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Caucasus connections? New data and interpretations for Armenian obsidian in Northern Mesopotamia

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ABSTRACT

Contact across long distances is evident in the Neolithic of the Near East, whether driven by social networks, exchange links, or movement of individuals or populations. Movement of material, such as obsidian, can elucidate these processes but is often studied within a bounded world that places Mesopotamia at the center. This paper focuses on links that cut across the traditionally imposed boundaries between Northern Mesopotamia and the Caucasus. While Armenia is one of the world's most obsidian-rich landscapes, reports of Armenian obsidians in Northern Mesopotamia are scarce. The confirmation (or lack thereof) of these rare reports has important consequences regarding the movement of people, material, and information out of the Caucasus. As discussed here, all but one report either cannot be corroborated or are demonstrably erroneous. For one archaeological site, data processing methods led to overlaps in the signals for different obsidian sources. For another site, one element used in source identification suffered from unsystematic error. For other sites, data and key details went unpublished at the time. To corroborate past work that had identified Armenian obsidian at Domuztepe, 66 artifacts were newly sourced by electron microprobe analysis and confirmed by portable X-ray fluorescence. This sample was biased toward artifacts potentially from Armenia. Our analyses revealed that 15 artifacts match Pokr Arteni, one of the most used obsidian sources in Armenia. For reasons not yet clear, obsidian was brought to this Late Neolithic settlement over a distance of 670 km linearly and >800 km on foot. Additionally, there are artifacts from four other sources in the Kura-Araxes basin, lending extra support to movement of materials, if not people, between the Caucasus and Domuztepe. Furthermore, there are similar patterns in the two chemical varieties of Pokr Arteni obsidian at Domuztepe and at a Late Neolithic site in Armenia, Aratashen, potentially reflecting similar processes or behaviors at this source.

1. Introduction

It has been argued that identifying materials, resources, or goods moved "between different areas and different societies are the most tangible evidence that an archaeologist can hope for when looking to establish contact between prehistoric peoples" (Glascock, 2002:1). In this regard, the use of chemical analyses to match obsidian artifacts to their volcanic origins is cited as one of the great success stories in archaeological science (e.g., Williams-Thorpe, 1995; Henderson, 2001; see also a recent discussion by Freund, 2013). Over the past five decades, obsidian artifact sourcing has provided rich evidence to better understand intra- and inter-regional mobility, exchange, and social interactions (e.g., Earle and Ericson, 1977; Ericson and Earle, 1982; Shackley, 1998, 2005; Glascock, 2002; Dillian and White, 2009; and the chapters within). However, the scale of long-distance interaction has a distinct character, connecting non-contiguous regions and groups situated within different natural and cultural contexts. Such interactions would not necessarily occur through routine encounters within day-to-day patterns of mobility or social networks, yet they are observable via the medium of material transport. With a resource such as obsidian, especially where there are multiple potential sources, it is particularly striking if utilized sources lie far more geographically distant than closer – and apparently functionally equivalent – geological deposits. While it is well established that cultural factors can be as significant as functional and economic ones in resource selection, the occurrence of materials, including obsidian, at great distances from their sources can sometimes lead to dramatic interpretations, including proposed intercontinental economic networks and foraging areas far larger than ethnographically attested.

In the Near East, the interaction and movement of people between regions, especially those on the Mesopotamian periphery (e.g., the Caucasus, the Balkans, the Iranian Plateau), has long been a favored explanatory device for changes in the archaeological record. As observed by

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Hackenbeck (2008), mobility, including migration *en masse*, has often lain at the core of narratives involving the spread of agriculture, metallurgy, and other innovations out of the Near East. That is, the Near East has long been conceptualized as a center from which cultural and technological changes radiated. Contemporary perspectives tend to be more nuanced, focusing on a wider range of social contacts and networks (e.g., Mesopotamia as a nexus of an exchange network; Butzer, 1997). Nevertheless, Mesopotamia typically retains a centrifugal role (cf. Kohl, 2007). For example, Pitskhelauri (2012) proposes that a massive influx of Mesopotamians during the fifth and fourth millennia BCE were responsible for "explosive" changes in the material culture of the Caucasus.

There are, though, a number of hypothesized influences *on* Northern Mesopotamia *from* the Caucasus based on changes in technology, material culture, and language, for which we can give one example of each. First, obsidian blades at Late Neolithic and Early Chalcolithic Armenian sites were made using the same technique (pressure flaking with a lever) as chert blades at Early and Middle Bronze Age sites in Northern Mesopotamia (Chabot and Pelegrin, 2006, 2012; Chabot et al., 2009), and it has been proposed that this technique developed in an obsidian-rich landscape like Armenia before it was spread to a chert-rich landscape like Mesopotamia (Cauvin, 1996; Thomalsky, 2013). This, of course, is not the sole possibility. An alternative is that the technique independently arose in different regions based on a shared technological "know-how" (Frahm, 2014a). Second, the Early Trancaucasian complex (or the Kura-Araxes culture), largely defined by its red and black burnished vessels with incised decorations, first appears in the Caucasus during the middle fourth millennium BCE, spreads into Eastern Anatolia and Northern Mesopotamia, and eventually reaches as far as the Levant. Kohl (2007) suggests "these materials constitute one of the best examples of prehistoric movements of peoples available for the Early Bronze Age" (97), but others have stressed the roles of exchange, emulation, and nomadism rather than the long-distance movement of people or pots (Rothman, 2003; Abay, 2005; Batiuk and Rothman, 2007; Schwartz et al., 2009; Ur, 2010; Batiuk, 2013). Third, based on linguistic arguments, it has been argued that Hurrian-speaking people, who lived in Northern Mesopotamia during the Bronze Age, originated in the Caucasus (e.g., Stein, 1997; Steinkeller, 1998) and were either immigrants or invaders (e.g., Wilhelm, 1989; Steinkeller, 1998). Others refute such proposals (e.g., Benedict, 1960; von Dassow, 2008). Kuhrt (1995) claims that it is most likely "the Hurrians were a cultural-linguistic group *always* located among the foothills and mountains fringing the northern Mesopotamian and Syrian plains" (288).

In addition, there is long-standing – but little studied – evidence of links between Northern Mesopotamia and the Caucasus based on material culture rather than linguistic inferences. This is perhaps most apparent in the geographic distribution of painted ceramics of the "Halaf" tradition. Although conventionally – and almost unquestioningly – defined as Northern Mesopotamian, there is repeated evidence for connections reaching far to the north and northwest. Tilki Tepe, located on the eastern shore of Lake Van, is usually identified as a Halaf site based on the ceramics (Korfmann, 1982). Links much further afield include an apparent Halaf pot at Kültepe in Azerbaijan (Merpert and Munchaev, 1993). A small number of Halaf ceramics are reported from Late Neolithic strata at Aratashen in Armenia (Palumbi et al., 2014). Additional connections during the Late Neolithic are implied by broader parallels in the ceramics and architecture at Armenian sites such as Aknashen-Khatunarkh (Badalyan et al., 2010) and Masis Blur (Martirosyan-Olshansky, 2015). Munchaev and Amirov (2009) even argue the Halaf tradition in Northern Mesopotamia was shaped by influences from the Caucasus, echoing older arguments that Halaf material culture was culturally intrusive and brought by immigrants from the Anatolian highlands (e.g., Bogoslavskaja, 1972).

While Armenia is one of the world's most obsidian-rich landscapes, reports of Armenian obsidians in Northern Mesopotamia are scarce. Large-scale patterns of obsidian distribution noted by Renfrew and colleagues (Dixon et al., 1968; Renfrew and Dixon, 1976) have been bolstered by subsequent regional syntheses (Fig. 1), whereby obsidian found at Mesopotamian sites principally originated from a few major sources in Central and Eastern Anatolia. Similar work in the Caucasus (Fig. 2) implies that obsidians in this region remained local with very few exceptions. Here we consider rare reports of Armenian obsidians

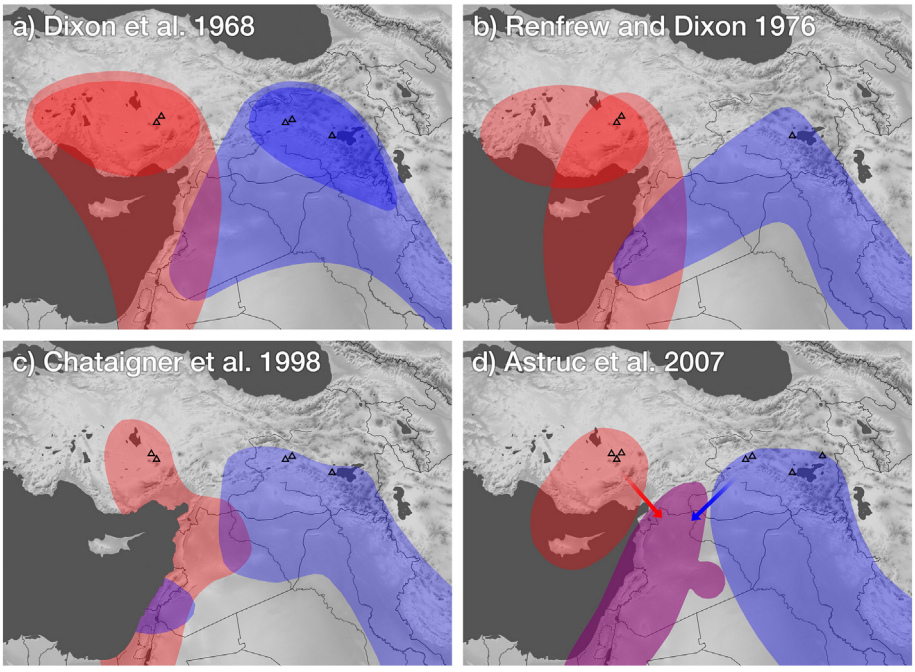

Fig. 1. Four regional models of Near East obsidian distribution from sources (triangles) in what is now Turkey. Large-scale patterns first observed by Renfrew and colleagues have been reinforced by later regional syntheses, including the conceptualization of Anatolian and Levantine distribution zones supplied by the Central Anatolian obsidian sources (red) and Mesopotamian zones supplied by select Eastern Anatolian obsidian sources (blue). (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)