

RE-IMAGINING AND RE-IMAGING EURASIAN EXCHANGE

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Wollt ihr nach Regeln messen,
was nicht nach eurer Regeln Lauf,
der eignen Spur vergessen,
sucht davon erst die Regeln auf!
— Hans Sachs
(Wagner, *Die Meistersinger*, Act I)

Toby C. Wilkinson. *Tying the Threads of Eurasia: Trans-regional routes and material flows in Transcaucasia, eastern Anatolia and western central Asia, c. 3000-1500 BC*. Leiden: Sidestone Press, 2014. 406 pp. ISBN 978-90-8890-244-4.

Threads of Eurasia databank <<http://tobywilkinson.co.uk/threadsofeurasia/a/index>>, or <<http://www.archatlas.org/databank/2014/Wilkinson.tc/a/index>>.

This is a challenging, innovative, and, I would argue, very important book. Since it takes on a lot of conventional wisdom, specialists may well find ways to fault it. This essay is an attempt to interpret what its significance is for non-specialists like this reviewer who come at the material from the perspective of the history of the chronologically later “silk roads.” Since the author has commendably made freely available for academic users downloadable copies of most of his maps and datasets, most of the illustrations below are taken from his website.

Toby Wilkinson began this, his Ph.D. dissertation project at the University of Sheffield, with the goal of trying “to explore and map the possibility of earlier prehistoric precursors to the ‘historical’ silk roads to assess the antiquity of trans-regional and trans-continental cultural interconnections.” (p. 23). Those who have explored the important *ArchAtlas* <<http://www.archatlas.org/Home.php>>, an on-line project at Sheffield, founded by the late Andrew Sherratt, will have seen a preview of Wilkinson’s project. The challenges presented by the uneven and often inadequate data required that he develop new ways of trying to reconstruct the history, going beyond what texts, artefacts and geography of themselves seem to reveal. The result, in his words, is “a never-finished tapestry,” whose complexity does not lead to simple generaliza-

tions and is going to require a lot more spinning and weaving if it can ever be expected to cover the cavernous walls of an ancient edifice. Readers wanting neat conclusions here may come away disappointed, even though Wilkinson is very careful along the way to summarize important points clearly and offers an admirable summary discussion, followed by a conclusion which re-visits the research questions first posed on p. 59, indicating clearly which hypotheses and methods seemed to produce the desired results and which did not.

Wilkinson’s starting point of itself has been anticipated by others who have written about Eurasian exchange, especially during the Bronze and early Iron Ages, generally with an eye to how that history may relate to that of the so-called silk roads. Little of that previous work though has proposed the kind of methodological sophistication or comparative perspective found in this book and thereby has offered little which might help us to “re-configure” the history of the silk roads themselves. While Wilkinson bookends his material with references to the silk roads, as he rightly points out, “The Silk Road” is really a “literary trope,” “a modern attempt to create a fixed identity for a very vague idea about trade across Eurasia in the pre-modern age” (p. 93). His subject then has little to do with it, even if at the end he suggests that possibly applica-

tion of some of the techniques of analysis he lays out may lead to fruitful results in helping us understand the Eurasian exchange of the first millennium or so of the Common Era. For that reason, I would argue, every student of the silk roads should read this book.

He starts by discussing interpretive strategies and terminology regarding long-distance exchange, where he argues that a "networking" model (providing it is not too abstract and takes into account material evidence) seems more appropriate as a way of conceptualizing pre-historic exchange than does the "world-systems" approach with its hierarchical scheme of dynamic core territories and marginalized peripheries. He stresses that while his focus is on "material flows," this does not mean simply charting where objects or products originated or ended up. Critically important is to understand the contexts in which they seem to have been used and are found, since often it is the changing patterns of use more than the objects themselves which will be revealing of cross-fertilizing interaction. Another interesting emphasis here is on the aesthetic or ritual value of objects, which may be a more important indicator of the esteem in which they are held than "economic" value as conventionally defined. As he proceeds, for example, he returns on more than one occasion to the significance of color, which may explain why certain materials were more valued than others, at times defying what a rational modern standard might suggest. Once he introduces an aesthetic criterion, he then can argue logically for the inclusion of certain proxies (especially from pottery) which may be relevant to filling in the gaps in the material record for substances such as metals or textiles.

At the heart of the book is a sophisticated use of GIS (Geographic Information Systems)-based mapping. Were it merely a matter of registering locations of sites and artefact finds, to be able to connect them with linear routes, this would hardly be new, even if his database is more carefully constructed than that which others have used. His Ch. 2, "Routes: on the Trail of History and Myth," contains much that will be familiar to those who have tried to map concrete routes across Eurasia, but the whole point of his review is to suggest why most such attempts are of questionable value if one is trying to project back in history. In particular he takes on what he calls a largely unstated assumption that there was "route inertia" — the idea that what can be documented from later sources defines routes which undoubtedly had deeper histories. In such argument, over time people followed more or less the same major routes, some of which eventually came to be paved (e.g., by Roman roads) or dotted with caravansarays to accommodate travelers. One of the issues here which Wilkinson is testing is whether one can, on the basis of the later historical evidence,

establish clear "route hierarchies." A great virtue of his review of the evidence is his inclusion of elegantly drawn maps, with the individually determined historical routes (everything from Roman roads to ones mapped by British Naval Intelligence) traced over shaded topography. He then brings together the various data (p. 90), to show the complexity of "all reconstructed routes" as they might be envisaged for the period covered in his book. Significantly, the one route he does not illustrate explicitly is the "Silk Road."

This review leads him to the conclusion that a new approach is needed, since there are too many unprovable assumptions about "route inertia," and the hard data we have are so uneven and arguably quite incomplete. The traditional approach, which produces static "road maps," fails to provide a way of determining periods of "route dynamism." Historically attested later routes by no means determine the possible corridors of movement in earlier periods; indeed, one has to define "route" as a "corridor," not think of it as a thin line on the map. Wilkinson presents his alternative to the traditional way of mapping routes in Ch. 3, "Landscape and Non-linear Networks: Finding Methods to Visualize Ancient Flow of Materials." His new approach is

a novel computerized method based on the principle of landscape continuity, in which the traversability of terrain is modelled and visualized using cost-surface GIS techniques, and this then can be used in association with period-specific distribution data to suggest the density of travel across this terrain. [p. 325]

The cost-surface analysis takes into account topography, availability of water, and climate by assigning proximate values for "cost" of whether one is going uphill, downhill, is nearer or farther from sources of water, is in a more or less extreme temperature zone (see Appendix A for details on the numerical values assigned). It is possible to weight topography or water availability differently, which then will alter the "cost of passage". Thus he can construct a grid ("raster") model used for the subsequent analysis in the book [p. 114; Fig. 1, next page], the greener areas designating the terrain least costly to traverse, shading then through yellow into red, where the darkest color then indicates the terrain most costly to traverse (e.g., waterless desert, high mountains). [I would emphasize that gray-scale reproductions of his color maps are inadequate to show clearly some of the distinctions in shading; readers of the print version of this journal should consult the on-line version or go directly to the same maps on Wilkinson's website. Some of his maps have been reproduced here as well in the Color Plate insert.]

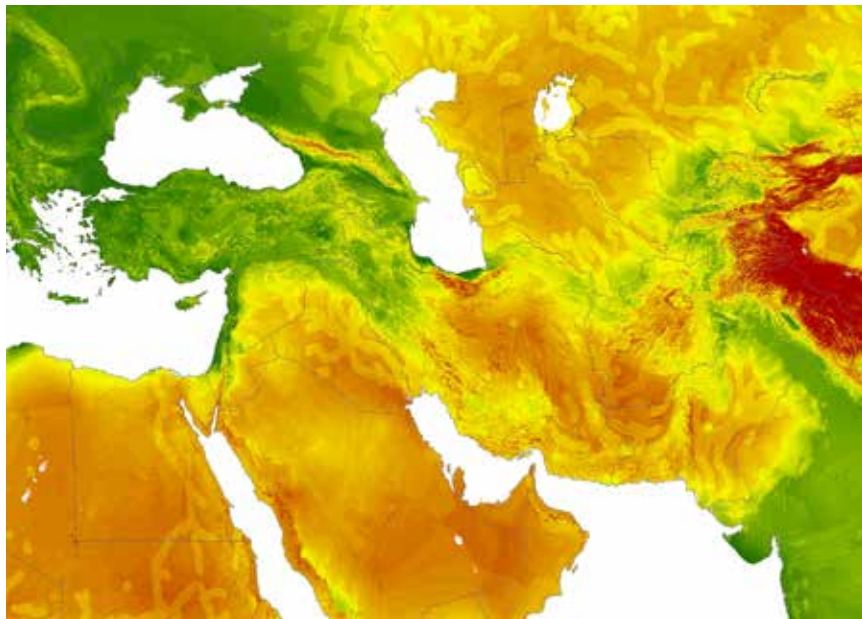
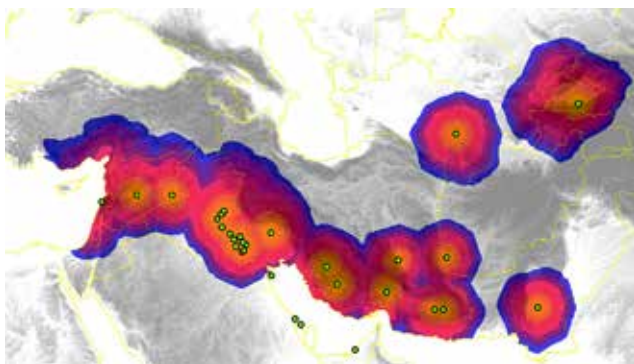


Fig. 1. "Cost of passage" raster—Model 2. Source: <http://tobywilkinson.co.uk/threadsofeurasia/staticfiles/3/FIG3-1_model1.jpg>. Also, Wilkinson, p. 114.

Once he has this cost-of-passage model, Wilkinson is able to input on it archaeological data on sites and finds, creating what he terms "archaeotopograms" [Fig. 2]. By the color gradation in them, they can indicate "relative distance" (time or energy cost of travel) from a particular site or source of a substance, or can show "zones of interaction," which suggest the regions around a site or sites in which particular objects most likely circulated. They are intended to help in visualization. They are "heuristic tools of interpretation... not ... 'objective' maps of past exchange networks" (p. 327), and suggest corridors of interaction. It does not necessarily follow that the "least costly" corridors were always the ones followed in reality, since a great many variables may have affected the actual choice of routes. Moreover, as Wilkinson stresses, just as it is important to determine what facilitated movement, it is equally important to take into account

Fig. 2. Archaeotopogram illustrating distribution of "inter-cultural style" stone vessels of known provenance, with "zones of interaction" suggesting areas of circulation around the find sites. Source: <http://tobywilkinson.co.uk/threadsofeurasia/staticfiles/4/FIG4-8_interc_simple-cost-dist.jpg>. Also, Wilkinson p. 138.



the barriers to movement. Among the more interesting results of this analysis then is what it suggests about archaeological "cultures" which straddle terrain that is costly to traverse, but which lies between areas of less costly travel and easier access to materials.

To be able to construct such archaeotopograms does require sufficient hard data. Thus, for example, he can produce them for some kinds of raw material sources and the objects made from them (e.g., stone, metals) or different types of pottery, but not for direct textile remains, which

are so infrequently found and in ways that obviously would not correspond in any accurate way to the actual distribution of textiles historically. Wilkinson recognizes that what he has come up with here is at best what we might term a first approximation, and that a great deal of additional discovery and collection and organization of data is going to be necessary before it will be possible to confirm some of the suggestions he makes: "To a large degree, the future of synthetic approaches to archaeology must lie, therefore, in the digital management of data" (p. 328).

While his geographic purview perforce has to be much wider, to be able to deal with a manageable data set (and one based on areas for which there is at least an adequate density of archaeological material), he focuses on two regions, which he has defined as Eastern Anatolia/Transcaucasia and Western Central Asia [Fig. 3] (see pp. 29–30 for details of what these encompass). Of course even within these areas, the distribution of archaeological sites and quality of the evidence varies considerably. To some extent, his

Fig. 3. Map indicating broad location of the two main case-study areas. Source: Wilkinson, Fig. 1.1, p. 29.





Fig. 4. Decoration on harp buried in tomb of Queen Puabi, with gold, lapis lazuli and shell. Ca. 2500 BCE (Early Dynastic III). From Grave PG 800, Ur. Collection of the British Museum, ME 121198A. Photograph by Daniel C. Waugh.

choice was governed by wanting to look at areas that were considered to have been important in the later history of the “silk roads”; also to look at regions that did not include what are considered to be the urban

“cradles of civilization” which lie to the south. That said, he devotes some attention to the south, insofar as the source of some of the materials he is considering undoubtedly was the Indus Valley and adjoining regions, where maritime transport surely was involved. His focus on the period between 3000 and 1500 BCE reflects the fact that this was a time when significant changes in trade and interaction are known to have occurred, involving in particular development of metal technology and new means of transportation that facilitated widely ranging exchange. He admits that having to use standard chronological divisions within this range (ones largely based on typology of pottery) is problematic (see the comprehensive chart, p. 39), but there is as yet too little analysis which would enable one to develop more precise chronologies.

The rubber hits the road in the book in Chapters 4-6 on material flows, dealing successively with stone and stone objects, metals, and textiles and patterns. It is no surprise to find in the first of these a discussion of evidence about lapis lazuli and carnelian, both rare minerals which were highly prized for their color and possible religious or spiritual connotations. In the case of lapis, whose source, it still seems, was a remote mountainous area in what is now Afghanistan, there is ample evidence of its having traveled far and wide. The royal burials at Ur, contain large quantities of it [Fig. 4], as do Egyptian tombs. Yet, oddly perhaps,

there is also insufficient data to map precisely the flows and their changes over time: “the density and resolution of the evidence remains too low and our distribution map is incomplete” [Fig. 5] (p. 129). Wilkinson’s discussion of the several most likely corridors of movement of lapis (pp. 130-31) and how the preference for

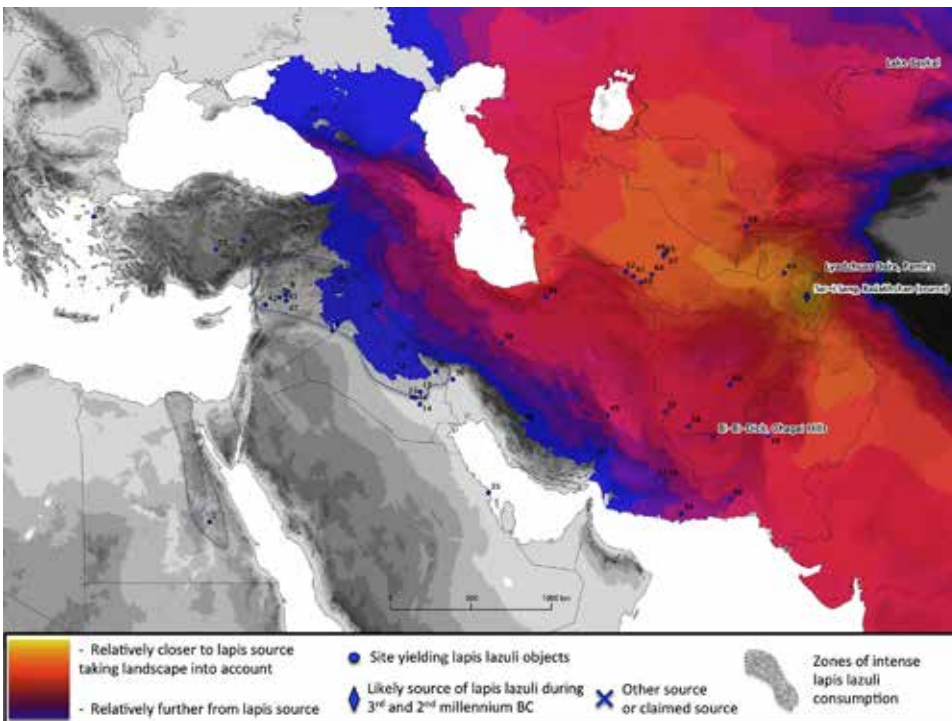


Fig. 5. Distribution of known lapis-lazuli objects and regions of intense consumption in relation to the material’s sources. Relative distances from sources in Badakshan, shown by diamond, indicated by archaeotopogram type A2 (yellow – close; purple – far). Numbers key for sites given in Appendix C.1.1. Source: <http://tobywilkinson.co.uk/threadsofeurasia/staticfiles/4/FIG4-2_lapis_srcs.tif>. Also, Wilkinson, p. 128.



Fig. 6. Carnelian beads. Iran (Susa), ca. 2600–2200 BCE. Musée du Louvre, Sb 17751. Photograph by Daniel C. Waugh.



Fig. 8 (right). Bronze-age weights. Collection of the Archaeological Museum, Istanbul. Photograph by Daniel C. Waugh.

one over another may have changed over time provides a good sense of his analytical approach and the somewhat open-ended suggestiveness of what his archaeotopograms illustrate. The evidence for carnelian also leaves open a good many questions, not the least being the issue of where the prized etched carnelian beads were actually manufactured [Fig. 6].

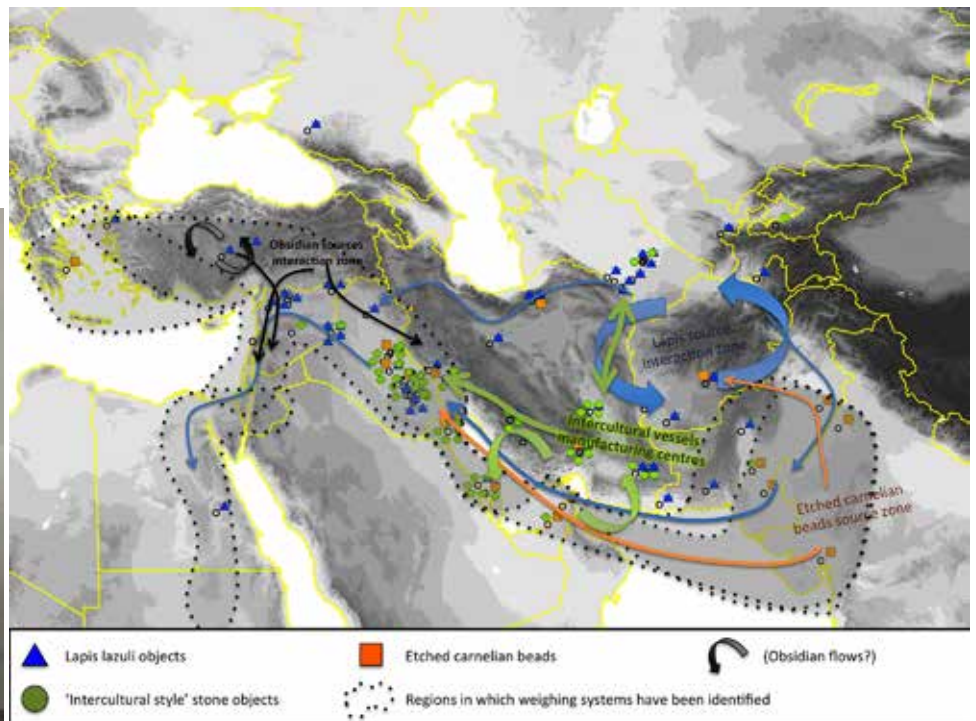
Arguably the most intriguing section of Ch. 4 concerns objects made of other stones (steatite and chlorite) in an “intercultural style” and weights [Figs. 7, 8]. Widespread as some of these objects are, it seems likely, he argues, that the meaning attached to them varied considerably from one region to another. It is entirely possible that some of the containers were valued less for themselves than for the perishable substances (herbs, narcotics?) that they may have contained. The development of weighing systems (where many of the weights which have been preserved are made of stone) is a crucial indicator of changes in the broader

patterns of international exchange (in this, Wilkinson is following arguments by L. Rahmstorf). By the late third millennium, the weighting systems in various regions seem to have been calibrated in a way that allowed for easy conversion from one region to another, this suggesting a conscious development which had occurred to facilitate significant international trade (see the table of the common multiples on p. 148, and the maps showing the regions in which the different systems seem to have operated, p. 149).

Once he has examined all this evidence, Wilkinson then constructs a visual summary of distribution data [Fig. 9] showing the most likely (generalized) direction of material flows overlaid on an indication of the

Fig. 9. Summary of distribution data on lapis lazuli, carnelian, “intercultural-style” objects and weighing systems for the 3rd millennium BCE. Source: <http://tobywilkinson.co.uk/threadsofeurasia/staticfiles/4/FIG4-14_summary.jpg>. Also, Wilkinson, p. 150.

Fig. 7. Vase. SE Iran (Kerman province). 2600–2200 BCE. Chlorite, mother of pearl, turquoise (?). Musée du Louvre, AO-31918. Photograph by Daniel C. Waugh.



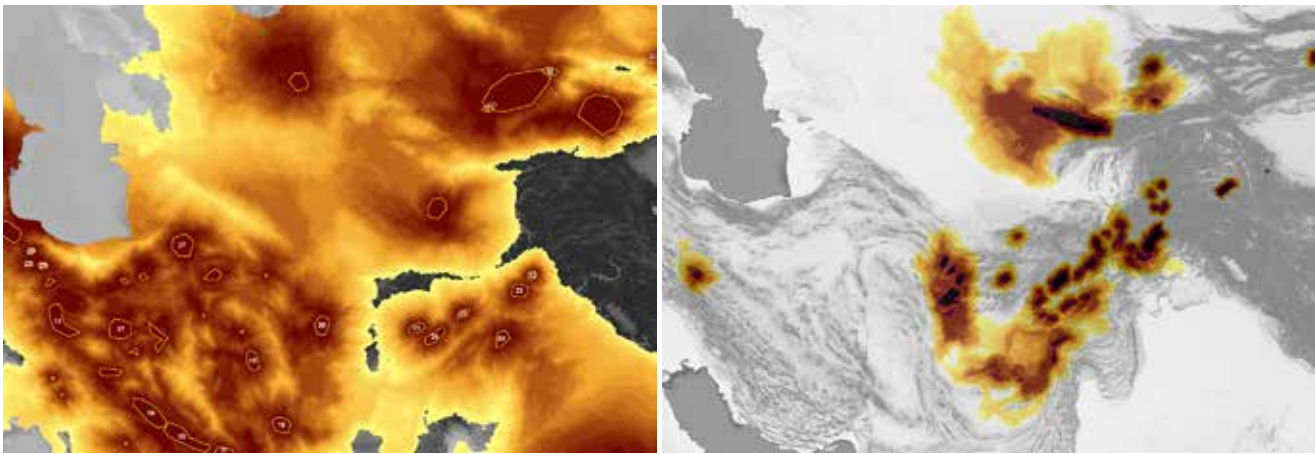


Fig. 10. Archaeotopogram showing on left relative distance from copper ore sources and on right from tin ore sources around Western Central Asia. Darker color indicates closer proximity to ore sources. Source: <http://tobywilkinson.co.uk/threadsofeurasia/staticfiles/5/FIG5-3_Cusrcs_pathdist_ca.jpg>, <http://tobywilkinson.co.uk/threadsofeurasia/staticfiles/5/FIG5-6_a2_tinsrcs-ca.jpg>. Also, Wilkinson, pp. 159, 163.

areas in which weighing systems have been identified. What this map suggests is that the concentrations of finds and the most likely areas in which the objects circulated correspond to regions where particular (as yet undeterminable) cultural values were attached to them. Notably, there is practically no evidence that these objects were valued in the Eastern Anatolia/Caucasus region which is one of his areas of primary concern.

Pride of place in Ch. 5 on metals goes to copper and tin, the former abundantly available in various places, whereas the sources of the latter seem to have been few. [He also treats precious metals and to a limited degree iron.] As Wilkinson emphasizes (and this is especially important for the question of whether there were significant sources of tin other than in Central Asia), there often is little evidence to show where ores were mined back in the Bronze Age, either because the

mines were exhausted or have been obscured by later mining. And, in any event, there still has not been close enough archaeological survey in many regions. The differences in the availability and accessibility of the ores of the two metals are vividly highlighted by comparison of the archaeotopograms for copper (p. 159) and tin (p. 163) [Fig. 10], the former dense with regions of easy access, the latter very sparsely so populated. Not the least of the challenges in analyzing the data for the production of bronze derives from the tendency to privilege tin-bronze (as “more advanced”) over arsenic-bronze, even though it would seem the latter continued to be made in many areas and the evidence about it therefore needs much more careful attention. Among the more intriguing of the archaeotopograms here is one [Fig. 11] which suggests where we might expect to locate several centers for early tin-bronze experimentation, based on the relative proximity to sources of both metals.

Wilkinson is very interested in the cultural contexts of both production and consumption. Following on his discussion of sources of the ores and transmission patterns, he examines the distribution of various categories of objects made from the metals, and then devotes considerable attention to the metallurgical “provinces” determined by E. N. Chernykh’s huge database, whose evidence attempts to track and map changes in the composition of alloys over time (this

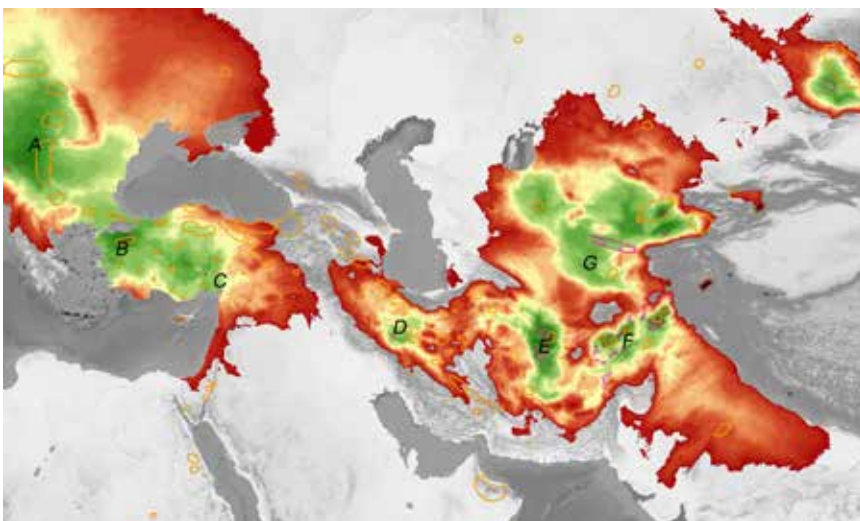


Fig. 11. Prediction for centers of early tin-bronze experimentation based on archaeotopogram showing sum of relative distance from copper and tin sources, the green areas showing regions with relatively easy access to both metals. (A. Balkans; B. Marmara; C. Taurus and Cilicia; D. Luristan; E. west Afghanistan; F. east Afghanistan; G. Zerafshan and Ferghana). Source: <http://tobywilkinson.co.uk/threadsofeurasia/staticfiles/5/FIG5-11_b_cu-and-sn.ai>. Also, Wilkinson, p. 169.

relates, for example, to the question of arsenic- vs. tin- bronze). Chernykh's material raises important questions about "networks of interaction" and "key social boundaries" (p. 180). In considering how such questions might be answered (without being able to flesh out any kind of definite answer), Wilkinson ventures the following cautionary note, which is bound to raise the hackles of those who have devoted a lot of energy to proving different hypotheses (p. 181):

[W]e need to evoke a dynamic model in which there must have been substantial movement between a province's constituent regions, whether by this we mean movement of people, movement of objects and materials, or, less tangibly, movements of ideas. The migrant people we would need to envisage should not be the monolithic and unidirectional hordes of traditional culture-history, nor a version of modern day nomadic pastoralists, but groups or individual crafts people moving in both directions with particular interests or motivations in maintaining cultural links for a variety of reasons... Even if an individual moves only a few kilometres to the next village, if that individual's apprentices also then migrate a few kilometres, over only a few generations the knowledge of particular techniques and shapes can be transmitted over large distances without necessarily requiring the bulk of population to move in the same direction. Marriage and similar social alliance patterns can [have] played a role in this kind of mobility and transmission of techniques.

Patterns of consumption of metals have received less attention than patterns of production. In focusing on consumption, Wilkinson finds of value a distinction posited by David Wengrow between deposits of metal objects in a "sacrificial economy" as opposed to those in an "archival economy" (pp. 194-95), the latter relating to periods when there may have been a much larger scale of exchange but also reflecting a different set of cultural values. Such considerations might then lead to a conclusion that the metallurgical boundaries in Chernykh's scheme are not coterminous with boundaries between value systems (p. 198).

Somewhat surprisingly, perhaps, for all of the abundance of metal objects found in excavations, the evidence is not necessarily representative of the real range of metal usage. Certain kinds of objects would not necessarily be deposited in the ground; metal ob-



Fig. 12. Spouted pitcher, Acmhöyüik. ca. 18th century BCE. Museum of Anatolian Civilizations, Ankara.
Photograph by Daniel C. Waugh.

jects would be recycled. To try to gain a fuller picture of how metal wares were valued, Wilkinson turns to another kind of evidence, what he terms "skeuomorphs," that is objects not made of metal which deliberately imitate the shape or substance of metal wares but are composed of different materials. In particular here, he means certain types of pottery vessels, whose color, shape, and/or texture most likely was based on metal wares (or wares with a "metallic" appearance). In the western sector of his research area, there are both reddish "Metallische Ware" objects [Fig. 11], very likely made to imitate copper vessels, and black wares which arguably imitate obsidian (parts of Eastern Anatolia were long an important source of that stone). In Wilkinson's Western Central Asia region, the skeuomorphs of particular interest are the plain "metallic" Namagaza V ceramics (found beginning ca. 2500 BCE), which replace the highly decorated ceramics of the earlier Namagaza sequence.

If we accept the argument for using these proxies for actual metal objects, then there is a sufficient density of finds to enable the creation with some confidence of archaeotopograms that define circulation and distribution areas. All this evidence then can be combined in a very suggestive visualization of metal flows overlaid on a mapping of the circulation/distribution areas of the relevant pottery [Fig. 12, next page; Color Plate XIV].

Textiles, in particular woven and decorated ones which are the focus here, are hugely important, not necessarily in purely economic terms, but for how they were used to adorn, "a vital medium for 'symbolic' negotiation of social identities, particularly through human clothing and the display and emulation of desirable colours, motifs and materials, but also in other contexts (wrapping of goods, decoration of architectural spaces and dressing of animals)" (p. 226). The ease with which they could be transported could explain the long-distance migration of patterns and motifs. Since so rarely have the actual textiles been preserved (and then in what we might call atypical and localized contexts), evidence about them largely has to be sought from indirect sources. The huge numbers of clay tablets preserved at some important sites such as Ebla [Fig. 13], Mari and Kültepe help document the social contexts of textile manufacture and to a degree the range of trade, although Wilkinson cautions about how much one can conclude if a given textile is desig-

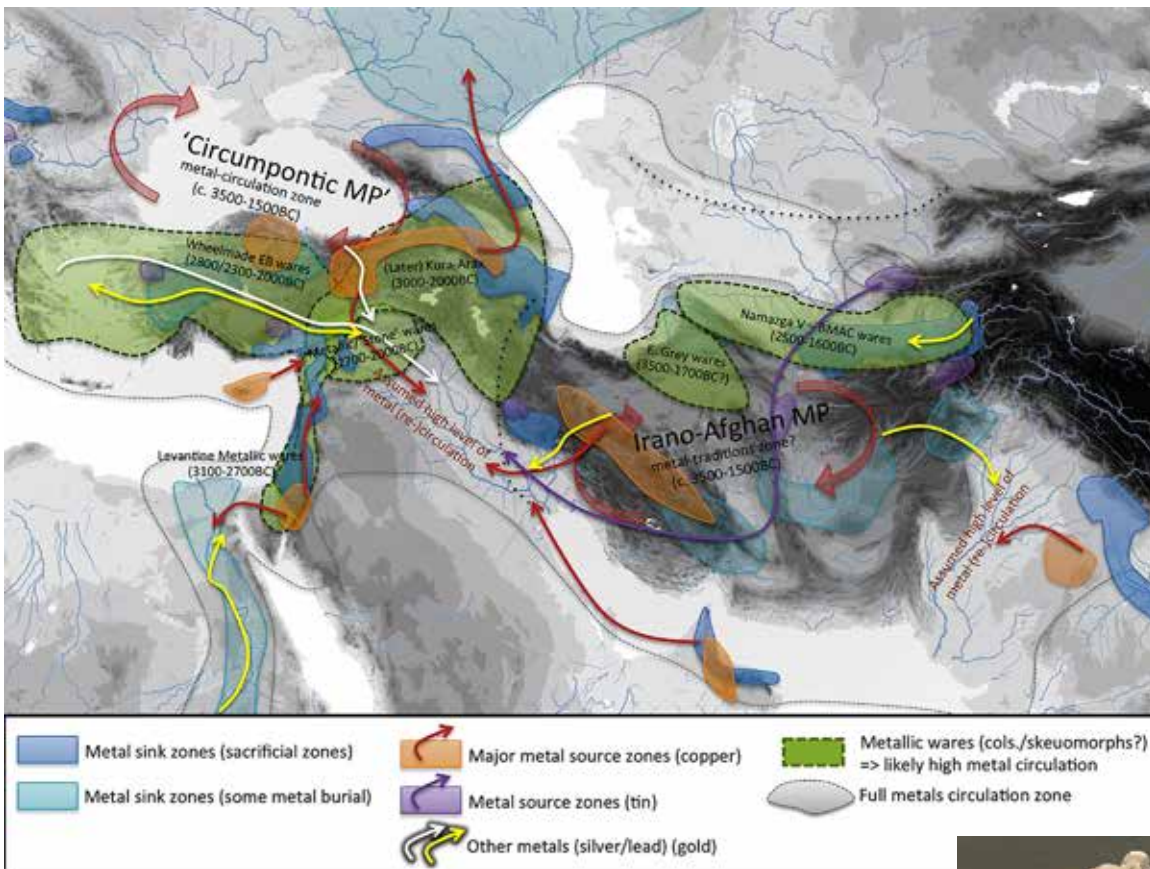


Fig. 12. Summary of distribution data on metals over the 3000-1500 BCE period. Source: <http://tobywilkinson.co.uk/threadsofeurasia/static-files/5/FIG5-52_summary_metals.jpg>. Also, Wilkinson, p. 223

nated by a term associated with a particular place, the name not necessarily referring to its actual origin (p. 231). In instances where no actual textiles have been preserved, they may have left their traces imprinted on hard objects or in dye residues. One aspect of textile production he explores is the source of fibers. In much of the area that concerns him, wool made from sheep and goat hair was the most important source. Whereas the actual fibers have for the most part not been preserved, spindle and loom weights have. In his discussion of textile technology, he gives due credit to Elizabeth Wayland Barber's important book, even as he differs from her in some matters of interpretation. Weave patterns sometimes can be reconstructed

Fig. 13. The ruins of Ebla in Syria, the lighter (plastered over) walls marking the palace area where the archive of clay tablets was found. Photo panorama by Daniel C. Waugh.



Fig. 14. Relief of goddess Lama, Mari, early 2nd millennium BCE. Musée du Louvre, AO 19077. Photograph by Daniel C. Waugh.

on the basis of depictions such as those on seals, but he is skeptical of conclusions some scholars have reached associating patterns on textiles found in burials in the Tarim Basin with a particular (in particular, Indo-European) language group (pp. 255-56).

Apart from seal impressions, there is a lot of other visual evidence for learning about fabrics and dress (or its absence) – figurines or reliefs [Fig. 14], some wall





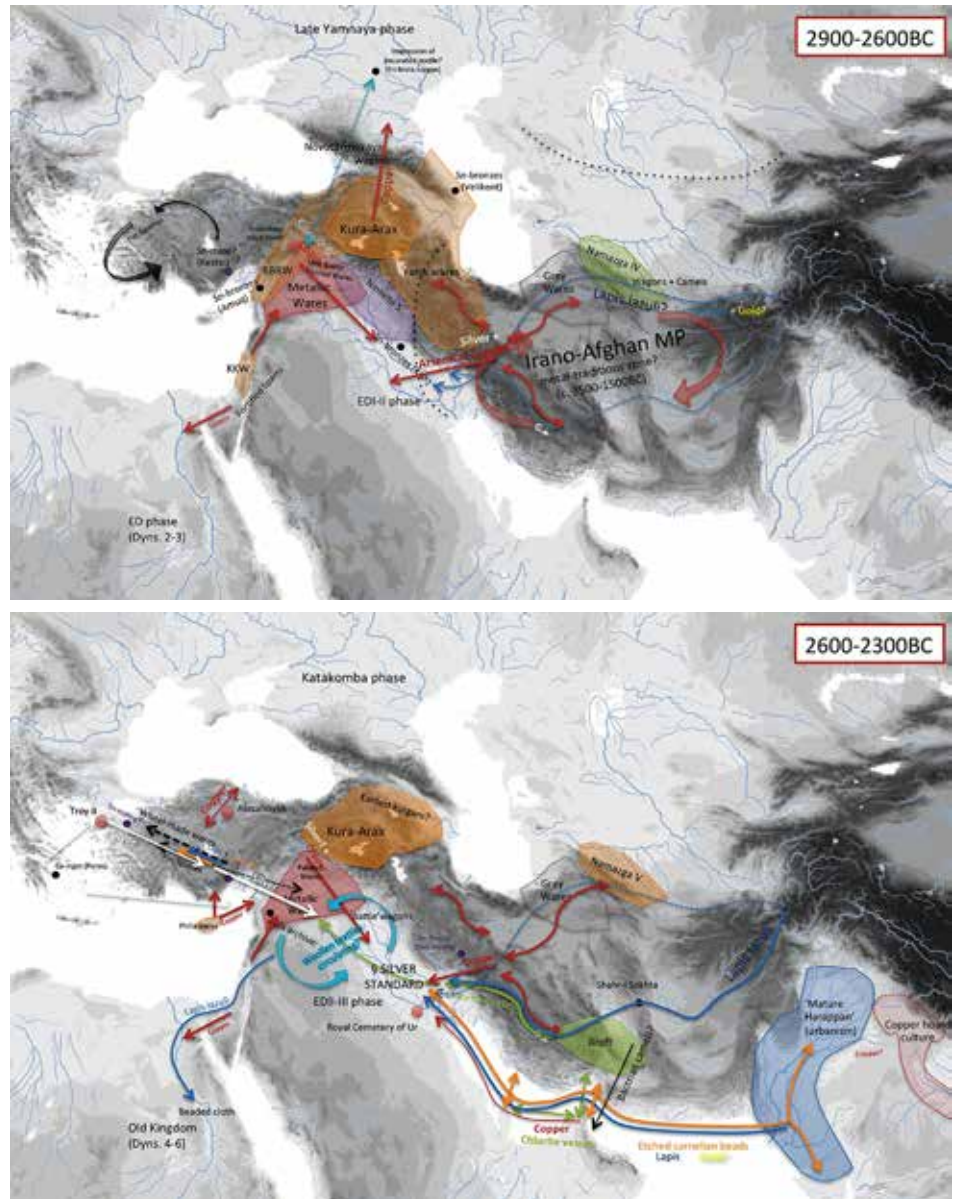
Fig. 15. Investiture scene, Mari royal palace. 2nd half of 19th century BCE. Possibly representing a tapestry. Musée du Louvre, AO 19826. Photograph by Daniel C. Waugh.

paintings [Fig. 15], and, significantly, the replication of patterns in the decoration of pottery. Certain kinds of jewelry also are very important for suggesting areas of the spread of particular styles of costume. As with the evidence concerning metals, the pottery, which is abundant and relatively well represented in the archaeological record, is particularly important for constructing archaeotopograms. It is important to note that the pattern of the areas well covered by particular classes of evidence changes between the third and second millennia BCE. Wilkinson ventures that, if one accepts the idea of the correlation between pottery decoration and textile design, it might be possible “to construct textile provinces and foci in a similar way to Chernykh’s metallurgical groupings. However, more work needs to be done

Fig. 16. Summary of data on flows of stones, metals and textiles for periods 2900–2600 and 2600–2300 BCE. Source: <http://tobywilkinson.co.uk/threadsofeurasia/staticfiles/7/FIG7-2_2900-2600.jpg>; <http://tobywilkinson.co.uk/threadsofeurasia/staticfiles/7/FIG7-3_2600-2300BC.jpg>. Also, Wilkinson, pp. 293, 296.

to integrate these patterns with the distribution of and variation in textile technologies – which...we still know very little about” (p. 274).

In “Tying the Threads” (Ch. 7), Wilkinson divides his 1500 years into 300-year segments (and adds a “postscript” one for the period after 1400 BCE), for each producing a map charting the flows of stones, metals and textiles, supplemented by indications of culture areas of importance and directions of other flows (such as the introduction of new means of transport, changes in pottery type, or distribution of figurine types) [Fig. 16; Color Plate XV]. His discussion then highlights the changes these maps exhibit and presents



hypotheses as to why they occurred. He readily admits that with more time, additional detail could have been provided for regions outside his self-selected core zones and for products (e.g., foodstuffs) which are obviously very important to provide a fuller picture of exchanges.

Central to his interpretation of this dynamic picture of exchange is what the evidence reveals about two culture areas represented in the Kura-Arax assemblages of Eastern Anatolia and the Caucasus and the so-called “Bactro-Margiana Culture Complex”

(BMAC) in Western Central Asia [Fig. 17; Color Plate XVI]. The position of each straddles what seems to be a “high-cost” boundary between lower-cost areas, and the respective chronologies of their expansion and contraction are of particular interest. In contrast to Philip Kohl, who has suggested a possibly related synchronous rise or fall of both areas, Wilkinson wonders whether revisions of chronology may suggest a more complex relationship (p. 316). Even if those two areas might be construed as “peripheral” to the main centers of urban development to the south, in fact one can argue they were actors in control of their own

destinies, who were able to maximize benefit from their interaction with surrounding regions by controlling material flows. Changes in identity and the ways in which it was expressed seem to have been part of the explanation for changes we can in fact document in the flows of material objects. Perhaps the most provocative idea to come out of this analysis, in particular regarding the evidence from Wilkinson’s “non-urbanized” western study area, is that, ironically, “urbanism” is often seen to represent a process of settlement and sedentism, when in fact it appears to have involved a much greater degree of mobility (in the movement of people and goods) and a focus on the increase of ‘por-

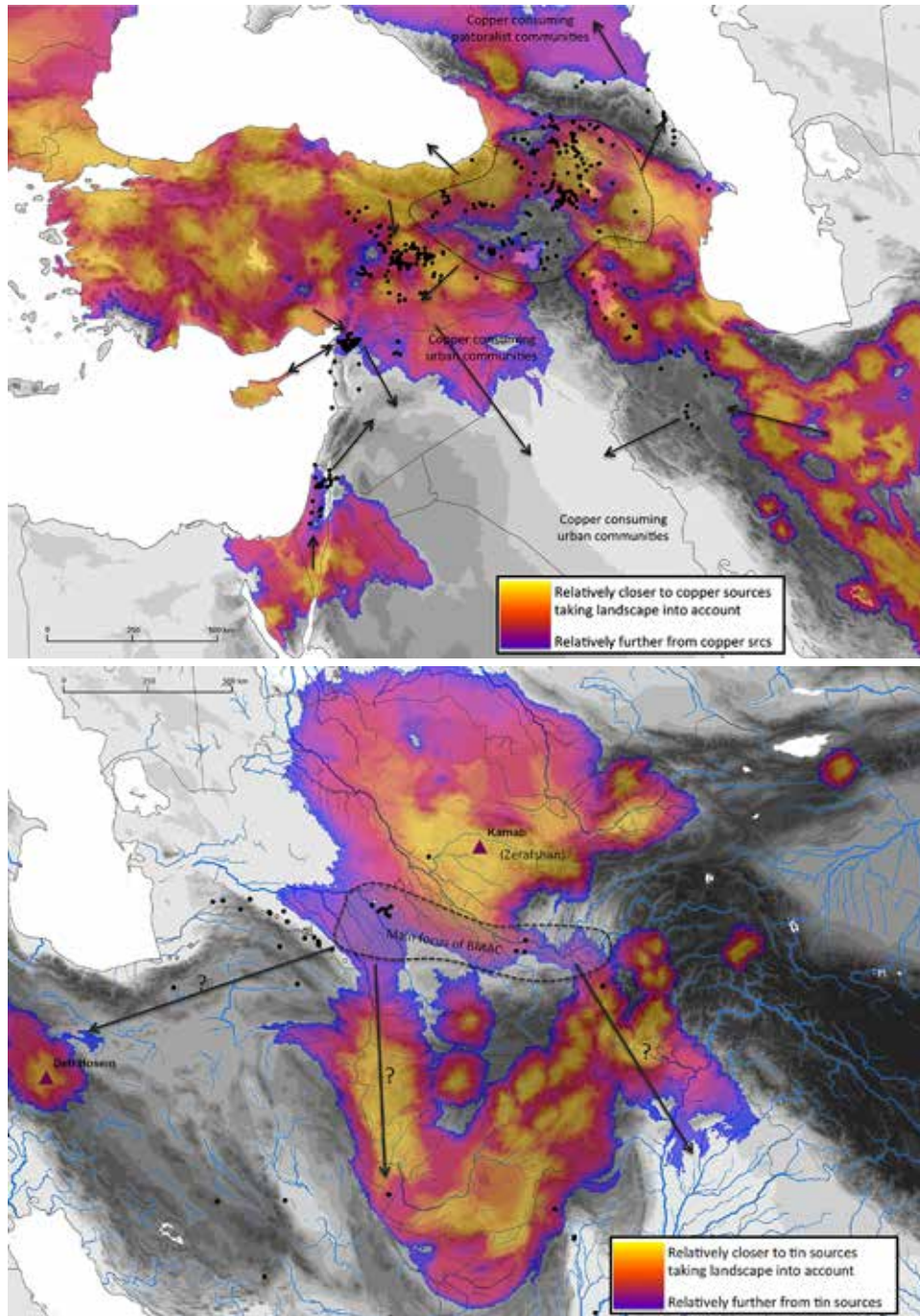


Fig. 17. (top) The relationship between Kura-Arax assemblage (at their greatest extent) and the accessibility to copper sources known to modern geology (archaeotopogram type A2). (bottom) The relationship between BMAC/Namazga VI-related material culture, the central BMAC zone and areas of high accessibility to tin sources (archaeotopogram type A2). Source: <http://tobywilkinson.co.uk/threadsofeurasia/staticfiles/7/FIG7-8_cu_KuraArax.jpg>; <http://tobywilkinson.co.uk/threadsofeurasia/staticfiles/7/FIG7-9_sn_BMAC.jpg>. Also, Wilkinson, pp. 312, 313.

tability' of wealth and abstraction of social relations" (p. 322).

Returning to his original set of research questions, Wilkinson concludes that his new methodological approach works reasonably well for some material flows, but not so well for others. The fault is not necessarily in the model, but rather in the availability of enough data and, where the evidence is huge and complex, the amount of time it would take to code and have even a fast computer crunch the numbers. He remains confident that further application of his methodology may move us closer to a real understanding of the processes and patterns of exchange.

With regard to his original question about the relationship of the historic "Silk Road" to earlier patterns, he re-emphasizes, quoting Andrew Sherratt, that it should at best be treated as "a directional chain of preferentially orientated transactions, which allowed a complementary flow of products" (quoted, p. 332). If there was a "continuity of partners" over the *longue durée*, it "was probably far from continuous, and ... it was precisely the constant transformations of partners (or rather the transformations of their preferences of consumption) that drove the evolution of routes." What was involved may have been driven by both a cumulative process of particular routes "gaining momentum through time" and oscillation whereby routes emerged and others disappeared. If further research proves this to be the case, then it may well be possible to find the roots of the silk roads in the Bronze Age exchange networks (p. 332).

In sum, Wilkinson's book is a bold and sweeping call to re-think many of the traditional approaches to analyzing Eurasian exchange, in the process highlighting time and again the limitations of the evidence we have in hand and the possible paths for further exploration. Even those like this reviewer who are not familiar with the underlying architecture of the data analysis that has produced the abundant and elegant visualizations found throughout this beauti-

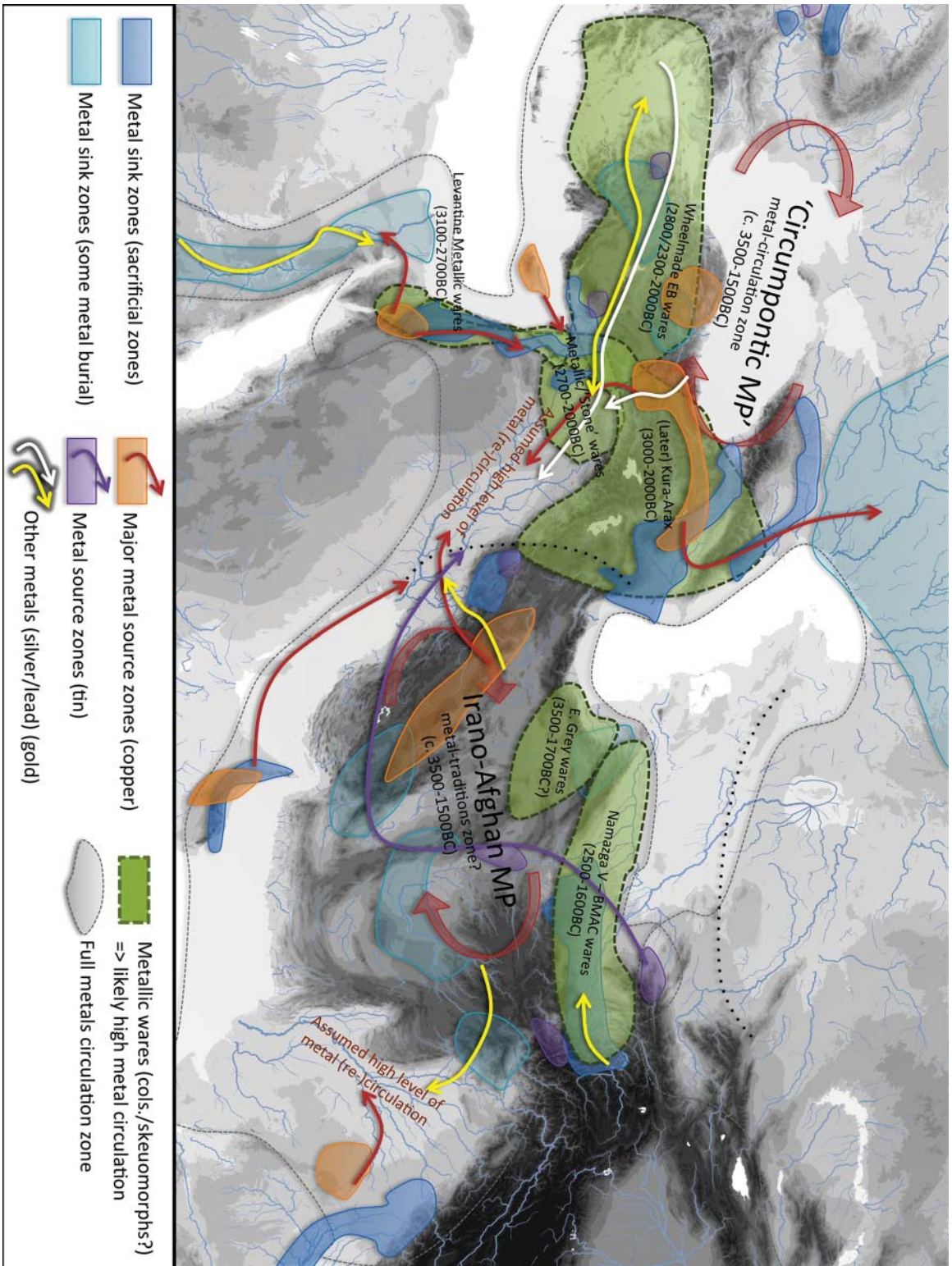
fully printed book should find most of it accessible. Wilkinson does an excellent job of explaining concepts and delineating exactly how much or how little can reasonably be concluded from his evidence. True, most readers probably would prefer to find a more definite set of "answers" here, rather than be left with a bundle of provocative hypotheses, which may not yet be testable. It can be difficult to see how one can combine visualizations in a set of fairly conventional maps plotting sites or find distributions with visualizations in archaeotopograms that may resemble more abstract expressionist art (or oil slicks on water) than anything one can relate to hard data, and end up with maps which overlay directions of material flows on summary graphic representations of other evidence. However, to the degree that the construction of such composite maps for a sequence of time periods then allows visual comparison highlighting change over time, the results indeed meet what Wilkinson had hoped to achieve.

I have been searching for some time to find new approaches to re-conceptualize how we might talk about the "silk roads." I am not sure yet that I have found an answer, but how I might go about looking for one has been fundamentally changed by this book. As the listeners responded, when Walther von Stolzing had followed Hans Sachs' advice: "...Wer hätt's gedacht, was doch recht Wort und Vortrag macht!" (Who would have thought it? What a difference the right words and proper delivery make!").

Note: I have found few technical flaws in the book – a few typos, and a couple of cases (easily figured out) of switched images and captions (pp. 147, 163), and a stray artefact of a reference to a non-existent data CD (p. 403; superseded by the fact that the data have been made available on-line). The publisher has assured me that since this is a print-on-demand volume, copies fulfilling new orders will have had such oversights corrected.

PLATE XIV

[Waugh, "Re-Imagining," p. 160]

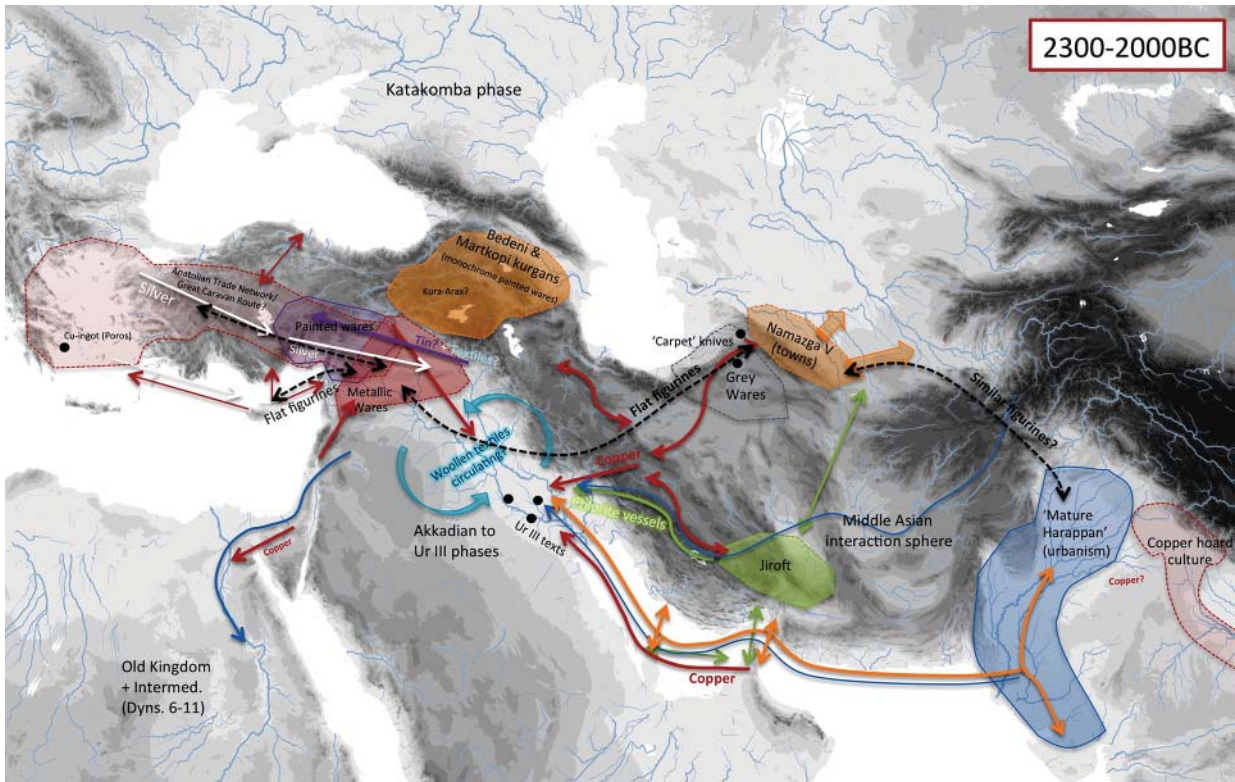
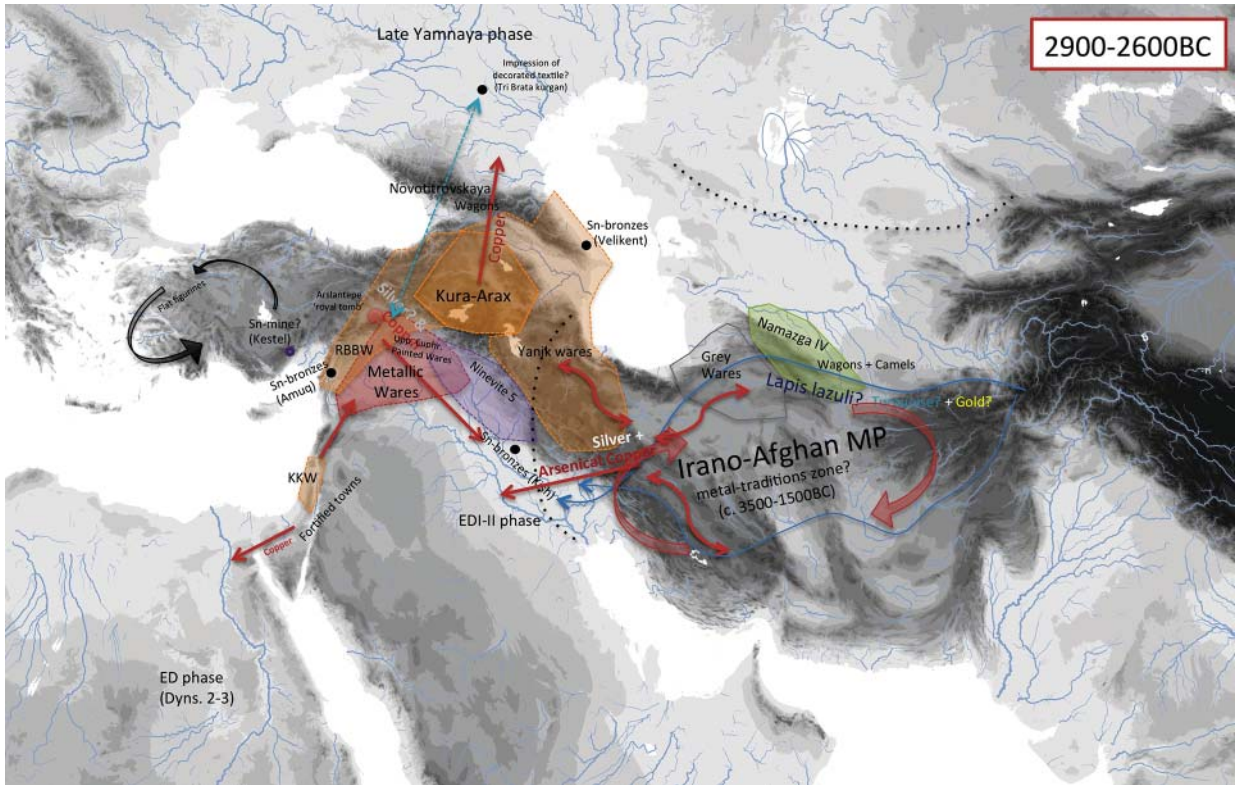


Summary of distribution data on metals over the 3000-1500 BCE period.

Source: <http://tdb.guilkinson.co.uk/hreadsofearasiastaticfiles/5/FIG5-52_summary_metals.jpg>
Also, Wilkinson, p. 223

PLATE XV

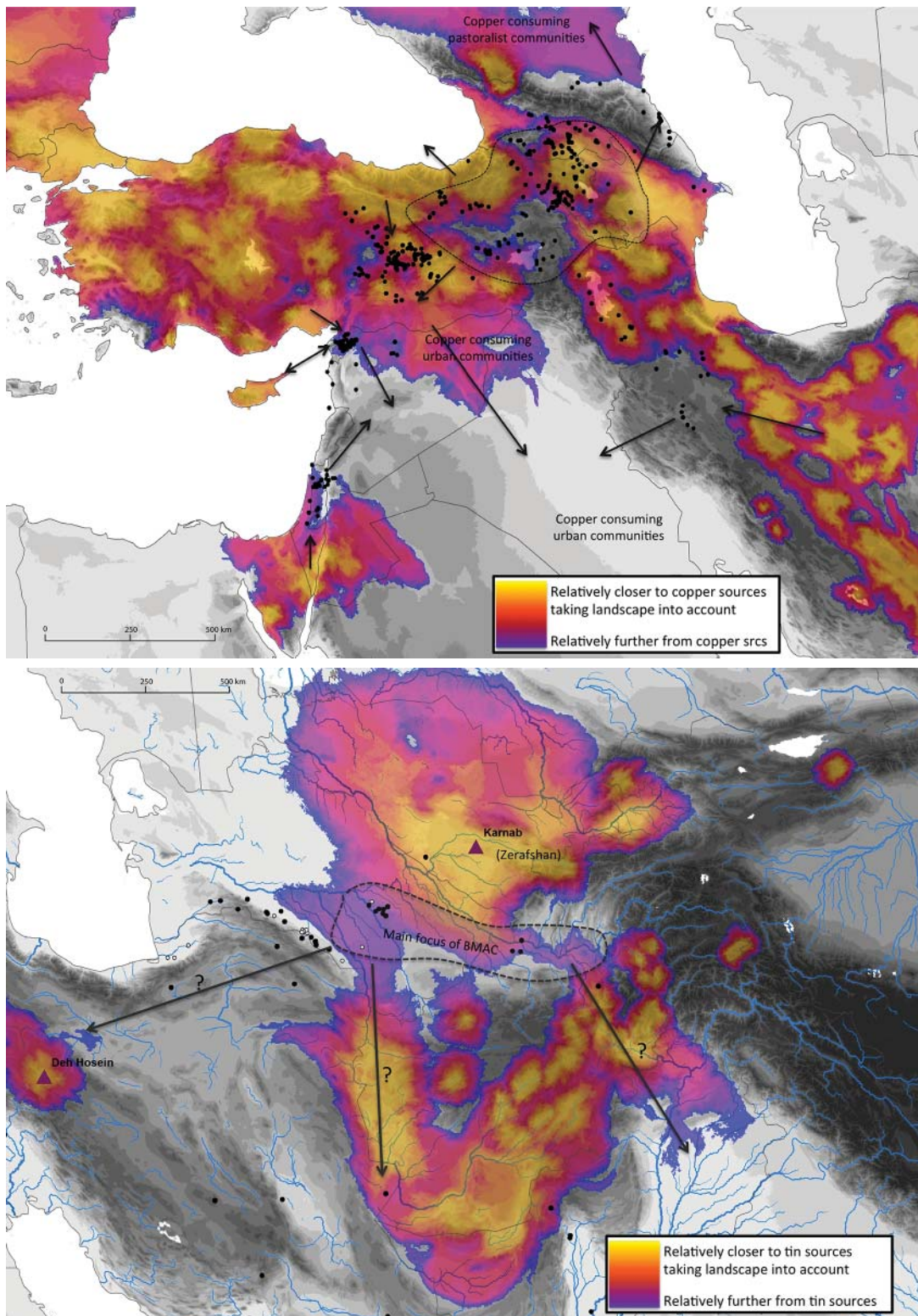
[Waugh, "Re-Imagining," p. xxx]



Summary of data on flows of stones, metals and textiles for periods 2900–2600 and 2600–2300 BCE.
 Source: <http://tobywilkinson.co.uk/threadsofeurasia/staticfiles/7/FIG7-2_2900-2600.jpg>; <http://tobywilkinson.co.uk/threadsofeurasia/staticfiles/7/FIG7-3_2600-2300BC.jpg>. Also, Wilkinson, pp. 293, 296.

PLATE XVI

[Waugh, "Re-Imagining," p. xxx]



(top) The relationship between Kura-Arax assemblage (at their greatest extent) and the accessibility to copper sources known to modern geology (archaeotopogram type A2). (bottom) The relationship between BMAC/Namazga VI-related material culture, the central BMAC zone and areas of high accessibility to tin sources (archaeotopogram type A2).

Source: <http://tobywilkinson.co.uk/threadsofeurasia/staticfiles/7/FIG7-8_cu_KuraArax.jpg>; <http://tobywilkinson.co.uk/threadsofeurasia/staticfiles/7/FIG7-9_sn_BMAC.jpg>. Also, Wilkinson, pp. 312, 313.