12*);
- special figurines with female head and horizontal plaque representing a flowing patterns, possibly a variant of the composite statuettes<sup>69</sup>;
- jewellery, collars, pendants made out of – or inlaid with – “dark stone” (*fig. 13a-c*):
  - lapis associated with carnelian for example;
  - turquoise associated with carnelian for example;
  - and: very important: steatite, carnelian, lapis associated with a “dark stone” used as medallion<sup>70</sup>.

Like most of this material (and, again, we gave here just a small sample), the long staffs in “slate” are found in looted tombs or in regularly excavated burials<sup>71</sup>. “Dark stone” is also widely used in Central Asia for biconical engraved beads and for the engraving of stamp seals, from the time of Mundigak IV (before 2500)<sup>72</sup> (*fig. 14*). Engravings may, beside geometric designs, represent vegetal such as the very popular tulip, or, like here, a winged human being, a goddess, flanked by two tulips<sup>73</sup> (*fig. 15*).

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63. Francfort 1992; Francfort 1994.

64. Benoit 2010, see also note 49. P. Amiet and A. Benoit take them for princesses, I would prefer to recognize them as deities because, beside the fact that some are winged or sitting on lions or dragons, there are no female represented in the prestige silver narrative vases where only male rulers are present (except on a pyxis in the Louvre, but here again a female deity is partially visible); on the other hand, the female statuettes are found in burials whereas no male statuettes are known in the Oxus Civilization. My conclusion is that one (or several?) female goddess seems dominates the whole “universe”, when the terrestrial society is ruled by male rulers (on gender and function in burials, see: Luneau 2008; Sarianidi 2007, fig. 54-60, p. 73-75; fig. 38-39, p. 153.

65. Sarianidi 2007, fig. 7, p. 33; fig. 188, p. 109.

66. Sarianidi 2002.

67. Sarianidi 2007, fig. 115, 117, p. 92-93; fig. 198-200, p. 112-113; fig. 228, p. 120.

68. Sarianidi 2007, fig. 198, p. 112.

69. Pottier 1984, p. 303, pl. XLI.

70. Ligabue and Salvatori 1989.

71. Sarianidi 2007 gives an account of his excavations of the Gonur Depe necropolis, p. 73-75 composite stone statuettes; p. 108-109 mace heads; p. 110 stone disk with engraved groove; p. 112 ornamented vessels; p. 118-120 the burial of the stone carver (or lapidary); p. 153 a composite stone female statuette in situ.

72. Casal 1961, pl. XLV, A; Sarianidi 2007, p. 176; numerous examples in Sarianidi 1998b.

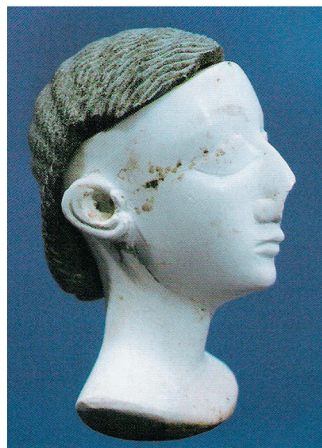
73. Pottier 1984, fig. 20, no. 150.



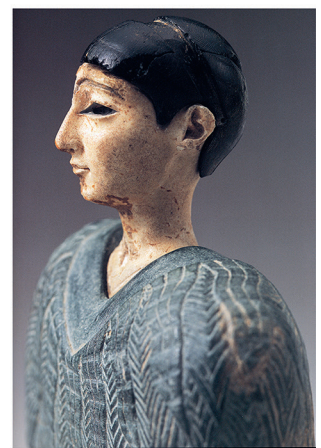
Fig. 7 – Louvre composite monster (photo author, courtesy A. Benoit).



a



b



c

Fig. 8 – a-b: Gonur Depe composite statuettes (Sarianidi 2002, p. 142, 283); c: Miho Museum (Catalogue 2002, fig. 5, p. 17).



Fig. 9 – Gonur Depe staff (photo author, courtesy V. Sarianidi).





a



b

Fig. 10 – a: Margiana small columns (Sarianidi 2002, p. 132); b: Togolok 1 inlaid miniature column (Sarianidi 2002, p. 166).



a



b



c



d



e

Fig. 11 – a-b: Bactria vases (Ligabue and Salvatori 1989); c-d: Gonur (Sarianidi 2002, p. 25, 126).





Fig. 12 – Gonur Depe small dish on stand (Sarianidi 2002, p. 131).



Fig. 13 – a-b-c: Bactria collars and pendants (Ligabue and Salvatori 1989, fig. 65-67, p. 206-207).



Fig. 14 – Bactria stamp seal (Ligabue and Salvatori 1989, fig. 46, p. 196).



Fig. 15 – Bactria (Louvre Museum) small container with engraved winged goddess and tulips (photo author, courtesy A. Benoit).



It is obvious that all these objects are not similar to the Kerman corpus, their shape, function and decoration are different. They are smaller (except the staffs and the miniature columns that are the largest); they are totally different in shape (except perhaps some boxes); they display a repertoire of ornaments very specific, devoid of any compositional scheme or narration; and when we look for instance to deities, the Mesopotamian convention of horns on the head is absent. Undoubtedly, however, the relations with Iran and the Middle East are there: composite statuettes, ornamental patterns and the stylistic and artistic conventions, etc. and much more outside the world of the “dark stones”<sup>74</sup>.

Were these objects manufactured in Central Asia? We can argue that the answer, once more, is “yes”.

For example, the burial no. 1200 at the necropolis of Gonur Depe where the skeleton of a man of about 30 years old was discovered is called the “lapidary tomb”. Professor V. Sarianidi found in this tomb a very interesting set of material: many rough chunks of various stones, some finished white stone arms for composite statuettes and one duck weight indicating links, exchanges, with the Elamite and Mesopotamian worlds<sup>75</sup> (*fig. 16*).

Were the “dark stones” discovered in “BMAC” contexts imported in Central Asia from Kerman or elsewhere, or were they extracted in Central Asia itself, from the territory or vicinity of the Oxus Civilization? The answer, we think, here again is “yes”.

A map recently published by Dr Bushmakin indicates the location of various minerals: the turquoise, of course the lapis lazuli, but also serpentine in the Nuratau range<sup>76</sup>. This is fine but we may also add that in Badakhshan and Hindu Kuch, slate, gabbro, serpentine, ophiolite and other “dark stones” were available<sup>77</sup>. Interestingly, in the Khorasan province, serpentine is available near Mashad Tûs, and gabbro (ophiolite) appears in the Sabzevar area. Moreover, “dark stone” artefacts of the two series, but more from belonging to the “série récente” were found at Sahdad and Tepe Hissar<sup>78</sup>. These finds give more importance to NE Iran and Central Asia and to the Northern Road for the late third and early second millennium.



Fig. 16 – Gonur Depe necropolis weights and alabaster hands of composite statuettes (Sarianidi 2007, fig. 223, 225-226, p. 118-119).

In conclusion, we may insist on the differences between the two corpuses, on their succession in time, but admitting a possible overlap during the Akkadian period, around 2300, when the BMAC (Oxus

74. Francfort 2005a; Sarianidi 2007.

75. Sarianidi 2007, p. 118-120.

76. Bushmakin 2007; Bushmakin 2008.

77. See: mineral geological map of Afghanistan and Bubnova 2012.

78. Casanova and Piran 2012.



Civilization) emerges as a regional power in relation with Elam and Mesopotamia, and before its partial collapse around 1700 and a total disappearing around 1500 BC.

Another question therefore arises: this 2300-1700 period, when the “BMAC” flourishes and exhibits, in many fields, strong links with Elam and Mesopotamia, is also exactly the period where the Mesopotamian sources (Akkad, Ur III and until Hammurabi) mention not only a “dark greenish stone” (called *duhshia* or *duhshum*) from the land of Markhashi, but also military expeditions in the East as well as diplomatic, matrimonial exchanges with Eastern powers<sup>79</sup>. Thus we have now to consider the chronological and cultural question of Akkadian, Ur III and Isin-Larsa texts mentioning realia acquired from the East and events occurring in the East, in relation with what we know of the archaeology of Kerman and Central Asia. The date of the flourishing of the chlorite industry in Kerman, “intercultural” or “série ancienne”, is definitely massively earlier than the mentioned texts. Something happened during the reigns of Sargon (2334-2279) and Rimush (2278-2270) in Iran and in Central Asia, but what?

The switch of the polarity for the “dark stone” road from South to North gives the possibility to propose again the hypothesis that the Oxus Civilization was indeed the country (kingdom) of Markhashi. After and in complement to a seminal paper of P. Steinkeller who located Markhashi beyond Elam, in Kerman, mainly on the basis of “dark stone” (chlorite). We may offer an alternative hypothesis<sup>80</sup>.

We can list shortly here the artefacts from the Oxus Civilization matching the items which are mentioned in the texts quoting Markhashi, dated from the Late Akkadian Period, Ur III and Isin Larsa Periods. Again, schematically, this is exactly the period of the flourishing of the Oxus Civilization, and “série récente”, occurring logically later than the ED texts corresponding to the earlier flourishing of the Jiroft/Halil Rud Kerman international Mesopotamia-oriented trade and “série ancienne”:

- relations with India (Meluhha), the artefacts are: imported or copied ivories, jars, Indus seals, etched and long tubular carnelian beads, sculpture;
- relations with Mesopotamia and the Levant:
  - jewellery (various types of beads), harpès;
  - composition of art scenes and typical iconographical motifs and artistic conventions;
  - composite statues (as seen before) and imported cylinder seals.
- incrustations and inlays made out of semi-precious stones including lapis lazuli, carnelian, turquoise AND “dark stone”, indicate that it had a great value too;
- presence of monkeys (Hindu Kuch species) and of their images;
- presence of tulips and of their images (possibly the *sum sikil* Markhashi);
- the “harp of Markhashi” probably the unique shape of angular harp, present also on a Shahr-i Sokhta artefact and an Oxus silver vase, but different from all other Near and Middle Eastern Harps<sup>81</sup>.

79. Steinkeller 1982; Steinkeller 2006; Steinkeller 2007; Steinkeller 2014; in his last paper Prof. Steinkeller proposes that the Oxus Civilization (BMAC), he dates only to the first half of the 2nd millennium BC, should be identified with the land of Tukrish. However, many discoveries and recent excavations point strongly for earlier beginnings for the Oxus Civilization, around 2300 if not 2400: new datations from Gonur Depe in Turkmenistan, the finds of the Farkhor cemetery in Tajikistan. New sites and cemeteries near Sabzevar, Jajarm, Bojnurd in Iranian Khorasan attest of the large extension of this Civilization: See for instance all material from excavations at Tepe Chalow in North Khorasan (Vahdati et al. 2018), and a striking example, a rectangular dark stone tray on squat feet, engraved with scorpions on the small sides and snakes on large sides (Vahdati and Biscione 2014, “stone vessel”), an exact replica of a Bactrian item (Pottier 1984, no. 312, fig. 42 and pl. XLII). Therefore, the Markhashi hypothesis for the Oxus is still valid, for many reasons, and perhaps stronger than before.

80. Francfort and Tremblay 2010.

81. Steinkeller 2012 puts in one and the same category the curved harps and angular harps, when we take only the second, Central Asian, as “the harp of Markhashi” (his fig. 8 and 10 only).

The recent discovery and excavations by the Archaeological Museum of the Institute of History, Archaeology and Ethnology of the Academy of Sciences of Tajikistan of a remarkable and large Bronze Age cemetery in Farkhor, dated from all the periods of the Oxus Civilization from the earliest, and not only of its last phase (as previously generally thought for Tajikistan), is of great importance<sup>82</sup>. It changes completely the old picture of the origin and evolution of the Oxus Civilization considered as coming to the East out of the Kopet Dagh piedmonts, if not from Iran, during centuries. Moreover, since this site is located on right bank of the Panj River, exactly opposite of Shortughaï, don't we have here a place of contact, at some point, between Markhashi and Meluhha<sup>83</sup>? Further researches will undoubtedly bring more evidence, data, and material.

## References

- AMIET P. 1976, *L'art d'Agadé au musée du Louvre*, Paris.
- AMIET P. 1980, "Antiquités de serpentine", *Iranica Antiqua* XV, p. 155-166.
- AMIET P. 1986, *L'âge des échanges inter-iraniens. 3500-1700 avant J.-C.*, Paris.
- AMIET P. 2007, "L'âge des échanges inter-iraniens 3500-1700 avant J.-C.", in G. Ligabue and G. Rossi-Osmida (ed.), *Sulla Via delle Oasi. Tesori dell'Oriente Antico*, Padova, p. 64-87.
- AMIGUES S. 2009, "Représentations végétales sur les vases en chlorite de Jiroft", *Studia Iranica* 38, p. 105-125.
- ARUZ J. (ed.) 2003, *Art of the First cities. The Third Millennium B.C. from the Mediterranean to the Indus*, New York.
- BENOIT A. 2004, "À propos d'un don récent de la Société des Amis du Louvre. Les 'princesses' de Bactriane", *La Revue du Louvre* (4 octobre), p. 35-43.
- BENOIT A. 2010, *Princesses de Bactriane*, Paris.
- BERNARD P. 2005, "De l'Euphrate à la Chine avec la caravane de Maès Titianos (c. 100 ap. n. é.)", *Comptes Rendus des Séances de l'Académie des Inscriptions et Belles-Lettres* 149 (juillet-octobre), p. 929-969.
- BOBOMULLAEV S., VINOGRADOVA N.M. and BOBOMULLAEV B. 2015, "Resul'taty issledovanij mogil'nika Farkhor – Pamjatnika epokhi srednej bronzy na juge Tadzhiqistana, vesnoj 2014 goda", *Izvestija Akademii Nauk Respubliki Tadzhiqistan Otdelenie Obshchestvennykh Nauk* 4, p. 73-98.
- BUBNOVA M. 2012, "Mestorozhdenie birjuzy v Srednej Azii (istorija dobychi)", *Merosi Niëgon* 15, p. 97-107.
- BUSHMAKIN A.G. 2007, "Minerals and Metals of Bactria and Margiana", in G. Ligabue and G. Rossi-Osmida (ed.), *Sulla Via delle Oasi. Tesori dell'Oriente Antico*, Padova, p. 179-189.
- BUSHMAKIN A.G. 2008, "Ekspertnoe zaključenje na arkeologičeskiju nakhodku iz kamnja", in I. Sarianidi, P.-M. Kozhin, M.-F. Kosarev and N.-A. Dubova (ed.), *Trudy Margianskoj arkeologičeskoj ekspedicii 2/V*, Institut etnologii i antropologii im. N.N. Miklukho-Maklaja RAN, Moscow, p. 165.
- CASAL J.-M. 1961, *Fouilles de Mundigak*, Mémoires de la Délégation Archéologique Française en Afghanistan XVII, Paris.
- CASANOVA M. 2013, *Le lapis-lazuli dans l'Orient ancien. Production et circulation du Néolithique au II<sup>e</sup> millénaire av. J.-C.*, Paris.
- CASANOVA M. and PIRAN S. 2012, "Stone Vessels from Tepe Hesar: Manufacture, Typology, Distribution, 4th-2nd Millennia B.C.", in H. Fahimi and K. Alizadeh (ed.), *Nāmvarnāmeḥ. Papers in Honour of Massoud Azarnoush*, Tehran, p. 95-106.

82. Bobomullaev, Vinogradova and Bobomullaev 2015.

83. See Francfort 2016.

- CATALOGUE 2002, *Treasures of Ancient Bactria*, Miho Museum, Kōka (Shiga, Japon).
- CLEUZIOW S. 2003, "Jiroft et Tarut. Plateau iranien et péninsule arabique", *Dossiers d'archéologie* 287, p. 114-125.
- DALES G.F. 1977, "Shifting trade patterns between the Iranian Plateau and the Indus Valley in the Third Millennium B.C.", in J. Deshayes (ed.), *Le plateau iranien et l'Asie centrale des origines à la conquête islamique. Leurs relations à la lumière des documents archéologiques, Actes du Colloque international 567 du CNRS, Paris, 22-24 mars 1976*, Paris, p. 67-78.
- DE MIROSCHEDJI P. 1973, "Vases et objets en stéatite susiens du musée du Louvre", *Cahiers de la Délégation Archéologique Française en Iran* 3, p. 9-80.
- DESHAYES J. 1977, "À propos des terrasses hautes de la fin du III<sup>e</sup> millénaire en Iran et en Asie centrale", in J. Deshayes (ed.), *Le plateau iranien et l'Asie centrale des origines à la conquête islamique. Leurs relations à la lumière des documents archéologiques. Actes du Colloque international 567 du CNRS, Paris, 22-24 mars 1976*, Paris, p. 95-111.
- FRANCFORT H.-P. 1992, "Dungeons and Dragons: Reflections on the System of Iconography in Protohistoric Bactria and Margiana", in G.L. Possehl (ed.), *South Asian Archaeology Studies*, New Delhi-Bombay-Calcutta, p. 179-208.
- FRANCFORT H.-P. 1994, "The Central Asian dimension of the symbolic system in Bactria and Margiana", *Antiquity* 68/259, p. 406-418.
- FRANCFORT H.-P. 2005a, "L'art de l'Âge du Bronze", in CEREDAF (ed.), *L'art d'Afghanistan de la préhistoire à nos jours*, Paris, p. 17-30.
- FRANCFORT H.-P. 2005b, "La civilisation de l'Oxus et les Indo-Iraniens et Indo-Aryens", in G. Fussman, J. Kellens, H.-P. Francfort and X. Tremblay (ed.), *Aryas, Aryens et Iraniens en Asie Centrale*, Collège de France. Publications de l'Institut de Civilisation Indienne 72, Paris, p. 253-328.
- FRANCFORT H.-P. 2006, "Images du combat contre le sanglier en Asie centrale (3<sup>e</sup> au 1<sup>er</sup> millénaire av. J.-C.)", *Bulletin of the Asia Institute* 16 (2002), p. 117-142.
- FRANCFORT H.-P. 2009, "L'âge du bronze en Asie centrale. La civilisation de l'Oxus", *Anthropology of the Middle East* 4/1, p. 91-111.
- FRANCFORT H.-P. 2010, "Birds, snakes, men and deities in the Oxus Civilization: an essay dedicated to Professor V.I. Sarianidi on a cylinder seal from Gonur Depe", in P.M. Kozhin, M.-F. Kosarev and N.-A. Dubova (ed.), *On the Track of Uncovering a Civilization. A Volume in Honor of the 80th-Anniversary of Victor Sarianidi*, Transactions of the Margiana Archaeological Expedition, St. Petersburg, p. 67-85.
- FRANCFORT H.-P. 2016, "How the twins met: Indus and Oxus Bronze Age Civilizations in Eastern Bactria. Shortughai revisited forty years later", in N.A. Dubova, E.V. Antonova et al. (dir.), *Transactions of Margiana Archaeological Expedition, vol. 6, To the memory of Professor Victor Sarianidi*, N.N. Miklukho-Maklay Institute of Ethnology And Anthropology of Russian Academy of Sciences, Margiana Archaeological Expedition, Altay State University, Moscow, p. 461-475.
- FRANCFORT H.-P. with contributions of Boisset Ch., Buchet L., Desse J., Echallier J.-C., Kermorvant A. and G. 1989, *Fouilles de Shortughai: recherches sur l'Asie centrale protohistorique*, Mémoires de la Mission Archéologique Française en Asie centrale II, Paris.
- FRANCFORT H.-P. and TREMBLAY X. 2010, "Marhaši et la Civilisation de l'Oxus", *Iranica Antiqua* XLV, p. 51-224.
- FRANCFORT H.-P., VAHDATI A., BENDEZU-SARMIENTO J., LHUILLIER J., FOUACHE E., TENGBERG M., MASHKOUR M. and SHIRAZI Z. 2014, "Preliminary report on the soundings at Tepe Damghani Sabzevar, Spring 2008", *Iranica Antiqua* 49, p. 111-158.
- FRANCFORT H. 1935, *Oriental Discoveries in Iraq, 1933/34. Fourth Preliminary report of the Iraq Expedition*, Chicago.
- FRANCFORT H. 1963, *The Art and Architecture of the Ancient Orient* (3rd revised impression), London.
- GUICHARD M. 1996, "A la recherche de la pierre bleue", *NABU* 36, p. 30-32.

- HAKEMIA. 1997, "Kerman: The Original Place of Production of Chlorite Stone Objects in the 3rd Millennium B.C.", *East and West* 47/1-4, p. 11-40.
- JOANNES F. 1991, "L'étain, de l'Élam à Mari", in *Actes de la XXXVI<sup>e</sup> Rencontre Assyriologique Internationale*, Occasional Publications 1, Ghent, p. 67-76.
- KANIUTH K. 2010, "Long distance imports in the Bronze Age of Southern Central Asia: Recent finds and their implications for chronology and trade", *Archäologische Mitteilungen aus Iran und Turan* 42, p. 3-22.
- KHANIKI R.L. 2003, "Nishâpur", *Nâme-ye Pazhuheshgah-e Mirâs-e Farhangi, Quarterly* 1/1, p. 36-46.
- KOHL Ph.L. 2001, "Reflections on the Production of Chlorite at Tepe Yahya: 25 Years Later", in C.-C. Lamberg-Karlovsky and D.-T. Potts (ed.), *Excavations at Tepe Yahya, Iran 1967-1975. The Third Millennium (with contributions by Holly Pittman and Philip L. Kohl)*, American School of Prehistoric Research Bulletin 45, Cambridge Mass., p. 209-230.
- KOHL Ph.L. 1974, *Seeds of Upheaval: The production of Chlorite at Tepe Yahya and an Analysis of Commodity Production and Trade in Southwest Asia in the third Millennium*, Ann Arbor MI.
- KOHL Ph.L. 1978, "The balance of Trade in Southwestern Asia in the Mid-Third Millennium B.C.", *Current Anthropology* 19/3, p. 463-492.
- KOZHIN P.M., KOSAREV M.F. and DUBOVA N.A. (ed.) 2010, *On the Track of Uncovering a Civilization. A Volume in Honor of the 80th-Anniversary of Victor Sarianidi*, Transactions of the Margiana Archaeological Expedition, St. Petersburg.
- LAMBERG-KARLOVSKY C.C. 2012, "The Oxus Civilization (aka: the Bactria-Margiana Archaeological Complex)", *The Review of Archaeology* 30, p. 59-75.
- LAMBERG-KARLOVSKY C.C. and POTTS D.T. 2001, *Excavations at Tepe Yahya, Iran 1967-1975. The Third Millennium (with contributions by Holly Pittman and Philip L. Kohl)*, American School of Prehistoric Research Bulletin 45, Cambridge Mass.
- LIGABUE G. and SALVATORI S. (ed.) 1989, *Bactria an ancient civilization from the sands of Afghanistan*, Venice.
- LUNEAU E. 2008, "Tombes féminines et pratiques funéraires en Asie centrale protohistorique. Réflexions sur le 'statut social' des femmes dans la civilisation de l'Oxus", *Paléorient* 34/1, p. 131-157.
- MADJIDZADEH Y. 2003a, *Jiroft. the Earliest Oriental Civilization*, Printing and Publishing Organization of the Ministry of Culture and Islamic Guidance, Tehran.
- MADJIDZADEH Y. 2003b, "La première campagne de fouilles à Jiroft dans le bassin du Halil Roud (janvier et février 2003)", *Dossiers d'archéologie* 287, p. 65-75.
- MADJIDZADEH Y. 2007, *Presentation of the Archaeological Excavations at Jiroft: Halil Roud Basin, Kerman (2003-2007)*, ICAR/ICHTO, Tehran.
- MADJIDZADEH Y. and PITTMAN H. 2008, "Excavations at Konar Sandal in the region of Jiroft in the Halil basin: first preliminary report (2002-2008)", *Iran* 46, p. 70-103.
- MATTHIAE P. 1980, "Some Fragments of Early Syrian Sculpture from Royal Palace G of Tell Mardikh-Ebla", *Journal of Near Eastern Studies* 39/4, p. 249-273.
- MEADOW R.H. 2002, "The Chronological and Cultural Significance of a Steatite Wig from Harappa", *Iranica Antiqua* 37, p. 191-202.
- MEROLA M. 2008, "Royal Goddesses of a Bronze Age State", *Archaeology* 61/1, p. 9
- MICHEL C. 1999, "Les bijoux des rois de Mari", in A. Caubet (ed.), *Cornaline et pierres précieuses. La Méditerranée, de l'Antiquité à l'Islam*, Paris, p. 401-432.
- MUHLY J.D. 1973, "Copper and Tin. The Distribution of Mineral Resources and the Nature of the Metals Trade in the Bronze Age", *Transactions of The Connecticut Academy of Arts and Sciences* 43, New Haven (Connecticut), p. 155-535.
- PERROT J. and MADJIDZADEH Y. 2003, "Découvertes récentes à Jiroft (Sud du Plateau Iranien)", *Compte Rendu de l'Académie des Inscriptions et Belles-Lettres* (juillet-octobre), p. 1087-1102.

- PERROT J. and MADJIDZADEH Y. 2005, "L'iconographie des vases et objets en chlorite de Jiroft (Iran)", *Paléorient* 31/2, p. 123-152.
- PERROT J. and MADJIDZADEH Y. 2006, "À travers l'ornementation des vases et objets en chlorite de Jiroft", *Paléorient* 32/1, p. 99-112.
- PIRAN S. and HESARI M. 2005, *Cultural Around Halil Roud and Jiroft. The Catalogue of Exhibition of Select Restituted Objects*, Tehran.
- POTTIER M.-H. 1984, *Matériel funéraire de la Bactriane méridionale de l'âge du bronze*, Paris.
- POTTS T.F. 1994, *Mesopotamia and the East. An Archaeological and Historical Study of Foreign Relations 3400-2000 BC*, Oxford University Committee for Archaeology, Monograph 37, Cambridge.
- POTTS D.T. 1999, *The Archaeology of Elam*, Cambridge World Archaeology, Cambridge.
- POTTS D.T. 2003, "A soft-stone genre from southeastern Iran: 'zig-zag' bowls from Magan to Margiana", in T. Potts, M. Roaf and D. Stein (ed.), *Culture through Objects. Ancient Near Eastern Studies in Honour of P.R.S. Moorey*, Oxford, p. 77-89.
- SALVATORI S. 2008a, "Cultural Variability in the Bronze Age Oxus Civilisation and its Relations with the Surrounding Regions of Central Asia and Iran", in S. Salvatori and M. Tosi (ed.), *The Bronze Age and Early Iron Age in the Margiana Lowlands. Facts and methodological proposals for a redefinition of the research strategies (The Archaeological Map of the Murghab Delta II)*, BAR International Series 1806, Oxford, p. 75-98.
- SALVATORI S. 2008b, "A New Cylinder Seal from Ancient Margiana: Cultural Exchange and Syncretism in a 'World Wide Trade System' at the End of the 3rd Millennium BC", in S. Salvatori and M. Tosi (ed.), *The Bronze Age and Early Iron Age in the Margiana Lowlands. Facts and methodological proposals for a redefinition of the research strategies (The Archaeological Map of the Murghab Delta II)*, BAR International Series 1806, Oxford, p. 111-118.
- SARIANIDI V.I. 1989, "Protozoroastrijskij khram v Margiane i problema voznikovenija Zoroastrizma", *VDI (Vestnik Drevnei istorii)* 1, p. 152-169.
- SARIANIDI V.I. 1998a, *Margiana and protozoroastrism*, Athens.
- SARIANIDI V.I. 1998b, *Myths of Ancient Bactria and Margiana on its Seals and Amulets*, Moscow.
- SARIANIDI V.I. 2002, *Margush. Ancient Oriental Kingdom in the Old Delta of Murghab River*, Ashgabat.
- SARIANIDI V.I. 2007, *Necropolis of Gonur*, Athens.
- SARIANIDI V.I. 2010, *Zadolgo do Zaratushtry (Arkheologicheskie dokazatel'ctva protozoroastrizma v Baktrii i Margiane). Pod obshchej redakciej H.A. Dubovoj*, Staryj sad, Moscow.
- SARIANIDI V.I., KOZHIN P.M., KOSAREV M.F. and DUBOVA N.A. (dir.) 2008, *Trudy Margianskoj arkheologičeskoj ekspedicii 2*, Institut etnologii i antropologii im. N.N. Miklukho-Maklaja RAN, Moscow.
- STEINKELLER P. 1982, "The question of Marḥaši: a contribution to the historical geography of Iran in Third Millenium B.C.", *Zeitschrift für Assyriologie und Vorderasiatische Archäologie* 72/2, p. 237-265.
- STEINKELLER P. 2006, "New Lights on Marḥaši and its Contacts with Makkan and Babylonia", *Journal of Magan Studies* 1, p. 1-17.
- STEINKELLER P. 2007, "New Light on Šimaški and Its Rulers", *Zeitschrift für Assyriologie und Vorderasiatische Archäologie* 97, p. 215-232.
- STEINKELLER P. 2012, "New Light on Marḥaši and its Contacts with Makkan and Babylonia", in J. Giraud and G. Gernez (ed.), *Aux marges de l'archéologie. Hommage à Serge Cleuziou*, Travaux de la Maison René Ginouvès 16, Paris, p. 261-274.
- STEINKELLER 2014, "Marḥaši and Beyond: the Jiroft Civilization in a Historical Perspective", in C.C. Lamberg-Karlovsky, B. Genito and B. Cerasetti (ed.), *My Life is like the Summer Rose'. Maurozio Tosi a l'Archeologia come modo di vivere. Papers in honour of Maurizio Tosi for his 70th birthday*, BAR International Series 2690, Oxford, p. 691-707.



- TOSI M. 1974, "The lapis lazuli trade across the Iranian Plateau in the 3rd millennium B.C.", in *Miscellanea in Onore di Giuseppe Tucci*, Naples, p. 3-22.
- TOSI M. 1975, "The problem of Turquoise in Protohistoric Trade on the Iranian Plateau", *Memorie dell'Istituto di Paleontologia der Assyriology* 2, p. 147-162.
- VAHDATI A.A., BISCIONE R. 2014, "Kavosh-e Moshtarak-e (Iran-Italiya) Fasl-e Dovom-e Tappeh Chalow, Jajarm, Ostan-e Khorasan-e Shomali" [Second Season of Iran-Italy Joint Excavations at Tepe Chalow, Jajarm, North Khorasan Province], in *Exhibition of Archaeological Finds 2013, 13th Annual Symposium on the Iranian Archaeology*, Tehran, p. 16-21.
- VAHDATI A.A., BISCIONE R., TENGBERG M. and MASHKOUR M. 2018, "Excavation at Tepe Chalow: some evidence of 'Bactria-Margiana Archaeological Complex' (BMAC) in the plain of Jajarm, Northeastern Iran", *Archaeology. Journal of the Iranian Center for Archaeological Research* 1/1, p. 1-12 (in Persian).