

Wine in Achaemenid Arachosia

An Imperial Network of Regional Wines

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Abstract This essay investigates the possible beginnings of viticulture in Arachosia, an Achaemenid satrapy in the southeastern end of the empire. It explores the idea of how in creating a consistent Achaemenid administrative system across the empire, new regional centres had to rapidly adopt practices that soon evolved to become the standard. One such practice was the use of wine for social, economic, and religious reasons as attested by various Achaemenid administrative texts from around the empire. I argue that it is within this context that we should understand the initiation or scaling up of viticulture around the empire including, and especially in, Arachosia. Arguably, the integration of Arachosia into the imperial network transforms the region into a holistic vinicultural landscape as seen through a shift in ceramics, the presence of certain building types, increased investment in irrigation at the site of Old Kandahar and also, most importantly, the mention of Arachosian wine in administrative texts.

Keywords Ancient wine. Viticulture. Vitiiculture. Arachosia. Achaemenid. Afghanistan. Iranian Plateau.

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1 Introduction

The sixth to fifth century BC reliefs from the eastern stairs of the Apadana at Persepolis, depict a procession of the various peoples of the Achaemenid empire bringing tribute to King Darius I [fig. 1]. Among the tribute bearers are the Arachosians (from today's Kandahar province, Afghanistan) conspicuously holding not one but two types of drinking vessels: two horizontally fluted phialai and two horizontally fluted beakers.¹ Much has been said about the tribute reliefs of Persepolis, and yet the appearance of the Arachosians and, more importantly, what they offer as tribute remains virtually unexplored. Such an investigation forces us to rethink the complex relationship between what is offered and who is doing the offering. The drinking cup is widely regarded in Near Eastern scholarship as a signifier of royal authority and of the consumption of wine.² Consequently, in the case of Achaemenid Arachosia, it is therefore reasonable to ask whether there was an association between Arachosia and wine and, for the purposes of this essay, whether that association is reflected in the archaeological and art historical record of the Achaemenid period.

To date, an investigation into wine culture in Arachosia and its surrounding areas (what can be regarded generally as the eastern end of the Iranian Plateau), and more specifically Achaemenid Arachosia, has not been undertaken.³ As I argue elsewhere, by the time of the Arsacids (third century BC to third century AD), the Iranian Plateau appears to contain two distinct self-sufficient wine producing sub-regional networks.⁴ The first was centred in Mesopotamia, including north Syria, and comprised a more long-standing network of viticulture; the second in Central Asia and, by extension, included north-eastern Iran, Afghanistan, and Pakistan. Both networks were regionally motivated systems with strong links forged between local sites, thus transcending imperial borders and control, through the shared enterprise of and investment into a wine economy. In the case of the Mesopotamian and north Syrian network, overland and waterway routes persisted from the third-millennium BC onwards where

1 While identifications of the delegations are uncertain, I believe that we can make reasonable identifications through a visual cross-comparison with the study of similar groups of people in monumental Achaemenid art and inscriptions. A great number of interpretations have been made as to the identities of the delegations and have been tabulated by Gropp 2009, Table 1, 293.

2 Stronach 1996, 183. Previous scholarship has focused largely on how the reliefs may allow a better idea of the origin or production of metal toreutics and vessels. Muscarella has summarised the topic: Muscarella 1988.

3 The present essay is developed from a portion of my forthcoming doctoral dissertation, which investigates at a larger scale the ancient wine culture of the Iranian plateau.

4 Johal forthcoming.



Figure 1 Tribute bearer relief. Lower register of the Apadana stairway, Persepolis, Iran. Arachosian delegation (?). Courtesy of the Institute for the Study of Ancient Cultures of the University of Chicago

wine was moved, repackaged, and shipped from the northern areas of the Upper Euphrates, where *vitis vinifera* thrived in the wild, to the southern plains and low-land Mesopotamia.⁵ The presence of ‘torpedo jars’ of Mesopotamian origin of the first to third centuries AD to sites along the Persian Gulf and to as far away as India can be understood as the eventual transformation of the network into one inclusive of long-distance trade of the wine of this region.⁶ On the other side of the Zagros mountains, the Central Asian network is more difficult to identify. Chinese sources⁷ make it clear that by the time of the Arsacid empire, the wine of many regions (particularly Sogdiana and Parthia) became of interest to Han China, indicating the existence of a production network that not only produced for local consumption but also for markets beyond the Arsacid empire.

5 For more on where Mesopotamia imported its wine from see McGovern 2003, 160-4.

6 For ‘torpedo’ or ‘ovoid’ jars see: Tomber 2007; Durand 2021.

7 Sima Qian *Shiji* 123.

In my effort to tease out the structure of the Central Asian sub-regional wine network, I will demonstrate how the evidence from our most well-excavated site in Arachosia and the most representative of Achaemenid rule, Old Kandahar, indicates the beginnings of this network initiated under the Achaemenids. Old Kandahar was an extensive urban site at the foot of a precipitous ridge with a large citadel mound, urban fortifications, and an extramural necropolis. The site is important for its unparalleled status in Afghanistan in terms of a lengthy history of archaeological activity, yet we must be mindful of its dominating and potentially over-representative position in the archaeological record and of the reality that it may not speak for the region as a whole. As Pierfrancesco Callieri has noted, it is often “difficult to define a material culture that can be said to represent the Persian Empire in the face of the great strength of local Iron Age traditions” and, if we move towards the eastern end of the empire, the “material manifestation of an imperial presence becomes even more difficult to discern”.⁸ While such a statement may be correct when considering monumental art, there are aspects where we certainly can trace an overlap between imperial and local interests. Viniculture is one such activity where an intersection can be discerned. It is imperative, then, that we attempt to differentiate and define Arachosia as a site of wine production and consumption. There is a well-established history of scholarship on the topic of Persian eating and drinking practices pieced together through the discussion of ‘Persian luxury’ in the Greek and Roman literary tradition.⁹ It must be noted, however, that for an understanding of Achaemenid wine consumption and production, classical documentary sources do not offer the regional specificity left to us in the archaeological record and, on their own, the sources do not afford us a point of view from the Achaemenid world itself. It is therefore important to discuss the material culture in relation to the literary sources, especially since Arachosia did not take up a lot of space in the Greek and Roman literary tradition.¹⁰ And so, I will first assess Arachosia’s palaeoenvironmental conditions and agricultural potential for viticultural endeavour and viticultural productivity. Although the lack of palaeoenvironmental work in Afghanistan poses limitations on any real comparison between ancient and modern climate and landscape,¹¹ consistent settlement patterns in

8 Callieri 2023, 844.

9 At times the discussion is related to extant Achaemenid metal tableware. See for example: Dahlén 2020; Daryaee 2012; Briant 2002, 286-92; Hobden 2013; Lenfant 2007; Simpson 2005; Sancisi-Weerdenburg 1995.

10 There is mention of Arachosian wine in Strab. 11.10. This will be discussed in the last section.

11 Bowlby, White 2019, 18-23.

the alluvial terraces of the water courses in the otherwise arid area of southern Afghanistan, from the Bronze Age to today, indicate that the area was chosen in ancient times for the same reasons as today, for its agricultural potential through the exploitation of water sources.¹² I will then explore Arachosia's role as an administrative centre within both the Achaemenid imperial network (macro-level) and the regional system of exchange (micro-level) through the use of administrative texts and literary sources as well as ceramic data and the built environment so as to delineate the networks within which the production and use of Arachosian wine arose.

2 Assessing Arachosia's Land: The Agricultural Potential for Viniculture and Viticulture

Ancient Arachosia generally coincides with the modern day Kandahar province of Afghanistan and is watered by the Helmand, Arghandab, Tarnak, and Arghastan rivers [fig. 2]. The area is situated within an alluvial cone formed by the confluence of the Arghandab river and its tributary Tarnak, and so the Arghandab valley forms the centre of what we consider ancient Arachosia. As Kandahar province's climate is semi-arid, it is not in an optimal rainfall area for viticulture¹³ but its position amid an extensive river system allows for the development of irrigation infrastructure to enable the successful cultivation of grapevines. Located just south of Afghanistan's central mountains, the Kandahar province forms a sort of foothill oasis with the Registan desert just to the south. As the soil of the Arghandab valley has low to medium salinity and low serozem, it makes the area especially favourable for viticulture.¹⁴ Consequently, given both the optimal soil type and the valley's position amid river systems, Kandahar province forms one of the most active viticultural areas in modern Afghanistan. Today, farmlands and vineyards are largely irrigated with underground or surface level canals (*juis* and *kāriz* or *qanat* irrigation systems).¹⁵ While grapes are traditionally grown along the ground in a 'bush' structure (*juj* system), there has also been an introduction of training the vine on T-bars.¹⁶

It is not only the environmental factors of Kandahar, such as the irrigation potential or soil type, that allude to ancient Arachosia's position as a potential site of grape cultivation and wine production;

¹² Petrie, Shaffer 2019, 162-3.

¹³ Bowlby, White 2019, 18-23 (fig. 1.3).

¹⁴ Arab, Ahamed 2022, 6, 8.

¹⁵ Bowlby, White 2019, 38-43.

¹⁶ Khasrow 2015, 2.



Figure 2 Map showing Arachosia and its surrounding regions indicating key regions and sites: 1. Kandahar 2. Persepolis 3. Toprak-kala 4. Susa 5. Malyan 6. Shahr-i Sokhta 7. Mehrgarh 8. Manjukly Depe 9. Mundigak 10. Dingildzhe. Google basemap. Paula Gheorghide

wild *vitis vinifera* (ssp. *sylvestris*) and *vitis jacquemontii* are known in parts of Afghanistan.¹⁷ In addition, the current archaeobotanical and palaeobotanical record for the eastern Iranian Plateau indicate early grape exploitation in the general area by the Bronze Age.¹⁸ As it stands, the data includes: grape seeds from the fourth millennium BC site of Malyan (Fars, Iran; ancient Anshan), and from the third millennium BC Shahr-i Sokhta (Sistan and Baluchestan, Iran),¹⁹ as well as third millennium BC charred grapevine wood from Mehrgarh in Pakistan,²⁰ and even earlier grapevine wood, from the fifth

¹⁷ Abdullaf et al. 2021, 8: 19; Riaz et al. 2020, 4: Table 1; Riaz et al. 2013, 3-4; Table 1. The majority of the UC Davis repository for *vitis vinifera* was collected by Harold P. Olmo during a Central Asian germplasm acquisition trip in 1948 and published in A. Riaz et al. 2020 and Riaz et al. 2013. However, it should be noted that Olmo does not provide exact locations aside from country of origin. Even so, Olmo's collection at UC Davis is invaluable for the study of *vitis* varieties for Afghanistan, Pakistan, and Iran and for allowing a general agreement that wild *vitis vinifera* ssp. *sylvestris* is present in Afghanistan.

¹⁸ As pointed out by Dodd 2022, 445-7: It is difficult to detect the differences between exploitation, cultivation, and domestication of grapevine solely through archaeobotanical and palaeobotanical data. As Dodd states "the use of grape and vine are many, and it is difficult to determine a clear relationship between early cultivation, if it occurred, and winemaking".

¹⁹ Constantini, Costantini-Biasini 1985.

²⁰ Thiébault 1989.

millennium BC at Monjukly Depe in Turkmenistan.²¹ However, as many have argued before, it is likely that foraging, exploitation of the wild grapevine, and fermentation of grape juice occurred prior to their cultivation in these areas and we can imagine a similar case in the eastern Iranian Plateau.

Even though by the third-millennium BC the areas surrounding Arachosia were unmistakably exploiting and consuming grapes, the byproducts of which may or may not have included the production of wine or a fermented grape derived product, there is a lack of archaeobotanical evidence from ancient Arachosia itself. The scarcity of information is due to numerous reasons, at the forefront of which is Afghanistan's political instability and the consequent hindrance of academic and archaeological inquiry.²² However, given the link between the rise of arboriculture and urban expansion further north in Transoxiana, it is likely that the Bronze Age sites of Arachosia, such as Mundigak, may also yield archaeobotanical evidence in the future.²³ At present, however, the existence and extent of viticulture and viticulture in Arachosia prior to the Achaemenids (sixth to fourth centuries BC) remains unclear. While it is conceivable that viticulture was active or that wine was produced and consumed on a small scale in Bronze Age Arachosia, the evidence illustrates that under the Achaemenids, at the very latest, viticulture is scaled up and integrated into an imperial and regional network.

3 For the King's Table: Viticulture in Achaemenid Networks

Taking a fortified rural manor east of the Oxus at the site of Dingildzhe as his example, Michele Minardi demonstrates how the earliest evidence for viticulture in ancient Chorasmia occurs under Achaemenid administration of the area around the fifth century BC.²⁴ The administrative texts from Toprak-kala, a palatial site of Chorasmia, frequently mention wine likely produced in the surrounding landscape to which the Dingildzhe manor belonged and is verified, in

²¹ Chen et al. 2022, 2 (fig. 1).

²² There is the irrecoverable impact on academic research in the region due to the loss of a considerable portion of the Kabul museum's collection and records. Archaeological evidence shows wine production around the third millennium BC site of Goldin Tepe in the central Zagros mountains, for more on which see: McGovern 2003, 40-63.

²³ Chen et al. 2022. The evidence from Transoxiana seems to show the tandem development of urban centres and grapevine cultivation. On the link between the development of urban centres and the rise in viti- and viticulture see: Fuller, Stevens 2019, 263-82.

²⁴ Minardi 2016 (fig. 2).

Minardi's view, by the presence of grape pips found at the manor itself.²⁵ Archaeobotanical evidence aside, Minardi's argument for the introduction of viticulture in Chorasmia, therefore, rests on the indications of imperial activities including the presence of administrative texts from Toprak-kala and the Achaemenid practice of central canalisation and fortification works, but also the existence of carinated bowls that are often understood as developing through Achaemenid influence.²⁶ What is left to be understood is whether the co-occurrence of viticulture and Achaemenid administration in an area is, in fact, more intimately related. The driving question is why the Achaemenid administration should be interested in agronomic output that could potentially yield wine and here I offer some potential answers. At the imperial level, the intensification of viticulture in various parts of the empire could be contextualised within the larger framework of Achaemenid empire formation, the role that viticulture played within the imperial networks and in the area's integration into that system, both socio-culturally and economically.

Planting vineyards or initiating viticulture in areas should be considered as an Achaemenid activity integral to empire formation, suggested by Chorasmia and also our best-attested case from Persis (Fars Province, Iran; [fig. 2]).²⁷ In the establishment and maintenance of the main palatial Achaemenid city of Persepolis in Persis we see a clear example of the co-occurrence of Achaemenid administration, irrigation works, and viticulture. Like Chorasmia, it is under the Achaemenids that there is an intensification of irrigation projects in the Persian heartland, reflected in the pollen samples taken from Lake Maharlou and Lake Parishan which signal vegetal changes likely brought on under the Achaemenids.²⁸ Over-reliance on palynology should be cautioned against as *vitis* is generally underrepresented in pollen samples²⁹ but, as Morteza Djamali has argued, the *vitis* detected is considerable enough to indicate viticulture in the

25 Livshits 1984, 257, 262; Minardi 2016, 283-4. Minardi 2016, 282: twentieth century surveys of the area around the manor seemingly revealed what the excavators termed 'vineyards' with related canals for irrigation.

26 Minardi 2016, 283-4. For more on the continuity and strong stylistic parallels of carinated bowls across the empire, but particularly with western Iranian ceramics see: Dussinberre 1999, 76-8.

27 Not to mention 'Chalybonian wine' which was supposedly a product of the introduction of viticulture in Syria by the Achaemenid Kings and a wine that only the King was allowed to consume: Strab. 15.3.22; Ath. *Deipnosophistae* 1.51; Posidonius FGrHist 68.

28 Djamali et al. 2009, 131; Djamali, Andam, Poschlos 2021, 128 (plate 11, fig. 2). The two irrigation works in the Persepolis area that have been assigned to the Achaemenid Period include Band-e Dukhtar and Bard Burideh II. See Sumner 1986, 13-17.

29 Brown, Meadows, Turner 2024, 127-8.

Maharlou and Parishan regions during the Achaemenid period.³⁰ The pollen data is corroborated by the *Persian Fortification Tablets (PFT; 509-494 BC)*, where the impact of irrigation works and the scaling up of viticulture is clearly outlined in economic, social, and political terms. Because the *PFT* elucidate a complex and organised network of food, at the centre of which lie the districts on the route between Persepolis and Susa, we know for certain that vineyards from around Persepolis were producing wine that, for example, was rationed to the King and his family but also disbursed to other figures such as priests, craftsmen, couriers, or diplomats.³¹ The most obvious rationale for the incorporation of viticulture in imperial networks is that it formed an integral component in the key Achaemenid activity of drinking and feasting, which was then replicated by satraps and local elites. However, as the *PFT* indicates, this was likely not the only reason, even if it is the reason which conferred wine its high status. Rather, a unified imperial administration system should also be considered as a primary reason for the position of wine in Achaemenid society. Briant, Henkelman, and Jacobs have all stressed the importance of continuity across the empire and the rapid introduction of administrative practices from the heartland into regional centres, including the organisation of travel along “royal roads”.³² We can imagine that the upkeep of efficient travel along roads relied on easily transferable and predetermined administrative mechanisms and obligations. This is what is revealed through Nakthor’s travel to Egypt where the document he carried from Aršāma, satrap of Egypt, was valid beyond the jurisdiction of the next province with a secure supply of food for the entirety of his journey (*TADE A6.9*).³³ As Jacobs and Briant have discussed, the document Nakthor carried was probably similar to the numerous sealed documents mentioned in the *PFT* and showcases an empire-wide ‘administration coordination’ through consistent terminology (‘travel provision’ or ‘rations’).³⁴ Such consistency was vital for allowing mobility within

30 Djmalali, Ghavi, Poschlos 2021, 129; Henkelman 2021, 140. Brown, Meadows, Turner 2024, 128: it should be noted that a vitis pollen count over approximately 0.1 percent would reflect a vineyard close to the sampling site; Djmalali, Ghavi, Poschlos 2021, 301 (plate 11, fig. 2). Pollen samples show an occurrence of <3% vitis pollen for the Achaemenid period at Maharlou.

31 See for example, *PF 1565*; Strab. 15.3.1: Strabo also describes Persepolis as a land with vineyards; For more on Wine in Achaemenid Fars see: Balatti 2021, 169-91.

32 Briant 2010, 43; Henkelman 2011, 578-9; Jacobs 2021, 847. Briant 2002, 448; Stark 2021, 699.

33 *TADE A6.9* in Taylor 2020, 34-5. In this case the provisions seemingly are allocated from Aršāma’s own estates but uses the same administrative language seen across the empire.

34 Jacobs 2021, 842; Briant 2009, 149. Jacobs 2021, 842: “The folding and sealing of the documents, the provision of an address and sometimes a summary of the content,

the empire (for soldiers, craftsmen, messengers, and others) and fostered cohesion and stability.³⁵ The insight we gain through the available administrative documents is of an effective system consisting of administrative sections that produce unified documents across the empire.³⁶ We see this document uniformity in the transference of heartland administration to the regional context of Arachosia through the presence of Elamite tablets in Old Kandahar. As Fisher and Stolper as well as Amélie Kuhrt have discussed, the tablets hint at the managing of a regional centre in an Achaemenid manner with similar operations and institutions.³⁷ With the emphasis on administrative continuity, the Elamite tablets in their similarity to the *PFT* in form and function allow us to imagine that in many ways Persepolis, as an Achaemenid foundation itself, could act as a model of what requirements went into the establishment and functioning of a new Achaemenid administrative centre.

Persepolis's administrative texts (the *PFT*) allow insight into imperial network formation and in particular confirm how accessibility to wine for various operational reasons was a key requirement in the establishment and functioning of an administrative centre. Operational requirements could range from social (consumption by the King's or Satrap's court), economic (disbursement or payment of wine or as ration to travellers or workers) and religious (as offerings to temples).³⁸ Wine, in service of key imperial functions, is quite clearly an important commodity under the jurisdiction of the satrap.³⁹ As such, in the Achaemenid world, we should imagine wine as a regional commodity produced, moved, and stored on parts of the 'royal road' that were within a given administrative sector, especially provided that the documents available for the Achaemenid world are mainly concerned with regional commodities drawn from local vineyards and farms. We could suppose, as the reliefs from Persepolis, along with Greek and Roman sources, indicate, that these regional wines

and even the form of salutation are all similar".

35 Jacobs 2021, 842.

36 Folmer 2017.

37 Fisher, Stolper 2015, 2; Kuhrt 2007, 815. Stolper, Fisher 2015, 2: 9-10 (fig. 5); 21-2: It is undeniable that the recovery of the tablets from Old Kandahar show that "the Elamite language and script were used in administrative recordings across the entire breadth of Achaemenid Iran, from Susa to Arachosia; that they imply that administrative practices and institutions comparable to those documented by the Persepolis archives were also installed in Achaemenid Afghanistan". The Elamite tablets from Old Kandahar are assigned to the category of V ('journals') or W ('accounts') according to Hallock's (1969) typology developed for the *PFT*.

38 A sampling of examples from the *PFT*: for social: *PF* 728-9, *PF* 732; for economic: *PF* 1137, *PF* 1548-67; for religious: *PFT* 753-4.

39 Pseudo-Arist. *Oec.* 2.2.38: "[Alexander] ordered the satraps to fill, according to the custom of the country, the storehouses located along the Royal Roads".

made their way to the King's table on the occasion of tribute.⁴⁰ Perhaps we should shift our perspective on what the "empire feeding the King's table" could mean. A locally produced wine operating within a regional portion of the royal roads towards social, economic and political ends, under the administration of the satrap would be in service of the stability and efficiency of the macro level network that did indeed feed the King and his empire, metaphorically and literally. Given such an administrative system, where wine was a necessary commodity in key administrative operations across the empire, we should imagine that the search for active or promising viticultural lands would be a royal or satrapal concern.

Xenophon,⁴¹ one of the most informed sources on the Achaemenid Empire, shares similar themes which should give us pause. He writes: "The Persian King has vintners scouring every land to find some drink that will tickle his palate". While undoubtedly a moral comment on taste and therefore inherently about wine for the purposes of drinking and feasting, what Xenophon does is imply that an imperial sanctioned search for viticultural areas was not outside of a King's purview and that such a search could instigate imperial redirection of resources and manpower. Xenophon's choice of words is purposefully topographical. The combined use of 'μαστεύοντες' ('searching') and 'περιέρχονται' ('go all around') makes the reader imagine the type of expansive road network - beyond the 'royal roads' - suggested above. As Jacobs and Henkelman have noted, the movement of resources and people in the areas mentioned in the *PFT* "suggest a dense local road network", with many ancillary roads that connect to the main ones. Xenophon's statement also suggests a concentration of knowledge and decision-making power in the official position of "vintners".⁴² That such a position existed speaks to the importance of wine in the Achaemenid world. Xenophon's statement is significant for a number of reasons: It echoes the local archaeology of Persis,

40 Ael. *VH* 1.31; Ath. 9.393c: all areas of the empire were expected to send provisions for royal meals; Xen. *Cyr.* 8.6.13; Ath. 1.28d, 2.45a-b, 12.529d, 14.652b-c; Strab. 15.3.22: List of provisions include items from India to Egypt. See also Estates and 'Paradises' established in satrapies towards the maintenance of local and royal courts as seen in the *PFT* and Plin. *NH* 6.143. For more on these topics: Tuplin 1996, 80-131; Jacobs 2010, 377-410; Henkelman 2010, 686: As Henckleman comments, the Persepolis administrators themselves considered the "King's table as an institution".

41 Xen. *Ages.* 9.3.

42 Henkelman, Jacobs 2021, 725. Equally important is the high official in charge of the production of wine. See Briant 2002, 425-6: From the *PFT* it is clear that "production was organised into five departments: livestock, grain, wine (and beer), fruit, and fowl". Each area had a similar bureaucracy to the one in Persepolis; The *PFT*, Greek sources, and the Old Testament also provide titles of other positions related to both the banquet and the production and supply of wine as discussed in Balatti 2021, 177-9. See also the discussion of Achaemenid wine connoisseurs in Dahlén 2017, 106.

Chorasmia, and, as we will see shortly, Arachosia; it allows insight into at least the idea that imperial networks could be strengthened or extended for the potential movement of wine, or put in another way, to build access to a landscape that supported grapevine growth suitable for wine production; and, it shows that wine was very much an administrative concern and so its production extended beyond fulfilling requirements of taste. Consequently, while keeping in mind that the primary impetus for irrigation works was perhaps not always for viniculture, we should not underestimate the possibility of imperial investment in a land that ‘may’ be able to produce wine.⁴³

At the imperial level or macro level, it is through the maintenance and extension of the Achaemenid network and the integration of new administrative areas that the scaling up of viniculture can be contextualised in Arachosia and, arguably, across the eastern end of the empire. In fact, Callieri, building on the work of Jacobs and Vogelsang,⁴⁴ has recently outlined how Arachosia was the main administrative centre of the southeastern part of the empire, which included: Drangiana, Gedrosia, Sattagydia, Gandhāra and Hinduš. That Old Kandahar was one such Achaemenid administrative centre of Arachosia is made clear by certain imperial activities and investments. Similar to elsewhere in the empire, imperial interventions range from fortifications, road building, construction or expansion of irrigation systems and all sorts of buildings, most particularly, storerooms and an archive, remains of which are all present or indicated at Old Kandahar.⁴⁵ The previously discussed fragmentary Elamite accounting tablets undoubtedly hint at how administration was conducted in Achaemenid Arachosia in a manner similar to the Persian heartland.

Chorasmis and Persis show that the identification of certain activities enable a more thorough investigation of viniculture in the Achaemenid world, the most telling of which is the imperial investment in irrigation. Not all necessarily led to viticulture, but if the environment allowed for it, then the intensification or initiation of viticulture is arguably one plausible outcome. It is significant that the Argandab river’s output was augmented by the construction of what Helms⁴⁶ termed ‘*qanats*’, a sort of underground tunnel that redirects water for irrigation and consumption. According to Helms, the introduction of ‘*qanats*’ loosely date to the Achaemenid period (sixth and

⁴³ Especially if we keep in mind that *qanats* and reservoirs were often constructed along royal roads to ensure accessibility to drinking water: Polyb. 10.28.

⁴⁴ Callieri 2023, 845-6; Jacobs 1994; Vogelsang 1985; 1990.

⁴⁵ Excavation reports and summary: Ball 1982 (New Edition 2019); McNicoll, Ball 1996; Helms 1997; Vogelsang 1992, 255-61; archives indicated by the presence of the Elamite tablets.

⁴⁶ Helms 1997, 3.

fifth centuries BC).⁴⁷ Without further excavation or survey work in Kandahar we are unable to reassess what sort of irrigation feature Helms has termed ‘*qanat*’, or at what point they were installed.⁴⁸ What is implied by the similarities between the previously mentioned cases of Persis and Chorasmia with that of Arachosia is that the Achaemenid satrapal economy necessitated increased agricultural productivity for which an expansion or introduction of irrigation features, such as *qanats*, certainly occurred. Therefore, we can safely assume that a good number of the many inactive *qanats* surrounding Old Kandahar were put in place during the Achaemenid period.⁴⁹ Pierre Briant⁵⁰ proposed two potential reasons for investment in such a system that highlights how the *qanat* or similar irrigation works can be used as an imperial tool. The first of Briant’s hypotheses centres on the imperial desire to exploit previously unproductive land for agricultural purposes and collect tribute from it. The second hypothesis emphasises the imperial desire to control the main conduits of movement along their royal roads and to ensure a reliable water supply nearby.⁵¹ At Arachosia, these explanations overlap.

Arachosia’s integration into imperial networks, but also elevated position as a regional administrative centre for the southeast,⁵² necessitated certain requirements to be fulfilled and the presence of the irrigation works⁵³ indicate that Arachosia now demanded increased supplies and resources. One such vital commodity along the royal roads was wine (*PFT*) and since Arachosia’s environmental conditions were optimally suited for the cultivation of grapevines it proved as an advantageous imperial investment.⁵⁴ Irrigation was likely critical in the scaling up of vinicultural production in a region where rainwater was insufficient.⁵⁵ Arguably, then, it is

47 Helms’s expresses the accepted position in scholarship which is that the *qanat* was developed in the first half of the first millennium BC and spread in the second half of the of the first millennium BC under the Achaemenids.

48 Boucharlat 2021, 326: While it is certainly true that irrigation works in the eastern half of Iran and southern Afghanistan were initiated in pre-Achaemenid times around the first half of the first millennium BC, these irrigation techniques, according to Boucharlat, differed from *qanats* in the sense that they were not as deep. For *qanat* terminology, see: R. Boucharlat 2001, 157-9. See also the underground Achaemenid irrigation works in Hyrcania according to Polyb. 10.28.2-4.

49 For the active and inactive *qanats* in the Kandahar Valley see: Stinson et al. 2016.

50 Briant 2003, 45.

51 Briant 2003, 45.

52 Callieri 2023, 845-6.

53 Helms 1997, 3.

54 Arab, Ahamed 2022, 6: 8; Abdullaf et al. 2021, 8: 19; Riaz et al. 2020, 4, Table 1; Riaz et al. 2013, 3-4, Table 1.

55 Bowlby, White 2019, 18-23 (fig. 1.3).

under the Achaemenids that Arachosia's vinicultural industry grew into widespread production and consumption with the related development of its trade and export (see below). Keeping in mind Briant's hypotheses, the Achaemenid irrigation policies sought not only to demonstrate imperial interest in a region but also to increase agricultural offerings from tributary lands: a way for regional wines to end up on the King's table.⁵⁶ If we accept that the satrapal transformation of Arachosia necessarily included an expansion of *qanats*, the irrigation investments could be viewed as an attempt to ensure that wine became a tribute commodity and to foster consistent administrative practices throughout the empire. This brings a different understanding to the relief work from the eastern stairs of the Apadana at Persepolis.

4 Drinking Cups in Arachosia: The Imperial and the Local

If the *PFT* and Greek historiographers make anything clear, it is as St John Simpson has written: "wine was synonymous with the Persian Banquet";⁵⁷ and as a result precious metal drinking cups formed a central part of Achaemenid tableware. However, as Simpson has already pointed out, without residue analysis we cannot be certain of what was consumed within these drinking cups.⁵⁸ Drawing from the Assyrian repertoire, what we can perhaps agree on is that in the Achaemenid world the image of the drinking cup acted to signify the consumption of wine. David Stronach has discussed how the consumption of wine held a prestigious place in the Assyrian context and in Assyria, within the ninth and seventh century BC wine became a status- and rank-conferring commodity where the possession and disbursement of wine expressed royal authority and, as a result, the drinking bowl became a symbol of such authority.⁵⁹ It is

⁵⁶ Briant 2003, 45. We can imagine that court centres likely drew from the regions around them and served regionally specific wines at the King's table. Dahlén 2017, 107-8: As Dahlén has discussed, Polyaeus states that the wine offered in Ecbatana were different than those from Susa and Babylon. In the case of the latter two, the wine was a mixture of grape and palm. See: Polyaeus *Strat.* 4.3.32.

⁵⁷ Simpson 2005, 104.

⁵⁸ Simpson 2005, 110-11. As Simpson had noted already in 2005, there is a significant gap in organic residue analysis on ceramics in the Iranian Plateau with its application mainly on Bronze Age and earlier material. See for example the career-spanning work by P.E. McGovern or V.R. Badler. Although there has not been much development in this field since Simpson's remark, the use of organic residue analysis at the Achaemenid site of Kani-Zirin in western Iran has yielded traces of grape products: Qanberi-Taheri et al. 2020.

⁵⁹ Stronach 1996, 183: "With reference to one of several canonical ways in which the Assyrian King could be represented, such ninth century monarchs as Assurnasirpal

within this continuum that we should contextualise the imagery of drinking bowls in the Achaemenid world and it is not without reason that ten of the twenty-three tribute bearers shown on the Apadana reliefs at Persepolis carry drinking vessels.

Elsbeth Dusinberre⁶⁰ has argued how the great number of wine vessels featured on the Apadana reliefs outline their importance to the imperial authority and showcase their significance as indicators of imperium. For Dusinberre,⁶¹ the use of standardised vessels by elites across the empire, particularly the Achaemenid bowl (a deep cup with a carinated rim), the *phialai*, round-bottomed bowls, and animal-protome rhyton, indicate elite membership to a culture dictated by the King's court. Out of the four vessel types, the Achaemenid bowl and round-bottomed bowl are the two which feature on the Apadana relief. It is the conformity of these two vessel shapes in their depiction on the reliefs that to Dusinberre (and borrowing from Calymeyer 1993), indicate that "metal drinking vessels look alike no matter where the elite use them", and this statement is supported by the archaeological finds of drinking vessels from Anatolia and their depictions on seals from the Fortification archive.⁶² However, I would differ from Dusinberre in one regard: the Persepolis reliefs are imperially patronised artistic representations from the point of view of the King, not a representation of or by local elites. As Jacobs⁶³ has shown, Achaemenid monumental art was limited to the members of the inner court and was made to express certain values to the successor of the Achaemenid empire. The messaging of the reliefs was not for local elites around the empire, instead it offered regionally specific associations visualised from the centre's view to convey an understanding of the empire from one King to the next. The Apadana reliefs in this way are a representation of the imperial network directed and viewed from one way: centre in. And so, as a metaphorical representation of the constituent parts of the empire and their respective offerings, the Apadana reliefs allow a unique insight into the various associations of each region as held by the King (or the imperial court in the heartland).⁶⁴

and Shalmaneser III can be seen to have turned with enthusiasm to the potent symbol of a drinking bowl – a recurrent attribute of gods and Kings going back at least the third millennium BC".

⁶⁰ Dusinberre 2013, 130.

⁶¹ Dusinberre 2013, 129.

⁶² Dusinberre 2013, 130.

⁶³ Jacobs 2021, 757-8.

⁶⁴ That the delegations are differentiated by clothes, appearance, and regionally specific gifts is certainly a long-standing idea, see for example: Gropp 2009, 296; Sancisi-Weedenburg 2001, 326; Dusinberre 1999, 100; Muscarella 1988, 23-8.

While the identity of the individual delegations are not entirely certain, four out of the ten groups that carry drinking vessels are accompanied by the Bactrian camel which lends a regionally specific association to the land in and around that of Arachosia and its neighbours, the natural habitat of the camel. Given the fact that Arachosia functioned as a regional centre for the southeast we can agree that they would, without doubt, be featured as one of the delegations featuring the Bactrian camel. Beyond the regional specificity of the animal, identification of the Arachosians is possible because there are clear and distinct iconographic attributes that we see shared with the throne-bearing Arachosians featured on the tomb of Darius I and the southern tomb at Persepolis who are identified through accompanying inscriptions.⁶⁵ The belted tunic and trousers tucked into boots as well as the beard and filleted hairstyle seen across a corpus of throne-bearer reliefs seems to indicate that Delegation 15 on the eastern stairway is the likeliest representation of the Arachosians as has also been proposed by Koch and Gropp [fig. 1].⁶⁶ Therefore, already by the point of the relief's production, in the sixth to fifth centuries BC, Arachosia is able to offer wine as a tribute to the King or at the very least, in the King's mind, Arachosia represents an area that produces wine, probably as a result of imperial investment in irrigation works that scaled up viticulture in the area (see above). This point of representing wine tribute as a regionally specific association is made clearer by the fact that the nine other delegations, even with loose identifications, are largely well known wine producing areas such as Armenia, Syria, or Ionia.⁶⁷

That the association of Arachosia with wine in the Achaemenid court was one borne out of a reality can be verified in the distribution of Arachosian wine in the imperial network. Towards the end of the Achaemenid period in Arachosia, a document exists with Arachosia as a great source of wine: a fourth-century BC Aramaic leather document from the vicinity of ancient Bactria.⁶⁸ Document C1⁶⁹ is a supply list of the last Achaemenid satrap of Bactria. Bessos, the aforementioned satrap, removed items from the store in order to replenish his travel supplies not only for his own consumption but also for

⁶⁵ Callieri 2023, 842: Callieri has recently pointed out there are four other royal tombs that repeat the scene. It is through the combination of these scenes that we can reconstruct the identities of the delegations. Especially since the relief work is better preserved on the other tombs than the tomb of Darius I or the southern tomb at Persepolis.

⁶⁶ Koch 1997, 58; Gropp 2009, 294.

⁶⁷ To be discussed in my forthcoming dissertation.

⁶⁸ Naveh, Shaked 2012, 178-83; *Khalili Collection or Ancient Aramaic Documents from Bactria, AADB*.

⁶⁹ Naveh, Shaked 2012, 178-9; *AADB*.

offerings and sacrifices that are listed separately. In the list of items for personal consumption in line 31 we find that he removes 120 *mariš* (approx. 1200 litres) of Arachosian wine, for his own consumption.⁷⁰ The substantial amount of Arachosian wine is astounding but so is its presence in a Bactrian storeroom. Not only does this document highlight a relationship between the southeastern and northeastern ends of the Achaemenid empire through the imperial network but it also hints at a regional network of exchange in which Arachosian wine was produced, packaged, and shipped as a desirable commodity for local Bactrian elite consumption. Even within conservative interpretation, we can locate Arachosian wine in Bactria on this occasion in the fourth century BC. The document demonstrates that by the time it was written, Arachosia produced wine that operated within the imperial network as the Persepolis reliefs suggest but also produced wine for local consumption.

By now it is evident that the imperial network transformed Arachosia from a potentially small-scale wine production zone to one with interregional and imperial significance. What the integration of Arachosia into imperial networks and the imperial investments in irrigation and the resultant scaling up of viticulture likely encouraged was a shift in consumption patterns across Arachosian society that also impacted its neighbours, for example Bactria. In fact, it is possible to see this shift in the ceramics at Old Kandahar produced in Iranian styles under the Achaemenid administration. These include similar carinated drinking bowls as those found in Chorasmia and all over the empire.⁷¹ Of interest particularly is Site H, a building in the southwestern portion of Old Kandahar. It is a large Achaemenid building with a series of rooms constructed of rammed earth. Anthony McNicoll concluded that part of Site H was used for storage based on the size of the rooms, the number of thoroughfares and the absence of domestic furnishings but also due to the ceramics.⁷² David Fleming, who published an assessment of the ceramics from site H, identified a considerable number of carinated and uncarinated drinking bowls and a large number of storage jar sherds used likely for the storage of liquids or grains.⁷³

As Fleming noted, the carinated bowls and the storage jars are both minimally differentiated designs that show that the production of these vessels was broadly standardised. Although two bowls from site H also recall metalwork from western Iran from the early

70 AADB C1:31 “hrhwny mry 120”. Translated by Naveh, Shaked 2012, 179: “(wine of) Arachosia, 120 mari”.

71 Minardi 2015, 77-8.

72 McNicoll 1996, 234.

73 Fleming 1996, 367-70.

first millennium and may themselves have been considered prestige items.⁷⁴ While of course one can never make definite statements without chemical analyses to detect residual traces of what was once stored within, however, in light of the evidence presented thus far, the occurrence of carinated bowls and storage jars nevertheless suggest the local storage and consumption of wine. The standardisation and quantity of the bowls and jars should point to a broader communal and normalised drinking practice shared by people beyond the local elites. Thus while the Persepolis relief provides insight into an imperial association of Arachosia to wine likely in the form of tribute and in service of the royal roads, the local material culture suggests that during the Achaemenid period investments were made in viticulture encouraging a drinking culture that became more widespread in Arachosia.

5 Conclusion

Empire formation and consolidation was carried out in a variety of ways in the Achaemenid world. It is evident, however, that establishing a coherent and transferable administrative system across the empire was of vital importance for the efficient functioning of the imperial network and the integration of new regions.⁷⁵ At this macro-level, administrative centres were required to operate in certain standardised ways and to fulfil specific obligations like, for example, the upkeep of royal roads.⁷⁶ It is within these administrative functions that we can contextualise the importance of wine in the Achaemenid world and begin to understand the official search for and cultivation of vineyards around the empire towards a perspective that goes beyond but also includes conventional narratives of wine's role in feasting and dining. From the administrative texts (*PFT*; *AADB*) it becomes clear that administrative centres were obligated to produce, store, and offer wine along royal roads in the imperial network. As such, wine's role as a social, economic, and religious commodity justifies the Achaemenid investment in scaling-up or initiating viticulture across the empire. In this system, wine was a regional commodity that operated within the local (micro) network as a means to maintain the imperial (macro) network.

Using the administrative regions of Persis and Chorasmia as foils, Arachosian wine seems to develop largely in part to meet its new administrative obligations and is evidently transformed by its

⁷⁴ Fleming 1996, 368.

⁷⁵ Briant 2010, 43; Henkelman 2011, 578-9; Jacobs 2021, 847.

⁷⁶ Briant 2002, 448; Stark 2021, 699.

integration into an imperial network, especially in its servicing of the eastern end of the imperial road network. As various forms of *vitis*, including *vinifera*, are wild and native to parts of Afghanistan and the particular soil and climate of the area is favourable for the growing of grapes, Arachosia's environment was already susceptible to viticulture.⁷⁷ While pre-Achaemenid wine production in Arachosia remains to be explored archaeologically and palaeobotanically, it is clear that viticulture was scaled-up and integrated into an imperial network under the Achaemenids; alternatively, it may have also begun only at that point. One way in which we can trace Achaemenid investment in Arachosian wine is through irrigation works that are implied through the many inactive *qanats* installed to augment the Arghandab river,⁷⁸ the main water source for Old Kandahar. Not only do the irrigation investments indicate an interest in maximising Arachosian agricultural output to meet a higher demand due to its new position as regional centre, but the projects also suggest a scaling up of viticulture in the area and the widespread consumption of wine in Arachosia, which is also reflected in both the administrative texts and the ceramic material found at the site.

That Arachosia was associated with wine in the Achaemenid psyche and heartland by as early as the sixth to fifth centuries BC, dates contemporary to the augmentation of the Arghandab, is demonstrated by the offering of wine vessels by the delegation of the Arachosians in the eastern stairway Apadana reliefs at Persepolis. Drinking vessels in Near Eastern art often signify wine consumption in pictorial terms and so we must not underestimate its presence as a tribute in reliefs made to visualise the imperial network from one King to another.⁷⁹ This association is verified by the distribution of Arachosian wine in imperial networks by its mention in the *PFT* as a traveller's ration on their way from Arachosia to Susa, which also dates to the sixth to fifth centuries BC. It is revealed through its presence in a Bactrian storeroom and removal by Bessos, the once satrap of Bactria, that by the fourth century BC Arachosian wine became a desirable and speciality commodity in other regions of the Achaemenid empire (*AADB* C1). In this way, we can begin to see how Achaemenid investments and infrastructure in Arachosia, in combination with evidence from Chorasmia,⁸⁰ set up what would later become the Central-Asian sub-regional network of wine under the Arsacids, some few hundred years later.⁸¹

⁷⁷ Abdullaf et al. 2021, 8: 19; Riaz et al. 2020, 4: Table 1; Riaz et al. 2013, 3-4, Table 1.

⁷⁸ Helms 1997, 3; Stinson et al. 2016, 451.

⁷⁹ Stronach 1996, 183; Jacobs 2021, 757-8.

⁸⁰ Minardi 2016.

⁸¹ Johal forthcoming.

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