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**Cross-Cultural Exchange in the Post-Medieval Adriatic: An  
examination of glass artefacts from the 15<sup>th</sup> through mid-18<sup>th</sup> centuries**

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# **ABSTRACT**

The early-modern Adriatic was a conduit for the exchange of goods, ideas, and people. At the time, this region was divided between three leading economic and political powers: the Republic of Venice, the Ottoman Empire, and the Holy Roman Empire. It was also filled with a diverse array of peoples of different ethnicities and religions. Nevertheless, these people interacted across these political and cultural boundaries on a daily basis. This thesis will look at how the material culture produced, traded, and used in this region was able to help create and define the identities of individuals and groups.

The trade of glass is the specific focus of this research, as it was able to be shaped and manipulated by craftsmen to fulfil the needs and desires of the consumer. This was also a thriving industry in Venice, which led the way in both technology and fashion. Venetian products were traded around the world, and these objects were replicated in factories throughout Europe. The Ottoman Empire was a large market for goods produced both in Venice and in the study area at Dubrovnik. In the past, scholarly attention has generally been concentrated on the direct interactions between Venice and the Ottoman Empire. However, as this study aims to demonstrate, this industry also relied on the participation of intermediaries, both individuals and smaller port cities in the eastern Adriatic. It will therefore examine how and where this glass was made, how it was transported to its final destination, how it was used, and why it might have been chosen over another type of object available to the consumer. In doing so, this work will highlight the active role that this region played within the wider narrative of East-West trade.

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# I

## INTRODUCTION

The political, economic, and social changes which occurred in the early modern period brought about new ideals and attitudes towards material culture, beginning first in Italy and its environs but later disseminating throughout much of the rest of the world. Increasingly urban lifestyles amongst the elite, New World encounters and the new trade routes which developed as a result, and technological advancements in artisanal crafts created both the supply and the demand of an increasingly varied array of material goods. These goods, in turn, were gradually becoming more accessible to a broader portion of the population. One of the industries which underwent significant developments during this time, benefitting from technical innovation and stylistic inspiration from other crafts, was glassmaking, the focus of this research. Glass as a material was particularly suitable for being adapted to the evolving needs and tastes of early-modern society. Its versatile nature allowed it to be shaped not only by the glassmaker, but by the evolving desires of the consumer. It could be fashioned into a simple, plain beaker by a glassmaker in an ambulatory workshop to be used by a family of lesser means, or it could be manipulated by the masters of Venice, the most skilled glassmakers of the era, to form progressively elaborate, purely decorative objects of admiration amongst the elite. At a time when the consumption of material culture was being used as ‘a creative force to construct a cultural identity’ (Goldthwaite 1993: 243), glass objects could be imbued with symbolic meaning to be observed and interpreted by one’s peers, as well as by outsiders.

Over the next twelve chapters, this thesis will present glass vessels, windows, mirrors, and beads which have been excavated both from ships which have sunk in the eastern Adriatic and from sites on the coast. This region is especially pertinent for using glass artefacts to examine questions of identity and exchange in the early modern period. Located in the southeastern corner of Europe, the people of the Western Balkans were caught between the political designs and territorial aspirations of three different world powers: the Republic of Venice, the Ottoman Empire, and the Holy Roman Empire. As a triple frontier (see *map 1.1*), subjects of these three polities (and a fourth, the small Republic of Ragusa) had to not only endure the hostilities between states, but also navigate the everyday exchanges of goods, ideas, and people across these frequently-changing borders. In addition, as a part of Venice’s *Stato da Mar*, its overseas possessions, Dalmatia also played an especially significant part in facilitating both economic and cultural exchange between Europe and the Ottoman Empire. The many ports and islands which line the coast offered Venetian merchants safe harbours when travelling

through the Adriatic, during a time when merchant vessels were under threat from bad weather, enemy navies, and pirates. More importantly, however, it is becoming increasingly apparent that these smaller entities along the eastern Adriatic also acted as important producers and intermediaries in this East-West trade. The aim of this thesis, therefore, is to analyse the glass assemblages of these different communities in order to examine this region's roles as producers, intermediaries, and consumers in the international glass trade, and in doing so, also question the ways in which these objects could be used to shape and assert the identities of both individuals and groups.

## QUESTIONS AND AIMS

The five shipwreck assemblages presented in Chapter VII are particularly vital in determining the movements of these objects. As Chapter III will illustrate, trade through the Adriatic and the Balkans took place via an intricate network of maritime and caravan routes which were connected to each other by the port cities of Dalmatia (almost entirely under Venetian control), Montenegro (at various times occupied by Venice, the Ottoman Empire, or both), and Albania (almost entirely Ottoman territory). By looking at the glass cargos of these shipwrecks and comparing these artefacts to assemblages not only on the coast, but also further inland at points along the caravan roads, trade patterns can be surmised. Cultural exchange along these routes can also be investigated by determining what types of objects were used in different areas or amongst different populations within this region. The questions which can be immediately asked of these objects are: where were they found, where did they come from, and how were they used? By answering these questions, one might also be able to extrapolate how these objects travelled from their provenance to their final location, and perhaps even why those objects in particular were favoured over objects produced in a different location or in a different style.

To answer the first question, the sites examined in this thesis have been divided into five geographic regions: Istria and the Kvarner Gulf, Northern Dalmatia, Central Dalmatia, the area of the Republic of Ragusa and what was known as 'Venetian Albania', and the Central Balkans. In some ways, this research has been impeded by the variable amount and quality of information available for each area. Many excavation reports are no longer available, having been either lost or destroyed during the wars of the late 1990s and the subsequent dissolution of Yugoslavia. Many of those excavation notes still in existence are incomplete, or have been recorded in such a way that context is difficult to determine. Therefore, the exact location and context from which these artefacts were excavated is oftentimes unknown. However, these objects should not be discounted, as they can still provide valuable information about what types of glass goods were being used at what time in different settlements across the region. General dating can be surmised through analogies both within the region and around the world, as this was a time when Venetian and *façon de Venise* glass was being traded across the globe.

Even only knowing the town or city in which these artefacts were discovered can provide insight into the various trade routes which were being utilised by merchants and intermediaries at different points in the region's history. Patterns emerge, illustrating the preferences in forms and styles of the people living in each location.

Determining the provenance of these artefacts can also prove difficult. Many scholars today utilise X-ray fluorescence (XRF) or ion-beam analysis methods, such as particle induced X-ray emission (PIXE) and particle induced gamma emission (PIGE), to analyse the elemental components of the glass artefacts they are researching. Indeed, these methods have been applied to several assemblages in the region (see, for example, Šmit and Kos 2005; Jackson 2006; and Topić, Bogdanović Radović, Fazinić, and Skoko 2016). These studies aim to ascertain the chemical composition of this glass, and in doing so pinpoint the raw materials used to create it. While all glass at the time was produced using the same basic ingredients (consisting of silica and a flux), these raw materials could be obtained from a variety of different sources and could vary significantly in quality.

Perhaps the greatest difference in glass composition is between glass made using soda-ash as a flux, and that made using potash (as will be described in Chapter V). Venetian glassmakers were renowned for their production of a very fine, brilliant, colourless glass known as *crystallo*, which required the use of some of the purest raw ingredients available at the time. These glassmakers had very specific preferred sources for these ingredients: a relatively local source of pure, quartzite pebbles for the silica, and the ashes of plants from Syria for the flux. As Venetian glassmakers emigrated to establish workshops in other parts of Europe, however, they had to resign themselves to using whatever was available locally or could be imported at that point in time. In *façon de Venise* factories making glass in the Venetian style across Northern Europe, which traditionally had different glassmaking methods from Venice and the rest of Southern Europe, the use of different alkalis other than soda-ash makes it easy to distinguish locally-produced wares from imported Venetian ones, and particularly *crystallo* from *vitrum blanchum*, a lesser-quality clear, colourless glass which had been produced there. However, distinguishing between non-Venetian producers, and especially between different soda-rich glasses, becomes more problematic, and it can be difficult to determine the source of certain chemical elements found in these glasses (Bronk, Schulze, Ritsema van Eck, and Bartel 2000: 344). Pisan glassmakers were also using the ash of *Salsola kali*, similar to Venice but in different proportions, while in France they used *Salicornia* ashes (Pause 2000: 324). Although glass workshops of the *Terraferma* (Venice's mainland Italian possessions) were prohibited from using the superior ashes found in Venetian workshops, they often relied on importing these ashes from another port city such as Ancona, or even on ashes smuggled out of Venice illegally (Jacoby 1993: 81). In the later period especially, when the Venetian industry was under threat from foreign competition, petitions were put forward to allow glassmakers to use cheaper soda ash from Spain or local sources, for example, in order to remain financially solvent (Ashtor

1983: 521). Therefore, determining the glass's provenance based on the flux with any amount of certainty is unlikely in the study area, where many glassmaking centres had access to similar resources. The silica source might be more revealing than the flux when determining provenance; yet again, this is assuming that Venetian glassmakers were only using the one silica source recommended for producing *crystallo* and had indeed ceased producing the lesser *vitrum blanchum* altogether. Indeed, the quality of glass being produced in the Venetian glass factories on Murano will be called into question in the course of this thesis. However, the difficulties presented by this type of analysis, combined with prohibitive costs and restrictions on transporting these artefacts away from the museums in which they are stored, have all added to the decision to not conduct elemental analysis on the assemblages presented in this study. Rather, the focus of this thesis is placed on the other two questions asked of these artefacts—their find location and their function—which the author believes are more imperative to the aims of this research.

## THE THESIS IN RELATION TO PREVIOUS SCHOLARSHIP

Scholarship on glass in the Central Balkans in particular was prolific in the mid-20<sup>th</sup> century (especially by Verena Han and Marian Wenzel) before experiencing a decline in interest during the latter part of the century. However, more recently the study of medieval and post-medieval glass has experienced a resurgence in the region, sparked in a large part by the discovery of the well-studied glass assemblage aboard the Gnalić wreck, documented by Irena Lazar and Hugh Willmott in 2006. Fragments of over 4,000 glass objects, including vessels, mirrors, windows, and beads, have given scholars an unparalleled glimpse into glass production and trade in the late 16<sup>th</sup> century. There are now several experts applying their knowledge to assemblages throughout the region, in particular Luka Bekić (especially for Istria), Nikolina Topić in the Dubrovnik environs, Margherita Ferri at Stari Bar in Montenegro, Irena Lazar, Mateja Kos, and Žiga Šmit in Slovenia, and Irena Radić Rossi and Teresa Medici's work on glass from the Koločep wreck. Nevertheless, there has yet to be a survey which both covers the expanse of the region and puts these artefacts in their historical context, bringing into question not only the production methods with which these goods were made, but also the trade links which allowed these goods to reach their destination, and the social factors which dictated which objects were desirable and how they were to be used.

With that in mind, this thesis has been divided into two parts. The first will look at the political and social changes which affected the people of the Western Balkans and also influenced the production of glass and other material culture during the early modern period. A brief overview of the political events of this period will be provided in Chapter II. However, this chapter will also focus on the effects of Venetian, Ottoman, and Habsburg rule on the region. Chapter III will look at economic exchange between those three states, and Ragusa, but again will also examine the role which Dalmatia and the rest of the Western Balkans played in the

trade of both staples and luxury goods. The following chapter will then describe the changing relationships people had with material culture during the early modern period, both in Italy and in the Ottoman Empire. It will also discuss whether the various peoples of the Balkans had consumption practices similar to the Italians, to the Ottomans, something in between, or something altogether different. Before continuing on to the second part of the thesis, Chapter V will explain the developments of glassmaking technology from the late Middle Ages through the end of Venice's reign as Europe's leading luxury glass centre in the late 17<sup>th</sup> century.

Part Two of this thesis will then examine glass specifically as it was produced, traded, and used in the Balkans. Chapter VI will provide a typology of the most commonly found types of vessels, windows, mirrors, and beads in the study region and will discuss their likely provenances and chronologies. Shipwreck assemblages will then be discussed in Chapter VII as it attempts to illustrate these ships' directions of travel and the intended consumers for the goods which they carried. The following five chapters will then look at the five regions of the study area individually, beginning first with Istria and the Kvarner Gulf, with a closer look at the glass assemblage from the town of Osor. Chapter IX will cover Northern Dalmatia, examining glass from Šibenik in particular, while Chapter X describes the assemblage from Trogir and glass used elsewhere in Central Dalmatia. Published materials analysing glass from the area of the former Republic of Ragusa and what was known as Venetian Albania (parts of Montenegro and Albania) will be compared in Chapter XI. Finally, Chapter XII will focus on Belgrade, Osijek, and other sites in Serbia, Bosnia, Hercegovina, and Kosovo.

Considering all of the different locations studied in this thesis, a comment must be made on the place names used. In most cases, modern place names are referenced, rather than their early-modern, Italian equivalents. As one of the primary objectives of this thesis is to examine the trade routes used by the glass trade in the region, the choice of using modern Croatian place names has been made to aid those less familiar with the area in orientating themselves on modern maps. However, the 'Republic of Ragusa' is used frequently throughout the text, as it is the name commonly used in English when discussing Dubrovnik's history. Other cities which have well-known English translations, such as Venice, Belgrade, etc., are referred to by these names as well, rather than as Venezia or Beograd. The Italian names of many of these cities, towns, and islands can be found in the Appendices. In some cases, the place names used in this thesis also differ from the ones used in some of the secondary sources referenced within it. Again, this is done to aid the reader in interpreting the data with the help of online maps, rather than to make any sort of political statement regarding the languages used in different regions.

In looking at these different regions both individually and as a whole, this thesis will examine how the use of material culture in this frontier zone was shaped by the relationships between the different peoples which lived there and between these groups and their Venetian, Ottoman, or Habsburg colonisers. By focusing primarily on the 15<sup>th</sup> through mid-18<sup>th</sup> centuries, this thesis looks to cover the span of Venice's primacy in both the glass industry and Eastern

Mediterranean trade. Objects from the 15<sup>th</sup> century and slightly earlier draw attention to the amount of continuity in some methods and styles from the Middle Ages, and further highlight the break with these traditions which occurred in the late 15<sup>th</sup> through 17<sup>th</sup> centuries with Venice's ascent as leading luxury glass producer and their development of a very distinctive style. Finally, the mid-18<sup>th</sup> century has been chosen as an ending point for this chronology, as it aligns with the replacement of Venetian soda-rich glass with Bohemian and English refined-potash glass by the end of the 17<sup>th</sup> century. The relationships these different regions had with the Venetian, and other, glass industries during this time will help to illustrate the role of smaller, intermediary cities and towns within the broader narrative of trade between Europe and the Ottoman Empire.





**Map 1.1.** The political boundaries in the Adriatic region during the early modern period. It should be remembered that these borders were not static, and frequently fluctuated as a result of both treaties and local incursions.



## **II**

# **BORDERS, FRONTIERS, AND ZONES OF EXCHANGE**

The geographic positioning of the Balkans at the edge of Europe, at the door of Anatolia and by extension all of Asia, has long inspired historians, ethnographers, political commentators, war correspondents, and many others to reflect on its unique situation—both real and imagined—as the intersection of East and West, where all of the incompatible aspects of these two seemingly incongruous sides met, broke against each other, and eventually melded. Of course, to reduce the history of relations between Europe and the Ottoman Empire to nothing but a history of perpetual, irreconcilable difference and imbalance is reductive, particularly in that it obfuscates the daily realities of the many intermediaries between these zones of influence as well as the non-elites in the frontiers. While this contentious narrative remains appealing to some, there have also been many arguing for a change in the way these cross-cultural encounters are studied (Finkel 2005; Rothman 2012). However, the idea that the Balkans in particular represent the tempestuous product of this fundamentally dichotomous relationship has been harder to shake. This difficulty has perhaps been compounded by an inability to succinctly and definitively outline the needs and objectives of some sort of interdisciplinary Balkan studies, in the same way that other regional or thematic studies have been established. In the study of Balkan history, it is imperative to have an understanding of the intricacies of Ottoman and European relations and the historiography surrounding it, which was in turn influenced by 19<sup>th</sup> and 20<sup>th</sup> century biases and agendas. Yet, while it is important to acknowledge how these greater, overarching political affairs shaped the history of the Balkans, and the ways in which the region was later studied, the Balkans are both a part of this grand narrative and an entity altogether unique from its sovereigns in both its history and the study of its history. For that reason this chapter will attempt to avoid becoming another political or military history in the sense of recounting the names of battles and generals, and instead will focus on the consequences of these frequent conflicts, and their subsequent treaties and periods of peace, as reflected within the Balkans—questions of colonialism, religion, and migrations of large populations. After briefly discussing the ways in which Balkan history has been studied both in the past and more recently, this chapter will look at the ways in which the convergence of Venetian, Ottoman, Habsburg, and Ragusan territories of interest created a large and fluid frontier zone, and the

effect that this had on exchange across these changeable borders. Finally, it will question the interactions between centre and periphery within the Venetian colonies of Dalmatia.

## HISTORIOGRAPHY AND THE INFLUENCE OF *ORIENTALISM* ON BALKANISM

The study of early-modern Balkan history has the added difficulty of being at the convergence of multiple historiographies, many of which have been shaped, as they have elsewhere but in this case perhaps even more so, by 19<sup>th</sup>-century European reflections on nationalism and the East. The ways in which the histories of Venice and the Ottoman Empire have been studied are reflected in the histories of Dalmatia and the rest of the Balkans, where historians have grappled with defining the extent to which this region formed a bridge between these two cultures.

Venice's history as it has since been presented was shaped by myth and memory, beginning in the final years of the Republic with the glorification of Venice's explorers of previous centuries (Howard 2005: 44), and continuing through the 19<sup>th</sup> century, following the Republic's demise. Over the next two centuries, the creation of a Venetian historiography was shaped by peeling back layers of nostalgia in an attempt to uncover Venice's imperfections, focusing on themes of weakness and decline, thus determining the Republic's failure; however, this was followed, in the wake of a newly unified Italy, by a resurgence of celebration for Venice's strength. A large part of the 'myth' of Venice revolved around the Republic's relationship with its overseas territories, particularly regarding ideas of loyalty and sovereignty (Povolo 2000: 502, 508). Venice—in an attempt to affiliate itself with the rest of Europe—at times looked upon its Dalmatian territories through an almost 'orientalist' lens, which was, perhaps, even more important for asserting Venice's own sense of identity. After all, the city's earlier Byzantine connections put it dangerously close to being viewed by westerners as part of the exotic East (Wolff 2001: 17).

The historiography of the Ottoman Empire has also been moulded by a similar narrative of decrepitude and degeneration initiated in 19<sup>th</sup>-century Western European histories. This only added to the long-standing practice of 'othering' the Ottoman world and the rest of Asia. *Orientalism* initiated the conversation needed to move on from this dated perspective, and many have been eager to directly or indirectly apply Said's model to the study of the Balkans (such as Goldsworthy 1998 and Hammond 2007). However, as this section will show, fundamental differences between Said's subject and this region's history, and the ways in which these were studied by the West, mean that the ideas presented in *Orientalism* cannot be transposed directly onto the situation in the Ottoman Balkans. Nevertheless, this prevailing assumption of a duality between East and West has remained relevant to the discussion of Ottoman history in particular (Bryce 2013: 100), and thus should be addressed while examining the nuances of the study of Balkan history.

In the case of the Ottoman Empire and the study of it, the lack of a colonial narrative, in the sense that it is present in Said's Arab Middle East, does not allow for a wholesale adoption of the model outlined in his book. The implications of empire and colonialism as it was practiced within the Balkans will be discussed later in this chapter. Before that, however, it is important to emphasise that for the Ottoman Empire—and to an extent Venice's colonial aspirations and practices as well (Georgopoulou 2001: 10)—this was a form of empire modelled after Rome and Byzantium, in stark contrast to the models of 18<sup>th</sup> and 19<sup>th</sup> century colonialism which Said's work considered (Fleming 2000: 1222). A number of early-modern sultans envisioned their rule as a continuation of the tradition set forth by the Caesars, and viewed the histories of Athens, Sparta, Carthage, and Rome in the same regard as their European peers did (Finkel 2005: 157). This framework of imperial ideals was shared with contemporary European, Christian empires, such as that of the regionally relevant Habsburgs, the Holy Roman Empire, which indicates that there was an overt intellectual and material (in addition to political) fabric that was mutually understood across Christian and Muslim boundaries (Norton 2013: 19).

The works of European humanist writers also reflect a confused relationship with the ostensible enemy to the east—at times to be represented as backwards and barbaric, and at others as virtuous and austere. This mixture of both fear and curiosity during the Renaissance helped European attitudes towards Islam and Asia to evolve from nascent medieval, Crusader rhetoric into the mirroring, 'othering' dynamic of the subsequent period (Bisaha 2004: 9). Yet, the affluence and power of the Ottoman Empire had all but disappeared from the collective imagination of Europe by the 18<sup>th</sup> and 19<sup>th</sup> centuries, so that any previous or contemporary achievements were incongruous with the burgeoning European political and social consciousness and were thus dismissed (Hammond 2007:206). As 'The Sick Man of Europe', the Ottoman Empire no longer commanded the same awe and respect when viewed through the lens of imperialism and standards of civilisation which developed in the 19<sup>th</sup>-century West. When juxtaposed against European New World territorial expansion, the apparent stagnation of Ottoman conquest during the Enlightenment was seen as a veritable 'decline', an image which has persisted to this day (Finkel 2005: 154).

Despite the reality of the situation being quite different, the Sublime Porte (the centre of Ottoman government with whom Europeans engaged in diplomatic relations) was utilised as a convenient archetype of despotism, languor, and malaise, enabling, in a binary view of the world, a Europe which must therefore be civilised, industrious, and virile. In the early 17<sup>th</sup> century, Henry Blount (1664: 4) introduced the account of his travels to Turkey and the Levant by explaining:

'Then seeing the customes of men are much swayed by their natural dispositions, which are originally inspired and composed by the Climate, whose aire and influence they receive, it seems natural, that to our *North-west* parts of the World, no people should be more averse, and strange of behaviour, then those of the *South-East*.'

Ottoman specialists over the last few decades have attempted to push beyond this paradigm. Although they no longer speak in terms of ‘natural dispositions’ which are inherently polar opposites, some scholars have still remained reluctant to abandon the narrative of cultural conflict in favour of viewing the empire as part of a Braudelian Mediterranean history, or as part of a shared, interactive space as conveyed by Molly Greene’s analysis of Crete and the Eastern Mediterranean (Greene 2000: 3). Part of this issue may stem from a persistent struggle between the *known* and the *unknown*, operating alongside notions of the *self* versus the *other*, which developed during Western Europe’s ‘discovery’ of the Balkans. If Europe was known and the Ottoman Empire unknown, then the Balkans occupied an ambiguous and somewhat uncomfortable position as ‘the other within’ (Hammond 2007: 205).

During the Early Modern period, Western Europe gained much of its insight on Southeast Europe through the tales, which grew increasingly political in tone over the years (Todorova 1997: 95), of the few travellers and later ‘tourists’ who ventured there. The latter of these were en route to the archaeological treasures of Greece, or further afield to Istanbul and beyond, including Lord Byron and John Bacon Sawrey Morritt to name but two. What information that did trickle in to the West was often prefaced by the acknowledgement that the reader, along with the narrator, was about to enter uncharted territory. Despite Said’s assertion that Western European views on the East prior to the Enlightenment were heavily influenced by ‘Christian supernaturalism’, earlier writers, such as Blount, set out to produce a rational and sceptical account of the Orient based on first-hand observation (MacLean 2004: 123). Blount admitted that his admiration of the Turks was part of his motivation for visiting their lands, but also that he was driven by a desire to experience the unknown, in a way that his previous journeys to Italy, France, and Spain could not provide him as Christian lands ‘conformable to our own’ (Blount 1664: 3). Almost a century later in 1717, this sense of unfamiliarity with the region was echoed by Lady Mary Wortley Montague in a letter to the Princess of Wales written from Adrianople, in which she entertains the princess with ‘an account of places utterly unknown amongst us’ (Wortley Montague 1798: 64). Even the Venetians, who had a great deal of interest in their territories in the region, had only imperfect information on the expanses directly adjacent to their own; and as will be discussed in the next chapter, there were significant gaps in their knowledge of Dalmatia as well. Alberto Fortis, a Venetian naturalist and cartographer originally from Padua, lamented his inability to travel to the so-called Clementine Mountains and other inaccessible parts of the countries of the Morlacchi, ‘hitherto undescribed and unknown’ (Fortis 1778: 84). The narrators saw it as their duty, then, to shed light onto the far-off (or not-so-far-off), mysterious reaches of Europe.

Westerners’ perceptions of the Balkans slowly evolved from ‘oriental’ during the 17<sup>th</sup> century into ‘European Turkey’, and then into a ‘hazy and ill-defined part’ of Europe (Fleming 2000: 1229). Philhellenism grew in fashion in the 19<sup>th</sup> century, although many vocal proponents of this movement had never themselves been to Greece, and many who had were primarily

concerned with the land and its history while showing some disdain for the actual modern Greeks they encountered (Todorova 1997: 94). The picture that these authors painted for their captivated audience was often sprinkled with intrigue and risk (Fleming 2000: 1226)—although readers were frequently assured that the roads were not so dire, nor the people so inhospitable, as they may have previously heard (Morritt 1914: 64; Wortley Montague 1798: 75)—and interspersed with glimpses of the picturesque and the exotic. Edward Brown (1673: 46) described that when one ventured as far as Buda, ‘A Man seems to take leave of our World’ and ‘seems to enter upon a new Stage of the World’. Brown went on to explain that as he leaves his familiar, Western customs behind, he ‘enters upon Habits, Manners and course of life; which with no great variety, but under some conformity, extend to China, and the utmost parts of Asia.’ Later writers in the 18<sup>th</sup> and 19<sup>th</sup> centuries enticed their readers with descriptions of the rustic customs of the Vlachs (Romance-speaking pastoralists) and rural Slavs, alongside the allure of the harems and hamams of the Ottoman Empire—visions of pastoral naïveté paired with licentious sensuality. As the harem was purportedly a guarded, gendered space, general knowledge of such forbidden fruit could only be obtained by the male-centred Western world through covert means, relying on fantasy for any further elaboration. Of course, this discounts the first-hand experiences of women travellers who, while Westerners, at least had access to this veiled world for themselves (Foster 2004: 7). Wortley Montagu was one such witness to the rather mundane ‘realities’ hidden behind the hamam walls in Sofia. She assured her readers that she was treated with the utmost civility, despite her strange, Western appearance. In fact, she found that these women were concerned for *her* treatment—rather than the other way around, as her readers might have expected of the stereotyped Ottoman woman—having previously been convinced that the stays which Western women wore were a type of machine from which only her husband could free her (Wortley Montague 1798: 69). She dissuades her readers of any erotic connotations, insisting that ‘there was not the least wanton smile or immodest gesture among them,’ despite their nudity. Instead, this was a noble nudity, as they ‘walked and moved with the same majestic grace, which Milton describes our general mother with’ (Wortley Montague 1798: 68).

This sense of virtuosity, uncorrupted by modern evils, was extended to the rural population as well. For example, Fortis commented on the ‘Innocence, and the natural liberty of pastoral ages’ to be found amongst those Morlachs furthest removed, both physically and metaphorically, from the Italianate settlements of the Dalmatian coast (Fortis 1778: 64). These accolades often harkened to bygone days, yet the pre-romantic language reserved for the music and poems of the Slavs was tainted by assertions of their barbarity. The quaint lifestyle of the countryside was portrayed along with the fierce courage of their warriors, evoking a masculinity, both negatively (Todorova 1994: 14) and positively, which ran counter to the way in which the Orient was often feminised by Western writers (Hammond 2007: 208). At the same time, crude manners and a ‘barbarous ignorance’ of the rich, ancient (*Greek and Roman*)

heritage of the land they inhabited (Fortis 1778: 238) were amongst the faults accredited to them. While Ottoman and European aristocracy may have had a mutually-held admiration of the ancient world, particularly in their desires to resurrect the Roman Empire, the same reverence could not be readily seen in the rural populace, much to the chagrin of Western tourists in search of the descendants of Homer. The reality did not live up to their expectations (Todorova 1994: 465), although this did not entirely discourage a generation of philhellenes who took up the cause of Greek nationalism in the 19<sup>th</sup> century.

Unlike Oriental studies, however, in which Europe's 'rediscovery' of the East was precipitated by the study of the languages and literatures of Asia and the Middle East, outside interest in the Balkans did not have a corresponding 19<sup>th</sup>-century flowering of scholarship and has only recently begun to be approached in a similarly specialised manner (Fleming 2000: 1225-6). This is perhaps one of the greatest arguments for why *Orientalism* cannot be directly applied to Southeastern Europe. While the Orient was seen as a completely alien *other*, the polar opposite of the self, the Balkans were a 'pre-modern version of the self' (Njaradi 2012: 188), and thus did not fulfil the same needs identified by 19<sup>th</sup> and early 20<sup>th</sup>-century scholarship. Moreover, most writing on the Balkans, both past and present and of the past and of the present, represents the region as the bridge between the two 'antiworlds' of East and West (Todorova 1994: 15). Just as *Orientalism* has inspired a change in the study of other regions, it seems time that Balkan studies should retire this polarity once and for all, perhaps instead focusing on 'Balkan cosmopolitanism' in assessing both the past and the present (Njaradi 2012: 197-8). Said's work has also helped to highlight how pervasive these and other stereotypes can be (Hammond 2007: 215), which should be kept in mind when considering the negative stereotypes of the Balkans during the 1990s (Njaradi 2012: 198). The study of the Balkans in the past and the present reveal and create a complex system made up of multiple complimentary and contradictory layers of existence. The greatest, and perhaps most worthwhile, influence *Orientalism* has had on Balkan studies is its emphasis on interdisciplinarity; and in this sense, particularly in regards to the region's position as a cross-roads and frontier, Balkan studies may ultimately offer a conceptual structure that could prove useful in other fields in the future (Fleming 2000: 1231-2). The Balkans as a frontier, not only to the specific sovereign powers which claimed it, but also to the Western European imagination, is proving to be one of the most interesting, and most fruitful, trajectories of study moving forward.

## THE TRIPLE FRONTIER

In addition to being a 'bridge' between East and West, the Balkans were at the intersection between multiple powerful polities. Before nationalism and independence divided the region into a patchwork of different nation states, the majority of the region was ruled over by three distant, foreign sovereigns. In the broadest, most general summary, the area was portioned out to the Venetian Republic along the Adriatic coast, to the Habsburg Empire in the north, and to



the Ottoman Empire from these boundaries to the Black and Aegean Seas. However, these 'borders' were frequently in flux, with localities changing hands as the result of local war and subsequent occupation, or as the result of treaties which resolved wars in other parts of these empires. What remained constant was the region's status as a frontier zone, which has become a defining feature of current Balkan studies.

Before the establishment of these three powers in the Balkans, much of the western region was distributed between numerous feudal estates (Arbel 2013: 222). Between the kingdoms of which they were a part, as was the case with most borders in the Middle Ages, these boundaries were not so much 'lines' as they were 'zones or regions', while the divisions between landed estates were more concrete (Berend 2002: xiii). Hundreds of fortresses were built throughout Croatia between the 12<sup>th</sup> and 15<sup>th</sup> centuries, for although the aristocratic families who erected them might trade with each other and with nearby coastal cities, there was a continual struggle for territorial gain; thus there was a pressing need to defend and control one's surrounding terrain (Ninić, Bojanić Obad Šćitaroci, Krajnik 2013: 401). During the Middle Ages, most of what now constitutes modern Croatia (excluding Istria and occasionally certain Dalmatian cities) along with parts of Bosnia and Hercegovina made up the Kingdom of Croatia, which was joined in a 'personal union' with the Kingdom of Hungary in 1102, a relationship which endured with some variation in form until the 19<sup>th</sup> century. Within the *Pacta Conventa*, Croatia recognised the Hungarian king and his successors and agreed to aid in any defensive, but not offensive, military efforts; however, a certain level of autonomy was maintained by both the Croatian Sabor, or parliament, and the clan leaders (Guldescu 1964: 182). Around this time, Bosnia and Serbia were caught in the firing line between Hungary-Croatia and the Byzantine Empire, which ostensibly controlled the rest of the western and southern Balkans in one manner or another. Amidst frequent territorial disputes between Hungary and the Byzantine Empire, Bosnia gained status as a virtually independent vassal state to Hungary known as the Banate of Bosnia by the end of the 12<sup>th</sup> century (Fine 2006: 4). Meanwhile, the territory of Raška used this opportunity to annex Duklja (roughly modern-day Montenegro) and Kosovo and became the Grand Principality of Serbia, although there remained a divide between central Raška and the coastal territories (Pavlowich 2002: 2). In the meantime, Venice lacked a concrete hold on any territory in Dalmatia or the rest of the Balkans. However, that does not mean that they lacked the determination.

Venetians recognised the competition that Dalmatian cities posed to their dominance over Adriatic trade routes, leading them to attack Ragusa, to no avail, as early as 791 (Carter 1972: 56). Several cities pledged their loyalty to *la Serenissima* for a short time in the 10<sup>th</sup> century, when Venice came to their aid against the threat of Narentine pirates. Venice later joined forces with Constantinople and Henry V of Germany in order to take Zadar, Trogir, Split, and Šibenik from Hungary during the early 12<sup>th</sup> century. Each of these assaults was rebuffed, yet Venice returned less than a decade later, with some success in Zadar. Finally, Dalmatia was

seized by the Byzantine Empire in the second half of the century (Guldescu 1964: 191) (except for Zadar, which Hungary took back from Venice in 1181) setting the stage for the Fourth Crusade. Zadar was specifically targeted in 1202 on the road to Constantinople, or rather, the Levant. This time the city was 'not prepared either morally or physically' to fend off the Crusaders and surrendered, thus beginning Venice's application of influence on Zadar, both politically and through the prolonged process of Venetianisation (Guldescu 1964: 200-1). Following the conquest of Constantinople, Venice was bequeathed a quarter of the city and three-eighths of the empire, most notably Epirus, and over the subsequent years they acquired additional cities up and down the Dalmatian coast. However, Venice's economic interests were prioritised over sheer territorial gain, a policy which would be reiterated throughout much of the republic's history, meaning that inland acquisitions were traded for various ports and islands in hopes of creating a maritime hegemony (Fine 1987: 62; Carter 1972: 84).

Between 1202 and the mid-14<sup>th</sup> century, Venice added Hvar, Brač, Trogir, Šibenik, Split, Nin, Krk, Osor, Cres, and Rab to its collection of territories. Even Dubrovnik was taken into the Venetian fold through three treaties in 1232, 1236, and 1252. In this early incarnation of the *Stato da Mar*, Dalmatian cities and islands acted more as vassals than as colonial subjects (Fine 1987: 337). During this time, Ragusa's constitution and government evolved into roughly the shape which it would shortly have upon becoming independent, and which would endure into the 19<sup>th</sup> century (Carter 1972: 113). However, Dalmatian loyalty to Venice was tested by Hungary and Croatia, who encouraged a rebellion in Zadar in 1345. This effort was quashed, and the city suffered harshly. Nevertheless, over the next decade Hungary formed alliances and came to peace with the newly-established Serbian Empire, and thus was confident of success in another push for Dalmatia in 1356. Venice ultimately submitted and was forced to yield all of its territories between the Kvarner Gulf and Durrës as per the terms of the 1358 Peace of Zadar (Fine 1987: 341). In practice, however, King Ludovik's hold on southern Dalmatia was tenuous due to his weak fleet, and thus Ragusans were granted further autonomy in both their political and economic affairs (Carter 1972: 169).

Contemporaneously, Stefan Dušan's death in 1355 heralded a period of instability within, and the eventual dissolution of, the Serbian Empire. Internal power struggles left the empire vulnerable to imminent Ottoman attack. The Serbian loss at the Battle of Marica in 1371 was vital in exposing the Balkan interior to Ottoman expansion (Fine 1987: 379), followed by the Battle of Kosovo in 1389, which perhaps made a greater impact on Serbian national collective memory with the death of Prince Lazar. Within this same decade, Tvrtko I of Bosnia was also vying for territorial enlargement and managed to capture, with the aid of Croatian allies, most of Slavonia, Croatia, and central Dalmatia, including Šibenik, Trogir, Split, Omiš, and numerous islands; however, he allowed these regions to carry on their pre-existing privileges (Fine 1987: 397). At the turn of the century, these came under the authority of the Angevin Ladislaus, who had taken back the rule of Hungary and Croatia.

Further down the coast, Venice began a new phase of land acquisition by purchasing Corfu and nearby Butrint off the Angevins in 1386 (Nicol 1984: 161). The final Hungarian rights to Dalmatia were relinquished through sale in 1409. This transfer was not conducted without a fight, yet the region succumbed over the course of the subsequent decade—first Pag, Osor and Cres, Rab, Nin, Zadar, Novigrad, Nadin, Obrovac, and Vrana; followed by Oštrovica and Skradin in 1411; Šibenik in 1412; Trogir, Split, Brač, Vis, and Korčula in 1420; Omiš in 1444; Krk, much later in 1480; and various other individual cities and islands in Dalmatia, Montenegro, and parts of Albania. Although Venice's presence in Montenegro and Albania was a less secure and continuous reign, this act essentially brought to a close three centuries of animosity between Hungary and Venice over Dalmatia (Guldescu 1964:234).

Instead, the contest for the Balkans continued with the Ottoman Empire. Apart from a series of revolts in the 1430s and '40s, including the one famously led by George Kastrioti (commonly known as Skanderbeg), the Ottomans claimed all of Albania by 1418, except for intervals of Venetian rule at Butrint and Durrës (Pollo and Puto 1981: 63-5). Most of Serbia was taken in 1459 with the fall of Smederevo. Later, in 1521, Hungary eventually relinquished Belgrade to Suleiman the Magnificent, who subsequently pushed the Empire to its furthest extent in Europe, up to the door of Vienna where his ambition was ultimately held in check. Ottoman control over Serbia would thereafter persevere into the 19<sup>th</sup> century (Fine 1987: 575). Simultaneously, the majority of Bosnia submitted to the Ottomans within only a few weeks after assaults began in 1463, while the final Hungarian territories in Bosnia followed in 1527. Further north, the Battle of Mohács in 1526 left Slavonia vulnerable to Ottoman conquest over the following decades (Guldescu 1970: 59), reducing Hungary's interests in the region to most of modern Slovenia, as well as the area of Croatia between Slavonia's western boundary and the coast of the Kvarner Gulf. Ragusa took this opportunity to sever its relations with Hungary and instead accepted Ottoman protection, which offered all of the privileges previously bestowed by Hungary with the additional benefit of increased trade with the Ottoman Empire (Carter 1972: 330).

Venice's possessions were not immune to Ottoman efforts, either. Between 1396 and 1718, Venice and the Ottoman Empire came into open conflict over the *Stato da Mar* (either directly or indirectly) eleven different times. Although the Ottomans were granted reciprocal trading rights in Venice through a treaty in 1419, these wars greatly affected trade between the two powers, dipping significantly during particularly tense battles and booming immediately after (Finkel 2005: 161). Despite Venice focusing the majority of their military efforts on their strategically key territories in the Aegean and Ionian seas (such as the Cretan War of 1645-69 and the First and Second Ottoman-Venetian Wars of 1463-79 and 1499-1503 respectively, all of which resulted in the loss of Venetian possessions, or the Morean War of 1684-99 which saw the Morea return to Venice), conflicts in Dalmatia were frequently a consequence of these battles in the Eastern Mediterranean (Mayhew 2008: 25). Zadar, Šibenik, Trogir, and Split were

subjected to multiple attacks in the 1460s and '70s, while the entire coast was susceptible to raids by corsairs based out of Vlorë, Ulcinj, Herzeg Novi, Omiš (before its capture by the Venetians), and Obrovac (Arbel 2013: 199-202). On Hvar, for example, most of the larger settlements were located in the interior of the island during the 15<sup>th</sup> century due to the menace of piracy. However, even after this threat was lessened in the 16<sup>th</sup> century, much of the island was razed by an Ottoman fleet in 1571 shortly before the Battle of Lepanto (Carter 1994: 12-3). According to Alberto Tenenti (1967: xvi), 'Lepanto marks, not only the beginning of a *status quo*, but also the start of an original period very different from its predecessors.' He saw the period prior to 1572 as strained by the undercurrent of insurmountable hostility between Christian and Muslim worlds which, he stated, allowed various Christian forces to put aside their differences for the sake of a unified front at Prevesa and Lepanto. Yet this union could not withstand the growing political unrest of the Reformation. While one might debate this claim, Lepanto is still portrayed as signalling the end of an unbeatable Ottoman force in the imaginations of Christian Europe and the beginning of the long Ottoman decline (Carter 1972: 333; Manning 2016: 133).

Nevertheless, the Ottoman presence within the Balkans, and within Dalmatia, was an unceasing part of life. Even when the Ottoman Empire and the Republic of Venice ostensibly remained at peace, regular raids and skirmishes continued through the 16<sup>th</sup> and 17<sup>th</sup> centuries along the ever-changing border in Dalmatia. Although the Ottoman Empire was meant to return Venice's possessions lost during the Ottoman-Venetian War of 1570-73—such as Bar, Ulcinj, and multiple Dalmatian fortresses along the border—the Ottomans kept the fortifications at Zemunik, Kamen, and Solin, just outside the major cities of Zadar, Split, and Trogir. They also created the Krka Sancak in 1580, which stretched north and west from the River Krka (Mayhew 2008: 25-7). The Ottomans maintained a few of the more tactically significant medieval fortresses which lined the river valley, but most were destroyed at this time. Those few that remained were ultimately ruined during late 17<sup>th</sup>-century Venetian attacks (Ninić, Bojanić Obad Šćitaroci, and Krajnik 2013: 401). Several other castles and even entire villages in the hinterland were destroyed by Venice during the 17<sup>th</sup> century in order to avoid the potential of Ottoman forces taking them and forming a stronghold. The inhabitants of these communes, such as Nin, were instructed to burn their homes and demolish any fortifications, and were rehomed in nearby islands or cities (Mayhew 2008: 32). Much as in Venice's earlier processes for determining the most advantageous territories to take, any forts or settlements deemed too difficult or economically detrimental to defend were discarded.

Despite these setbacks and the *Stato da Mar*'s precarious situation in other parts of the Mediterranean, Venetian territories in Dalmatia were able to encroach inwards into Ottoman Bosnia during the 17<sup>th</sup> (a strip of land known as the *nuovo acquisto*) and 18<sup>th</sup> centuries (the *nuovissimo acquisto*) following the treaties of Karlowitz and Passarowitz, respectively (Wolff 2001: 40). Tea Mayhew (2008: 18) has identified this transition of power in the Dalmatian

hinterland, from Ottoman to Venetian rule, as an interesting yet under-studied facet of Dalmatian history and Ottoman-Venetian relations, despite the increasing availability of documentary evidence from the Archives of Zadar and Venice. As the Venetians enlarged their territories in the 17<sup>th</sup> century, they also created new frontiers, such as in the case of their expansion around the Velebit Channel. This put them into greater contact, and conflict, with the Habsburg territories, including the particularly antagonistic population of Senj. At times, the strains of this border exceeded those of the Venetian-Ottoman border, which nearly encouraged an understanding with local Ottoman authorities in the Zadar hinterland (Mayhew 2008: 21) and at Klis, near Split (Rothman 2011: 608).

Ragusa generally benefitted from its neutrality in many of the larger battles waged across the Mediterranean, and was looked to as the main intermediary in East-West trade during these times. Nevertheless, the Republic of Ragusa still experienced periods of economic depression during the 16<sup>th</sup> and 17<sup>th</sup> centuries. Then in 1667 natural disaster struck, which significantly impeded the city's economic prospects. On April 6, a massive earthquake hit the region, followed by an outbreak of fire in the city, eventually killing approximately 5,000 residents and decimating much of the built landscape (Carter 1972: 338-41). George Wheler (1682: 27) remarked on his voyage that 'The Ragusians have not recovered themselves yet, since the terrible Earthquake, that happened there about twelve years ago; by which the greatest part of their City, and Citizens, were swallowed up by the Earth.' He did not alight for fear of the plague. Outside of the city of Dubrovnik, settlements in modern-day Montenegro were heavily destroyed as well, including Kotor and the rest of Venetian Albania, and Herceg Novi, under Ottoman control (Mayhew 2008: 47). Although the city of Dubrovnik rebuilt, it did not quite regain its former glory, particularly in shipping (Krekić 1990: 151). Soon after, the Austrian-Ottoman War of 1683-99 resulted in Ragusa once again going under the protection of Austria-Hungary, while the war 'revealed that Ottoman supremacy in the Balkan lands had passed its zenith' (Carter 1971: 373). By this time, Northern European fleets were taking a more active role in the Mediterranean, a threat to both Venetian and Ragusan shipping and their overall prosperity. As Venice's power waned in the 17<sup>th</sup> century, so too did Dubrovnik's, as their role as the neutral intermediary during Venetian-Ottoman conflict was no longer as necessary (Carter 1972: 392-94).

While full-scale war in the Balkans was eventually limited, raids along the borders, both in the mountains and in the sea, were an almost daily occurrence. These incursions were a mixture of state-condoned violence and individual initiative—attempts to eke out an existence in a violent landscape with few other options. *Hajduks*, or irregular infantrymen, often would maintain this raiding lifestyle even in times of peace, although during peace this activity was labelled instead as brigandage (Bracewell 2016: 352). In some areas, raids were the enterprise of entire towns. It was the pirate group known as the *uskoks* who could claim the title of the most notorious Adriatic bandits of the 16<sup>th</sup> and 17<sup>th</sup> centuries. They terrorised an area of nearly 300

miles from Istria to the waters around Ragusa, and by 1615 they stalked ships throughout nearly the entire Adriatic (Tenenti 1967: 6, 14). The *uskoks*' primary base was the small, rocky city of Senj, located disconcertingly close to Venice on the Kvarner Gulf; however, unaffiliated bands were also operating out of places like Kotor under the same name (Longworth 1979: 350).

'*Uskok*' as a word denotes a person's status as a refugee, and indeed many who participated in piracy out of Senj had fled there to escape Ottoman incursions elsewhere in the Balkans.

However, this exonym was used often universally for all residents of Senj, including those native to the city and those who had ventured there from other Hapsburg territories (Bracewell 1992: 51). Alberto Fortis (1778: 518) remarked on this intermingling of cultures during his visit to Senj in the 18<sup>th</sup> century as a mixture of Morlach, German, and Italian blood and customs.

Regardless of their origins, many of these *uskoks* were nominally employed as irregular soldiers for the Hapsburg frontier military. However, these troops were scantily and infrequently paid.

Combined with the infertility of the land immediately surrounding the city and the cutting off of overland trade routes to the interior due to recurrent Ottoman raids, many citizens of Senj relied on piracy to survive. Hapsburg authorities, in fact, often encouraged the *uskoks* to supplement their rations in this way, rather than having to provide them with a larger and more efficiently distributed pay package (Bracewell 1992: 92). This involved raiding both caravan routes and major sea routes, extracting booty in the form of livestock, grain, an assortment of luxury cargoes, slaves, and hostages; in Klis, for example, several women were abducted in these raids during the late 16<sup>th</sup> and early 17<sup>th</sup> centuries (Rothman 2011: 608). Although their stated purpose, according to Christian authorities anyway, was to disrupt Muslim, Ottoman commerce, their desperation did not always allow them to be that discriminating in their actions. Their attacks against other Christians aggravated diplomatic tensions and ultimately resulted in state warfare (the War of Gradisca, or the Uskok War) between Venice and Hungary in 1615. Venice, along with aid from the Dutch and English, battled Archduke Ferdinand's forces, allied with Spain, often breaking into guerrilla warfare in Istria in particular. Diplomacy won out in the end, however, delineating borders back to their locations before the war, and ostensibly disbanding the *uskoks* (Bracewell 1992: 289-91).

Years of conflict and uncertainty took their toll on the countryside, with the abandonment of whole towns. These populations fled the Ottoman encroachment by crossing borders into Croatia or Dalmatia; however, there were also accounts of Christian peasants migrating from Habsburg Croatia *into* Ottoman territories to take advantage of lower taxes or other economic incentives (Norton 2013: 7). In addition, movement *within* borders was common, as authorities sought to repopulate deserted regions. These migrations could alter the cultural or religious balance of an area, such as in the case of the influx of Muslim Albanians into Kosovo, parts of southern Serbia, and Macedonia (Lopasic 1994: 179). Meanwhile, Vlachs<sup>1</sup>

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<sup>1</sup> By the 16<sup>th</sup> century, the term 'Vlach' came to be used for true Vlachs and Serbs interchangeably in many official documents, referring more to the person's pastoral lifestyle than ethnic affiliation.

were encouraged to establish themselves in abandoned towns in other parts of the Ottoman Empire, and while this could change the dynamic of the region in which they settled—whether these were Christian Vlachs or ones who had converted to Islam—this also made an impact on the traditionally nomadic Vlach lifestyle as many became more sedentary (Lopasic 1994: 166). The primary purpose of the relocation of Vlachs, with particular rights and privileges as compensation, was for military service in border zones, a practice which was also utilised in Habsburg lands as well. Thus, this ultimately resulted in many of the daily border skirmishes being fought between Vlach and Vlach (Bracewell 2006: 222).

However, migrations of large populations did not always end in bloodshed. Within the ostensibly Latin cities of Dalmatia on the Venetian side of this border, Croatian newcomers, both commoners and nobility alike, were absorbed into these urban societies and helped to create a new, hybrid culture, one which was an amalgamation of Latin and Slavic languages and customs (Krekić 1995: 328). Similar to the situation of the Vlachs, groups of Morlachs from the Dalmatian hinterland were recruited to act in a military capacity on behalf of the Venetians, and were deployed to different parts of Dalmatia for this purpose. On one occasion, a select few Morlach leaders were taken to Venice to make the case of their people before the Senate; however, their demand to keep their properties in recently acquired settlements in Dalmatia, and the demand for the colonial government to not interfere with criminal and civil judiciary proceedings within their community, were not warmly received in Venice. The Senate, in an attempt to not insult the Morlachs (upon whose military service they depended), instead offered military awards and food supplies for the leaders to take back to their communities (Mayhew 2008: 49-50). This was occasionally an uneasy existence within these colonies, caught between two worlds, while not entirely belonging to either. Frequent interactions between different groups, whether forced or voluntary, antagonistic or friendly, turned much of the Balkans into ‘a real frontier society with a thriving existence as intermediaries between the two opposing worlds’ (Lopasic 1994: 174).

The Treaty of Karlowitz in 1699 and subsequent negotiations ending the Morean War resulted in the improved delineation of the borders between Venetian, Ottoman, and Habsburg territories, including an increase in signposting. Despite this formalisation of the boundaries, the wider region continued to act, in both a military and a social sense, as a frontier zone (Bracewell 2006: 211-3). This zone, spreading out over much of the Balkans, had long been the place of the ‘interchange of cultures’ which is thought to be characteristic of many frontiers throughout history (Berend 2002: xi). The existence of distinct ethnic groups attests to the tenacity of differences encouraged or imposed by the group, although individual members of these groups might exhibit a more ambiguous identity through their own personal experiences (Barth 1969: 15, 29). It is therefore important to account for the frontier ‘state of mind’ in which particular circumstances and relationships could test and defy entrenched cultural rules (Abulafia 2002: 34). While the militaristic aspects of these boundaries persisted, opportunities for the exchange

of commodities, ideas, and people could create a ‘more accepting and heterodox atmosphere’ (Norton 2013: 7) than the centralised states or churches might condone.

The relationship between centre and periphery is often the focus in studies of frontier populations. However, the problem with defining this, or any other region, as ‘liminal’ is that it continues to place the emphasis on the ‘centre’, and defines the ‘liminal’ only in its relationship to a political or economic capital, no matter how distant it might be. In the case of the Triplex Confinium, this narrative is generally discussed through the perspective of one particular state or nation (Bracewell 2006: 227). This approach frequently presupposes an inequity of power in favour of an exploitative core, overlooking its reliance on the periphery to provide its basic needs (Abulafia 2002: 7). Yet it has also been argued that this very liminality is what in fact makes this region central to these overlapping domains (Fleming 2000: 1232). In many ways, the people and natural resources of the region were utilised for the benefit of whichever sovereign power laid claim to that specific part. However, the Venetian Republic, the Habsburg Empire, and the Ottoman Empire each had different colonial ambitions, different methods for enacting their authority over their territories, and different ways of interacting with their citizens of diverse faiths.

### ***An Ethno-Religious Triple Frontier***

One cannot get very far in the writing of Balkan history before coming to the topic of religion.<sup>2</sup> This has been one of the most intriguing lines of inquiry for many who have studied this region, particularly in response to the ethno-religious conflicts of the late 20<sup>th</sup> century. Whether arguing the case of perpetual religious conflict, or overall everyday cohabitation and harmony, the subject has long been shaped by political agendas. During the rise of nationalism in the 19<sup>th</sup> century and continuing through the next century, the frequent clashes between Christians and Muslims during the early modern period were portrayed in a way which emphasised the ‘Christian struggle for freedom from Ottoman Muslim subjection’, rather than placing these events in the ‘wider contexts of the histories of the Republic of Venice and the Ottoman Empire’ (Mayhew 2008: 17). The issue of religion being intricately intertwined with modern concepts of nationality and ethnicity has made the discussion of earlier concepts of these identities a divisive one. There are some who have argued an Iranian origin of the Croats, distinct from the rest of the Slavic bloc during the first waves of migrations (Guldescu 1964: 41), while others have argued that the cohesive identity of ‘Croat’ is almost entirely a construct of the 19<sup>th</sup> and 20<sup>th</sup> centuries (Fine 2006: 557). Scholars discussing the medieval and early modern history of the region faced a particularly difficult task in the 1990’s, knowing that their work could be interpreted to fit the nationalist agenda of one side or the other (Fine 2006: 1).

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<sup>2</sup> As this section focuses primarily on the unique cultural exchanges between Christians (Orthodox and Catholic) and Muslims, the particular situation of Jews in the Balkans will be discussed in the following chapter, in relation to their more global diaspora.



Despite the difficulty in recognising ‘ethnicity’ within the archaeological record, particularly in distinguishing symbols of ethnicity from symbols of other aspects of identity (religion, gender, etc.) within material culture, archaeologists have played their part in the formation and dissemination of nationalism (Curta 2011: 541). However, the problem lies in that while a group might maintain the boundary between themselves and outsiders, those aspects of culture which enable this dichotomy can still be subject to change (Barth 1969: 14) as can be witnessed in growing linguistic divisions in the Balkans today (Greenberg 2008: 7). These are issues to be remembered when regarding the nature of religious conflict and coexistence in the early modern period, especially considering that this was a time of many religious conversions and other renegotiations of identity. Because of this, many scholars have now broken away from the narrative of rigid religious or cultural barriers preferred by previous generations and instead acknowledge a certain amount of fluidity, especially on the part of individuals, between these religious and cultural spheres in the Mediterranean (Martin 2011: 459). While political and religious division was certainly a reality for many people in the region, ‘common values and institutions’ could nevertheless continue to bridge this divide, through ritual blood-brotherhood between members of different faiths (Bracewell 2016: 355), or through religious hybridity and in some instances an adherence to pre-Christian/Islamic ritual (Norris 1993: 17).

Although the topic of Christian and Muslim interactions is particularly appealing in the current political climate, this undermines the tensions also felt between different Christian doctrines. In the Middle Ages, areas of the interior were divided between Catholic and Orthodox spheres. Bosnia was ‘officially’ Catholic, influenced by the kingdoms of Hungary and Croatia, while Hercegovina was largely Orthodox; however, adherents to the regionally popular Bogomil sect, both peasants and nobility, had a particularly strained relationship with the Catholic king (Lopasic 1994: 164). During the mid-15<sup>th</sup> to mid-16<sup>th</sup> century, the papal stance towards the Orthodox Church was fairly lenient, perhaps in light of the Ottoman menace, although it was still viewed as ‘schismatic’; on the other hand, the Patriarchs regarded Catholics as heretics. However, as a result of the Catholic Reformation, Catholics tended to harden their opposition, portraying Orthodoxy as full-blown heresy (Arbel 2013: 171-2). The clash between Catholicism and Orthodoxy kept any hopes of a united Christian front against the rising tide of Islam in the Balkans from ever becoming realised (Bisaha 2004: 98).

Venice, being generally wary of Rome interfering in the Republic’s affairs, had a more nuanced approach to its Orthodox subjects. During the switch to the Gregorian calendar in 1582, Venice’s Greek colonies were able to continue observing the Julian calendar, while Venetian governors were instructed stop the efforts of Catholic bishops in their territories to remove non-papal authorities (Arbel 2013: 174). Nevertheless, a lack of Orthodox leadership in Venetian territories—whether their removal from places like Crete which were taken by force, or their absence in places like Zadar and Split which were the seats of Catholic archbishops—created some religious rift. Serbian Orthodox priests were resigned to deferring to prelates

across the border in Ottoman or Habsburg territories (Arbel 2013: 165-7). On the other side of the border in Bosnia, the Catholic and Bogomil presence was focused in monasteries while Orthodox churches were limited in number and their influence in the countryside was diluted, meaning that many peasants had minimal or no contact with any Christian priests (Fine 2006: 13). Thus the introduction of Islam to the region was aided by an already divided population.

Records appear to indicate that Islamic conversion, even in Bosnia, was a drawn-out process: stories of mass conversions may have been exaggerated, while there seems to be little concrete evidence of large-scale forced conversions (Lopasic 1994: 165). These 'coercion' versions of history tend to infer the ways by which the Balkans were 'de-nationalize[d]' by the Ottoman state as a result of mass conversions under duress (Minkov 2004: 65). There was, of course, the system of *devşirme*—the levy of rural Christian children to join the ranks of the janissaries, converting to Islam in the process—which was an outright attempt at Islamisation; yet in the early days Muslim families in Bosnia were also allowed to send their sons to the janissaries, perhaps due to the region's position on the frontier (Lopasic 1994: 171-2). By the mid-16<sup>th</sup> century, however, the corps consisted almost entirely of members conscripted through the *devşirme*, who through this membership were able to become part of the Ottoman ruling elite. Nevertheless, the threat of losing a son to the military may have stimulated rural Christian families to convert, although probably not in the majority of cases, as most conversions to Islam took place in the 17<sup>th</sup> century, when the *devşirme* was only irregularly enacted (Minkov 2004: 69-70).

Christians were initially allowed positions of power in the hierarchy of the Ottoman Empire, with the Orthodox generally benefitting from greater Ottoman favour (Fine 2006: 14). In Serbia and elsewhere, *sipahis*, the administrators (based on military service) of the *timar* landholdings into which Ottoman territories were divided, could be Christian. These *sipahis* were particularly important and numerous in frontier regions, more so than in areas in which the Ottoman forces were more firmly entrenched; therefore, by the late 16<sup>th</sup> century these numbers diminished as Ottoman power was cemented in Bosnia and Serbia (Miljković 2014: 40, 46). As time went on, economic incentives (particularly different tax rates according to religion) and greater opportunities for advancement in the military or administration meant that conversion to Islam was still appealing for many individuals and groups. On a larger scale, for example, the Catholic Saxon miners who had been invited by Bosnian rulers to work the rich silver mines were allowed to keep their privileges after power was transferred into Ottoman hands, but on the condition that they convert to Islam (Lopasic 1994: 167-9).

The newly-arrived Bektashi order, often considered unorthodox in comparison with other Sufi sects, soon appealed to the Janissaries and to the wider public, particularly in Albania, as well. As a pantheistic order, Bektashi doctrine drew many Shiite and pre-Islamic Turkic traditions (Doja 2006: 85-86). This colonising religion was 'designed to appeal to all' and was less strict towards ritual and observance (Winniffrith, 2002: 107), and adherents were

less likely to pray in mosques or observe Ramadan in favour of other forms of worship and fasting, while the ban on alcohol was rarely practiced (Doja 2006: 88). The order maintained good relations with Orthodox Christians, and the two populations would often frequent each other's places of worship (Winnifrith, 2002: 107), celebrate mutual festivities, and intermarry (Konstadakopoulos, 2009: 120). It is perhaps this order's heterodox and synthesising nature that so attracted Albania's mixed population.

Conversions occasionally happened in the opposite direction as well, both as a result of concerted efforts from Rome and the Patriarchy, and because of individual convictions. Venice supported attempts to convert Orthodox subjects in the area of Kotor to Catholicism during the 15<sup>th</sup> century (Arbel 2013: 170). Several Muslim individuals from Klis, in particular women and children and most notably the teenage daughter of the former *dizdar* (castellan), crossed the border and went to Split to seek benediction and baptism. Some travelled even further to Venice, which 'offered rapid integration into the metropolitan Venetian society by acting as a surrogate family and by seeking to sever neophytes' ties with their unconverted kin' (Rothman 2011: 610). Despite efforts to isolate new converts from their blasphemous friends and relatives, peasants of all faiths found more commonality between each other than between themselves and their higher-born co-religionists. Ritual bonds of godparenthood and blood fraternity continued within communities, crossing religious boundaries (Lopasic 1994: 175-7). While the frontier population continued to uphold religious divides as a way to frame and make sense of life in the border zones, ritual bonds might still allow individuals to traverse this fissure; however, they would not be able to ignore it entirely (Bracewell 2016: 351). In the cities of the central Balkans, the urbanisation of the Balkans became especially tied to Islamisation, although one must take into account the still significant Christian, Jewish, and Gypsy populations in these cities. At the same time many Vlachs converted to Islam, and thus as they migrated and settled they brought this religion with them (Lopasic 1994: 166, 172). A cultural rift was expanding, but it was not entirely due to religion; it also revolved around the divides between rich and poor, urban and rural, and settled and transient.

### ***Migrations into Dalmatia***

Beyond religion, socio-economic disparity exacerbated by the Ottoman threat both at home and abroad created a noticeable divide in Dalmatia, particularly between urban centres and the hinterland. Many Dalmatian cities have ancient roots as former Greek or Roman colonies. The inhabitants of the region, known as the Roman province of Illyricum, were slowly Latinised prior to the arrival of migrating Slavs in the 7<sup>th</sup> century. Questions regarding the ethnogenesis of the Croats, and the ethnic identities of the Illyrians and the Slavs, have been used for nationalistic purposes since the 19<sup>th</sup> century, as has happened throughout the Balkans (Stavrianos 2000: 13; Džino 2010: 15; and in Greece and Turkey: Dikkaya 2009). Because of this, the topic of the early Slavicisation of the Balkans has in many instances been inclined

towards certain biases or political agendas. By the later middle ages, however, there is more reliable evidence illustrating a gradual shift towards the Slavic language and customs, while the Romance-speaking rural population, who generally came to be known as 'Vlach' by at least the 10<sup>th</sup> century, was increasingly pushed into the mountainous interior. The Vlachs' geographic isolation augmented the gradual cultural divergence from the increasingly Slavic populations in the more agriculturally advantageous regions of the Balkans (Cvetković 2012: 40) and in the coastal cities. Over the next few centuries, Slavs were drawn to the growing coastal cities in search of work, although Slavs of higher rank also migrated to the cities. Slavic first names appeared amongst the patrician families of Zadar in the 11<sup>th</sup> century, and by the mid-14<sup>th</sup> century, Croatian (Slavic) surnames outnumbered Latin ones in Split, and these families appear to have been integrated into all social classes (Krekić 1995: 322-8). As early as the first half of the 14<sup>th</sup> century, a Venetian visitor to Cres found that no one on the island spoke any Latin, and thus required a translator (Wolff 2001: 51). Despite the fact that Latin remained the official language of the government until the early 19<sup>th</sup> century, and despite the influence which Venetian rule had on the culture of Dalmatia, the populations of these cities frequently petitioned for the appointment of interpreters in the courts and chanceries (Arbel 2013: 192). By the time the Venetian Republic fully colonised the Dalmatian cities, a hybrid of these diverse cultures had already taken root.

Later waves of newcomers were brought to the region as a result of the Ottoman push into the Balkans. Some migration was self-motivated, due to factors such as famine or a fluctuating border, but it was also stimulated, facilitated, and even forced by the Republic during the 16<sup>th</sup> through 18<sup>th</sup> centuries. Venetian policies towards immigration varied over the years according to need and circumstance: in earlier years, emigrants from the frontier zone were aided in settling in Istria or on the Italian peninsula, while later they were encouraged to settle the islands, and at yet other times, all emigration was discouraged; in some periods, Venice forced the abandonment of the border zone, while later they would aid in returning the original population to this region, or else encourage new populations to take up residence there; at times immigration from Ottoman territories was stimulated, while at other times immigration was banned, or else Ottoman migrants were forced to migrate (Mayhew 2008: 189). Meanwhile in Bosnia, Muslims from other parts of the Ottoman Empire and Orthodox Christians from Serbia and Hercegovina (which was much less agriculturally fertile) moved into those areas which had been abandoned by those fleeing to Dalmatia and beyond (Fine 2006: 14). These policies resulted in a continual flow of whole populations over the course of two centuries.

Dalmatian cities continued to attract immigrants, while Vlachs were encouraged to settle down in towns or abandoned areas of the interior, as was mentioned earlier; however, populations were also set in motion in the Dalmatian hinterland, including groups of semi-nomadic so-called Morlacchi. Unlike the Vlachs, who spoke a Latin-derived language, the

Morlachs were a Slavic-speaking people,<sup>3</sup> primarily focused in the mountains which formed the border between Dalmatia and Bosnia. As a group, they were first mentioned in Dalmatian records in the 14<sup>th</sup> century (Wolff 2001: 127). Wheler (1682: 8-9), in his accounts of the military forces at Zadar, was careful to distinguish between the Morlachs and other groups which made up the garrison, who were ‘for most part Morlachs, Croats, and other People of the Mountainous and Northern parts of Dalmatia, Men of tall stature, strong, nimble, and hardy; especially the Morlachs, who are used to the cold and barren Mountains, called by that name, extending themselves along those Coasts, and subject to the Venetians’. Efforts were made in the late 16<sup>th</sup> and 17<sup>th</sup> centuries to bring the Morlacchi into Istria, a significant expenditure on the part of Venice (Arbel 2013: 219) while other groups of Morlachs were moved within regions to man newly conquered fortresses, such as at the one in Skradin (Mayhew 2008: 49). Later, the *nuovo* and *nuovissimo acquisto* were repopulated by Morlachs, many from the Ottoman territories (Arbel 2013: 223). The 18<sup>th</sup> century Paduan naturalist Alberto Fortis was the first to present a detailed anthropological account of the Morlacchi to Western Europe; and with his book, *Viaggio in Dalmazia*, he supplemented the West’s curiosity towards the Slavs, and their growing interest in distinguishing between Western and Eastern Europe (Wolff 2003: 95).

The Morlacchi eventually gained the reputation of fearsome, barbaric warriors. Even those accounts which were less polarising in their depiction of the Morlachs emphasised their brutish strength. Wheler, for example, had been assured that a man on horseback could be lifted by just four Morlacchi and carried over the mountains (1682: 9). Fortis, on the other hand, assured his readers that, unlike other writers, he would not exaggerate the accounts of any dangers he faced and instead would volunteer his research with a depth of detail which would affirm that he was a credible source of knowledge. As was intimated earlier in this chapter, Fortis (1778: 44) was an apologist for this ‘nation’ by whom he ‘was so well received, and treated with so much humanity,’ despite the fact that the audience to his letters had ‘no doubt, often heard the Morlacchi described as a race of men, fierce, unreasonable, void of humanity, and capable of any crime’. His respect for their simple and sincere pastoral lifestyle, which placed high value on ritual friendships and hospitality, fit his accounts neatly with other primitivistic works looking of the ‘state of nature’ in other parts of the world (Maggs 1989: 548). The myth of the ‘noble savage’ had a long tradition in Italian humanist literature before this, which built off the concepts of a ‘golden age’ developed by classical sources and Tacitus’s description of the Germans as men in a natural state, and eventually adapted these tropes to fit the peoples ‘discovered’ in the New World (Cro 1992: 53-4). Within the context of Venetian colonialism, the Morlacchi were the Slavic embodiment of man in his primitive state (Wolff 2001: 13).

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<sup>3</sup> The distinction between Vlach and Morlach was frequently blurred in the 18<sup>th</sup> century, while later ethnographic accounts argued that they were not, indeed, true Slavs, but were rather Slavicised Vlachs (Wolff 2001: 13).

Of course, as these people did not actually inhabit Utopia they were not found to be without fault, and despite Fortis's initial accolades, he found the Morlacchi capable of some barbarism. This was not without precedent, and these shortcomings were often balanced against a 'primitive' culture's virtues; although the Germans, according to Tacitus, had a proclivity for drunkenness and violence, their veneration of their women inspired their heroic actions (Cro 1992: 53). Interestingly, one of the Germans' greatest merits, the treatment of their women, was one of the Morlacchi's greatest faults, and the abuse which they reportedly inflicted upon their wives placed them instead more alongside Voltaire's Orientals, whose differentness could most readily be perceived by the derision with which they treated their own women. Nevertheless, Fortis's depiction of altogether filthy Morlach women makes it seem that he felt that this disdain and casual abuse was somewhat warranted (Wolff 2003: 100). In his description of the exceptional size of the Morlacchi women's breasts, however, his account gave way to some sensationalism, or so the repudiation given by Giovanni (Ivan) Lovrich<sup>4</sup> claimed. His publication in 1776, *Osservazioni di Giovanni Lovrich sopra diversi pezzi del Viaggio in Dalmazia del Signor Abate Alberto Fortis*, accused Fortis of propagating stories which, as a natural historian, he should have known better than to believe (Wolff 2003: 99).

Fortis's description of the Morlach living space also bordered between primitive and Eastern. While some of the Morlacchi might furnish their homes in the 'Turkish' way, 'with stools, and with some few of our moveables,' all of them lived 'but a savage kind of life,' having 'no idea of cleanliness' in the home. They burned tufts of fur instead of candles, or occasionally used butter instead of oil in those few lamps which they might possess (Fortis 1778: 81). Overall, their backwardness and adherence to tradition kept them from learning improved methods of husbandry (Fortis 1778: 60), their principal livelihood, ultimately setting them at odds with the 'progress' of Italian civilisation, which was practiced in the urban centres of Dalmatia.

## VENICE'S DALMATIAN COLONIES

As a colonial territory under the authority of an overseas sovereign which spoke a different language and practiced different customs and traditions, Dalmatia experienced both the imbalance of power between local and colonising cultures, and a symbiosis of the two within certain social circles. While in general—in the version of colonialism which we understand from 19<sup>th</sup> and 20<sup>th</sup> century iterations of this type of rule—these 'regimes are quite extreme in the extent to which the administration and its rules are divorced from locally based social life' (Barth 1969: 36), this is not the model of colonialism we should envision when looking at Venetian Dalmatia. Although their languages and customs initially differed, a shared understanding with the Byzantine world, and the continuous cultural exchange between

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<sup>4</sup> While he chose to publish his work using the Slavic surname 'Lovrich', his first name appeared as the Italian 'Giovanni' rather than 'Ivan' (Wolff 2001: 252).

coloniser and colonised, allowed a symbiotic urban culture to develop, one which differed from the hinterland and the rest of the Balkans.

The Venetian Republic's desire for economic dominance was the primary motivator for acquiring major ports along the most strategic maritime trade routes through the eastern Mediterranean. While long-distance travel was an enduring tradition in the Venetian mythos, these voyages were generally driven by profit, rather than by adventure or curiosity (Howard 2005: 29, 31). Venice's continued interest in Dalmatia was due to its easily navigable coastline, more protected and convenient than the western Adriatic, which led Venetians into the wider Mediterranean and ultimately the Levant. Unlike other merchant states such as the Ottoman Empire or Portugal, the Venetian Republic did not have the military or economic capacity needed to assert their supremacy on such a vast empire; instead, its energy was focused on cultivating and preserving its status as the dominant intermediary in East-West trade (Brummett 1994: 8). Acquisition for the sole purpose of expansion was not sustainable, and any new territories that Venice procured were considered for their economic merits, the ease of protecting the territory, natural resources, or their value as a location for gathering information on sea traffic or enemy movements. In addition, while coastal cities were prized for their trade links with the Balkan interior, Venice had little interest in increasing its territory inward and exhorting its authority in the hinterland itself (Mayhew 2008: 24). This general policy can be witnessed in the different ways Venice handled its various overseas territories. Kotor had to petition several times to be taken into Venetian protection, while the towns of Shkodër and Lezhë were quickly surrendered when they were deemed too difficult to defend (Arbel 2013: 137-8). On the other hand, the otherwise relatively insignificant outpost of Butrint was repeatedly reinforced due to its proximity to the Strait of Corfu, as well as, perhaps, its secondary appeal as a fishery (Crowson 2007: 15). Overall, the string of ports along the Adriatic coast under Venetian authority offered shelter, provisions, information, and 'more generally, a milieu that was culturally familiar and supportive' (Arbel 2013: 225).

This familiarity in the colonies was not developed overnight; however, a cultural understanding was aided by Venice's long connection with Byzantium, and the Republic's appreciation and continuation of Byzantine symbols and institutions of imperial power (Georgopoulou 2001: 5). In some ways, the Ottoman Empire also benefited from preserving the form of governance which these former Byzantine territories had come to expect, often operating as 'a soft hegemonic empire of allegiance' (Finkel 2005: 169). Leaders of clan- or tribally-based organised rural communities were allowed to keep some of their official titles, even those which they held when their territories were under the Ottoman Empire, and would be appointed military or fiscal responsibilities by Venice. The Republic relied on local noblemen and councils in the running of the *Stato da Mar*, particularly in negotiations with commoners. Therefore, while these commoners were granted the ability to organise themselves independently and to petition demands, Venice also aided the Dalmatian elites in closing off

their councils to newcomers, keeping the exclusivity of their social standing intact (Arbel 2013: 190-193). Symbols of power could, however, be strategically placed to impress Venice's authority within the urban social fabric. Venice's presence in the Adriatic had an influence on the built environment of Dalmatia, whether in the erection of new fortifications, or the development of entirely new urban landscapes. Maria Georgopoulou (2001: 23) questioned the visual impact that these skylines made on the viewer: 'The apparent absence of famed architects moving along the Aegean, Adriatic, and Dalmatian coastlines to supervise the construction of civic or religious monuments in the Venetian colonies makes one wonder what distinct features if any would identify a city as Venetian, Latin, or Byzantine'; however, the numerous Venetian defensive structures they constructed must have had some lasting legacy in the development of these urban areas.

In each Dalmatian city, the Venetians erected castles during the 15<sup>th</sup> and 16<sup>th</sup> centuries as the seat of the *castellano* and *camerlango*, the town's governor and chamberlain. These castles were the cities' treasuries, in addition to being a military fortress. Most importantly, however, these were signs of Venetian authority. In the case of Split, and perhaps Trogir and Zadar as well, the positioning of the castle within the city suggests it was built not to defend the city, but rather to control it (Marasović 2012: 263). The winged lion of St. Mark adorned public spaces throughout the entire *Stato da Mar*, and can still be found today in several places, including Zadar (see *fig. 2.1*). Monuments throughout the colonies were an attempt to convey an urban landscape which acknowledged the yielding of these territories to the supremacy of Venice's cultural and political traditions. On the other hand, the island of Pag voluntarily surrendered to Venice's protection in 1409, and by 1443 an entirely new settlement was established with the financial backing and support of Venice. This new town, Novi Pag, was located nearer to the island's lucrative salt pans and took advantage of its better maritime connections to the rest of the Republic, but its streets were also laid out according to Renaissance ideals of urban planning. Although its architecture was stylistically consistent with the rest of Dalmatia, the 'detailed rational approach to urban development', and the visits of prominent artists to the town, aligned the citizens of Pag with larger Dalmatian urban centres and ideas which were shaping the rest of Renaissance Europe (Fisković 2012: 45).

Many aspects of the Venetian lifestyle were adopted in Dalmatian cities, while individual Venetians and their families were often assimilated into the social circles of their new homes in the colonies. This was a slow process of integration and the transfer of knowledge; yet, in comparison to more violent colonization methods applied during later centuries, it was a relatively easy shift of power (Georgopoulou 2001: 2-3). Many wealthy city-dwellers recognised that their position was reliant on cooperation with Venice, and in turn, that the position of Venice was dependent on peaceful trade relations with the Ottoman Empire. This general compliance with Venetian policies for peace further widened the rift between urban subjects and rural, who were more likely to deal with the threat of Ottoman raids even in times



of ‘peace’ and were therefore aggrieved by Venetian-Ottoman alliances (Bracewell 1992: 219-20). Thus, the loyalty of Dalmatia became almost another myth in the history of Venice and its *Stato da Mar*, one which was, however, occasionally questioned and tested.

***‘As civilised as any of the cities of Italy’<sup>5</sup>***

From the 15<sup>th</sup> century onwards, intercommunication between Dalmatia and Venice was carried out not only through rule passed down from colonial governing bodies, but through members of the educated classes as well. Venetians and Apulians were the most prominent foreigners in Dalmatian cities, whose numbers included doctors, architects, teachers, chancellors, craftsmen, and other learned men, many of whom brought with them the books and ideas of the Italian Renaissance. In the opposite direction, upper-class Dalmatian men and boys were frequently sent to Italy, particularly the University of Padua, to benefit from an Italian, humanist education. However, less-affluent Italians also took part in this cultural exchange, particularly merchants, and while they might not have the same level of education as their social superiors, they helped to cultivate the conventions of urban life as these were practiced in the Italian cities they left behind. The length of time Venetians of any class stayed in Dalmatia varied, but it was not uncommon to stay for many years, or even for many generations (Krekić 1995: 328-330). While some might bring their entire family with them to the colonies (Krekić: 1995: 328), it was also usual for Venetian patricians to marry women from prominent Dalmatian families, thus inserting themselves into the upper echelons of Dalmatian society (Arbel 2013: 224). Therefore, although Venice took account of the distinction between its Catholic and Orthodox citizens, the Republic generally thought of the Italian and Slavic inhabitants of its Dalmatian territories as ‘amalgamated members of the same Dalmatian nation’ rather than differentiate between these diverse ‘nations’ (Wolff 2001: 11).

A distinction was progressively made, however, between urban, coastal Dalmatians and the rural inhabitants of the hinterland, particularly the Morlacchi. Over the course of the 17<sup>th</sup> and 18<sup>th</sup> centuries, the governors of these territories were handed the task of ‘pacifying’ these groups of people, many of whom had immigrated there from other parts of the Balkans or lived in the newly-Venetian *nuovo* or *nuovissimo acquisto*, and many of whom had adapted their lifestyles over generations to the dangers of the contested border regions. The *Provveditore Generale* faced difficulty in transforming these migrants, whose livelihoods generally focused on transhumance, slave-trading, and raiding, into peaceful and agriculturalist citizens of the *Stato da Mar* (Mayhew 2008: 22). Fortis, again, defended the Morlacchi for their rough and occasionally murderous ways, and questioned whether this was indeed a quality unique to these mountain-dwelling Slavs, or was instead a universal consequence of war: ‘but what instance can be given of troops just returned from war, and dismissed from the exercise of arms, against the

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<sup>5</sup> Fortis 1778: 14.

enemy of their sovereign, that have not peopled the woods and highways with thieves and assassins?’ (1778: 44). The growing cultural isolation of Dalmatia’s coastal cities from their hinterlands was increasingly apparent to these coastal urbanites, particularly as a result of the growing awareness and emphasis on ethnic differences and identity during the Enlightenment. ‘Civilised’ and educated Dalmatians from the cities frequently wished to distance themselves from the uncouth, ‘uncivilised’ groups of the rural interior, a distinction which was usually reinforced by Venice (Wolff 2001: 11).

Within the city of Venice, the peoples of the colonies—Greeks, Albanians, Slavs, Armenians, etc.—were not counted as ‘outcasts’ as sometimes happens in other colonial contexts. Large groups from cities in ‘Venetian Albania’ such as Shkodër, Bar, and Ulcinj, which had long been prone to conflict, began migrating to Venice even before that region finally succumbed to Ottoman rule (Čoralić 2007: 101). Buildings throughout the city were sponsored by these different groups, while the Church of Santa Maria del Giglio features relief images of several cities throughout the *Stato da Mar*, including Split and Zadar (Georgopoulou 2001: 5, 40). The Scuola di San Giorgio degli Schiavoni can still be visited today, and is a testament to the Slavic presence in the city.

Venetian visitors to Dalmatian cities expressed their admiration of the cultured populations of the cities and their feats. Fortis (1778: 14) remarked that the people of Zadar ‘are as civilized as any of the cities of Italy; and in every age, it has produced men distinguished for learning’. Wheler (1682: 14) noted that the Cathedral of Sv Jakova (St James) in Šibenik was ‘much praised by the Venetians, being all of Marble, and the Architecture very good’. The contrast between these men of learning and art and the uneducated, somewhat backwards men of the mountains was highlighted in a drama written by Camillo Federici, *Gli Antichi Slavi*, which was performed in Venice in 1793. This story focuses on a traditional Slav from the mountains—a character fashioned from various characteristics ‘known’ about the Morlacchi—who is the love-rival of a sophisticated Slav from the coast. The primitive Morlach in this tale is ferocious and distrustful of anything new and foreign, while the city-dweller is notable for his valour and his Italian manners and clothes. In fact, in this play, the Morlach at first refuses to recognise the other as a fellow Slav, and criticises him for his foreign ways and appearance; but of course, to the Venetian theatre-goers, the Italianised Dalmatian was viewed as an upstanding citizen (Wolff 1998: 625). The presumed loyalty and valour of Dalmatia to its colonial overlord was just as important to Venice’s sense of identity as well.

Despite a perceived cultural affinity between Venice and urban Dalmatia there would always be some imbalance in their relationship, by the very nature of their colonial situation. More and more in the mid-18<sup>th</sup> century, Venice’s Dalmatian subjects were portrayed as especially valorous and loyal to the *Serenissima* (Wolff 2001: 64), at a time when Venice was questioning and creating its own history and myth. Those writing the history of the early days of Venetian expansion into the Mediterranean were confronted with the violent realities of the

city's early interactions with Dalmatia, and the frequent rebellions from cities like Zadar, before they were finally brought to submission (Wolf 2001: 55). Fortis (1778: 120) was aware of the less-savoury histories of some of these well-mannered cities, but, as in the case of Šibenik, he assured his readers that the inhabitants no longer practiced the 'barbarous manners' of their ancestors and had since been civilised to a high standard. There were also concerns of social tension within the colonies, not only between cosmopolitan and pastoralist, but between social classes within the cities as well. The barrier to non-nobles from the local urban councils instilled resentment among wealthy non-nobles, including merchants and artisans. While they were ultimately unsuccessful in breaking into these ranks, the Venetian government did negotiate with them in smaller matters, such as in their request for interpreters for the largely Slavic-speaking populace (Arbel 2013: 190-2). Indeed, amongst educated members of the Dalmatian population, there was an element of Slavic pride in an attempt to crystallise a national identity 'at a moment when even the most civilized Dalmatians [...] were nervous about being perceived according to the provincial reputation for barbarism' (Wolff 2001: 252). Lovrich lamented that his educated peers in Dalmatia '*non si degnano d'impiegare il proprio talent nel poetar natio, e pel timore di essere considerati barbari, dicono taluni (scioccamente credendolo un pregio) d'ignorare persino la lingua*' (1776: 132). He argued that while the primitive Morlacchi were praised for their perceived innocence by the likes of Fortis, even the most educated Dalmatians were considered ignorant by (false) association (Wolff 2001: 252-3). It seemed, then, that for those like Lovrich, there was a difficult line to walk between boasting an Italianised education and celebrating one's nascent national identity in the 18<sup>th</sup> century.

In the end, however, cultural hegemony was not part of Venice's goals for colonisation. Instead, the Republic's primary focus was on economic expansion and dominance. This, they found, would be achieved by exploiting the natural resources of the colonies and their people, and by taking advantage of Dalmatia's key positioning in vital trade networks across the Mediterranean and the Balkans.



**Fig. 2.1.**

The Land Gate of Zadar. The winged lion of Saint Mark, the symbol of Venice, looks down upon the large, central gate. A much smaller St Chrysogonus (Sv Krševan), the patron saint of Zadar, sits atop his mount below the lion. (Photo taken by author, 02/2014).

### III

## ECONOMIC EXCHANGE BETWEEN VENICE, THE OTTOMAN EMPIRE, AND RAGUSA

The previous chapter illustrated how Venice's interest in Dalmatia and other parts of the *Stato da Mar* was focused predominantly on its territories' economic advantages, whether as a safe haven for Venetian merchant ships sailing towards the Eastern Mediterranean, as a trading post for goods coming from or going to the Balkan interior, as a market for Venetian products, or as a source of raw materials. This chapter will explore these attributes and how they were exploited by Venice, but it will also examine how this exploitation shaped the local economies. In addition, it will question the role of intermediaries, whether these were individuals acting as merchants and interpreters or port cities (which were also the producers of and markets for goods), within the well-documented exchanges between the major economic powers of the Venetian Republic and the Ottoman Empire.

In recent years, many studies related to the Ottoman Empire have begun to shift their focus away from themes of war and religion, which previously helped to emphasise the perceived dichotomous relationship between the Ottoman Empire and, often, Christendom as a whole. This angle not only pushed aside the numerous avenues of exchange through which members of these cultures interacted daily and relatively peaceably (Greene 2000: 3; Finkel 2005: 154; Fusaro 2010: 7), but it also removed the participation of other communities in activities such as trade and diplomacy, including Jews, Greeks, and Armenians who worked as trade intermediaries and even high-powered administrators, and smaller cities that were involved in, or competed against, the Venetian-Ottoman route of trade. In order to gain a better understanding of intermediary involvement in Venetian and Ottoman trade during the 16<sup>th</sup> and early 17<sup>th</sup> centuries, this chapter will first look at general patterns of economic exchange between these two powers, how these patterns began to change during this period, and how these patterns have been viewed and studied by scholars in recent decades. It will then move on to question the roles which intermediaries played within the wider scope of international trade.

A general trend within recent scholarship concerning the Ottoman Empire has been a fight against the resilient image of the 'Sick Man of Europe' and other relics of early 20<sup>th</sup> century political scholarship. Caroline Finkel (2005: 150) goes so far as to assert that 'What never fails to surprise Ottoman historians is that European historians may be quite excellent analysts of the time and place of their immediate interest, but when they look beyond, their critical faculties seem to shut down [...]'. Though the wording may be a bit harsh, the sentiment

is not unwarranted; held up to the mirror of Renaissance Europe, the early-modern Ottoman Empire is frequently portrayed as falling short of the benchmarks supposedly set by the Atlantic nations involved in trans-global trade and conquest (Finkel 2005: 165). As we approach a full century since the final dismemberment of the Ottoman Empire, we are frequently warned that hindsight should not distort our study of the early modern period (Brummett 1994: 10). These issues have hindered the study of cross-cultural trade between the Ottoman Empire and Europe in the past, yet it appears that scholars are increasingly recognising that a direct comparison between the two cannot be made according to Eurocentric standards alone.

Many analyses of Ottoman and European economic and diplomatic relations stress the fact that these entities arose with the ideals of divergent imperial traditions, and by the early modern period possessed differing resources and goals. Although these dissimilar cultures were able to interact effectively and efficiently despite these differences, it can become difficult for scholars to compare these two systems, especially if they endeavour to measure 'success' according to modern, particularly Western, standards (Finkel 2005: 151). While Philip Curtin (1984: 115) has claimed that a shared Hellenistic-Roman past aided cross-cultural exchange across the Mediterranean, Halil İnalcık (1974: 54) has asserted that the system and basic principles of the Ottoman Empire's economy were instead developed from Middle Eastern imperial models.<sup>1</sup> This meant that the empire's primary economic objectives were to ensure a reliable and regulated supply of staple goods, such as grain, for the urban population, while simultaneously bolstering the sultan's power and influence by increasing revenues (İnalcık 1970: 217). Some earlier studies viewed this system as an implication that the Empire was more politically, rather than commercially, focused, with an almost despotic desire to regulate trade and society on a broader scale. This may have been the case in the densely-populated capital city, where supplies had to be meticulously controlled to meet the ever-growing demands; however, this was far from the case in the rest of the empire, where cities like Izmir developed despite imperial attempts at centralisation (Eldem, Goffman, and Masters 1999: 208-210). Palmira Brummett (1994: 14) stresses that the Ottoman Empire was both interested in acquiring arable land and gaining control of profitable trade routes linking the Mediterranean with Asia, allowing the ruling elite the opportunity to invest their wealth in commercial enterprises.

There seems to have never been much doubt that Venice was a 'commercial republic' that acted not only for the benefit of state resources, but also for the benefit of a growing mercantile socio-economic class (Curtin 1984: 116). The *Serenissima* owed its success to a powerful merchant fleet and a constant endeavour to maximise its position as a middleman of East-West trade to its fullest potential (Brummett 1994: 8). Having long established themselves in Eastern Mediterranean ports, Venetians were able to negotiate more directly with Ottoman

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<sup>1</sup> This is in contrast to earlier theories that the Ottomans were utilising a system derived from nomadic empires of the Steppe. Although nomadic values may have influenced the very early Ottoman state, its later policies 'leave no room for doubt on this point' (İnalcık 1974: 53).

officials than other European merchants, who were heavily reliant upon translators (Mantran 1982: 131). However, they were still at the mercy of Ottoman favour and capitulations, which could be taken away just as easily as granted by the sultan (İnalçık 1974: 55), and thus could be manipulated for both political and economic gain. For example, Beyezid I could influence Venetian diplomacy through the regulation of grain exports from western Anatolia, Thrace, Macedonia, and Thessaly, upon which Venice and other northern Italian cities were heavily dependent; simultaneously, the Genoese or other nations could be granted capitulations to encourage positive diplomatic relations, while also spiting the Venetians (İnalçık 1970: 214). Because of this, the Venetians sought to establish hegemony throughout the Adriatic and thus secure their role as middlemen for all who wished to do trade via the sea. In the 13<sup>th</sup> and early 14<sup>th</sup> centuries, for example, Venice disallowed any trade in the northern Adriatic which did not pass through the city first. This ruling severely affected port cities on the northern Dalmatian and Istrian coasts, although Ragusa, which had a greater variety of trading partners beyond the north Adriatic, was less impeded by these restrictions (Fine 1987: 339).

Indeed, this chapter must also examine the role which the Republic of Ragusa occupied within trade between Venice and Istanbul, for although it was an independent state, it remained inexorably linked to both powers through commerce and politics. The city is positioned on a rocky coast which ‘favoured independence and piracy’ (Carter 1972: 84), a location which warranted the notice of Venice, Istanbul, and many other empires seeking expansion. Ragusa was among Venice’s spoils of the Fourth Crusade in 1204. Beginning in this period and continuing even after Venice lost control of the region, Ragusa recruited many of its doctors, teachers, architects, and other professionals from Venice, and sent many of its young men across the Adriatic to be educated there. However, the city also had a large Slavic population which had accompanied the 13<sup>th</sup>- and 14<sup>th</sup>-century expansion of trade with the Balkan hinterland, especially in silver from Bosnian and Serbian mines (Krekić 1995: 324). Following the Treaty of Zadar in 1358 whereby Venice lost possession of its Dalmatian territories, Ragusa became an independent vassal of the king of Hungary and Croatia (Krekić 1990: 132). The Republic then began paying tribute to the Ottoman Empire in 1458, fostering favourable trade relations and motivating the sultan to grant the city the role of ‘open port’ wherein East-West trade could continue unhindered even in times of conflict (Miović 2005: 8). These circumstances enabled the city to grow into a formidable maritime power during the 16<sup>th</sup> century. Venice would often look upon Ragusa as an adversary, especially during times of conflict between Christendom and the Ottoman Empire, such as at Candia, when the Pope allowed Ragusa to remain neutral and thus continue its trade (Carter 1971: 372-373).

These diplomatic procedures between Venice, the Ottoman Empire, Ragusa, the Holy Roman Empire, and even the Vatican relied on many different actors, some of whom will be illustrated more thoroughly later in this chapter. First, however, it will look at the goods being

exchanged across these borders, and why these trade networks were so vital to the economies of the region and of the greater empires of which they were a part.

## IMPORTS AND EXPORTS

European countries were importing raw materials and goods produced within the Ottoman Empire itself, as well as Asian goods which had to pass through Istanbul, Bursa, Aleppo, and other Ottoman hubs. Some of the most prominent imports, at least during the earlier period, included grains and spices, but also dyes, woollen yarn, wax, animals skins and leather, foodstuffs (including Egyptian rice, coffee, dried fruits, honey, tobacco from Salonica, olive oil, salted sturgeon, caviar, and more), alum, and Indian cotton textiles (Arbel 1995: 16; Trivellato 2009: 105). Although there were spice shortages in Alexandria and Beirut in the early 16<sup>th</sup> century, they continued to be imported into Venice for export to other areas of Europe throughout the 16<sup>th</sup> century, at least partially due to complaints about the quality of Portuguese imported pepper which had to travel much further around Africa. It was not until about 1625 that the spice trade ultimately favoured the Atlantic route (Mack 2002: 24). During the 17<sup>th</sup> century, however, Ottoman exports began to turn away from finished merchandise such as porcelain, silk textiles, and other luxury items, and instead began to intensify the focus on bulkier products that required easy access to sea routes, such as fruits, cottons, and woollen items (Goffman 2002a: 27) along with raw silk (Trivellato 2009: 114). Mohair, too, was a lucrative trade, enough to entice even more modest traders from smaller towns in the Ottoman Empire to make the sometimes quite dangerous journey on the caravan roads of the Balkans towards the markets of Europe (Faroqhi 2014: 79).

Textiles remained one of the most important European exports to the East, but chemical products, perfumes, mineral colorants, manufactured goods (such as ceramics, soap, glassware, eyeglasses, coral beads, clocks, and paper), diamonds, pearls, cheese, tin, copper, silver, and gold, including bullion, were all exported to the Ottoman Empire (İnalçık 1970: 214; Trivellato 2009: 105; Arbel 1995: 15). The luxury trade became fiercely competitive at the international level as luxury manufactured goods no longer travelled solely from East to West but now West to East as well, with Italy as Europe's 'most diversified producer' (Mack 2002: 25).

Ottoman cities such as Izmir began to flourish as trade centres at the turn of the 17<sup>th</sup> century, while the weakening of centralised power in Istanbul initiated a decline in the influence of cities like Thessaloniki and Aleppo which were heavily reliant on the capital. In addition, Venetians and other European merchants became much bolder in flouting the central administration's intervention and instead dealt with local notables and 'brigands' as they developed new trading networks (Goffman 2002a: 26-33). The increased wealth that these individual Ottoman elites were able to amass, along with the 17<sup>th</sup>-century change from *timar* to



*çiftlik*<sup>2</sup> systems of land management and inheritance (Winnifrith 2002: 105), created a landed aristocracy with the ability to threaten the sultan financially and eventually militarily (Polo and Puto 1981: 93). This development ultimately aided in the decline of the empire; however, Daniel Goffman (2002a: 27) stresses that although centralised governmental control began to weaken during this period, this does not mean that this was a time of economic, political, and intellectual stagnation as is sometimes posited by scholars—growth was just no longer under the strict regulation of the capital.

Although both Venice and Istanbul ruled over extensive territories, it should not be assumed that these subordinate colonies and provinces suffered from a crippling imbalance of power, for in fact the success of the capital cities relied on the steady supply of necessities from the peripheries (Abulafia 2002: 7). All of Venice's Adriatic colonies, particularly Zadar, Trogir, Bar, Kotor, and Perast, served as both safe harbours for merchant vessels and emporia linking the sea-routes with inland trade (Arbel 2013: 225-6). Venice then developed Split into a strategic waypoint in 1590 to capitalise on overland trade routes through the Balkans (Mack 2002: 25), enacting special trade incentives to encourage its use (Arbel 1995: 7). This began as the enterprise of a single Jewish merchant named Daniel Rodriga, but by the 1620s nearly a quarter of cargos bound for Venice passed through the city. These intermediary cities provided their capital with goods from the Balkans, including edibles like cheese, grains, and meat, and raw materials such as wool, tar, acorns, skins, hides, timber, and animals, while sending back salt and finished merchandise to the interior (Arbel 2013: 227). Coastal cities sent an additional commodity back to Venice: information, particularly regarding the movements of foreign vessels through the shipping corridor (Arbel 2013: 139).

Despite the fact that ships crossing the Adriatic were often passing through to more distant locales, the cities of the Dalmatian coast were not solely convenient harbours for foreign merchant vessels. Venice's economy was augmented by the natural resources of the *Stato da Mar*, and the revenues of these territories were indeed what financed the colonial administration (Arbel 2013: 217). As was illustrated in the previous chapter, natural resources were amongst the factors which Venice considered when deciding to colonise any overseas territory, and those regions found to be rich with a particular resource were supported by the Republic so that this could be exploited to the fullest potential. This resulted in an increasing disparity in the economic development of different towns, depending on their local industry. Fishing was an important part of the economies of the islands of Cres, Osor, Hvar, Rab, and Korčula (Arbel 2013: 231). Agriculture, fishing, and animal husbandry were less affected by Venetian policy during the 15<sup>th</sup> and 16<sup>th</sup> centuries, while those locations producing salt were more directly targeted and restricted by Venetian influence (Raukar 1977: 217). Salt, on the other hand, was an especially rich trade in which Venice held a prominent position, and therefore islands like

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<sup>2</sup> *Çiftlik*s were landholdings which were passed down hereditarily, unlike *timars*, which were parcels of land which were temporarily granted by the sultan as compensation for military service.

Pag were enabled in various endeavours to increase productivity; in this case, the entire town of Pag was moved closer to the island's ancient salt pans and also closer to the harbour to ease the mineral's transportation to Venice (Fisković 2012: 45). Other important salterns could be found in Muggia (near Trieste), Koper, Piran, Šibenik, Trogir, Kotor, Durrës, Corfu, Zante, Cephalonia, and throughout the Aegean. Salt made up roughly 17 per cent of Venetian state revenues in the 1460s, and this increased in the following years up until the 1630s (Arbel 2013: 220-21). Venice also looked to decrease its dependence on other states for certain commodities. By the mid-16<sup>th</sup> century, Venice was encouraging subjects in Istria, Dalmatia, Albania, and the Ionian Islands to plant olive trees in unused land so that the Republic could stop relying on Puglia for olive oil (Arbel 2013: 232). Nevertheless, Dalmatia frequently suffered from plagues and famine, often the result of unequal distribution of arable land, which resulted in poverty and social tensions which could not be entirely improved by Adriatic trade (Wolff 1997: 429). Cities such as Zadar and Split were often cut off from their most fertile hinterlands as borders were redrawn, as was the case following the War of Cyprus in 1570-73, and a disparity between the economic prosperity of the islands versus the hinterlands increased through the difficulties the Ottoman forces presented to the cattle trade (Raukar 1977: 221, 225). Brigandage was a popular career path for many, making the countryside and frontier zone all the more dangerous.

## INLAND AND OVERLAND TRADE ROUTES

Venice's economy may have relied almost entirely on its well-established merchant fleet for exchange, but the Ottoman Empire, covering a much greater and more varied expanse of territories, operated over three key commercial zones which combined both sea and land routes for trade. One of these zones was, of course, made up of the maritime networks which traversed the Aegean and Adriatic seas, linking the Ottoman Empire with Venice and the rest of Europe. The other two zones illustrate the 16<sup>th</sup>-century Ottoman interest in eastward economic expansion and establishing dominance in pre-existing networks of exchange. Another coastal trade zone was focused around the Indian Ocean, transporting spices and copper up into the Eastern Mediterranean. The third zone, however, was based primarily on overland trade for the movement of silks, spices, and lumber from Iran into Syria and Anatolia (Brummett 1994: 9, 13). Nevertheless, this zone was still connected to the rest of the empire and the wider world via the Mediterranean. In much the same way, the port cities of Dalmatia provided a vital link between the sea routes of the Adriatic and the numerous caravan roads which crisscrossed the Balkans. The most important of these trade arteries determined the rising fortunes of some of the port cities at which they terminated, particularly Dubrovnik and Split (see *map 3.1*). In addition, these roads not only delivered the goods and produce of the central Balkans to their intended markets, but also connected these towns directly to the Sublime Porte and the Ottoman Empire's cultural centre.

The camel was the primary mode of transportation on the caravan routes of Anatolia and many other regions of the Ottoman Empire, and they were indeed occasionally utilised in parts of the Balkans as well. Yet unlike Anatolia, wagons, mules, and horses were also in use in the Balkans (Faroqhi 1982: 532). Horses and mules were also put to work in pulling ships upriver, meaning that roads had to be placed as close as possible to the banks. However, difficulties in the terrain—steep cliffs or swamps bounded many stretches of these rivers—were sometimes compounded by border disputes, especially in the area around Belgrade, where the Danube and the Sava came to mark the boundary between Habsburg and Ottoman territories (Faroqhi 2014: 34). In addition, there were many roads which precluded the use of boats, wagons, or any other type of vehicle, upon which only pack animals could travel with any speed or safety. Many of the earlier Roman roads had deteriorated, leaving most paths notoriously steep and rocky (Carter 1972: 138, 140), which made the transport of more fragile cargo, such as glass, particularly hazardous. Nevertheless, these were the main means of travel between the cities of the central Balkans and either Istanbul in the east, or the port cities of the Adriatic in the west.

Ragusa had the most, and the most consistent, contact with the inner Balkans. Through the late medieval period, Ragusa had grown in importance as an intermediary port for the transportation of minerals, slaves, salt, and spices (Carter 1971: 376). However, the intensity of this trade diminished in the 16<sup>th</sup> century, forcing Ragusan merchants to diversify not only the specific goods they traded, but also the places from which they acquired these raw materials. The merchants of Ragusa were compelled to expand their reach beyond Bosnia and Hercegovina to include Serbia, Bulgaria, and the rest of the Balkans, and to shift their focus to more inexpensive raw materials including skins, wool, and wax (Carter 1972: 359). In the meantime, at the end of the 16<sup>th</sup> century Venice began to promote Split as their key link to these same sources in the interior. Other cities, such as Zadar, were key intermediaries in specific trades: in this case, the transportation of oxen from Transylvania during the late 16<sup>th</sup> and early 17<sup>th</sup> centuries (Arbel 2013: 231). These roads were the paths of communication and exchange which linked the cities, towns, and villages of the inner Balkans with the rest of the world.

Finished products, including glass, were brought along these same roads from the coast to the interior, which eventually met up with the major road leading from Belgrade to Istanbul (Han 1981a: 200). There were five primary roads leading from these important coastal centres into the Balkans, and many secondary paths which spurred off from there to form an intricate web across the landscape. Three of these were especially important for transporting glass from Ragusa to the pashas of Bosnia and Serbia, following the valleys of some of the major rivers in the region. Archival evidence shows that the *via de Zente* was used for the glass trade beginning from the end of the 14<sup>th</sup> century. Ships from Ragusa would sail south along the coast and then up the mouth of the Bojana River (which now forms the border between Montenegro and Albania) to dock at Shkodër. From there they joined the road to Prizren, Peć (Peja), and Novo

Brdo. Beginning in the 15<sup>th</sup> century, glass was also taken along a road leading east directly from Dubrovnik. This met with the *via de Drine* which followed the Drina Valley towards Niš—a fifteen-day journey in favourable conditions (Carter 1972: 141). Another branch of this road from Dubrovnik split off towards Novo Brdo. The third road, the *via de Narente*, commenced from the north of Dubrovnik at the mouth of the Neretva River and led through Bosnia towards the Sava Valley (Han 1981a: 200). The town of Gabela (also known as Narenta or Drijeva) was the home of a Ragusan colony (Carter 1972: 141) and was the terminus for those travelling west along this road, from whence they could board themselves and their goods on a ship bound for the port cities of the Adriatic or beyond. However, as the Neretva was a hotbed of piratical activity, Gabela was a notoriously dangerous port. This was one of the motivations for developing Split as the preferred port to connect the caravan roads with Venetian maritime trade routes (Faroqhi 2014: 79-81). The road from Split also travelled northwards towards the Sava, where it could join other roads to Belgrade. The final major inland road left from the Bay of Kotor towards central Serbia or destinations to the south. The towns of Kotor and Herceg Novi, after it was occupied again by Venice in 1687, were other important centres for the exchange of manufactured goods destined for the interior, and raw materials and news from the Balkans and Istanbul bound for the *Stato da Mar* (Arbel 2013: 227). In addition, many of the other ports along the Adriatic were connected to each other and to these major roads via a series of smaller, secondary roads. Important roads also connected the Albanian port cities of Durrës and Vlorë with cities in the central Balkans and further east, such as Skopje and Thessaloniki (Carter 1972: 137). Depending on the ultimate destination, Ottoman traders had to factor the time, cost, and inherent dangers of the road into their decision to ship their merchandise via land or sea. Venetians, on the other hand, chose the sea whenever possible.

## MARITIME TRADE ROUTES

Although Venice had initially attempted to prevent shipbuilding enterprises outside of the capital, since they had faced a shipbuilding crisis in the mid-15<sup>th</sup> century due to competition from the *marani* ships built in Istria, by the mid-16<sup>th</sup> century they allowed ships to be built in Dalmatia. This activity took place on Korčula especially, where timber was plentiful, while Kotor supplied pitch used for shipbuilding (Arbel 2013: 231-34). Early modern ships travelled much the same path across the Adriatic as they had in Greek and Roman times; the importance of individual harbours may have varied from one era to the next, but the overall route was altered very little (Pavić 2000: 175). A ship's captain sailing through the Adriatic was faced with several different factors which could affect the journey: the ease of navigation, utilising good winds, avoiding bad winds, the need to restock supplies, and evading enemy ships. The eastern shore of the Adriatic from the Venetian lagoon to Istria, Dalmatia, and Montenegro provided the best solution to all of these needs, mostly thanks to the string of islands which hug the coast (see *map 3.2*).

Ships could pass directly east and west across the Adriatic, and indeed for Dubrovnik, the closest major trading partner was actually Ancona (Carter 1971: 378). However, sailing within sight of the coast was preferable in the time before high-quality navigational equipment was widely available on ships, and before lighthouses were widely established on the shore. The many islands of the eastern Adriatic and the mountainous coast of Dalmatia provided sailors with plenty of easily-recognisable landmarks for navigating these waters (Kozličić 2012: 17). Nevertheless, some of the paths between rocks and islands, which could become quite shallow or narrow, required the guidance of a seasoned hand, particularly when entering or exiting the Venetian lagoon. Local pilots were frequently brought on board in Rovinj, Pula, and Poreč to aid navigation (Arbel 2013: 225). Wheler (1682: 3) experienced this in the late 17<sup>th</sup> century when the ship on which he was travelling stopped in Rovinj:

‘and for their encouragement, all Ships, whether Venetians or Strangers, are obliged to touch there, and to take a profess’d Pilot of this place, to Steer them over the Flats that are before the entrance into the Venetian Harbours, which are very difficult and dangerous. I heard the Pilot say, that conducted the Vessel I return’d in, that it had sometimes but half a Foot, and sometimes not above an Inch of Water below its Keel.’

The direction and strength of the winds which blew across the sea also helped to determine a ship’s course. The *bora*, a north-easterly wind, and the *scirocco*, a south-easterly wind, were the most useful for navigating the angle of the Adriatic’s coasts. Yet, the *bora* could also reach dangerous speeds, forcing ships to seek shelter in the many harbours found on the islands or along the coast. These harbours also proved useful when the winds were too weak or blowing in an unfavourable direction (Kozličić 2012: 16-17). Several maps and pilots’ manuals were published which detailed the best paths between the islands, as well as which harbours could support smaller or larger vessels. Guidebooks might also note what resources were available at each port of call, such as fresh water, fish, or lumber (Kozličić, Faričić, and Uglešić 2012).

None of these guides were fool-proof, however. Maps were often inaccurate, warping distances between ports or skewing the shape of the coastline. Certain ports might be misplaced, mislabelled, or entirely omitted, and the Velebit Channel in particular was left vague in many Venetian maps and written descriptions (Pavić 2000: 180-86). In 1639 this Habsburg-controlled stretch of coast was published in its own guide, the *Senjskog Peljara*, first in Croatian and then translated into German in 1657 (Kozličić, Faričić, and Uglešić 2012: 71). Most captains, however, preferred to avoid the dangers of this region, well-known for piracy, if at all possible.

Venice had the duty of acting as the protector of the Adriatic, ensuring the safe passage of any ships passing through her waters, as was stipulated in the treaties which ended the Third and Fourth Ottoman-Venetian Wars in 1540 and 1573. Because of this obligation, peace between the two entities was threatened whenever Venice failed to protect Ottoman vessels and their cargo from pirate attacks along the Dalmatian coast (Bracewell 1992: 4). One of the

greatest concerns of the Venetian government was not only to keep the shipping lanes of the Adriatic open to their own merchant ships, or ones directly benefitting their economy, but also to discourage their use by vessels from other countries. Venice had done well in securing most of the major Istrian and Dalmatian port cities; however, they were not always able to prevent foreign ships from utilising ports subjugated to other powers. The establishment of free ports in Trieste, Rijeka, and Ancona in the early 18<sup>th</sup> century finally chipped away at Venice's hold over the Adriatic and the trade which passed through there (Arbel 2013: 235).

Ragusa, of course, had been a threat to Venice's attempts for a monopoly over the Adriatic for hundreds of years. Ragusa was the third most important Adriatic port in the early modern period, after Venice and Ancona, and was the principal port for trade with the Balkans (Carter 1971: 370-373). The height of Ragusa's shipping industry seems to have been the period of 1540-1585, especially between 1560 and 1570, when roughly 180 ships transported about 35,000 *carri* of goods (Krekić 1990: 151). However, the end of the 16<sup>th</sup> century and the beginning of the 17<sup>th</sup> brought about economic changes in Venice and the Ottoman Empire, and changes in global trade patterns forced Ragusa to reassess its own trade priorities. Piracy was another growing risk, as the *uskok* pirates of Senj prowled increasingly southward closer to Ragusa (Tenenti 1967: 6). Finally, the earthquake of 1667 decimated the city and the surrounding area, and although shipping eventually resumed, Ragusa never regained its former naval and commercial power, leading up to its final decline in the 18<sup>th</sup> century (Krekić 1990: 151).

Before the waning of Ragusa's wealth and power, the busiest and most successful trade had been in salt, spices, slaves, and minerals, although 15<sup>th</sup>-century sources reported that boats from Venice, Puglia, Abruzzi, Pesaro, Ancona, Rimini, and other wealthy Italian regions would arrive with cargoes of oil, salted meats and fish, textiles, medicines, ceramics, and glass objects, while boats from cities in Greece, Albania, and further afield would bring wood, tiles, bricks, stones, iron, lime, and other raw materials. Exports included pepper, textiles, coral, gold, silver, lead, and wax (Krekić 1990: 134-135). In addition to being sold in shops on the *Placa*, individual sailors, both from Dubrovnik and from abroad, sold glass in the Ragusan arsenal with permission from the government (Han 1981b: 226). However, the Mediterranean-wide decline in Eastern goods like spices meant that Ragusa diverted its efforts towards cheaper raw materials from the Balkans, such as skins, wax, and wool, with Venice, Ancona, and Genoa as its primary importers. Jews in Ragusa aided this trade with their contacts in Venice and in Balkan centres like Sofia (Carter 1971: 376-378).

This chapter so far has looked at the role of particular port cities as intermediaries in trade between Venice, the Ottoman Empire, and the rest of the world. Next, however, some observations need to be made about the individuals who enabled these transactions. These might be officials who were engaged by one state or another to expedite diplomatic procedures, or

they might be members of certain diasporas who used their multitudinous connections throughout the Mediterranean region and beyond to build trade networks.

## THE ROLE OF INTERMEDIARIES WITHIN TRADE BETWEEN VENICE AND ISTANBUL

Long-distance trade often required the assistance of additional middlemen who might act in a number of capacities, such as a translator or an agent of someone who could not take part in these dealings in person. This was particularly important in the Ottoman Empire, an entity which was comprised of so many different ethnic groups and languages. Scholarship on the economy of the Ottoman Empire has increasingly accepted the empire's participation in global trade. Indeed, more recently a move has been made to discontinue the idea that Turkish and other Muslim Ottoman subjects distanced themselves from commerce due to an inherent contempt for the business—although the earliest evidence of these Ottomans trading abroad is indirect, these accounts become more illuminating after the 1430s (Kafadar 1996: 98). A need for luxury items for use as gifts, which was an important part of the diplomatic process (Mack, 2002: 23), a high demand for these items amongst the elite classes, and the empire's reliance on bullion meant that the Ottoman Empire could not have been as self-sufficient as previously imagined by some historians (İnalçık 1970: 214). Nevertheless, the incorporation of non-Muslims in the commerce and administration of the Empire also helped facilitate relations between Ottomans and Europeans and allowed trade to flourish (Goffman 2002b: 9).

### *Middlemen and Dragomens*

Trade and diplomacy between Istanbul, Venice, and other European countries were dependent on the efforts of what E. Natalie Rothman (2009: 773) calls 'trans-imperial subjects'. Both Venice and Istanbul, along with smaller cities under their rule, were home to merchant communities hailing from a number of foreign nations, in addition to being way-stations for transitory merchants. In Italian cities and those under Venetian control, 'pest-houses' quarantined anyone travelling from a place which might have the plague, 'especially Turkey, which is never free from it', where they would have to stay for forty days before they could do business in the city (Wheler 1682: 16). Houses were also dedicated to the subjects of particular states which had a significant part in international trade in the city. Despite the modern preconception of a so-called 'Turkish disdain for commerce' (Mantran 1982: 131), this international market scene included a growing number of Turkish and other Muslim merchants (Kafadar 1996: 100), culminating in the long-debated establishment of a *fondaco*<sup>3</sup> to house Turkish merchants in Venice in 1621 (Mack 2002: 21). During the latter half of the 16<sup>th</sup> century, roughly 300 to 500 Ottoman subjects visited Venice for business per year, some of whom came

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<sup>3</sup> In cities throughout the Mediterranean, a *fondaco*, or *funduq*, was a house established for the visiting merchants of individual nations where they could stay and conduct their business.

from the Balkan provinces, but also many who hailed from Istanbul or elsewhere in Anatolia (Faroqhi 2014: 76). In Istanbul, foreign merchants were mostly settled in the suburb of Galata, and since Byzantine times the city included colonies from Venice, Genoa, Amalfi, Pisa, Catalonia, Provence, Armenia, Georgia, Arabia, Anatolian Turks, and Jews (Mantran 1982: 127).

Francesca Trivellato (2009: 104) points out that the nature of Mediterranean trade required a workforce, often made up of locals and members of trading diasporas, that was well-versed in the nuances of a wide variety of commodities and markets:

‘Handling a hodgepodge of goods required different skills and credit relations than did investments in American cash crops: merchants in the Mediterranean had to evaluate the quality of a variety of goods, follow their price fluctuations, and know how to make money by buying and selling many small parcels and interacting with a large number of suppliers and customers.’

Among these numbers were commission agents carefully selected by merchants or wealthy individuals to act on their behalf in foreign markets, where they were expected to be familiar with the best market opportunities, the most reliable ships, and the most favourable exchange rates (Trivellato 2009: 14). One example of this practice is Katarina Vukčić Kosača, the last dowager Queen of Bosnia, who fled to Italy to escape the Ottomans but retained a Jewish agent in Ragusa to manage her affairs (Krekić 1987: 836).

Additionally, diplomacy and trade required the employment of dragomans who served both sides as interpreters. Non-Venetian Europeans were reliant on Greeks, Armenians, or Jews to navigate the language and rituals of Ottoman diplomacy (Rothman 2009: 785). On the other hand, Venetian ‘*giovani di lingua*’ were the sons of Venetian citizens, elites from the colonies, or from the Latin community in the Galata neighbourhood of Istanbul, who all trained in the house of the *bailo*.<sup>4</sup> While a stint in Istanbul could mean a promotion for citizens when they returned to Venice, cultural lines between these dragomans, who were all trained together as boys, eventually blurred, and many of these men married locals or intermarried with other dragoman families. Ottoman dragomans were originally selected from amongst prisoners and the *devşirme* but by the late 16<sup>th</sup> century more specialised recruits were sought from amongst converts and non-Ottoman subjects, and even amongst the children of former dragomans once rules against marriage were reduced (Rothman 2009: 774-779). The sultan himself remained removed from many of the dealings that were made in his name, even those which directly affected the imperial palace and entourage, instead laying a great amount of authority in the control of intermediaries (Peirce 1993: 11). In this way, intermediaries helped to shape the course of early-modern commerce and diplomacy in the Eastern Mediterranean.

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<sup>4</sup> The *bailo* was the fixed-term diplomat in charge of Venice’s political and commercial affairs in Istanbul, whose house was the base for the Venetian community in the city.



## *The Jewish Diaspora*

Of all the minority communities to take part in Early Modern international trade, Jews of various origins have probably been given the most, or at least the widest range, of scholarly attention. The difference in conditions experienced by Jewish communities in Europe versus those settled in the Ottoman Empire decided the directions in which these groups ultimately developed. The reception of Jewish communities in Europe, and their subsequent involvement in international trade, was not in all times and places the same, and the environment could quickly turn from welcoming to hostile and *vice versa*, depending on the capricious judgment of the papacy or the financial security of local elites (Ashtor 1984: 178; Arbel 1994: 4, 10, 18; Trivellato 2009: 4). Until 1391, many Jewish communities in Western Europe, particularly those in Catalonia, were active in a vibrant international market (Ashtor 1984: 161). Even before the exile and dispersal of the Sephardic Jews, communities were active in trade in Puglia and the rest of Italy's Adriatic coast, although Ancona, it seems, did its best to keep them out (Ashtor 1984: 173). There was mention in the Dubrovnik archives of a Jewish contact from Durrës in 1281 (Krekić 1987: 835). Meanwhile in the Ottoman Empire, Jewish presence was intertwined with the Ottoman expansion into the Balkans, Middle East, and Egypt, first with communities of Romaniot and Karaite Jews from Anatolia and the Balkans (who had suffered persecution under Byzantine rule), and then with groups of Ashkenazis as well (Goffman 2002a: 15-16). Of course, the expulsion of the Sephardi and Marranos from Iberia shifted the centre of their networks to the East Mediterranean, ultimately altering Jewish communities in both Europe and the Ottoman Empire immensely, although in vastly different ways.

The first generations of Sephardic Jews to leave Iberia for the Ottoman Empire spoke primarily Castilian and Ladino, and generally had a greater understanding of Hebrew, than subsequent generations who travelled to Italy and other parts of Europe via Portugal, who thus spoke mainly Portuguese and had lived longer as *conversos* (Trivellato 2009: 65). Sephardic communities in Ottoman territories were often led by rabbis, while in the West, where the practice of Judaism was less orthodox and the population was much more assimilated to Christian commerce and culture (Trivellato 2009: 18), this responsibility was usually bestowed on wealthy and prominent laymen. This in some ways contradicts the notion that the widespread Sephardim forged a universal network of trade and communication based on common language (Hebrew or sometimes Ladino), religion, and cultural norms (Arbel 1995: 17). Most of all, the Jewish experience in Italy and in regions over which Italian states exercised influence was defined by the establishment of ghettos, while Jews in the Ottoman Empire were integrated into both trade and the government administration through the 15<sup>th</sup> and 16<sup>th</sup> centuries, until they were eventually phased out beginning around the turn of the 17<sup>th</sup> century (Goffman 2002a: 15).

From the earliest days of the empire, Jewish communities which settled in Ottoman territory quickly entrenched themselves in the nascent imperial system and sought to fill newly created niches in the economy (Goffman 2002a: 15). In Istanbul and other cities such as Beirut,

Alexandria, and Bursa, Jews were given positions as customs collectors (Arbel 1995: 21). These collectors held significant power not only within the Ottoman Jewish community, but over European merchants who wished to do business in the Empire (Goffman 2002a: 32). Yet even in lower positions in the commercial sphere, Jews were filling vital roles as translators and brokers between foreign merchants and Ottoman authorities. Their intimate knowledge of the inner workings of the administration, the language and rituals of commercial transactions, and perhaps even personal connections to certain customs collectors meant that the employment of a Jewish intermediary could make cross-cultural commerce and exchange easier for visiting foreign merchants (Mantran 1982: 130). Jewish merchants were also in charge of the trade of certain high-demand commodities, such as alum, an integral raw ingredient for the Venetian textile industry, and spices being transported through Cairo. Venetian attempts to circumvent Jewish control of the alum trade by paying off the sultan were thwarted (Arbel 1995: 20). In Thessaloniki, Sephardic immigrants became heavily involved in textile manufacturing and trade (Trivellato 2009: 114) and with their ‘ingenuity and innovation’ (Goffman 2002a: 18) transformed the city into one of the empire’s prominent industrial and commercial centres (İnalçık 1970: 207). Leading Ottoman officials would also sometimes invest in Jewish trade, which was another way to protect Jewish goods and dealings from Venetian abuse (Arbel 1995: 19). Thus, despite any misgivings European nations might have against dealing with Jews, their central position within Ottoman commerce made them crucial to international trade (Goffman 2002a: 24).

The first European ghetto was carved out of a rather marginal part of Venice in 1516. As it was originally intended to house around 700 Jews, the *Ghetto Novo* was expanded in 1541 to include a neighbouring area known as the *Ghetto Vecchio*, which could be reached by bridge; finally, additional space was annexed in 1633 to house another 20 families (Calabi, Nolde, and Weinstein 2007: 90). The Venetian ghetto was initially characterised by distinct communities of Italo-German, Levantine, and finally Sephardic Jews, each keeping its own synagogue and maintaining its own charitable organisations. Over time, however, the lines separating these groups faded (Trivellato 2009: 64). In some ways, the Venetian Ghetto was founded for the mutual benefit of both Venetians and Jews. In the first half of the 16<sup>th</sup> century, Venice was under threat of competition from other Italian city-states, such as Ferrara and Ancona, which were beginning to welcome Sephardic Jews in order to exploit their connections with Ottoman Jews. At the same time, in comparison to the conditions faced by Jews elsewhere in Europe, the ghetto offered a level of relative security (Arbel 1995: 5-8). In fact, despite Daniel Goffman’s assertion that part of the success of Jews in the Ottoman Empire could be attributed to their ability to ‘leap across cultural and religious boundaries’ (Goffman 2002a: 19), in Venice it was perhaps the delineation of boundaries between Christian and Jewish populations that ultimately aided cross-cultural exchange. The idea of crypto-Judaism was a source of unease amongst Christian Europeans—rules could be followed to allow for ordered and cooperative interaction

between ethno-religious groups, but religious conversion, a process which altered a person's identity within the social order, created uncertainty (Barth 1969: 19, 29). Therefore, many Sephardic Jews in Venice were eager to expunge any evidence of their own, and their community's, *marrano* past, which raised their trustworthiness in the eyes of their Venetian neighbours (Trivellato 2009: 50).

However, as one can imagine, living and working under Venetian rule was not always easy and consistent for Jews. Although many Venetians recognised the link to invaluable trade networks that Jews would give their city, there was also a certain level of jealousy that accompanied any perceived Jewish prosperity. Resentment of the power held by Jews encountered in the Ottoman commercial administration might also be taken out on Jews residing in Venice (Arbel 1995: 18). Individual Jews and Christians might interact socially and intellectually, as well as economically, yet there were still Christians who would use Judeophobic language even while committing to contracts with Jews (Trivellato 2009: 19-20). Nevertheless, in times of war, Venetians would make use of Jewish intermediaries, or even adopt Jewish pseudonyms, in order to continue trade with the Ottoman Empire (Mantran 1982: 131-133). Jewish communities in the Venetian colonies, which were often Byzantine in origin and structure, were acknowledged for their commercial importance and highly valued by the Venetian state (Georgopoulou 2001: 248-9) perhaps even more so than they valued Jewish communities within Venice itself. Jewish merchants and middlemen were such an omnipresent part of early-modern trade that when European travellers wrote home about foreign cities, the presence of a thriving Jewish neighbourhood denoted to readers that the city took part in booming international trade (Calabi, Nolde, and Weinstein 2007: 106).

Ragusa was another city which had a relationship with Jews that was both tenuous and indispensable. As early as the 14<sup>th</sup> century, Jewish merchants from Vlorë, Malta, Provence, and Crete were doing business in Ragusa, and records mention a Jewish neighbourhood situated near the city walls in the suburb of Ploče (Krekić 1987: 835). This coincided with both the withdrawal of Venetian authority from the city, and the granting of the pope's permission to trade with the Muslim world (Krekić 1990: 132). Like other parts of the East Mediterranean, the Sephardim created a new dynamic in the local Jewish communities. Ragusa was both a waypoint and a final destination: many Jews stopped in Ragusa to join up with one of the many caravans bound for the Balkan interior, but many chose to stay and settle in and around the city. During the 16<sup>th</sup> century, the neutrality of the city and its convenient location intersecting many important trade routes drew Jewish merchants from cities throughout the Balkans (such as Thessaloniki, Sarajevo, Valona, Mostar, Skopje, and Sofia) and from Italy as well (Krekić 1987: 840). In 1538 Jews were allowed to finally settle within the city, and in 1546 the ghetto was established on the lower half of the *Lojarska Ulica*,<sup>5</sup> strategically placed three streets from the *Sponza*, a joint warehouse and customs house (Miović 2005: 12). Even though Ragusa preferred

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<sup>5</sup> This street is now known as *Žudioska Ulica*, or 'Jewish Street' (Krekić 1987: 839).

to keep the papacy from meddling in their affairs (although Ragusa was also dependent on the Vatican for protection, and the pope equally relied on the city as a bastion of Catholicism in the Balkans) there were times when anti-Semitism, and jealousy, infiltrated Ragusa's Senate (Krekić 1987: 842; Miović 2005: 23). Jews were an imperative part of the city's commerce, as investors, members of shipping companies, merchants, brokers, and other middlemen. By 1570, around half of all middlemen in Ragusa were Jews (Miović 2005: 39). They remained a significant part of the city, even after its decline and up until the Second World War, attesting to the favourable conditions they found in the city (Krekić 1987: 843).

### ***Greeks, Albanians, Slavs, and Armenians***

As trends in global commerce began to shift, so did the roles occupied by Jews. Merchants from England and other countries began to negotiate more directly with Ottoman elites in order to bypass dealing with Jewish middlemen, which they were generally averse to do, and by the 1650s Jews had lost their monopoly over customs collection (Goffman 2002a: 25, 33). However, there were other minorities with whom European merchants would do business, especially Greeks and Armenians but also including other Ottoman subjects in the Balkans. The 14<sup>th</sup> century saw an increase in Greek mercantile activity and the rise of merchant classes amongst Orthodox non-Greeks. This ascent was given further support during the Ottoman occupation and subsequent urban development, during which time trade with the West was stimulated with the granting of privileges, while other routes, such as the Black Sea, were monopolised by the Ottoman Empire (Stoianovich 1960: 235). Following the conquest of Constantinople, Mehmed II sought to recruit Greeks from the Morea, Izmir, and Trabzon who were experienced in trading with the West and Armenians from strategic trading centres in Anatolia to repopulate the dilapidated city (Mantran 1982: 128). Within Istanbul and other major Ottoman cities, Greeks and Armenians acted as intermediaries and translators for European merchants. Although they were less involved in the Ottoman commercial administration than Jews, foreign merchants began to prefer hiring Greeks and later Armenians as their dragomans, factors, brokers, and consuls at the beginning of the 17<sup>th</sup> century (Goffman 2002a: 33). However, they were active in other areas of the economy as well: Armenians were deeply entrenched in the Persian silk trade, and by the 17<sup>th</sup> century their networks stretched from Northern Europe to East Asia (Goffman 2002b: 15). Their presence in the capital and other large cities had not been noteworthy until this time, when both their population and their employment as intermediaries for European merchants increased substantially (Mantran 1982: 133). In the provinces, Greeks traded coins in the Aegean and dealt in goods from the Black Sea and contraband, such as wheat, from the Aegean (Mantran 1982: 133). In Izmir, the large Greek population was involved in the trade of local products such as lime, straw, and spun wool. Many owned merchant ships, and manned others as sailors and captains (Trivellato 2009: 114). It can be difficult, however, to properly quantify and analyse Greeks and their involvement in

Venetian and Ottoman commerce, as it was frequently their status as Venetian or Ottoman subjects that determined their position in commercial activities, thus their Greek identity was not always mentioned in official records (Greene 2010: 42).

### *Piracy*

The final intermediaries that this chapter will examine transferred goods through this region by less orthodox methods. By the early modern period, Mediterranean piracy was an acknowledged and accepted risk to maritime trade, one which impeded conventional trade routes but equally opened up alternative means for merchants and consumers to procure both staples and luxury goods. Far from being the sole domain of a few independently-enterprising swashbucklers, the seas were shared with corsairs who enjoyed the fruits of booty while benefiting from an endorsement from governing bodies (Bracewell 1992: 8). Given the importance of these sea routes to Venice's economy and diplomatic standing, it is no wonder that this state-sponsored piracy eventually led to conflict and even war.

While Barbary corsairs intimidated the rest of the Mediterranean even so far as the Albanian coast, locally-based bands of marauders posed the greatest threat to the safety of merchant galleys travelling within the Adriatic, including a group of Albanian 'ghazis' based out of Bar who Evliya Çelebi (a 17<sup>th</sup>-century Ottoman traveller) claimed terrorised Dalmatia and southern Italy (2000: 51). However, perhaps the most active pirating group along the Dalmatian coast were the *uskoks*, who were a relentless thorn in the side of Ottoman merchants. Their cargos, and their persons, were the preferred targets of these Christian pirates who boasted Habsburg support. The most important factor in seizing plunder, at least ostensibly, was that the slaves were, and cargo was owned by, Muslims (or occasionally Jews). Particularly in periods of open war with the Ottoman Empire, this helped the *uskoks* gain additional support from the Papacy and Venice (Longworth 1979: 356). The majority of the time, however, this meant that an increasing number of Christian ships, especially from Venice, but also from Ragusa and Ancona, were targeted in the knowledge that they would be transporting wares purchased by infidels. Occasionally Christian goods were confiscated as booty along with the rest. Nevertheless, reports of *uskok* captains scouring the bills of lading on these galleys to separate out 'just' loot from Christian merchandise suggest that they did generally prefer to only steal from the Ottomans (Bracewell 1992: 212), although whether this was out of principle, or simply a desire to avoid the hassle of dealing with angry Italians, is another matter. Protests were made to Austria regarding the *uskoks*' behaviour, but concurrently Venice received the complaints of Ottomans, reminding the Republic of their duty, as protector of the Adriatic, to ensure the safe travel of all merchant ships.

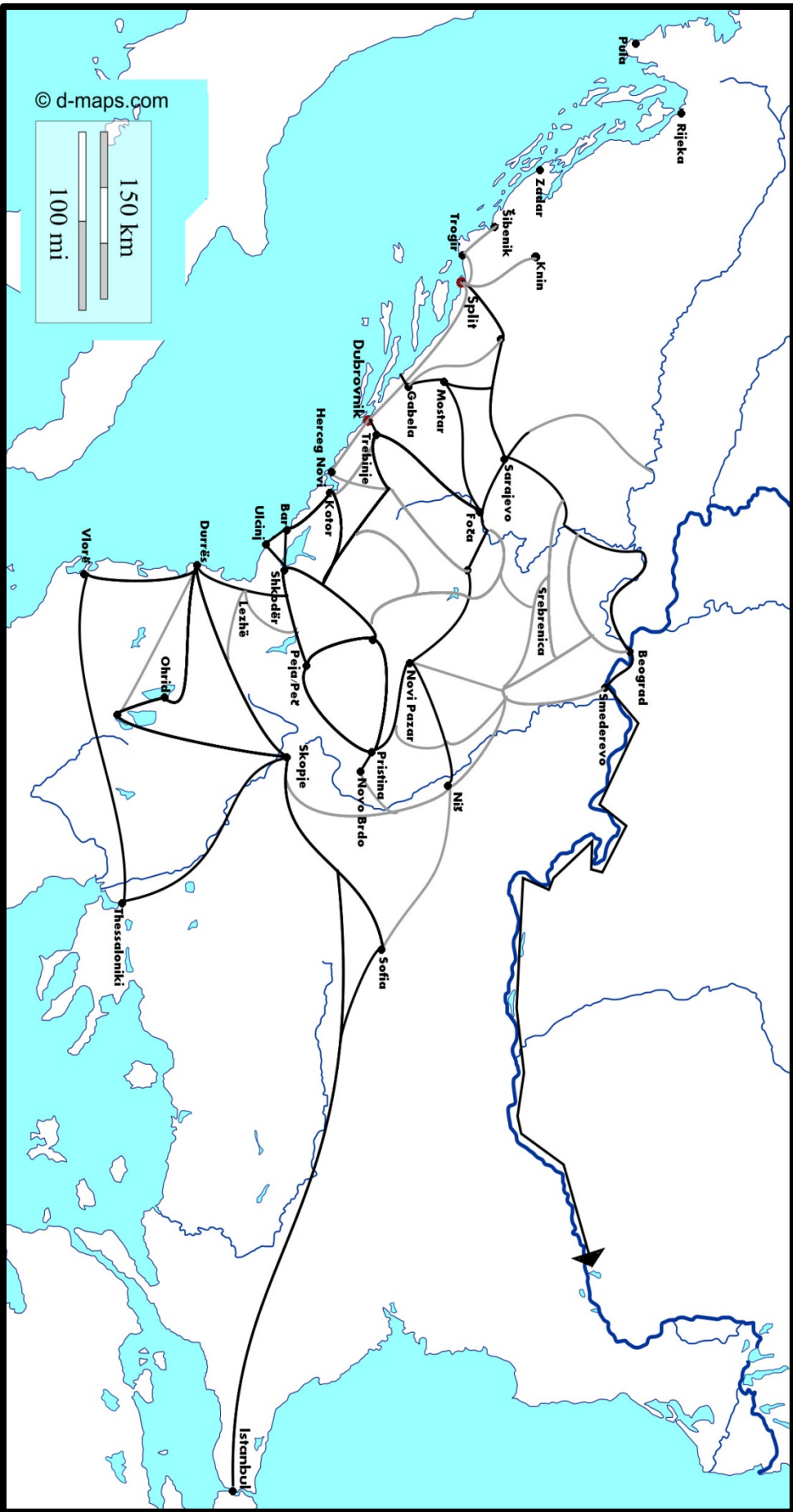
The *uskoks* possessed the potential to dispatch up to two thousand men, but much more frequently only about ten to thirty men made up these raiding parties, which could last from weeks to months (Bracewell 1992: 4). They manned small, fast boats known as *brazzere* which

could travel up to 100 miles in one night, and thus easily outpace their prey (Tenenti 1967: 6). Nearly everyone in Senj contributed in some way to these forays, including the priests and friars from the Dominican and Franciscan communities who might say a blessing for the ships or even take part in these missions themselves; regardless of their participation, a tenth of all plunder was reserved for the clergy. Those who were too old or infirm to take part would patronise a ship or an individual to go marauding on their behalf (Tenenti 1967: 9). Food was the primary objective for pillaging, whether to provide for a bountiful religious feast or to help the town through times of shortage (Longworth 1979: 361). At the same time, luxury cargos were also targeted: there was one account in 1592 of an attack off the coast of Cres on a ship carrying 130,000 ducats worth of cloth. When the ship sank, the *uskoks* captured and tortured the sailors until they handed over the cash, and then proceeded to dive to the wreckage to retrieve the silks (Tenenti 1967: 7).

A small city such as Senj did not have the market to consume large quantities of silks or feathers, and so naturally they relied on trade with neighbouring regions. Rijeka was the primary beneficiary of the *uskoks*' trading ventures, but Trieste and even cities along the Dalmatian coast—Venetian subjects who were forbidden from trading with pirates—also welcomed these pillaged goods on occasion (Bracewell 1992: 116). Simultaneously, however, other Dalmatian cities such as Split, Trogir, Sibenik, and Zadar suffered commercial losses when some ships chose to bypass much of the coast in order to avoid running afoul of the *uskoks*. Caravan routes were similarly affected (Bracewell 1992: 216). Of course, illicit trade was never without risks, and thus both the pirate and the merchant rarely made their fortunes through it, but rather relied on a steady stream of plunder to remain solvent (Bracewell 1992: 117). This was certainly not the means of exchange by which most of the population of Dalmatia acquired staples and luxury goods, although, much to Venice's chagrin and further highlighting the divide between rural and urban Dalmatians, the rural population of Dalmatia often colluded and otherwise aided the *uskoks*, even if they themselves did not directly participate in the pillaging (Bracewell 1992: 219). Piracy, and the trade of contraband more generally, is an avenue which generally warrants further consideration and scholarship, both in the ways by which it frequently interrupted more conventional methods of trade, and in the ways it gave populations access to these trade networks who might not normally have the means to take part in this exchange.

The above serves to illustrate only a part of the intricacies of early-modern trade between Venice and Istanbul. Scholarship in recent decades has taken notice of the importance of intermediaries, both individual merchants and whole cities, yet some questions still remain. For example, the exact number and level of success of Jewish communities in the East Mediterranean is debated—many studies emphasise the wealthy Sephardim who brought their riches and their connections with them to the Ottoman Empire (Arbel 1995: 21), but in actuality

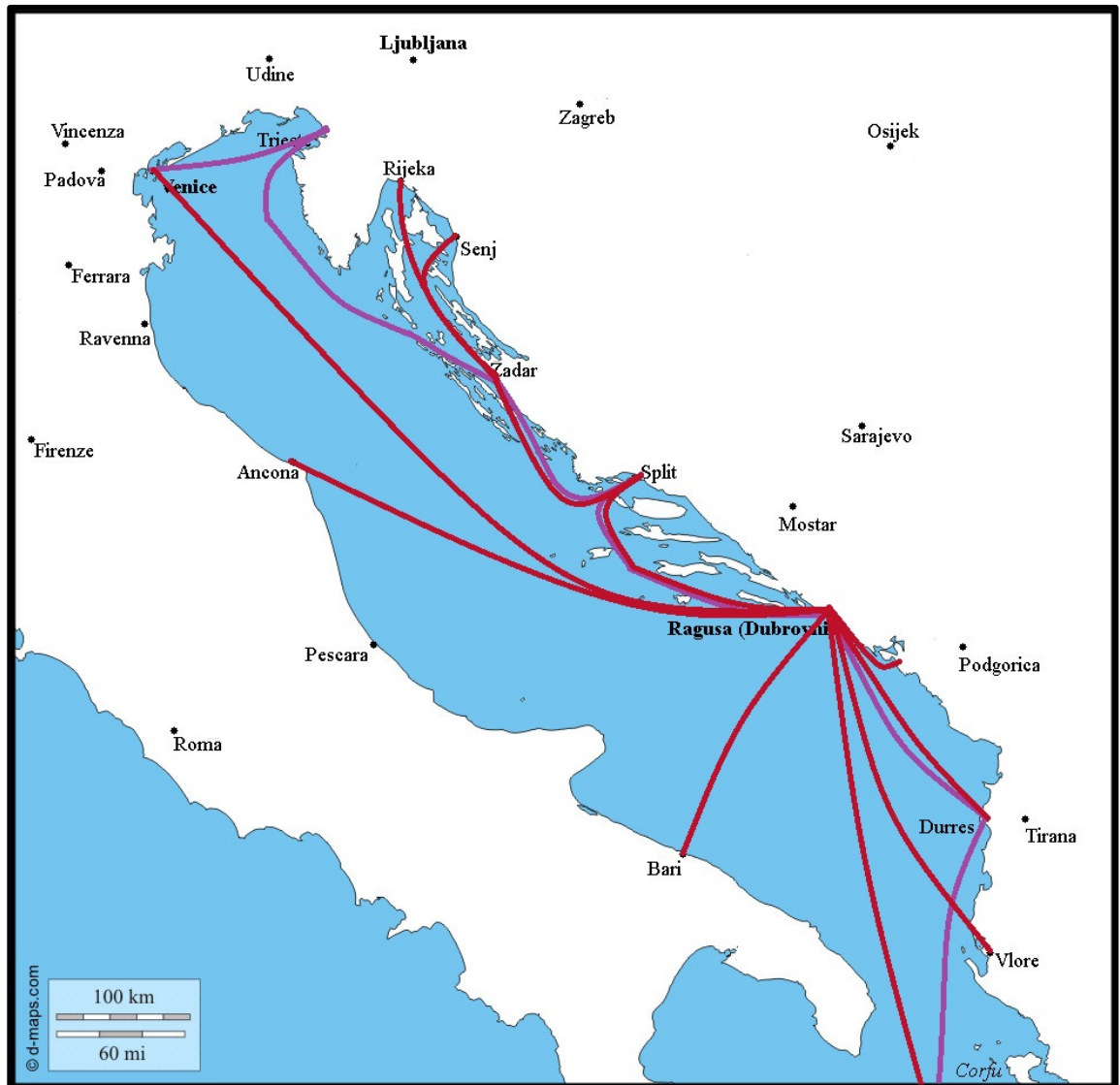
these exceptional individuals were perhaps very few in number (Ashtor 1984: 178). Nonetheless, Benjamin Arbel (1995: 28) insists that Jews had a greater share in the international trade between Venice and Istanbul than was previously thought, and enjoyed a central role particularly during the period between 1540 and 1625. Other minorities, notably the Greeks, are also difficult to study comprehensively, primarily due to their abovementioned identification as Ottoman or Venetian subjects in contemporary sources. In addition, the simple dearth of comparative studies regarding these non-Muslim and non-Venetian minority groups adds to the difficult task of ascertaining their roles within the wider market (Trivellato 2009: 114). Ultimately, Trivellato (2009: 103) does not believe that these groups were able to displace the 'Italian bourgeoisie' as dominant forces in Mediterranean trade, as they were unable to take part in political or diplomatic matters as separate and cohesive nations. As for the smaller cities which acted as waypoints and intermediary trading posts, although it has long been acknowledged that merchant ships often travelled close to the coast, allowing them to stop and trade at multiple ports en route to their ultimate destination (Braudel 1972: 107), there appears to be a lack of (accessible) comparative studies focusing on these intermediary towns. It seems that this is a field which would benefit from further scholarship, as these intermediaries were an indispensable part of an increasingly international commerce during a pivotal point in world political and economic history. In the meantime, this thesis will instead turn to look now at the cultural exchange which sometimes accompanied this economic exchange.



Map 3.1.

Some of the most important caravan routes through the Western Balkans. Primary roads are in black, and secondary roads in grey. Paths are approximate and should be assumed to follow river valleys where appropriate. Redrawn from Carter 1972: 137.





**Map 3.2.**

Some of the maritime routes through the Adriatic. Paths through the Dalmatian islands are approximate, as these might vary according to the weather or the particular ports visited along the way. Venetian routes are in purple and Ragusan routes are in red.



## IV

# **The Consumption of Material Culture in Italy, the Ottoman Empire, and their Territories**

Pinpointing the impetus of a consumer-driven material culture revolution in Europe has for some time been a matter of contention for economic and cultural historians alike, often in an effort to bring greater understanding and depth to the origins of our own consumerist, Western societies. Many academics, particularly earlier authors but not discounting more recent scholarship, have made the claim that evidence for the early roots of consumerism or capitalism can be seen by the end of the 17<sup>th</sup> century, and most certainly by the 18<sup>th</sup> century (Smith 2002: 6). Yet others make the argument that it is in the Renaissance, rather than the Enlightenment, that we should look for the earliest signs of the slow, prolonged upheaval in consumption practices between the medieval and the modern eras (Goldthwaite 1993: 5; Allerston 2007: 11). This chapter aims to illustrate that cultural changes of this earlier period provided the stimulus for a new world of material culture. That is not to say, however, that this was a model of capitalism identical to what we have today. Rather, this chapter will recognise the continuity which could still be found in consumers' habits, evident in both the remnants of medieval consumption practices and in the allusions Renaissance humanists attempted to draw with their ancient Greek and Roman predecessors. The following pages will show how a resurgent interest in humanist inquiry and classical antiquity, a quest for the novel, exotic, and fashionable, and a new relationship with art all worked towards changes in Italians', Europeans', and Ottomans' use of luxury goods both in the home and in the courts of Europe and the Ottoman Empire. These luxury and other material goods were, in turn, a 'creative force' (Goldthwaite 1993: 243) and an increasingly versatile way to create, reinforce, and express one's class and cultural identity at a time when these identities were frequently put into question.

### **MEN OF LETTERS**

The seemingly unique set of circumstances which allowed the Renaissance to flourish in Italian city-states was expertly outlined by Richard A. Goldthwaite in 1993, focusing primarily upon the intensive urbanisation of the upper classes who gradually abjured a rural, feudal system in which Northern European societies remained entrenched for centuries longer. During the late medieval period, Italian nobles established themselves, their property, and their possessions in urban centres rather than living in isolation on country estates, or (except for brief cases in

Naples and Piedmont) tying themselves to a centralised princely court. This created an environment in which the elites of cities such as Venice or Florence were allowed relative autonomy from the designs of a feudal-style monarchy, while simultaneously being integrated into urban life. As Italian nobles took part in their own commercial ventures,<sup>1</sup> and even married into the mercantile and other wealthy, non-noble classes, the traditional feudal models of consumption grew increasingly outmoded by the early modern period. Instead, a new mentality developed in which the wealthy sought to distinguish themselves from each other and from the lower orders of society, both materially and intellectually, through the patronage of art, literature, and architecture, particularly if this patronage could be displayed to the entire city (Goldthwaite 1993: 173-7). The overall aggrandisement of the city landscape through the building of monuments and the commissioning of art and literature was the result of a new communal ethos, which allowed the upper echelons to express both their wealth and civic pride. Learning was the new sign of nobility, so that those who were noble, or wished to convey themselves as noble, now had to prove their sufficiency in their knowledge of antiquity and humanism (Goldthwaite 1993: 202).

Western Europe's relationship with the Byzantine Empire was often as contentious as its relationship with the Islamic world; thus the West only fully utilised Byzantium's repository of ancient knowledge in the final days before the empire was extinguished. With the aid of immigrant Byzantine scholars as their teachers and translators, Italian humanists were able to study ancient Greek texts for themselves, in their original language, rather than placing themselves under the influence of Arabic secondary sources (Bisaha 2004: 103-104). This sparked not only an erudite interest in understanding the ancients, but also a desire to emulate them and live by their teachings. In many ways the ideals laid out by antiquarians and humanists of the Renaissance affected the subject matter of art, the forms which material culture took, and the ways in which people related to the growing world of material goods.

Classical influences are just as tangible in both the high arts of painting or sculpture, and in artisanal crafts such as glassware and maiolica, as they are in the humanist literature of the early modern period. Traditional, medieval themes began to be peppered with classical stylings, as noble men and women posed in imitation of the Caesars and the muses. Ancient myths and notable figures joined the pantheon of biblical cycles to decorate first the public sphere, and then eventually domestic surroundings as well by the second half of the 15<sup>th</sup> century (Syson and Thornton 2001: 17-20). These tropes were also translated through the media of glass and ceramics, as the *all'antica* style became increasingly fashionable, at much the same time that paintings and other classically-influenced artwork crept into the home. Goblets might be enamelled with depictions of poets, both classical and contemporary, or etched with mottoes or

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<sup>1</sup> This was not practiced in all Italian cities equally, however. Venetian nobles were the most adept at and comfortable in taking part in mercantile activity, while in other cities, such as Naples, there was a clearly defined division between the merchant and noble classes with little opportunity for crossing this line (Brown 2000: 300).

poetry. Many vessels took forms which became progressively more free-form and sculptural, known as ‘grotesques’, deriving their inspiration from paintings in Nero’s palace which were rediscovered in the 15<sup>th</sup> century (Page 2004: 11).

Glass as a material was also the product of attempts to recreate the ancient world. Through much experimentation, glassmakers were able to reinvent glass recipes invented by the Romans which had since been lost (Tait 1991: 163). The most important of these innovations was *cristallo*, a fine, colourless glass resembling valuable rock crystal, which had been perfected over two centuries and was popularised in the 15<sup>th</sup> century. An ancient version of this type of glass was praised by Pliny the Elder; therefore, *cristallo*’s appeal was more than just aesthetic. Multi-coloured *millefiori* and other coloured glass mimicking precious and semi-precious gems were also motivated by antiquarian enthusiasts (Syson and Thornton 2001: 186-187). These objects could hold a multitude of symbolic meanings synchronously, as could many other luxury goods in the Early Modern period, making them objects of both admiration and criticism.

Concepts of beauty and wealth, and the ways in which they should be used, were often the concern of humanist philosophers who attempted to reconcile Christian doctrine with increasingly classical philosophy. Perhaps more than anything, the struggle to define the *ideal* city, or prince, or man—the ‘universal man’—preoccupied Early Modern scholars and the nobles who patronised them. How to spend one’s wealth was far more important than the issue of how to obtain it, and by posing this question through a secular lens, many writers were able to justify changing consumption patterns with a new and different set of morals (Goldthwaite 1993: 210). Although wealthy men of the medieval period might have hoarded precious goods, the Renaissance man was a *collector*, displaying his knowledge and taste through his assemblages of antiques, antique replicas, exotic novelties, and art (Goldthwaite 1993: 247). However, we should not take this seemingly insatiable spending as unequivocal fact. Debates on the proper spending of money and display of wealth raged on through the early 17<sup>th</sup> century much as they had in previous centuries; yet now they were aided by the writings of ancient philosophers. Humanists could interpret ancient texts as either endorsing a lifestyle devoted to the search for beauty, or else as promoting communal property ownership. Stoicism was also popular into the 17<sup>th</sup> century (Allerston 2007: 16), and sumptuary laws will be discussed later in this chapter. Nevertheless, the notion that consumption could be validated was even able to trickle down to permeate the lower rungs of the social ladder. Treatises were written for the benefit of those of lesser means, advising them on how to procure nice things of their own (Goldthwaite 1993: 251). In addition, the artisans who skilfully manufactured all of these goods imbued with antique and humanist symbolism would have possessed some of these objects themselves, and might have some understanding of the abstract concepts that inspired them (Allerston 2007: 17). These were, after all, ideas which were being disseminated throughout the rest of Europe, and to the Ottoman Empire as well.

The upper classes of the Ottoman Empire were not blind to the artistic and intellectual achievements which so characterised the European Renaissance, although the ultimate manifestations of the ideals to which they aspired may have differed. The lingering notion that the Ottomans had isolated themselves to the extent that they did not take part in this cultural movement is outdated. Christian Europe and the Ottoman Empire occupied the same sphere of exchange, and the apexes of Venetian and Ottoman political and economic prosperity occurred within fifty years of each other in the 16<sup>th</sup> century (Howard 2007: 139). Ottoman subjects thus had the opportunities and the resources to engage in the same intellectual world as their European counterparts, and they did. Although the Ottoman social and political systems differed from those of Europe, Ottoman leaders (particularly in the borderlands) were well-versed in the symbols of legitimacy and sovereignty which traversed borders, and Ottoman elites engrossed themselves in many of the same books and art as their Christian peers (Finkel 2005: 155; Norton 2013: 17). Artists, and their artistic inspiration and techniques, travelled in both directions, as did scientific, philosophical, and military knowledge. Resident Italians in Ottoman lands, particularly merchants and bankers, helped to disseminate humanist literature (Norton 2013: 4-7). Ottoman cities benefitted from a sense of civic pride or duty amongst its citizens who produced building works and collections of urban chronicles (Eldem, Goffman, and Masters 1999: 4). Both Venice (Georgopoulou 2001: 5) and Arabic cities (El Cheikh 2004: 58) took inspiration from the Byzantine Empire in their enthusiasm for monumental architecture, in both style and symbolism, and the Ottomans continued these traditions when they replaced Byzantium. Most of all, Ottoman rulers viewed themselves as heirs to the same Greek, Roman, and Byzantine legacy as European monarchs did—Mehmed II wished to associate himself with the likes of Alexander the Great and Julius Caesar, while Suleiman I had grand designs to reunite the Eastern and Western Empires by conquering Rome (Finkel 2005: 157-158). Although hindsight might elucidate what was not readily apparent at the time, it is likely that their European contemporaries also had some inkling of this common heritage and intellectual interconnectivity (Norton 2013: 16-19). Nevertheless, there remained obvious differences, which remained important in cultural rhetoric by emphasising the ‘other’. At times equal parts admiration and derision, it is clear that Europeans were fascinated by the Ottoman world and beyond.

## EXOTICISM, NOVELTY, AND FASHION

Agents of cross-cultural exchange often had to walk the line between staying faithful to their mother culture and assimilating with the norms of their hosts. It was not through a lack of knowledge about foreign cultures that barriers were maintained between disparate groups; rather it was *because* of their awareness of each other that an effort was made to preserve any perceived differences, even though individuals might traverse or straddle these lines (Barth 1969: 9). Controls, such as attempts to restrict marriages, might be enacted to discourage

travelling merchants from 'going native' (Curtin 1984: 11), while ghettos or other forms of segregation could physically deter any intermingling. For example, although the *Fondaco dei Turchi* attests to the presence of Muslim traders in Venice, they would have been detached from the majority of the local population (Mack 2002: 21). In other Christian cities, rulers frequently found it easier to interact with Muslims in the same ways they were accustomed to dealing with Jews, with whom they had been familiar for longer (Abulafia 2002: 31).

Nevertheless, cultural exchange did take place in the early modern period, despite the best efforts of authorities. Foreigners in Istanbul were intended to be confined to their own neighbourhoods in Pera; yet this part of the city never had a foreign majority, and its inhabitants were allowed to move throughout the city relatively freely (Eldem, Goffman, and Masters 1999: 212). Many Venetians assimilated with relative ease, since their countrymen's continued presence in the city pre-dated the Ottomans, and those who were willing to shed some basic elements of their 'foreignness' (anything from religious conversion or intimate friendship with a local official to simply permanently settling in the city and accepting their *zimmi* status) were able to enjoy their place in the city and the benefits it could provide them (Eldem 2007: 127). Venetian dragomans dispatched to posts in the far reaches of the Ottoman and Safavid Empires, or even just to the frontiers of Venice's Adriatic and Mediterranean colonies, might marry into local families or might be rewarded with promotions when they returned home, bringing with them their newfound knowledge of foreign lands (Rothman 2009: 783). However, the majority of people, both Europeans and Ottomans outside the capital, would have little opportunity to experience these exchanges first hand. Instead, they would have relied on the accounts of travellers and the exotic foods and goods that merchants might import. The very nature of the Venetian ethos, in which overseas travel and trade was paramount, meant that detailed and reliable knowledge of distant lands was indispensable in the education of any well-born man (Howard 2005: 44). In addition, despite a somewhat outdated notion perpetuated by the likes of Bernard Lewis, that the Muslim world was an insular group of societies with little interest in exploration or acquiring knowledge about their Western neighbours, early-modern Ottoman travellers like Evliya Çelebi drew inspiration from the earlier narratives of Ibn Battuta and Ibn Jubayr (Dursteler 2012: 147; Finkel 2005: 150).

Humanist writers did not entirely break from the rhetoric of their medieval forebears, including their anti-Islamic stance, but instead added classical and humanist philosophy to the dialogue (Bisaha 2004: 8). Hostile sentiments towards the Turks appeared to gradually wane following the Reformation, when suddenly fellow Christians of the opposing denomination became the greatest threat (and when the Ottoman threat on Western Europe lessened post-1700) (Cardini 1999: 150). Even through the most violent of times, however, distrust, fear, and hatred of the Turks and other Muslims were accompanied by fascination and veneration (Bisaha 2004: 16).

## ***Food***

Earlier Arabic writers such as Ibn Battuta, and the philosophies they espoused (such as Ibn Khaldun's argument that those societies which flourished in harsher climates and struggled for their food were superior to lazier societies in more fertile locales) heavily influenced travel correspondence of later periods, particularly in their descriptions of different foods and eating practices (Dursteler 2012: 147). Evliya Çelebi, the best-known of early-modern Ottoman travel writers, was also the most elaborative in his descriptions of foreign foods, and has been described by modern scholars as having a rapacious appetite (Dursteler 2012: 149). The reason why early-modern writers should focus on such a basic biological necessity demonstrates that they were highly conscious of the idea that 'you are what you eat.' This refers to not only the concept that an eater would literally consume and physically exhibit the qualities of the food he or she ate, a notion which was exceedingly important to dieticians up through the early modern period (Albala 2002: 184), but also to the processes of forming and defining group- and self-identities (Fischler 1988: 279). The specific culinary tastes exhibited by certain groups of people and individuals are shaped by a multitude of influences including geographical, cultural, psychological, and social factors (Albala 2002: 163; Toussaint-Samat 1992: 3). While this is often thought of in terms of regional, national, or ethnic identity, other identities such as religion, social status, or age could be determined, at times with fluidity, by what one ate (Scholliers 2001: 4). This was especially the case during the early modern period, a time when the things which were eaten, and the ways in which they were eaten, were rapidly reassessed and redefined as new foods from around the world were more easily accessible to a greater number of people.

European diners had already come in contact with Muslim dietary habits during the Middle Ages, and as with Jews (Albala 2002: 204), they found they could define themselves and these 'others' by which foods were allowed or proscribed, pork being the most obvious. At the same time, however, certain features of Persian cuisine were introduced to medieval Europe, such as citruses, aubergines, cane sugar, rice, and pasta, helping to reinforce a pan-Mediterranean culinary bond (Montanari 1999: 191). Spices, too, were considered a delicious new way to aid digestion and display one's wealth.

Culinary practices and tastes were profoundly affected by the introduction of new foods, as well as the introduction of new, cheaper production centres of familiar, expensive foods. In the 13<sup>th</sup> century, Marco Polo (if he did in fact visit Asia) was careful not to disclose the precise locations of some of the richest sources of cinnamon in China, for in doing so he would have jeopardised the Venetian monopoly in its trade (Toussaint-Samat 1992: 487). Yet by the late Renaissance, some dieticians warned that eating too many spices could be bad for your health; coincidentally, thanks to new trade routes, new producers, and inexpensive substitutes, many spices were becoming increasingly more accessible to the lower classes, and thus lost the appeal of their exclusivity (Albala 2002: 210). Sugar's reputation suffered similar swings—



while it was considered nutritious in the 15<sup>th</sup> century, claims of its virtuous qualities were retracted in the next century when it became a slightly more quotidian condiment (Albala 2002: 211-212). Demand for sugar continued to increase, however, alongside the new beverages of coffee, chocolate, and tea, which many Europeans preferred to drink sweetened (Huetz de Lempis 1999: 384). Indeed, the artificial nature of the designation of ‘luxury’ foods, determined more by social constructs like class structure or economics than by the inherent qualities of the food itself (Artan 2000: 129), is made apparent throughout this period. The ability to spend money on ‘luxury’ or non-staple foods was a way to mark the differentiation between social classes, and the access one had to exotic foods differed between rural and urban-dwellers (Grieco 1999: 304). Whether by genuine curiosity or a desire to display fortune and erudition, exotic foods were sought out by wealthy Europeans and Ottomans.

Fifteenth-century Italians were probably the most adventurous of Europeans in their food preferences at the time, and rarely did Italian dieticians warn against New World foods like their Northern European contemporaries did (Albala 2002: 225). Tomatoes were one such food to gain popularity, albeit still slowly, in Italy and the Ottoman Empire almost as soon as Europe came into contact with the Americas (Artan 2000: 112), up to three hundred years before Northern Europe accepted the fruit (Flandrin 1999: 357). Red peppers, too, were more readily received in Southern Europe in parts of Spain, Italy, and the Balkans. Yet it seems that almost all of Europe embraced the turkey, perhaps because its resemblance to other large game birds native to the Old World (Flandrin 1999: 358-389). Conversely, the turkey was more appreciated by the Ottoman urbanites than it was by members of the court, who preferred eating peacock or other wild birds in order to display their wealth or allude to the wonders of Paradise (Reindl-Kiel 2003: 87).

However, in the discussion of early modern ‘revolutions’ in food, the new drinks of coffee, tea, and chocolate reign supreme, for they instigated changes in social practices, as well as in tastes. Coffee was the first of these hot drinks to be introduced to the Mediterranean region, although its subsequent dissemination through Western Europe was still some time later. The stimulant travelled from Ethiopia (where it was mixed with butter and eaten as a paste) to Yemen sometime before the 14<sup>th</sup> century, and from there gained acceptance in the wider Arabic world during the following century. By the mid-16<sup>th</sup> century, coffee houses sprang up in cities throughout the Ottoman Empire, including Constantinople in 1554, and expanded throughout the empire even into medium- and small-sized towns in rural areas (Faroqhi 1986: 89). This new beverage required an array of new material culture for its consumption: mortars and pestles gave way to grinding mills for preparing the beans, which were then brewed in special copper kettles which were broader at the base than the top, and finally served in handle-less ceramic cups made of either cheap clay or imported porcelain, depending on wealth (Hattox 1985: 85-6) (see *fig. 4.1*). Towards the end of that same century, Italians were beginning to enjoy the drink, Venice leading the way (Huetz de Lempis 1999: 386-287; Smith 2002: 140). John E. Wills, Jr.

(1997: 140), argued that the lack of a highly-developed consumer response to exotic novelties in Venice meant that the beverage's popularity did not spread as quickly as observed in Northern Europe during the late 17<sup>th</sup> century; one might counter, however, that perhaps Venetians were simply more familiar with the practices and tastes of the Ottoman Empire than the majority of Englishmen or Dutchmen were. Nevertheless, the penchant for coffee houses as a space for socialisation, political discourse, and drinking spread from the Ottoman Empire through Europe, resulting in a demand for coffee which exceeded the production capabilities of traditional plantations.

Around the same time that coffee was introduced to Italy, the Spanish were instigating the importation of chocolate from Mexico. This eventually reached Venice and Florence around 1595, spreading to southern Italy over the next few decades (Huetz de Lemps 1999: 385). Finally, tea found its way to the markets of Europe via Portugal in the early 17<sup>th</sup> century. The brew did not receive the same wide acclaim in Italy as it did in Northern Europe; however, tea brought to Anatolia by Central Asian Turks was somewhat more successful, although perhaps not to the same extent as coffee (Huetz de Lemps 1999: 391). While coffee houses in Europe might have exploited and enhanced the exotic nature of the drink and its rituals, this was less the case with tea houses, especially for Europeans with little knowledge of any East Asian connotations this beverage carried (Wills 1997: 141).

This is not to claim, however, that these new foods and drinks were immediately welcomed wholesale into the Old World. Evliya Çelebi described a quarrel which broke out between the guild of butchers and Egyptian grain merchants (who also dealt in hemp, reed mats, rice, coffee, and sugar) at the Guilds' Parade presented before Sultan Murad IV. The butchers argued that honey should be favoured over sugar as it was mentioned in the Koran, and was produced in Anatolia and Ottoman Europe. Coffee, they claimed, 'prevents sleep' and 'dulls the generative powers,' while coffee houses were seen as 'dens of sedition' (Çelebi 2000: 25). In fact, bans on coffee and the coffeehouse in particular were repeatedly enacted, as the pleasures associated with coffee and the other activities which occurred at coffeehouses (gambling, drug use, sexual promiscuity, and sedition) were considered immoral by orthodox, Sunnite leaders in the empire (Karababa and Ger 2011: 746-48). These negative sentiments were echoed in Europe as well, as one Englishman described his suspicions he had against coffee: 'in their drink, is more then Magick, and does plainly tell Coffee's extraction has its heats from Hell' (Anon. 1663). While arguments could, and were, made against the intrinsic properties of these foods and drinks, any aversion appears to have sprung mostly from xenophobia and a fear of 'being tainted by the other' (Albala 2002: 164). Yet, this was not enough to thwart the spread of these foods. Despite official warnings against coffee, consumer resistance to official bans eventually influenced Ottoman legislation, finally legalising the product (Karababa and Ger 2011: 751-52). Exotic foods may not have been to everyone's taste, but they nevertheless influenced material culture and were imported along with other luxury exotic goods.

## *Exotic goods, novelty, and fashion*

When coffee, chocolate, and tea first arrived in Europe, earlier, traditional drinking vessels were quickly discovered to be inadequate for indulging in these new hot beverages. Pewter and silver conducted heat, and coarse earthenware or wooden cups were considered too clumsy and crude by wealthy consumers wishing to display their refinement (Lunsingh Scheurleer 1974 : 101).

Instead, a German named Leonhart Rauwolf (1693: 92) wrote about his experience in Aleppo in 1573, where:

‘[...] they have a very good Drink, by them called *Chaube*, (Coffee) that is almost as black as Ink, and very good in illness, chiefly that of the Stomach; of this they drink in the Morning early in open places [...] out of *China* Cups, as hot as they can, they put in often to their Lips but drink but a little at a time, and let it go round as they sit.’

These ‘China Cups’, along with other ceramics which were both imported and domestically produced, rose in value and esteem through the Early Modern period. During the 15<sup>th</sup> century, Italians were importing not only the pottery itself, but also the aesthetic, cultural, and financial values that they placed on these goods, a notion which had long been accepted in the Islamic world (Syson and Thornton 2001: 202). It was the demands of Muslim consumers, particularly their preference for blue-and-white wares, which initially drove the markets for imports and for domestically-manufactured replicas of Chinese porcelain (Adshead 1997: 130). The collection of Chinese and Japanese pottery in Europe intensified in the 16<sup>th</sup> century, and importation of the goods continued there and in the Ottoman Empire throughout the early modern period. At the same time, all across the early-modern world, industrious entrepreneurs sought to establish domestic industries which could compete with imports and thus break the domestic market from their reliance on foreign manufacturers (Molà 2007: 141).

Attempts at imitating the decorative qualities of Chinese porcelain began in late-medieval Valencia, which in turn provided the stimulus for the manufacture of Italian maiolica beginning around 1450. A similar desire to replicate porcelain was felt in the Ottoman Empire in the city of Iznik, where the Chinese influence on design was much more readily apparent (Adshead 1997: 131). The great appeal of these tin-glazed wares was that they provided a white, absorbent canvas on which one could paint ornamentation mimicking exotic Asian styles, depictions of ancient myths, or figures representing humanist ideals and values. The skill and artistry required of craftsmen, who worked on such a small scale on a medium which did not allow for re-touching of mistakes, was recognised by consumers who, as with glass, admired the fragile beauty of maiolica objects along with their utility (although these objects would spend more time on display than on the dining table) (Syson and Thornton 2001: 220). Artisans from different crafts such as goldsmiths, woodcarvers, and glassmakers, would often collaborate so that decorative themes and ornamentation would traverse various media in order to reflect the current stylistic preferences of the consumers to whom they were all attempting to appeal (Page 2004: 9; Taylor 2007: 175). Innovations in manufacturing techniques and styles, along with

sheer novelty, were also highly prized. Puzzle jugs and trick glasses delighted collectors who risked spilling wine on themselves if they had not discovered how to pour the jug correctly. These novelties provided a good laugh for dinner guests, while also allowing their owners to show off how knowledgeable they were (Page 2004: 13). Artisans realised that through their own ingenuity and enterprise they could create further demand for their goods by shaping fashions through their innovations (Goldthwaite 1993: 252).

The wealthy, and increasingly the less-wealthy, of early-modern Europe and the Ottoman Empire had a great number of options available to them when deciding how to build and decorate the material world around them. The choices that they made—whether they imported or bought domestically, or chose to eat fashionable new foods or not—were a reflection on the identity that they wished to display. It should not come as a surprise that the Topkapı Palace and other elite dwellings in Istanbul were furnished with Murano glass or German clocks. Not only were these objects appreciated in both Europe and the Ottoman Empire, but many high-ranking officials of the *Sublime Porte* were transplants from the Balkans or other parts of Europe (Finkel 2005: 159). Yet, although European and Ottoman cultures borrowed from each other, trading ideas and fashions, this did not mean they all wished to truly emulate or understand their foreign neighbours. Rather, they valued the exoticness or novelty of these goods (Quataert 2000: 5; Abulafia 2002: 28). The display or use of exotic luxury goods allowed Europeans in particular to focus their fantasies of exciting foreign lands with alien cultures and habits. Perhaps this explains the fact that foreign foods and objects remained popular even after they became more common place, and why they retained their foreign status without being domesticated for longer than might be expected (Smith 2002: 76-77). Some consumers in the Ottoman Empire were reluctant to purchase imports in order to protect local production, but Donald Quataert (2000: 10) argued that the government was not responsible for consumer tastes and consumption, as is often alleged. On the contrary, the state's attempts to thwart the spread of coffee and tobacco consumption were circumvented. While there remains little information on the subject, there is evidence to suggest that the lower social orders of the Ottoman Empire were gaining more and more access to the world of European and other imported luxury goods (Finkel 2005: 160). When viewed alongside other patterns in fashion and consumption which mirrored trends in Europe, Quataert (2000: 3-4, 8) affirms that a similar 'consumer revolution' was growing in the 17<sup>th</sup>-century Ottoman Empire, and with it the some of the values placed on material goods. All of these material changes, in both Europe and Ottoman territories, meant that consumers would have to alter the ways they related to these goods and how they used them to fill their world.

## MANNERS AND TASTE

This influx of material goods, whether these were exotic imports or new renderings of ancient styles, created a dilemma for the wealthy and middling members of society who wished to

possess these items. They may have been faced with the rapid expansion of both the known, physical world and the world of knowledge, yet they were not altogether liberated from older, medieval values and Christian teachings against avarice. Sumptuary laws enforced some restrictions, but another philosophy developed during this time to assuage any misgivings one might have about the lavish spending of money: the matter of taste. Taste gave license to covetousness by ‘transforming physical objects into high culture, thereby rationalizing the feeling of possessiveness, the sense of attachment to physical objects’ (Goldthwaite 1993: 249); but it also kept rampant materialism in check by imposing restrictions on those qualities which constituted ‘good taste.’ One required practice and skill, in addition to money, in order to achieve the manners and sense of fashion that were necessary to be seen as having good taste (Smith 2002: 81). This notion was fully conceptualised in the latter half of the 17<sup>th</sup> century, yet it began its development centuries earlier in late-medieval Italy.

### ***Magnificence and Splendour***

‘Magnificence’, a concept which promoted ostentatious spending for the benefit of public spectacle, was a continuation of older ideals which had resulted in the building of civil monuments and other improvements in the commune. Born out of humanist interpretations of Aristotle and influenced in some part by chivalric literature, ‘magnificence’ was a virtue which justified indulgence, and acted to convey political and economic prosperity and security, for both an individual and his family and for the state. As such, it was a virtue which could only be enjoyed by the wealthy, and could only be executed in times of peace (Goldthwaite 1993: 208; Cole 1995: 19). Over the course of the Renaissance, a private manifestation of the same values celebrating opulence and luxury came into favour amongst the rich and the aspirational, thanks primarily to the writings of Giovanni Pontano of Naples.

‘Splendour’, the quality which one portrays through the ownership of fine personal possessions, was developed by Pontano in the 15<sup>th</sup> century as a fresh new virtue, translating the honour one gained through the building of public monuments into the domestic sphere. Therefore, in order to be truly virtuous, an acquired knowledge was necessary for spending one’s wealth sensibly, by buying worthy objects and maintaining a legacy for one’s descendants (Goldthwaite 1993: 211). This began with an increased interest in heraldry amongst the Italian elite, particularly in the 14<sup>th</sup> century, even amongst those who would not have had the right to this claim under the traditions of feudal courts in Northern Europe (Goldthwaite 1993: 167). By the next century, however, material displays of honour meant purchasing a wide variety of objects for a multitude of different uses and made of a range of different materials in an effort to make family and guests comfortable, and perhaps a little envious. All material possessions should have been of the highest quality, although Pontano conceded that this value could, and should, come from a balance of objects possessing either intrinsic or artistic value: porcelain should be displayed alongside dishes of gold or silver. While this was certainly a display of

wealth, it was also a display of refinement and knowledge. When filling his home with splendour, a man would be expected to pay what he knew to be the appropriate price for all of his belongings, and would not be deceived by fakes or cheap substitutes (Welch 2002: 215); however, ingenious manipulation of virtuous materials, such as glass made to look like agate or other semi-precious stones, was acceptable and encouraged. By the 17<sup>th</sup> century, large world maps would be displayed alongside paintings and mirrors in Venetian homes, increasingly less as a practical navigational tool and more as a universally acknowledged symbol of wealth and knowledge (Brown 2000: 310). In Venice especially, the mercantile traditions of the elites led them to consider themselves good judges of quality foodstuffs and luxury goods (Brown 2004: 157).

Because of this additional facet of splendour, men of lesser standing could also aim for virtue through the variety of means by which goods were recirculated, including pawnbrokers and auctions. Money-lending and trading were generally prohibited from taking place under the same roof, but that did not deter brokers or their customers (Matchette 2007: 227). Innkeepers in Venice were also known to auction off any lost-and-found items, along with goods left as collateral for loans (Hohti 2007: 252). Through these means, families of artisans, shopkeepers, and the like might acquire silk, pearls, or even fine wares emblazoned with the crest of a wealthy family (Matchette 2007: 228). They might also have a quantity of utensils and tableware of sufficient quality to host relatively sumptuous and intricate dining ceremonies (Hohti 2010: 661). Regardless of the ways by which less-wealthy members of society were able to procure luxury goods, the fact that they possessed these items at all divulges an awareness of the expanding material world of the early modern period, and a desire to take part in these changes despite monetary constraints (Hohti 2007: 253).

### ***The Fashion Police***

Despite, or perhaps because of, the increasing interest that the artisans and merchants were taking in material luxuries, many sumptuary laws continued in some form from the Medieval into the Post-Medieval period. Although the Church may have begun to take a more lackadaisical approach to usury and other greed-related sins, sumptuary laws were still enacted to avoid upturning the social order as lines between classes began to blur. Even without the direct enforcement of particular laws, individuals below the upper echelons of society were often wary of ostentatious display above their station, lest they incite the jealousy of their peers and social superiors (Goldthwaite 1993: 204). It was this self-policing and the ability to differentiate between ‘splendour’ and ostentation that was seen to be the marker of the truly splendid gentleman (Syson and Thornton 2001: 31).

The sensual nature of many of these luxurious goods also garnered the suspicion of moralists. The tactile gratification of touching silk and fur, or the tantalising pleasure of tasting rare and exotic foods, were thought to be too great a temptation to entrust to the lower members

of society. Even the aristocracy ran the risk of being seduced by these pleasures, only to be led astray into gluttony and lust (Smith 2002: 70). Englishmen visiting Venice would write home about the wanton depravity of what they saw there; however, Venetians were known to have said the same about their time in England (Allerston 2007: 22). At times this voracious desire was overt, such as Giulio Romano's 'erotically charged' designs for tableware (Taylor 2007: 177). For other types of materials, however, the sensuality of its nature was more oblique. Lace, for example, might symbolise the vanity of a prostitute when worn in excess; yet, this same prostitute might atone in a house of reform by making lace, this time symbolising chastity and virtue (Allerston 2007: 23). In a painting, a looking glass might act as another sign of vanity, but a delicate glass beaker could represent the fragility of mortality. Indeed, the ornately decorated *restellos*, wall mirrors equipped with pegs for toiletries and adorned with paint, gilding, and pastiglia, were outlawed by a sumptuary law in 1488 (Brown 2004: 112).<sup>2</sup> Yet, as with most of these laws, enforcement fell short of curbing the longing for luxury, and both the production and the demand for these objects obstinately continued. As Patricia Fortini Brown (2004: 153) so rightly put it, 'The history of Venetian sumptuary law is a history of failure.' However, even on the occasion that a person of a lower class could afford some of these luxury items, he might not possess the knowledge of the proper etiquette required for using or displaying them (Hohti 2010: 663).

### ***Changes to the Household***

By the end of the Middle Ages, it became apparent that the feudal model for wealthy households which persisted in Northern Europe had become obsolete for the urban elites of Italy. Italian noblemen with one permanent residence in the city had the potential to possess a greater number and variety of fixed goods and furnishings, in contrast to an English gentleman whose time was spent divided between a number of country estates, and thus whose belongings would need to be durable and easily mobile. This desire for more possessions was further exacerbated by the urban environment, in that social competition between neighbours was all the fiercer for their close proximity (Goldthwaite 1993: 196).

The spatial orientation of the household thus evolved to accommodate this incursion of new and different goods. Prior to the Renaissance, domestic space (not counting kitchens, pantries, or other auxiliary rooms) was divided among a number of multifunctional rooms centred on the master's chamber and antichambers. This nucleus held all of the valuables of the household, stored away to be taken out on appropriate occasions (Goldthwaite 1993: 225). By the 15<sup>th</sup> century however, wealthy families were procuring an increasing number of goods, many of which were strictly ornamental with no purpose other than display, and these items were

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<sup>2</sup> Objects stored on the *restello* included tools for hair styling, such as brushes and styluses made of glass, bone, or silver for parting hair, bottles of perfume, glass jars of pomade, and rosaries (Brown 2000: 315).

expected to occupy their own special place within the home where they could be admired by the owner and his or her relations (Welch 2002: 216). Emphasis was also given to order and organisation in the home, which was generally maintained by the wife, so that every possession had its specific place (Brown 2000: 314). Furnishings like storage beds, which had once accommodated all of a family's storage needs, were augmented by new types of furniture such as armoires, chests, and special cabinets in which to display an erudite collection of antiques or art. The spaces in which these collections were arranged transformed from all-purpose chambers into specialised studies and galleries (Goldthwaite 1993: 247). The study in particular, as a room designated for the private use of a single individual, could be viewed as a retreat for the mind and a physical manifestation of the ideas and objects which inspired it (Ruvoldt 2006: 640). Dining tables transformed from boards laid across mobile trestles which could be easily deconstructed or reconstructed when deemed fit, into fixed tables and accompanying sideboards known as *credenze* (Romagnoli 1999: 332). By the mid-16<sup>th</sup> century, even artisans in Italy were displaying their collection of ornamental objects and tableware on these *credenze*, acknowledging the importance not only of owning such items, but also displaying them in the expected way (Hohti 2010: 662). Across different social classes, changes to the household and the objects displayed within it affected both genders. A woman might own her own property, whether through inheritance, her dowry,<sup>3</sup> or through her own purchase using accounts separate from her husband's (Matchette 2007: 233). These women were, after all, expected to be both gracious hostesses and wise administrators of the household (Romagnoli 1999: 336), and wealthy or noble men expected to bring their wives with them to banquets and other social occasions (thus inspiring the Council of Ten to ban the wives of non-members at *calza* dinners in order to discourage non-members from attending, in an effort to curb electioneering) (Chojnacki 2000: 264). During this time, the insides of Venetian homes became as gilded and opulent as their exteriors, if not more so (Brown 2004: 79). It would seem almost a waste, then, to not invite one's friends, superiors, or competitors to come and delight in the splendours on display.

### ***The Art of Feasting***

People were brought together for banquets not only for the celebration of milestones such as marriages, births, and deaths, but also as a platform for diplomatic relations or to solidify political unions (Taylor 2005: 621). Thus, the practice of dining was another social ritual during which the foods eaten, the objects used, and the manners displayed were all conveying precise and practiced social messages. Just as a nobleman was expected to outfit his home splendidly, he

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<sup>3</sup> Between the late 14<sup>th</sup> and early 16<sup>th</sup> centuries, the practice of marrying off a daughter more than doubled in cost. Although some mothers might bequeath some of her own dowry into that of her daughter, it still meant that only one or two daughters per family could afford to marry, while any subsequent female children would have to resign themselves to nunneries (Chojnacki 2000: 269).



was also meant to comport himself in a genial manner, ‘conviviality’ being another virtue professed by Pontano (Goldthwaite 1993: 209). By the 17<sup>th</sup> century, this characteristic metamorphosed into virtues such as ‘courtesy’, ‘civility’, or ‘politeness’ (Smith 2002: 40). All throughout the early-modern world, manners and etiquette were being revised, refined, and codified in order to tame the natural impulses and tendencies of the well-bred, thus distinguishing them from the crude, bestial mannerisms of peasants or foreigners (Goldthwaite 1993: 246; Dursteler 2012: 158). These new rituals were applied to dining most significantly, as Europeans introduced various contrivances to the dinner table in order to distance oneself from the baser aspects of eating. The convivial gentleman was required to be knowledgeable about the proper food to serve his guests, and the proper tableware with which to serve it to them.

Although treatises on table manners were produced from at least the early 12<sup>th</sup> century, the host of new tablewares available in the early modern period created, and were created by, new formalities at the table (Romagnoli 1999: 330). Northern Europeans who experienced a meal in an Italian home or palace were often most impressed by their use of forks, along with the wide array of dishes and glassware which were specialised for a particular use (Goldthwaite 1993: 246). A utensil inherited from Byzantium, the fork was in common use throughout Italy by the 14<sup>th</sup> century, and was available in materials ranging from wood to gold or silver (Romagnoli 1999: 332); yet even Venetians of lesser means might still own a few pieces of cutlery in silver (Brown 2004: 148). The use of such utensils rapidly became a marker of a diner’s good manners. Reports from the Polish embassy are littered with the accounts of ambassadors dismayed by the lack of proper utensils when dining with Turkish hosts: a chicken eaten at an official audience in 1678 was divided with bare hands, rather than with a knife, and correspondences from the early 18<sup>th</sup> century bemoan the dearth of forks (despite the fact that forks had not long been in fashion in many parts of Europe). This only seemed to add to the Europeans’ affected sense of superiority towards the Turks (Kołodziejczyk 2003: 56-58). Other dining wares were becoming progressively more individualised and specific. Communal drinking goblets evolved into individual glasses intended solely for water, wine (specifically red, white, or dessert), aperitifs, or particular spirits, to be drunk from by a single diner (Romagnoli 1999: 333). The wide, shallow cups of *tazze* used for red wine would have been cumbersome to drink from, and therefore would have required the skill of a knowledgeable diner in order to not spill any liquid (Brown 2004: 145). A silver bowl might be precious for the material of which it was made, but it might also display an *all’antica* style which would be appreciated by well-educated dining companions (Syson and Thornton 2001: 216). The *navicella*, an elaborate glass serving-dish created in the form of a ship and decorated with bright aquamarine-coloured pastilles, may have been inspired by similar dishes made elsewhere in Europe in metal or shell, but in Venice they also invoked the seafaring ethos of the city and its people (Brown 2004: 148).

Just as significant as these dishes were the foods served in them. The symbolism of gold-coloured food went out of favour by the 16<sup>th</sup> century, yet the idea that ‘you are what you eat’ persisted in the search for exquisite and exotic foods (Albala 2002: 166). Segregated cuisines, such as those within Italy, are the indicator of any hierarchal society, and thus the greatly varied diet of the wealthy is symbolic of their wider connections and influence in the world outside their immediate vicinity (Goody 1982: 98; 105). It was during this time of growing refinement that quality began to be valued over quantity, at least in some parts of Europe. Cookbooks were widely disseminated in the 16<sup>th</sup> and 17<sup>th</sup> centuries, with greater value being placed on a cook’s skill (Artan 2000: 156). There was a fine line, however, between the healthy appetite of a gentleman, who could afford to eat well, and the overindulgence of a glutton. The measures used to determine the appropriate quantities and richness of the food consumed at both formal and informal meals was an ethical quagmire that transcended questions of etiquette (Romagnoli 1999: 336).

Sumptuary laws were particularly stringent on the subject of banquets, especially those held to celebrate weddings or other events which connected a family to the community around them (Grieco 1999: 304). However, the definition of decadence was up for interpretation, and as the years passed, new laws reflected changing attitudes towards what was deemed appropriate. A law enacted in 1472 limited wedding feasts to three courses, plus confections; however, public feasts were prohibited, as was the serving of pheasants, peacocks, partridges, doves, and francolins. The number of wedding feast guests was limited as well: in 1509, the law changed from allowing two banquets hosting forty guests each, to allowing (during the time between the engagement and the marriage itself) six small dinners of twenty-five guests each, two large dinners of up to fifty guests each, and a final dinner after the wedding serving up to eighty diners. By 1526, this was changed yet again to cater up to 830 guests over the course of ten separate events spread out over the engagement period and wedding. Yet, while the restrictions on number of attendees were loosened to accommodate increasingly grand functions, the limitations placed on the food itself remained in place (Brown 2004: 150-152).

Despite the sumptuousness found in many wealthy Italian homes, the impressions made upon visitors from Northern Europe often fell flat when it came to the hospitality they received. While estates in the north had scores of servants or slaves in their employ, this was impractical in the smaller, urban homes of 16<sup>th</sup>-century Italian elites, regardless of the fact that additional servants were indeed hired to care for all of the new and different types of possessions owned by the family, such as carriages (Goldthwaite 1993: 240). The greatest difference, however, was in how wealth, hospitality, and conviviality were conveyed to one’s friends and guests. In the north, this was done through providing an abundance of rich foods and fine wines; in Venice, this was rendered through the display of material goods (Brown 2004: 153). Feasting in Italy had evolved in accordance to the changing needs and desires of its elites, who wished to surround themselves with objects of comfort and beauty, and who ultimately favoured quality over

quantity. In this way, the practice of banqueting and feasting in the Ottoman Empire was perhaps more reminiscent of the rituals of Northern Europe, with both regions adapting to the Italian model a few centuries later (Artan 2000: 155).

The ‘grand banqueting cuisine’ that developed in the Ottoman Empire during the 16<sup>th</sup> century was, like the feasting rituals of other societies, a means of crystallising and perpetuating the cultural ideals of the Ottoman elites (Artan 2000: 163). As in Europe at this time, manners and etiquette, especially at the table, became highly developed and based around intricate ritual. Portano had counterparts in Ottoman writers such as Mustafa Ali, and even Evliya Çelebi frequently took the time to remark on the formalities of dining both at home and abroad (Dursteler 2012; 156-157). These manners did, however, differ greatly from the norms of Europeans who had the pleasure of dining with Ottoman officials and elites. In some respects, the material aspects of these rituals had some parallels to European custom, at least amongst the members of Istanbul’s high society. Lady Mary Wortley Montague, for example, described the opulence of her dinner with one of the late Sultan Mustafa II’s former consorts, which was eaten with diamond-encrusted gold knives and served on exceptionally fine tablecloths and napkins. However, she also commented on the Ottoman practice of drinking sherbets, which in this case were served in china bowls with golden covers and salvers. Coffee, too, was served in china cups with golden saucers (Wortley Montague 1798: 133). This was important to note, since the exotic, ‘Eastern’ qualities of coffee and its associated ritual and material culture were attractive to Northern European trendsetters (Smith 2002: 75). ‘China cups’ such as these, which for Europeans were altogether new in their function, material, and shape (Berg 1999: 67), were an integral and distinctively ‘Eastern’ part of coffee-drinking that was being imported into Northern European culture and was only just beginning to be adapted to specific European tastes; interestingly though, the use of saucers was a European addition to the coffee-drinking ritual (Schivelbusch, 1992: 179). In addition, while some of the objects used in this dinner were familiar to Wortley Montague, she found the manner in which the meal was served—over the course of 50 dishes served individually—alien to her and ‘extremely tedious’ (1798: 133).

Akin to medieval European practices, Ottoman banquets were focused on providing diners with a great quantity and variety of food. Evidence suggests that all dishes were served on a table all in one sitting; however, other accounts imply that dishes may have been served in courses on certain occasions (Reindl-Kiel 2003: 61). On a normal day at the palace, subordinates were generally served meals consisting of two courses or dishes, while viziers would receive six courses; banquets, however, might have upwards of twenty courses, and at two separate banquets held in late 1650, over fifty courses were served (Reindl-Kiel 2003: 70; 75). The types of foods offered at a feast of twenty-four dishes might not differ much in quality or form from those which served only sixteen dishes; yet if a smaller banquet was still meant to communicate some grandeur, a course such as partridge, one of the most prestigious dishes, might be included (Sakaoğlu 2003: 38-39; Reindl-Kiel 2003: 77). Wine or other alcoholic beverages were not

served at celebratory feasts (particularly those of a religious nature), but rather were confined to social groups who gathered to enjoy drink and conversation (Sakaoğlu 2003: 47). Ultimately, it was individual food items or ingredients which were considered delicacies, often determined regionally, rather than dishes prepared in a special way (Artan 2000: 163). This food, such as a certain type of honey or oil, might also be given as gifts, which further circulated cultural preferences while also imbuing a message of official favour or power.

## ‘OFFICIAL’ CONSUMPTION OF FOOD AND MATERIAL GOODS

Gift-giving was a ritual which was known and practiced, on both a formal and informal level, in both Europe and the Ottoman Empire during the early modern period. In medieval Europe, this gift exchange was used to strengthen political and social networks and hierarchies, and further propagated the feudal system (Goldthwaite 1993: 152). Gift-giving was a social requirement in celebration of important rites such as marriage or childbirth, and the objects exchanged were imbued with an added ritual significance which was understood at many different levels of society (Hohti 2010: 667). This custom remained an important device for social and political negotiation, whether between individuals or nations, and was an occasion for the public display of wealth and power. Reciprocation was almost always implied, and the appearance of splendour was essential. However, through re-gifting or repurposing, a gift might not be as costly as it appeared (Hollingsworth 2007: 270-273).

Objects which demonstrated fine artistry might also be offered over objects of greater intrinsic value. This could backfire, however, as in the occasion of a glass vase presented to Emperor Frederick III upon his visit to Venice; the significance of the vase did not translate into Frederick’s cultural values, and he subsequently dropped the vase to show his displeasure (Syson and Thornton 2001: 183). Nevertheless, by 1600 gifts of glass vases and lamps, mirrors, dolls, dogs, cloths, or clocks sent by the Venetian ambassadors to Murad III’s harem were much appreciated (Finkel 2005: 160). In fact, it was perhaps Italian merchants, bankers, and officials who helped incorporate the Ottoman Empire into the greater web of European princely gift-giving (Norton 2013: 6). Different ranks of Ottoman officers were traditionally offered gifts specifically appropriate to their station, a list of which was kept by Venetian colonial officials. The importance placed on these rituals can be seen in the excuse given by Halil-bey of Vrana for his attacks on the Venetian-held villages of Ražanac and Grusi in 1645: the Venetian *Proveditore Generale* had caused great offence by not presenting him with a gift for his inauguration as the new border commander (Mayhew 2008: 31).

Food items were also frequently given as gifts from the palace, with sugar being presented to those officials in the sultan’s particular favour. This food might be one of many gifts for a particular occasion, such as the sugar, sword, and horses presented to Prince Mehmed in 1582 by the governor of Egypt (Reindl-Kiel 2003: 82), or it might be part of a food allowance package guaranteed to princesses (and their revenues of up to 160 people) and certain top

dignitaries (Artan 2000: 127). High-ranking women, living either in the harem or in their own homes, were able to exercise a certain amount of power and influence beyond the sphere of their own families or harem. This was achieved through the ownership and exploitation of her own property, as well as through a female network of information diffused through formal visiting rituals (Peirce 1993: 7). Gifts were an expedient way of maintaining these important connections. For example, for Ramadan in 1792, Esma Sultan the Younger, her mother, and her husband each received a gift of two Saxon goblets, eight gilded English goblets, several gilded bowls filled with assorted drinks or jams, several 'Venetian style jars' filled with various kinds of olives, and multiple baskets of sheep's cheese, vermicelli, and other types of food from the palace (Artan 2000: 160). It appears that it was necessary for the food to be presented in suitably luxurious packaging.

When it came to entertaining foreign dignitaries, any misgivings towards the immorality of luxury went out the window. On the contrary, hosts were encouraged to put on as lavish a display as possible to uphold the honour of the state (Brown 2004: 153). The cost of such spectacles only seemed to rise in price throughout the 16<sup>th</sup> century, and in Venice this was a source of perpetual concern. Frequently, paintings or other artwork would be hired from wealthy families to bolster the splendour, and stipulations were in place requiring the Jewish community to also donate to the furnishings of grand banquets. This could be seen as an opportunity to strengthen familial pride as well, since many of these borrowed objects would have displayed the donors' coats of arms (Allerston 2007: 27). Attempts at one-upmanship pervaded the political and social circles of Istanbul too, where foreign embassies and local authorities seemed locked in a constant struggle to out-do one another in formal splendour (Kołodziejczyk 2003: 51). Such displays were equally, if not more important in areas outside the capitol and in far-flung colonies, where demonstrations of the state's sovereignty coalesced with exhibitions of local authority.

## MATERIAL CULTURE IN THE BALKANS

As a result of centuries of rule and exchange, the material culture traditions of these foreign powers infiltrated many levels of society in the Balkans, in both public and private spheres. While certain aspects of native Slavic material culture practices persevered (mostly in rural areas, and especially amongst pastoralist groups), consumption trends throughout the peninsula were being altered in much the same way as they were in the rest of Europe and the Ottoman Empire during this time period. The wide circulation of goods from all around the globe meant that there was an increasingly great deal of choice available to those residing in major trade centres or to elites with the right connections. As discussed earlier in this chapter, the consumption of goods aided in materialising one's sense of identity and to subsequently display this identity to both friends and strangers. The objects one chose to make, purchase, or use could align him or her with one cultural tradition or another. How one chose to incorporate new or

foreign goods into these traditions could also make a statement, whether these were goods typically associated with the practices of the ruling, colonial culture or with the wider globalisation of the marketplace during this period. These were decisions and changes made on both an individual and a communal level within different geographic, socio-economic, and ethnic circles. Symbolic material culture becomes particularly important in establishing group identity in relation to exchange within and outside this self-defined group 'as symbols of ethnic identity appear primarily in collective rituals and other social activities aimed at group mobilization' (Curta 2011: 538). Later, ethnographers and museum curators have looked to these objects to help develop a national narrative, and their selection of which objects to preserve and display to the general public has determined the authenticity of these objects as national heritage within the Balkan states, and indeed the rest of Europe. This is done on the assumption that ethnicity and its distinctive material culture are indubitably inseparable and can be categorised and catalogued along the lines of certain identifiers such as language, or, in the case of the Belgrade museum, religion (Simić 2006: 310-11). Of course, the value which modern observers, whether the general public or experts, place on these objects and the lines drawn between the different groups of people who used them might not always match the experience of their original makers and users. However, when looking at tableware and other objects the cultural importance of which was derived from both display and from the rituals surrounding its use, one can nevertheless discern some of the significance these objects might have held in the contexts of diplomatic exchange, social intercourse amongst peers, and interactions between strangers.

### *Entertaining Distinguished Guests*

Diplomacy was a vital part of cross-border relations in these frontier zones, and the governors, ambassadors, and various other provincial administrators played a significant role in mediations between their respective capitols. Their importance was recognised by their sovereigns, and their positions allowed many to grow in both wealth and prestige. As was mentioned in the previous chapter, Venetian governors might marry into Dalmatian noble families, thus legitimising their authority in the colonies and opening avenues for personal gain. In the Ottoman Empire, individual pashas became increasingly influential in their own right, and some soon came to be a threat not only to their neighbouring territories but to the central government as well (Pollo and Puto, 1981: 93). Wortley Montagu explained the situation as she saw it to her correspondents:

'You may easily judge of the power of these men, who have engrossed all the learning and almost all the wealth of the empire. 'Tis they that are the real authors, tho' the soldiers are the actors, of revolutions. They deposed the late sultan Mustapha, and their power is well known, that 'tis the emperor's interest to flatter them.' (1798: 71).

Thus the protocols of diplomatic exchange were especially imperative not only in maintaining relations between states, but for the sake of local affairs as well. As the wife of a

British ambassador, Wortley Montagu was hosted by dignitaries in multiple locales on her journey through the Balkans. In both Belgrade and Edirne, she was treated to dinners served in much the same way as she experienced in Istanbul, with multiple dishes presented one at a time (1798: 103). Venetian officials were adept at navigating these rituals, and were able to accommodate the expectations of visiting Ottoman ambassadors, as witnessed in the account of Evliya Çelebi (2000: 163-64) on his visit to Split in 1660:

‘And they sent a young and princely officer, with a retinue of 200 infidel musketeers, to serve us. He brought forty or fifty porcelain dishes piled with various breakfast items. We ate them, but they were mostly sugary confections. [...] They then served a grand feast, laid out on tall benches called *tirpeza* [...]. There were various roasted meats; also vinegar stews cooked with parsley, mint and celery root; and sweetmeats. After dining we washed our hands according to Ottoman ceremonial and drank a goblet of musk-flavoured sherbets.’

In between these meals, however, complaints were apparently voiced by both sides: the Venetian officer protested that Ottoman troops were raiding the Dalmatian countryside, and Çelebi remonstrated that the Venetians were ‘on bad terms with the frontier population,’ leaving the Ottoman subjects no choice but to take captives and booty. He then presented the Venetians with a prayer rug<sup>4</sup> and some cloth in exchange for Ottoman captives held there at Split.

Governors and other elites in Dalmatia also entertained European guests as well, and like in other parts of Europe, they often brought out the contents of their collections for their guests’ enjoyment. Wheler (1682: 13), for example, was privileged to visit Antonio Soderino, the governor in Zadar, who kept a collection of rare Greek and Latin medals which he had collected in the Levant. Both he and Fortis, a century later, visited Trogir in the hope of catching a glimpse of the *Petronius Codex*, held in the collection of prominent local family (Fortis 1778: 167; Wheler 1682: 23). The food served at these occasions would have been, perhaps, somewhat more familiar to Italian guests. Olive oil was a staple, and fruits and vegetables were either eaten fresh, canned, or dried. Some families in Trogir, Split, and elsewhere in Dalmatia also enjoyed prosciutto, bacon, and different types of imported salami. Pastas such as spaghetti, tagliatelle, and lasagne were prepared with various sauces, including tomato sauce. However, local specialties could also be found in the coastal cities, like *luganige* pork sausages and *rafioli* pastries (Celio Cega 2008: 297). In wealthy homes or when hosting esteemed guests, however, the tableware used would have been nearly as important as the food itself.

Excavations show that imported ceramics were used and displayed in various contexts throughout Dalmatia. Venetian *sgraffito* ware had been imported into Split from the beginning of its production in the 13<sup>th</sup> century, well before the Republic had a strong hold on the city (Grković and Lovrić 2006: 154), and other decorated imported Venetian ceramics, including *maiolica*, have been excavated up and down the coast. *The Heritage of the Serenissima* (2006)

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<sup>4</sup> While Europeans who owned these rugs might not have used them for a religious purpose, the term ‘mosque carpet’ used in many inventories shows that there was some acknowledgement of the connection between these rugs and the rituals of Islam (Ruvoldt 2006: 655).

provides an excellent survey of these finds from various locations, from Pietrapelosa castle and Rovinj in Istria (Bradara 2006), to Kotor in Montenegro (Križanac 2006), to Durrës (Metalla 2006) and Butrint (Vroom 2006) in Albania. The typologies of these ceramics were not homogeneous between sites, which Helga Zglav-Martinac (2006: 138) illustrates within even the more limited region of the islands of Central Dalmatia. Here, the styles and qualities of these objects vary greatly from island to island, depending on the particular circumstances of each locale even in such a relatively small area. While there were some potters manufacturing *sgraffito* ware in various locations in Dalmatia during the 16<sup>th</sup> and 17<sup>th</sup> centuries, the Venetian influence on imports is significant, particularly when considering the more sizable presence that ceramics from Apulia, Romagna, and Le Marche had in Dalmatia during the Middle Ages (Gelichi 2014: 34).

Iznik ware from Anatolia is all but absent in Dalmatia, having only been found, it seems, in Dubrovnik, where ceramics were also imported from Spain and perhaps other regions of Italy (Kovačić 2006: 167-68). In regions with an Ottoman presence, of course, Iznik pottery has been found more frequently. A few sherds of Iznik pottery were excavated in Ružica grad in Slavonija (Zmaić Kralj 2014: 79), and various Turkish faience wares were found in Belgrade as well (Popović and Bikić 2004: 249). A notable assemblage of Haban pottery was found in Belgrade, however, associated with the years of Austrian-Hungarian occupation in the late 17<sup>th</sup> and early 18<sup>th</sup> centuries (Bikić 2012: 208), once again materially linking the city with Central Europe, as it had been in the 15<sup>th</sup> century and earlier (Popović and Bikić 2004: 248).

### ***Coffee, Coffeehouses, and Alcohol***

Unlike the other newly introduced beverages of tea and chocolate, coffee, the associated material culture for preparing, serving, and drinking the beverage, and spaces for its consumption, were introduced into Europe through the Ottoman Empire via pre-established paths of communication. It is traditionally believed that it was two Syrians who brought the practice of coffee-drinking to Istanbul. The beverage's diffusion through the Ottoman capitol and its territories went hand-in-hand with the institution of the coffeehouse as the preferred venue for its consumption. While coffee could be, and was, prepared and consumed at home, three different types of coffee shop sold the drink to the masses. In small 'takeaway' establishments, the drink was prepared but there was no space for on-site consumption. At the large 'metropolitan' coffeehouse, socialisation was the purpose as well as coffee, with long benches or divans running along the walls of the building and sometimes a shaded space outside, either in a park-like courtyard or under an awning along the street. Finally, smaller neighbourhood coffeehouses fulfilled a function somewhere between the other two types, offering a small room for drinking as well as a takeaway service (Hattox 1985: 73, 80).

Coffee quickly spread into the empire's European provinces, not long after it was brought to Anatolia. A shipment of coffee reached the northernmost reaches at Pest as early as



1579, while the coffeehouse was introduced alongside other institutions of Ottoman urbanisation. Reports show that Sarajevo had a coffeehouse in the early 1590s, and Belgrade had a coffee trade by at least the end of that decade. Over the next century these numbers increased substantially: Belgrade had at least 20 coffeehouses by the first half of the 18<sup>th</sup> century, and Sarajevo boasted over 50 by 1788. In addition, nearly every *han* along the caravan routes which traversed the peninsula had a special room dedicated to serving and drinking coffee (Fotić 2011: 91-2). Regardless of where it was served, the coffee was prepared in such a way that the grounds had to be allowed to settle before the liquid could be consumed, permitting time for a chat. As was described by Rauwolf earlier in this chapter, the common custom in the 16<sup>th</sup> century was to pass around a single cup from which multiple patrons would drink. This custom fell from favour, however, as critics looked upon the practice with suspicion (Hattox 1985: 117). Accounts suggest that members of all social classes visited these establishments; however, it is likely that some amount of social segregation was still maintained along socio-economic lines (Hattox 1985: 94). Naturally, gender segregation was the norm in all of these venues; although women might drink coffee at home or in female spaces such as hamams, as witnessed by Lady Wortley Montague (1798: 69), the coffeehouse was a space for *men* to socialise outside of the house. Nevertheless, the mixing of Muslim, Jewish, and Christian men was of concern as well.

Like certain Muslim groups, Ottoman Jews also took up the beverage to aid in staying awake in late-night religious rituals (which was allowed due to the use of separate utensils in its preparation); however, theological thinking on the subject did not condone patronising coffeehouses, where adherents of various faiths might intermingle (Horowitz 1989: 22). These establishments were primarily frequented by Muslims, although it was not unheard of for Greeks and Armenians to visit, especially when doing business with their Muslim neighbours. These groups played a significant part in familiarising the product in Europe (Hattox 1985: 98). In Christian settlements, the distinctions between taverns, coffeehouses, and inns often became blurred and offered a combination of amenities, most notably the serving of alcohol (Fotić 2011: 92-3). Although they were ostensibly solely for non-Muslims, it is likely that some Muslims also visited these taverns/coffeehouses on occasion, as not all schools of thought in Islam were quite as strict in regards to what sort of fermented beverages were banned (Hattox 1985: 51, 96). Evliya Çelebi was appalled to witness Muslims in Gjirokastër behaving shamefully like their Christian neighbours, including dancing, holding hands, and drinking alcohol; but alas, he lamented, ‘it is their custom, so we cannot censure it’ (Çelebi 2000: 85). In Belgrade in 1717, Lady Mary Wortley Montague (1798: 64) stayed with ‘Achmet-beg’, a very learned man who dined with them every night and drank ‘wine very freely’. Achmet-beg

‘made no scruple of deviating from some part of Mahomet’s law, by drinking wine with the same freedom we did. When I asked him how he came to allow himself that liberty; he made answer, that all the creatures of God are good, and designed for the use of man; however, that the prohibition of wine was a very wise maxim, and meant for the common people, being the source of all disorders amongst them; but that the prophet never designed to confine those that knew how to use it with

moderation; nevertheless, he said that scandal ought to be avoided, and that he never drank it in public. This is the general way of thinking amongst them, and very few forbear drinking of wine, that are able to afford it.' (Wortley Montague: 1798: 72-3).

Viniculture was well-known throughout the Balkans, and wine is frequently lauded in folklore and song. On the other hand, although beer was known it was not as popularised in oral history from the Middle Ages. Concurrent with the Ottoman expansion, however, was the introduction of distillation, which was used to make plum brandy known as *rakija*, a word which was taken into the Serbian language via Turkish (as was the word used for the vessel in which it is made, the *kazan*) (Kerewsky-Halpern 1985: 482). One might indulge in other vices at these Christian establishments, as they also might at Muslim ones. While the Ottoman authorities strongly objected to both coffee and tobacco, both only increased in popularity and were often consumed side-by-side (Quataert 2000: 10). In 1611, 'Turks' could be seen sat drinking coffee and smoking tobacco outside a coffeeshop in Prokuplje (Fotić 2011: 90). Pipes and coffee cups found together in the early 18<sup>th</sup>-century contexts at Stari Bar emphasise the Ottoman influence in the town (D'Amico and Fresia 2008:59). Coffeehouses followed a similar pattern throughout the various regions of the Ottoman Empire. On the other side of the Ottoman-Venetian border, however, they took a different shape.

Although Venice was introduced to coffee in the mid-17<sup>th</sup> century (Ukers 1922: 27), it was another century before a coffeehouse was opened in Split in 1772. As would be expected, Dubrovnik saw its first coffeehouse somewhat earlier in the late 17<sup>th</sup> century, and a local Jew petitioned for a second one in 1708 (Fotić 2011: 91). Dubrovnik's intensive trade with the inner Balkans and Istanbul would have familiarised first the merchants and then the rest of the port city with the drink. It is somewhat curious, then, that it was so late to arrive in Split, which Venice had been promoting as their primary link with these overland caravan routes. The coffeehouses in Split and other cities along the coast had a significantly different look about them than their inland counterparts, and were distinctly aligned with the traditions being created in Venice and the rest of Europe (see *fig. 4.2*). The coffeehouses of the Adriatic coast were exclusive establishments, catering to a more elite, urban clientele than would be found in the *hans* along the caravan roads or even many of the coffeehouses in Ottoman cities. Customers were also offered a more extensive menu of options in addition to coffee, including tea, chocolate, desserts, and alcohol, particularly the locally-produced maraschino liqueur and prosecco (Fotić 2011: 91-3).

This wider selection would have required a more varied assortment of material culture, which most likely would have been of a higher quality to appeal to more discerning patrons. Coffee, chocolate, and tea were also enjoyed at home, and late 17<sup>th</sup>- and early 18<sup>th</sup>-century records of the Garagnin palace in Trogir show that the family possessed coffee grinders, *broštulin* for roasting the beans, different coffee and chocolate pots, and specialised cups (and in some cases, their matching saucers) for tea, chocolate, black coffee (smaller cups), and coffee

with milk (larger cups) (Celio Cega 2008: 294-96).<sup>5</sup> By the early 20<sup>th</sup> century, these vessels had taken on forms which had been more or less standardised over the previous centuries. An account of Dalmatian cafés from this time describe that maraschino was served in small, stemmed cordial glass similar in shape to a tapered champagne glass but standing only a few inches tall; this cup was covered by a small piece of card so that the aroma would not escape before reaching the customer (Koch 1908: 150). Indeed, a wide selection of different types of alcohol was available in the 18<sup>th</sup> century as well, and accounts show that the Garagnin family partook in brandy, cherry brandy, wormwood wine, and prosecco, in addition to white wine in the summer and red wine in the winter (Celio Cega 2008: 297). Of course, when looking at the material culture used in the meeting places of these port cities, one must take into consideration evolving fashions in terms of both style and etiquette, and must recognise that those fashions might only be available above a certain level of society. However, the types of objects used in the countryside were perhaps more enduring.

### ***Material culture in rural areas***

The influx of Morlacchi settlers in the Dalmatian hinterland altered the built landscape of rural areas of recently-acquired Venetian territories. Villages began to take on a more 'continental appearance' with houses spread out over a greater area, rather than earlier, more nuclear 'Mediterranean style' settlements, or Ottoman villages with houses built in a line; stone tile roofs also gave way to straw, giving evidence to the poverty of the peasants as well as the need to frequently make repairs following violence in the area (Mayhew 2008: 123-24). The wooden objects used by both settled and nomadic peasants are less likely to have survived in the archaeological record, although analogous items might be observed in ethnographic museums. A few written accounts, however, provide some insight into the household items of rural life. Fortis (1778: 235-6) has given one of the most detailed descriptions of Morlacchi dining habits:

‘The table cloth is generally a woollen carpet; table napkins are rarely used, and when there are any, they are also woollen. They carve with a long heavy knife which every Morlack carries at his girdle. Little use is made of forks, though the master of the house sometimes has one. They have wooden spoons in abundance, and can furnish one for each of the company, if not very numerous. Those who observe the true national custom, never use glasses, or cups; instead of which there is one large wooden cup called *Buckkara*, in which they mix wine and water, and it goes round, from mouth to mouth, till it is empty. Instead of China and earthenware, these good savages had a few wooden dishes which were filled with milk of various kinds and compositions. In these dishes every one of the company dipt his spoon according to his own pleasure; as we, a Morlack officer, our host Lukovich, and our guides, all did at the same time with brotherly equality.’

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<sup>5</sup> On the other side of the border, however, accounts of Ottoman coffee-drinking practices indicate that milk and sugar were seldom added to coffee, although cardamom, ambergris, or mastic might be on occasion (Hattox 1985: 83).

Forks—an indicator of civility, as mentioned earlier in this chapter—were almost unheard of, while Fortis instead evoked the image of wild and fierce warriors by implying that although the Morlach men use their knives to carve their meat, they were used for other purposes as well. Together with these ‘savage’ practices unfamiliar to Fortis’s urban, Italian background, again we see the custom of the common cup; along with shared dishes, he presents a primitive egalitarianism which appears to ignore the rules of hierarchy so entrenched in Western European society and which dictate polite codes of conduct. Regardless of how much this description was affected by Fortis’s biases, he does make very clear that the customs of the Morlacchi were altogether *not* like his own, thus aligning them with the *other*: ‘The Morlacco table resembles that of the Tartars; as the two nations are, in many things, like each other; therefore would not please the nice taste of more polished Europeans.’

He made a point of discussing the ‘true national custom’ in reference to the wooden utensils preferred by a nomadic lifestyle. He does mention, however, that ‘In some of their villages, particularly at Verlika, they make earthen ware, very coarse indeed, but very durable’ (1778: 61). While a more sedentary lifestyle might allow for ceramics, the Morlacchi appear to favour sturdiness over beauty. Elsewhere in the Balkans, 19<sup>th</sup> century Albanian homes were described as rather Spartan yet functional:

Their household furniture is not composed of many articles, but is quite sufficient for their wants. A large circular tray of thin iron and tin, on which they eat, and which they scour very bright; a pan to mix their meal in; a wooden bowl or two, and a few horn spoons; some jars for oil and wine, a small copper coffee jug, and a brass lamp; three or four mats of white rushes, and one stool; a round block of wood, about a foot high, on which the tray is placed; are all the articles usually to be seen in their cottages, and these are kept either in a neat [...] cupboard, or wooden chest (Spencer 1851: 94).

In many parts of the Ottoman Empire, rooms in both peasant and elite houses alike were often multi-functional: the low sofas or divans which lined the walls served as the only fixed furniture, while mattresses, rugs, and (in wealthier homes) perhaps a flower vase or portable charcoal braziers, were all stored in built-in wall niches and cupboards, to be brought out only when needed (Goodwin 1971: 433-4). In the early 20<sup>th</sup> century, however, some Albanian homes were seen with wooden slats in the walls in which dishes could be displayed, similar to homes in Istria and in other parts of Europe (Koch 1908: 150), perhaps a practice picked up during the period of Westernisation which began in the Ottoman Empire as early as the 18<sup>th</sup> century during the so-called Tulip Period.

Christian homes in the Balkans had the added material culture involved in home distillation. The making of rakija was a rural endeavour, which called upon the expertise of a specialist with a portable still who would make the rounds throughout his village. The social and ritual importance of rakija has been reflected in the epic poetry of Serbia (Kerewsky-Halpern 1985: 483-4). In Dalmatia, early 20<sup>th</sup>-century rural families were said to have kept large

decanters two or three feet in height, from which they might serve maraschino in tiny glass cups, while sherry would be served in water glasses filled to the rim. All throughout Dalmatia, however, wine was a preferred beverage and reportedly was cheaper than water. This wine was stored in plain glass decanters about one litre in size, and was served in plain tumblers alongside other tumblers of water with which to dilute the beverage (Koch 1908: 150). Glass, being a more fragile material than metal or wood, was more suited for sedentary lifestyles, rather than one which revolves around seasonally mobile husbandry.

As we will see particularly in the second half of this thesis, the use of glass in the early modern period differed between settlements in Dalmatia and the Ottoman Empire, and additionally between major port cities and villages on the periphery. The types and forms of glass used in each region presented here are in some part a reflection of the differing attitudes towards material culture influenced by the various external powers—Venetian, Ottoman, or Austrian—which exacted their authority there at various points in time, as well as by the particular circumstances of their histories. First, however, we will see how different glassmaking traditions were directed by these overall changes in material culture which took place during this period.



**Figure 4.1**

*'One that sells Coffee'*  
c. 1620

Painting in ink, opaque watercolour, and gold in a folio titled 'The Habits of the Grand Signor's Court'. A youth carries two small painted ceramic cups with no handles.

The British Museum  
Reg. no. 1928,0323,0.46.98



**Figure 4.2**

*'Divertissement de Venise'*

Print by Giovanni Volpato after Francesco Maggioto, published by Joseph Wagner  
c. 1765

Scene in a coffee house. A boy serves a tray with a jug and cup to a seated couple.

The British Museum  
Reg. no. 1951,0714.177

## V

# GLASSMAKING IN THE EASTERN MEDITERRANEAN

By the post-medieval period, the glass factories of Murano dominated the production and international trade of high-quality glassware. The allure of Venetian glass was felt throughout the early-modern world: missionaries and merchants transported these goods as far away as eastern China (McCray 1999: 146), while glass beads were traded in Africa and the Americas. Very quickly European rulers all across the continent were vying to duplicate the products, and the success, of the Murano glass factories. In many ways, therefore, the story of early modern glassmaking is the story of Venice, and is closely tied to the greater narrative of that city. The import of raw materials and the export of finished luxury products were dependent on Venice's economic and political position within the wider Mediterranean and Europe. Even other cities which attempted to establish their own Venetian-style factories, in direct competition with genuine imports, retained some sort of contact with Venice in order to recruit glassmakers and to stay abreast of current trends and fashions in the industry. Despite the city's many efforts to isolate its glassmakers, thus protecting some of its most valuable resources, these craftsmen did not live in a vacuum; indeed, their industry would not have been able to flourish if they had. From the very beginning, Venetian glassmakers relied on inspiration from Levantine sources, and during the height of production, craftsmen continued to depend on a relationship with their customers in order for their styles to remain relevant and in-demand. They were also not without competition, first in the guise of imitators creating *façon de Venise* objects in their own cities, and then in form of new technological advances in Bohemia and England. The history of Venetian glass, therefore, is one built on human networks: the direct transfer of knowledge, creative collaboration between artisans of different crafts, and the relationships between manufacturer, merchant, and consumer.

### GLASS BEFORE VENICE

In order to understand the processes which lead to the rise of the Venetian glass industry into a position of prestige and worldwide renown, we must first recognize its place within the longer history of glassmaking in the Eastern Mediterranean. Although Venetian glassmakers would eventually lead the industry through technological innovation, their trade first had to evolve from the intermingled traditions of Byzantine and Mamluk glass production, which in turn had

developed off the achievements of Roman glassmaking. Glassmakers in Syria and Palestine revolutionised ancient glassmaking through the invention of glassblowing sometime around the 1<sup>st</sup> century BC. Knowledge of this method quickly disseminated throughout the Roman world, as demonstrated by frescoes in Rome, Naples, and Pompeii depicting blown glass vessels dating from the end of the 1<sup>st</sup> century BC, as well as by documentary and archaeological evidence of glassblowing factories in Italy and the Rhineland established in the 1<sup>st</sup> century AD (Tatton-Brown 1991: 62-66). Over the following centuries, a number of glass recipes and decorative techniques were refined to a level of quality that subsequent generations of glassmakers would attempt to revive in the early modern period. By the 2<sup>nd</sup> century AD, glass was being made in the farthest reaches of the empire, including Iberia and Britain. However, after the 4<sup>th</sup> century the focus of glassmaking technological advancement became firmly entrenched in the Eastern Mediterranean.

The centuries preceding the 10<sup>th</sup> century formed a transitional period in this region during which the traditions of Roman glassmaking slowly gave way to so-called 'Islamic' glass which came into dominance during the Middle Ages. This was a very gradual shift in both technology and general forms, and it can be problematic attempting to differentiate between what might be considered 'late Roman' or 'early Islamic' glass; Stefano Carboni instead classifies glass of this period as 'proto-Islamic' (2001a: 15). Glass cullet (scrap glass intended for re-melting at a 'secondary' production site) was shipped in large quantities to glassmaking centres in Israel, Lebanon, and Venice, when those areas were under the control of the Roman/Byzantine Empire. Because of this, glass from throughout the Roman Empire exhibits very similar major and minor element compositions during this later period (Verità, Renier, and Zecchin 2002: 266). Meanwhile, however, another glassmaking tradition was flourishing parallel to this one, centred in Mesopotamia and Iran. The primary difference between these two practices was in the raw materials used. Like many other Roman glass producers, glassmakers in coastal areas of the Levant began by using naturally-occurring natron as the flux in their mixture; however, glassmakers further inland were continuing to use the ashes of halophyte plants to lower the melting temperature of the silica (Brill 2001: 28). It was not until around the year 800, shortly after the Abbasid Caliphate took control of the Eastern Mediterranean and Middle East from the Umayyad Caliphate, and in the midst of a struggle for succession in Egypt, that a wide-scale switch to plant-ash flux occurred throughout the Islamic world. This period of political unrest made it difficult for Levantine glassmakers to procure natron from the preferred Egyptian sources (Whitehouse 2002: 194). At the same time, particularly heavy rainfall in the 9<sup>th</sup> century, which prevented evaporation thus creating a shortage of natron, provided an additional impetus for transitioning to plant ashes. These complications may have also coincided with a political desire to develop a distinctly 'Islamic' industry (Henderson 2013: 98, 266). Regardless of the reasons, the majority of the glassmaking centres in the Abbasid and



Mamluk Caliphates made a transition to using the ashes of coastal plants from Syria and Egypt (although a few individual sites continued to use natron for centuries more).

The so-called 'early' period of Islamic glass (up until roughly the 11<sup>th</sup> century) saw a rise in artistry and increased interest amongst members of the elite (Henderson 2013: 260). The fact that the famed Qulaila lamp at the Umayyad Mosque of Damascus was replaced with a lamp made of glass after the original rock crystal one was stolen suggests that glass was gaining prestige (Shalem 1994: 2). Rock crystal was believed to be formed of 'congealed water' and thus possessed spiritual connotations in reference to the River of Life, while Allah is referred to as the Light, likened to 'a niche that enshrines a lamp, the lamp within a crystal of star-like brilliance' (Shalem 1994: 2). Glass's associations with rock crystal, and its use in lamps, would have helped to elevate the material in the minds of medieval consumers.

There was some continuation, or resurrection, of common Roman decorative techniques, such as 'mosaic' glass (later to be recreated by Venetians using slightly differing techniques and known as '*millefiori*') and gold leaf 'sandwiching' (whereby gold leaf is trapped between two layers of glass); however, examples of these types of objects are rare, and the use of gold leaf was very limited chronologically. Instead, later glassmakers' styles of wheel-cutting and relief-cutting appeared to exhibit Sassanian influences, while techniques like gold lustre-painting seem to have been unique to glass of this period (Pinder-Wilson 1991: 116, 124). These styles eventually gave way polychrome opaque glass, enamel painting (in which powdered glass is mixed with colouring agents and oil and then painted on the glass object, before being fired at a low temperature), and gold-painting (which was also being practiced in Byzantine workshops) during the height of Islamic glass manufacture from the 12<sup>th</sup> through 15<sup>th</sup> centuries. At this time the majority of production was based in Egypt and Syria, particularly Aleppo and Damascus. However, artisans, along with their knowledge, ideas, and styles, were able to move, or be moved, across regions much easier once they came under the authority of the Caliphate (Henderson 2013: 254). The glassmakers in these workshops were also heavily influenced by the work of gold- and silversmiths, and these distinctive arabesque designs can be seen in the interlacing ornamentation of both enamel-painted glassware and inlaid metalwork (see *fig. 5.1*). In addition to vegetal and other non-figural embellishment (at least after the end of the 13<sup>th</sup> century), mosque lamps were frequently painted with the same Qur'anic verse mentioned before, relating Allah's light to a niche with a lamp, along with the name or heraldic device of the individual who had donated the lamp (Pinder-Wilson 1991: 135). After the Mamluk dynasty took control from the Ayyubids in the 13<sup>th</sup> century, glassmakers were encouraged to create an increasing variety of shapes and dimensions, again often inspired by metal or ivory objects, although they also developed some new vessel forms as well. Surface decoration, however, slowly became more standardised and less polychromatic after its 13<sup>th</sup>-century 'golden age' (Carboni 2001a: 324). In addition, despite the high level of artistic skill displayed in the enamel-painted enhancements, the glass on which it was painted was not of the

highest calibre—far from perfectly colourless, these vessels were often tinged slightly greenish or brownish, and inundated with bubbles (Pinder-Wilson 1991: 132).

Nevertheless, these were some of the most artistically and technologically advanced glass objects in the world at this point in time, and these elaborately adorned vessels were some of the first to come into contact with Western Europe, after crusaders brought them home as curiosities (Pinder-Wilson 1991: 135). These were the objects which many scholars believe were the inspiration for some of the earliest Venetian attempts at producing luxury glass. However, there has been some contention amongst scholars regarding how large a role these Islamic glass vessels played in the development of the Venetian glass industry.

## EARLY VENETIAN GLASS

The rise of Venetian glass production conveniently coincided with the decline, and eventual demise, of the Syrian craft. This has traditionally been oversimplified by attributing the fall of the Syrian glass industry to the sack of Aleppo and Damascus by Timur, the Turco-Mongol leader also known as Tamerlane, in 1400 (Pinder-Wilson 1991: 131). Indeed, Timur is thought to have transported artisans from Syria to his new capital in Samarkand (in modern-day Uzbekistan), and many others may have left of their own accord to instead work in Venetian workshops (Hess 2004: 7). However, the overall economic degeneration taking place in the Levant at this time may have been an even greater factor in the downfall of the Syrian glass industry (McCray 1999: 61) especially considering the craft was already waning in the second half of the 14<sup>th</sup> century (Atıl 1981: 120).

On the other hand, glassmaking in Venice began as early as the 6<sup>th</sup> century, judging by fragments of glass-melting pots excavated in the Venetian city centre (Verità, Renier, and Zecchin 2002: 262). It is not known to what extent glassmaking here was an extension of Roman practices (Hess 2004: 4), but as most evidence suggests that the Venetians did not have any primary production workshops producing plant ash glass prior to the 13<sup>th</sup> century, the majority of glass coming from Venice was made using natron. However, chemical analysis has shown that some ash-based glass was also being manufactured by at least the 10<sup>th</sup> century, through the use of cullet or raw glass imported from the workshops of Syria or Egypt (Verità, Renier, and Zecchin 2002: 264; Henderson 2013: 101).

In addition to their use of natron rather than plant ash, Venetian glassmakers seem to have adopted different techniques for assembling their vessels, even if the resulting objects were similar in appearance to contemporary Islamic objects (Tait 1999: 77). Venetians also came to prefer the use of gold leaf, in the ‘sandwiching’ technique of the Byzantines and the earlier Romans, over the use of gold paint (Tait 1991: 148). These glassmakers would have had similar access to Byzantine luxury glass, some notable pieces of which were brought back to the city after Constantinople was sacked in the Fourth Crusade (Hess 2004: 4). For these reasons, Hugh Tait has proclaimed that Islamic influence on early Venetian glassmaking was ‘negligible and,

at present, seems principally confined to the supply of vast quantities of raw materials,' and even this practice might have been picked up from the Byzantines, who were also acquiring their raw materials from the Levant (Tait 1999: 83). The products of workshops on Corinth are often cited as evidence of Byzantine influence; however, relatively recently these objects were determined to have been made in the 13<sup>th</sup> or 14<sup>th</sup> centuries, and thus unable to have inspired 11<sup>th</sup> or 12<sup>th</sup> century Venetians (McCray 1999: 59).

There are still those scholars who recognise the influence Islamic glassmaking had on the practice of the craft in Venice, not only as providers of raw materials, but as technical and artistic inspiration as well (Page 2004: 4). Considering the close relationships between the glassmaking practices of the Byzantine Empire and the Middle East, perhaps it would not be inaccurate to assume that Venetian glassmakers looked to both traditions in somewhat equal measure, rather than just one or the other. After all, the Venetian workshops benefitted not only from the import of physical objects, but also from the direct transfer of knowledge from foreign artisans working in Venice. In the early days, these included enamel painters Gregoria da Napoli, a Greek from Morea, and Bartolomeo and Donino from Zadar (Tait 1991: 151), and may have also included Syrian or other Muslim craftsmen, particularly following Timur's assaults on Aleppo and Damascus (Hess 2004: 7). The above-named enamel painters, along with two Venetian enamellers (Zannus Totolus and Petrus), may have been responsible for decorating the so-called 'Aldrevandin group' of beakers during the late-13<sup>th</sup> and early-14<sup>th</sup> centuries. W. Patrick McCray (1999: 58) has described these vessels as 'a marvellous example of the technical and artistic interactions between Venetian glassmakers and those of the Byzantine and Islamic worlds'. These have also been hailed as among the first vessels produced in Venice to display decorative characteristics which might be described as 'specifically Italian rather than generically European' (Page 2004: 4). By incorporating the different technical and artistic knowledge and practices of the Eastern Mediterranean, Venice was able to distinguish itself from other European glass producers, and to ultimately take the lead in luxury glass manufacturing by the end of the 15<sup>th</sup> century.

## A VENETIAN GOLDEN AGE

The late 13<sup>th</sup> century can be seen as a turning point in Venetian glassmaking. The Council of Ten attempted to isolate these valuable artisans, both literally and figuratively. A decree enacted on 8 November, 1291, banned glass furnaces in the centre of Venice, spurring the establishment of the small cluster of islands known as Murano as the glassmaking heart of the city. This community was also tightly regulated, in order to protect the city's burgeoning industry from emigration or espionage (Page 2004: 5). Yet, even throughout the first half of the 15<sup>th</sup> century Venice's glassmaking reign was not certain, and productivity fluctuated and in fact declined at times (McCray 1999: 62). This was, nevertheless, a time of experimentation and refinement of glass batch recipes and decorative techniques. All of this culminated in the development of

*cristallo* glass in the mid-15<sup>th</sup> century. This clear, colourless glass has been attributed to the glassmaker Angelo Barovier, whose work impressed rulers throughout Italy and who, along with Nicolo Mozetto, in 1457 was granted an exemption from the annual recess of the Muranese furnaces, allowing him to continue to make his glass while all other glassmakers in Murano were forced to temporarily suspend manufacturing each year (Tait 1991: 157). However, it is probable that the processes necessary for producing *cristallo* evolved over a much longer stretch of time. A large part of what separated *cristallo* from earlier attempts at clear, colourless glass, known as *vitrum blanchum*, was the refinement of a more discerningly-selected assortment of raw materials. Many of these ingredients were known and used by earlier Venetian glassmakers, yet it was not until the 15<sup>th</sup> century that techniques for their purification, and adjustments to their proportions within the glass recipe, developed to the level required for high-quality *cristallo*.

### ***Raw materials***

The Venetian glass industry heavily relied on trade not only for the distribution of their products, but also for the procurement of the many raw materials that were needed to both make the glass itself and to build and fuel the furnaces in which it was produced. Clay from Valenza (in Piemonte), and from the 15<sup>th</sup> century onwards from Constantinople as well, was brought in to Venice to construct the crucibles and furnaces used in Murano's workshops. These were highly valued, as even second-hand crucibles made of Constantinople clay fetched two ducats apiece in 1409, as recorded in a workshop in Verona. Large slabs of stone were also brought in from Custoza, near Vicenza, to be used as benches for the crucibles within the furnaces, or as mortars for pulverising the various raw materials that made up the glass batch (Jacoby 1993: 78-79).

The three primary ingredients needed for producing glass in workshops throughout most of the Eastern Mediterranean were soda, lime, and silica. Lime, the most minor of these three elements, was frequently a component already found in one of the two other ingredients—in silica-lime sand used in Roman natron-based glass (Verità, Renier, and Zecchin 2002: 262), or within the ashes of Levantine coastal plants in later glasses (Jacoby 1993: 68). The switch from natron to coastal plant ashes which was observed in Levantine glass factories was ultimately integrated into Venetian glass recipes. This was introduced first through secondary production, even as late as 1277, when the Doge and the Prince of Antioch signed a treaty which included a provision for broken glass from the Levant to be shipped to Venice for use as cullet (Tait 1991: 149). However, from at least 1280 Venetians were obtaining the raw material direct from the source and had the means of using it to create their own raw glass. These coastal plant ashes could be imported from Syria, Egypt, or Spain, but slight variances in their chemical compositions produced glass of noticeably dissimilar qualities. Syria was the preferred source, while ashes from Alicante resulted in glass with a characteristically blue tint, and Egyptian

ashes were considered suitable only in the making of soap, not glass (Page 2004: 7; Ashtor 1983: 507). The key innovation for the making of *cristallo*, which came around 1450, was the purification of these ashes by reducing the level of particular insoluble components such as calcium carbonate, magnesium carbonate, and calcium phosphate, while adding a small amount of a stabilising agent (Henderson, 2013: 101; Page 2004: 5).

Most of the plants used to create these ashes were halophyte members of the Amaranthaceae family, particularly those of the genus *Salicornia*, which were commonly referred to as *kali*, but also sometimes *cenere*, *botassa*, *allumen*, or *lume* (Ashtor 1983: 491; Page 2004: 6). These were gathered by the Bedouin, who sold the ashes in the form of solid lumps called *haġer* (meaning ‘stone’) or pebbles, called *zerab*. Prepared ashes were then transported to Aleppo, Sarmin, Beirut, Latakia, Tripoli, or Ramla. Ashes were brought to Aleppo ten times a year, where Venetians would buy entire shiploads; however, often the ashes were carried as ballast on ships transporting other cargo, particularly cotton cogs (Ashtor 1983: 487; 507). Since the cogs operated under a very strict, fixed schedule, glass manufacturers could depend on a fairly reliable inflow of the ashes they needed. Prices for the ashes themselves were generally low—a *kintar* of 180 kg went for 2 ducats or less in 15<sup>th</sup> century Syria, or between 5.3 to 7.2 ducats for a Venetian *migliaio* of 477 kg—while the price of shipping gradually decreased over the course of the 15<sup>th</sup> century, from 3 ducats to 1.5 ducats (Ashtor 1983: 509; Jacoby 1993: 69). Although these ashes were also entering the Italian peninsula through alternate ports such as Ancona or Genoa, the vast majority were imported into Venice, who used this advantage to restrict the glass-making capabilities of nearby competitors by frequently banning their re-export (Jacoby 1993:71).

The other main ingredient needed for glassmaking, silica, was acquired from much closer sources. While Syrian or Egyptian glassmakers looked to a variety of different sources for their silica (Henderson 2013: 263), Venetians preferred the very pure quartzite pebbles of the Ticino River (Page 2004: 4), which travels from the Swiss Alps into modern-day Piemonte and Lombardia. Early 15<sup>th</sup> century sources also spoke of using pebbles from near Verona; however, these tended to produce a yellowish glass, and thus those from the Ticino were favoured (Jacoby 1993: 75). This is not to say, however, that less effort was required to secure these pebbles. The Prince of Milan threatened to halt the export of silica in protest of a Venetian ban on the re-export of Levantine ashes, which had been enacted in intervals, particularly in 1332, 1384, and 1468 (Ashtor 1983: 514). These ashes were a vital resource not only for Venetian glass manufacture, but also in the making of soap and, in the case of Milanese industry, maiolica. Similar raw materials had linked these industries from the earliest uses of plant ashes in glass in the Middle East, and the increased import of these ashes into Venice in the 15<sup>th</sup> century allowed the city’s glass and soap industries to expand at similar rates (Henderson 2013: 262). The Ticino pebbles, however, were the primary ingredient in the production of *cristallo*, samples of which typically contain upwards of 70 percent silica (Jacoby

1993: 88). These pebbles were generally prepared in a separate location outside of the glass factory, either by heating them until glowing, then plunging them into cold water to disintegrate, or else by pulverising them by means of a water mill (Jacoby 1993: 75).

Other ingredients were also needed in order to achieve the array of colours or effects which reached various levels of popularity in the early modern period. Manganese, for example, was imported mostly from Germany (although a 17<sup>th</sup>-century source suggests that an origin in Piemonte was preferred) and was used as a decolouriser; however, if added in greater quantity, whether accidentally or purposefully, it coloured the glass pink or purple (Jacoby 1993: 77; Page 2004: 4, 8). Cobalt, used to create blue-coloured glass, was mined at a number of different sites in the early modern period, including Persia and Saxony, especially for use in decorating pottery (Watney 1963: 1). Azurite could also be used to create a similar effect, and it is interesting to note that in the 15<sup>th</sup> century this mineral was being mined in Bosnia and transported to Ragusa to be refined and sold as '*azuro raguseo*.' While there remains no archival evidence explicitly detailing the use of *azuro raguseo* in glassmaking, it is likely that it was used in local glass factories, and potentially in the furnaces of Murano as well (Han 1981a: 202). Through experimentation with ingredients and techniques, Venetian glassmakers manufactured a dazzling array of different types of decorated glass, as well as introduced new ways to improve non-decorated glass.

## GLASSMAKING TECHNIQUES

### *Vessel glass*

The medium through which Venetian glassmakers were able to most liberally express themselves artistically was in vessel glass. Through the early modern period, glassmakers slowly branched out from making vessels modelled after traditional Gothic, metal objects, instead producing an ever-increasing range and variety of vessel forms and shapes, which was a trend that could also be observed in other materials such as ceramics. Earlier objects, such as beakers, might be decorated with vertical ribbing, made by blowing the glass in an optic-mould, or with applied 'prunts', which were small, coiled bumps of glass applied to the body of the vessel (Tait 1991: 153). Vessels could also be decorated with applied 'threads' or 'trails' of glass, which could be either in the same colour as the rest of the vessel, or else a brighter, contrasting colour. Beginning at the end of the 13<sup>th</sup> century, blue threads were being applied on vessels produced in Murano, a fashion which peaked over the next two centuries (Pešić 2006: 118). While glassmakers in Murano may have continued to produce these types of vessels for export after the 15<sup>th</sup> century, tastes in Venice, and eventually elsewhere in the world, began to change thanks to advances in glassmaking technology.

Like ceramics, it was thought that vessels made of glass improved the taste of food, in comparison to older plates or goblets made of metal (McCray 1999: 82). This connection with

ceramics extends even further, with the invention of *lattimo*, or opaque white ‘milk’ glass, which was also at times referred to as *porcellana contrafacta*. Similar to the increasingly sought-after porcelain imported from the Far East, or maiolica produced more locally, early *lattimo* and plain *crystallo* continued the tradition of applied embellishment with gilding or enamel-painting (Page 2004: 8). Images featured on these vessels ranged from traditional European heraldry, to busts of famous poets, and eventually to ‘grotesque’ creatures and figures, inspired by the *all’antica* fashions permeating the decorative arts beginning in the late 15<sup>th</sup> century. *Crystallo* on its own was thought to be a resurrection of an ancient type of clear, colourless glass which Pliny the Elder praised for its close resemblance to rock crystal, and it was possible that many wealthy, educated consumers of these goods would have been familiar with this connection (Page 2004: 4, 11).

By the 16<sup>th</sup> century, boldly-coloured applied decoration began to give way to more delicate techniques of ornamentation, such as diamond-point engraving, which accentuated the fragile and elusive nature of the *crystallo* (Hess 2004: 19). Although these intricately engraved objects were produced in Venice throughout the 16<sup>th</sup> century, they were rarely for domestic consumption, and instead were more popular around or north of the Alps (Whitehouse 2010: 87). However, the desire to emulate ancient Roman practices extended to include other decorative enhancements as well. *Millefiori*, or mosaic glass, was reintroduced, albeit using different methods resulting in glass ‘only distantly reminiscent of the Antique’ (Tait 1991: 163) (see *fig. 5.2*). Small *millefiori* pieces were made by creating a pattern of opaque, coloured canes, sometimes rolled in flat, opaque, coloured glass, which was then either rolled in a band of flat, clear, colourless glass, or encased in molten colourless glass. After marvering, this mass of glass was attached to two rods, one at each end, and stretched length-wise to form a long, thin cane. When this cane was cut into small pieces, known as *murrine*, the pattern was revealed in the cross-section. Unlike the examples of mosaic glass produced in Roman or Islamic workshops which fused these pieces directly to each other, most of these Venetian *millefiori* vessels were created by taking a partially-inflated gather of colourless, or occasionally blue, glass (known as a *paraison*) and rolling it across a work surface upon which small *millefiori* pieces have been scattered. The pieces fused onto the gather, and as the glass was reheated and then blown into shape, a more haphazard design was revealed. This vessel might, or might not, be further covered with a layer of clear, colourless glass (Hollister 1981: 223). A similar process is used for decorating glass *a macchie* (also known as picked-up decoration), in which small chips of opaque, coloured glass are used, which then stretch during blowing. The colourful, compound canes used in *millefiori* pieces are similar in design to the ‘chevron’ patterned beads which were being made in Venice and traded around the globe (Hollister 1981: 222), which will be discussed later in this chapter.

Another way in which coloured canes of glass were utilised to create patterns on clear, colourless glass was in *vetro a filigrana*. Using opaque white canes (although occasionally

incorporating colours such as blue or red as well), glassmakers were able to construct intricate designs reminiscent of contemporary lacework in the 16<sup>th</sup> century (Page 2004: 18). There were three principal techniques for creating this filigree glass. The first, and simplest, was known as *vetro a fili*, in which individual canes were evenly spaced on a worktop and picked up by the main gather of glass (see *fig. 5.3*). Most of the time these canes were then marvered (a process in which the softened vessel is rolled across a smooth, hard work surface), which flattens the canes so that they lay flush with the main body of the vessel; however, some specimens decorated using this method, particularly earlier ones, refrained from this step, leaving the canes in relief and appearing similar to vessels decorated using ‘trails’. A second filigree technique was developed called *vetro a retorti* (or occasionally *vetro a retortoli*) wherein the opaque threads were twisted into cables, and then positioned in various configurations with other twisted or plain canes to fashion sophisticated and ornate patterns (see *fig. 5.3*) which were entirely original within the history of glassmaking (Tait 1991: 168). The final type of filigree glass named in 1592 (Page 2004: 18), *vetro a reticello*, is produced by layering oppositely-twisting spirals of white canes in order to achieve a mesh-like appearance (see *fig. 5.4*). All three of these *vetro a filigrana* styles came to be considered ‘the quintessential Venetian glass’ through the 16<sup>th</sup> and 17<sup>th</sup> centuries, to the point that an edict in 1549 ruled that all glassmakers were required to only produce *cristallo* vessels adorned with filigree ornamentation, and could even be penalised for producing wares deemed too plain (Page 2004: 18). This extended to all manner of vessels, for both domestic use and export (see *fig. 5.11*).

Decoration using plain or twisted canes was generally reserved for use on colourless *cristallo*. However, opaque and transparent colourful glasses were also being manufactured, particularly in ways which sought to recreate nature. As has been mentioned previously in this chapter, *cristallo* was revered for its similarity to rock crystal, but other precious and semi-precious stones were being mimicked as well. *Calcedonio* was created to resemble chalcedony or banded agate (see *fig. 5.5*), and was first mentioned shortly after the death of Angelo Barovier in a contract drawn up in regards to the maintenance of his furnace, although it was also being produced at other factories in Venice in the late 15<sup>th</sup> century, such as at the Sign of the Cock, run by Jacopo d’Anzolo (Page 2004: 8). Another popular type of glass called *avventurina* attempted to recreate the shimmer of mica in aventurine stones by adding copper powder to the marbled vitreous paste (see *fig. 5.6*). This was thought to be the innovation of the Miotti family in the late-16<sup>th</sup> or early 17<sup>th</sup> century, who kept the recipe a heavily-guarded secret (Tait 1991: 165). The techniques used for *calcedonio* and *avventurina* eventually inspired glassmakers to use similar vitreous pastes to imitate malachite, onyx, and other stones into the 18<sup>th</sup> century. Although vessels emulating chalcedony, jasper, or many other types of natural stones were often produced with great skill and highly resembled authentic precious stones, most consumers who purchased these goods were not attempting to deceive anyone with a cheaper counterfeit. On the contrary, these comparatively inexpensive glass vessels were prized



for the talent needed to so artistically replicate nature using only human ingenuity and skill (McCray 1999: 69).

Colourless *cristallo* could also be manipulated into elaborate shapes, or in ways to alter the structure of a vessel. 'Ice glass', invented in the late 16<sup>th</sup> century, was perhaps one of the most audacious types of glass developed in Venice. By dipping hot glass into cold water, and slowly reheating it for the final blowing, the surface of the glass becomes crackled in a way similar to the network of fractures which form on a thin layer of ice. The end of the 16<sup>th</sup> century also saw the introduction of *vetri a serpenti*—fanciful *cristallo* stems manipulated into spirals or twists and festooned with colourless or bright blue wing-like appliques or other bit-work known as *morise*. These vessels were also sometimes referred to as 'flugelglas' in other parts of Europe (see *fig. 5.7*). All of these decorative techniques gave the glassmaker an additional opportunity to increase the value and price of his objects. Records have shown that a *cristallo* object was worth the price of more than one hundred 'common' tumblers in 1458, while *lattimo* and *calcedonio* were even more costly. The addition of gilding or enamelling to plain vessels could sometimes double the price of the plain object, due to not only the cost of decoration, but the second firing the vessel would require as well (McCray 1999: 142-143).

## ***Windows***

The vast amount of work undertaken on the study of Venetian vessel glass habitually overshadows the other forms of glass being produced in the post-medieval period. However, like glass tableware, these other types of glass were increasingly subject to technological experimentation, the goal of which was an improvement in qualities such as clarity or uniformity. During this period, there came to be two primary methods used in Venice and the rest of Europe to produce glass suitable for window panes. The first of these methods, known as 'broad glass' or 'cylindrical glass', had been produced with some variation of technique since the Roman period (Burgoyne and Scoble 1983: 3). To create broad glass, the glassmaker took a gather of glass onto his blowpipe and blew it into a bubble, which was then marvered, reheated, and blown again until it reached the required size. This bubble was then swung back and forth to elongate it. Upon further reheating, the end of the bubble was pierced, and enlarged into a hole, turning the bubble into a long cylinder. This cylinder was then cut lengthwise and opened to create a flat sheet.

The other method employed by glassmakers to create flat glass was known as the 'crown method', and is thought to have been perfected in the Middle Ages (Melchior-Bonnet 2001: 13). Crown glass was created by gathering about a kilogram of glass onto the blowpipe, allowing it to cool, and then gathering more glass onto it, repeating this until there were approximately 3.5 to 4 kg of glass on the pipe. After marvering, it was blown into a pear shape, then reheated and blown in repetition whereby it reached the requisite size and thickness. The side opposite the blowpipe was flattened, and a second glassmaker attached a pontil to the

centre of this circle, while the blowpipe was removed. This circle of glass was held close to the furnace's glory hole. The heat from this hole slowly softened the glass, and the hole created by removing the blowpipe was expanded. The glassmaker then rapidly spun the pontil so that the centrifugal force caused the hole to flare outwards until ultimately it flattened into a large disc four or five feet in diameter. Finally, the pontil was removed, leaving behind a 'bullseye' mark. The disk was then divided and cut into squares and rectangles of various dimensions.

Flat glass produced by either of these methods would be considered highly imperfect by today's standards of window glass. Crown glass was unable to produce panes greater than 60 cm in length on one side, and, due to the nature of its manufacture, was of uneven thickness—the glass around the centre was thicker, while it became thinner moving towards the edge of the disk. Cylinder glass was often wavy and could become dull when placed on another surface for flattening (Burgoyne and Scoble 1983: 4). However, glazed windows were still the privilege of an elite few, while the rest of the population (or those who were concerned about the fragility of glass windows) made due with oiled paper, if they had anything covering their windows at all (Melchior-Bonnet 2001: 14).

## ***Mirrors***

Mirror glass suffered from many of the same constraints as window glass in achieving uniformity and clarity. The celebrated Venetian crystal mirrors were products of the 16<sup>th</sup> century; prior to this, mirrors found in Venice were small, flawed, and frequently imported from abroad. However, the introduction of various technological advancements, which were also found in other areas of glassmaking, greatly aided glassmakers in this endeavour for perfection.

Many 13<sup>th</sup> and 14<sup>th</sup> century glass mirrors—as opposed to copper or other metallic mirrors which were common at the time—were produced, in Germany especially, by blowing a large orb of glass which was then 'silvered' by brushing on a mixture of lead, tin, silver, and wine sediment (Melchior-Bonnet 2001: 16); in Florence there was a recipe for this calling for one pound of lead, a little tin, and one ounce of Spanish pitch (Zecchin 2000: 40). The glass might also be coated on the inside while still on the blowpipe, using antimony, lead, tin, or some mixture of the three (Schechner 2005: 151). This sphere was then cut into small rounds that could be mounted as mirrors. These mirrors were restricted in size, and their convex shape obviously distorted the image they reflected. The next step in glassmaking technology is generally thought to have been developed in Lorraine, and brought to Venice by one 'Roberto Franzoso' and his partner in Venice, a glassmaker originally hailing from Split, named Giorgio Ballarin. Franzoso introduced the cylinder method of producing glass, which had been used in his native country, into Ballarin's workshop in 1492. About half a century later, it was written that these square panes of glass were then placed on an iron palette, which was then turned in the furnace so that the glass could spread to fill the plate (Melchior-Bonnet 2001: 20). Around the same time, the Venetian Vincenzo Redòr began polishing the glass in a method similar to

that used for polishing metal mirrors, and it is thought that in the 16<sup>th</sup> century, these mirrors were being backed with tin foil coated in mercury (Zecchin 2000: 39). This was accomplished by placing a sheet of tin foil on some thin blotting paper lined with a sprinkling of chalk. Mercury would then be poured on the tin, and spread over it using a rabbit's foot. Another clean sheet of paper, along with the broad sheet of polished glass, would then be placed on top—one hand pressing down on the glass, while the other carefully pulled out the paper. Finally, any excess mercury would be removed by pressing down on the glass with a weight (with a protective barrier of paper in place) (Schechner 2005: 154). Hopefully, XRF or other technology will be able to help scholars gain a better understanding of the different materials used to coat these mirrors.

Depending on their size, these mirrors could be mounted in a small box of ivory or ebony, or pear-tree wood for those of lesser means, for use as a pocket mirror to be worn on the person, while slightly larger handheld mirrors might be placed in sleeves of wood, ivory, or silver, with shutters or a curtain of fabric to protect the glass. Large, wall-mounted mirrors might also be set in frames of bevelled glass, or in a *restello* frame, described in the previous chapter, which also provided the user with a space for their toiletries. Naturally, any of these types of mirrors might be embellished with gold or precious jewels set in their frames for the most elite of consumers, although their humbler counterparts were slowly becoming more attainable to the bourgeois (Melchior-Bonnet 2001: 24). What really allowed Venetian glass mirror-making to flourish, however, was their use of *crystallo*, which gave glass mirrors an unprecedented level of colourlessness and brilliance, which could not yet be matched by foreign competitors. However, it is thought that the next step in mirror-making technology was developed instead in Orléans, by an individual named Bernardo Perrotto from Altare. Known as 'casting', glass was poured onto an iron table and smoothed by a roller, which allowed the craftsman to produce much larger panes for mirrors (although more recent archaeological discovery has suggested an earlier timeline for this technology, to be discussed in Chapter VII). This coincided with a general malaise in the Venetian glassmaking industry as a whole, and thus Venetian mirror-makers began to lose hold of their dominance of the market (Zecchin 2000: 41).

## ***Beads***

A wealth of scholarship has been undertaken on the trade of colourful glass beads, particularly in regards to their use in European trading posts in Asia, Africa, or the Americas. Slightly less attention, however, has been paid to their production in Venice and other European cities. The first incidence of bead-making in Venice appears to have been in 1340, when glass gem manufacturers began producing beads as well; however, the first designated bead-maker appeared several decades later, in 1371. Little is known about these early beads, except that many were made with yellow glass, perhaps designed to emulate amber, and they would have

been made by either being cast into moulds, or by winding. While Venice may have missed the opportunity to provide the crusading Christian world with rosary beads in this early period (Jargstorf 1995: 35), they did, however, fill the vacuum left by the demise of the Syrian glass industry in the early 15<sup>th</sup> century (Dubin 1995: 37).

In the late 15<sup>th</sup> century, factories in Murano began manufacturing beads using drawn canes (similar to those described used in the creation of *millefiori* vessels), led by the Barovier family. However, this industry remained on a relatively small scale until Giorgio Ballarin hired two German bead-cutters at the very end of the century, who were able to more efficiently work these canes into beads (Jargstorf 1995: 46). While the smaller beads were simply cut from the canes (later these were tumbled with some sort of abrasive in order to smooth them), larger beads would be cut again and ground at the ends. In the 16<sup>th</sup> century bead-makers began to place the larger cane segments on a spit in order to shape the beads by reheating (*allo speo*); however, from the 1570s onward, many preferred to place their drawn beads into a large pan (*a ferrazza*) to reheat and smoothen them (Sarpellon 2003: 60).

In addition to simple, single-coloured beads, multi-coloured ‘*rosetta*’ or ‘chevron’ beads had been made as early as 1487, when Maria Barovier, the daughter of Angelo, was granted the privilege of making these beads (Sarpellon 2003: 59). These beads were produced by blowing a gather of glass into a tapered mould with sharply ribbed sides. A second gather of glass of a different colour was added onto the first, and then pushed down and marvered in order to entirely encase the original gather, care being taken that no bubbles were formed in the troughs of the ribs. Ensuring that the ribs lined up evenly, the glassmaker once again blew the glass into the optic mould. This process was repeated multiple times in a variety of different colours. Once the desired layers were added, the entire mass was drawn into a long cane, and then divided into beads. By reheating or grinding, the beads were not only given their shape, but the various underlying colours were revealed as well. *Rosetta* or chevron beads might have between two and eight layers of different colours (most commonly seven layers during the 16<sup>th</sup> century), and were placed in moulds with different numbers of points, although 12 points appears to have been the most common configuration (Dubin 1995: 44).

In the second half of the 16<sup>th</sup> century, false pearls and other beads made to replicate precious stones gained popularity, using the opalescent type of glass called *girasole* by the year 1600 (Jargstorf 1995: 51). At the same time, a new technique developed out of the *allo speo* method—that of lampworking. Using the flame of an oil lamp, with the aid of a small hand bellows, the bead-makers known as *perleri* would shape, decorate, and otherwise work their beads (Sarpellon 2010: 61). This allowed bead-makers to manufacture products of a wide variety of shapes, colours, sizes, and styles to accommodate the preferences of different countries; tastes could even differ from village to village. These *perleri* were also able to work out of their own homes or small workshops, instead of basing themselves in larger glass factories. The versatility of Venetian bead-making allowed their trade to flourish across the

world, where their beads were traded for furs or other commodities, or given as gifts (Dubin 1995: 39).

## INSPIRATION, COLLABORATION, AND SPECIAL REQUESTS

Regardless of their proclivity for technological innovation, Venetian glassmakers were not known for their creative aptitude when it came to the shapes and forms which their products took (Page 2004: 9). Instead, they often relied on influence, and even direct collaboration, from artists and artisans who worked with different materials such as precious metals. The relationship between artists of pen or paint and other craftsmen was typical across many different decorative media. One artist, Giulio Romano, a protégé of Raphael, worked for the Gonzaga family, the Dukes of Mantua, during the early-to-mid-15<sup>th</sup> century. During this time he produced designs for ewers, basins, and many other types of tableware which were to be reproduced in silver (Taylor 2007: 174-175). Drawings or paintings such as these, as well as widely-circulated engravings or woodcuts, influenced the direction of Venetian glassware, even if they were originally intended for production in other materials (Page 2004: 8).

The shapes and styles of glass tableware might also be more directly steered by the wants and needs of individual merchants or consumers, some of whom had particularly specific demands. In the five years between 1667 and 1672, two merchants in London, John Greene and Michael Measey, corresponded regularly with the Venetian glassmaker Allesio Morelli, through numerous letters specifying everything from the shapes, dimensions, and colours of the vessels they desired, down to the way these items should be packed for transport. Several detailed drawings accompanied each letter (eight of which have survived to this day) which made up a total request of over 30,000 vessels, in addition to copious numbers of mirrors and various other items, over this five year period (Willmott 2005: 114). Notably, these drawings included plans for goblets with rounded knops or inverse baluster stems, as well as for mould-blown beakers with raised, diamond-shaped bosses.

Certain illustrious customers might also choose to deal directly with the manufacturer, either through their own correspondence, or through an agent in Venice. Isabella d'Este amassed an especially large collection of *crystallo* glass objects, and was notoriously particular in her specifications. Occasionally she would send ceramic or metallic objects to glassmakers as patterns to be replicated in *crystallo*. She was similarly influenced in taste by glassware she encountered during her travels. In 1527, she sent a request to the Mantuan ambassador to obtain a chest of various types of glasses similar to the ones she had previously used in Rome, and in 1530 during a trip to Murano, she was inspired to make a large purchase after encountering a bespoke *credenza* which had been made for the sultan (Brown 1982: 213). In one correspondence with her agent in 1496, she criticised the twenty glasses he had recently sent to her, claiming that the profile of the glasses was displeasing, as the foot was as broad as the cup. Instead, she instructed that another twenty glasses be made for her, with narrower feet, and gold

bands around the rim, which, she also clarified, should cover the lip of the cup, but otherwise should be the same size as the bands on the rejected glasses (Syson and Thornton 2001: 190). Such letters have also given scholars insight into the delays and difficulties that might arise, for example, when the best glass masters were unavailable due to illness, or when batches of certain colours of glass had not yet been put in the furnace that year, limiting the colours immediately available (Brown 1982: 215).

However, at other times customers might rely on the fact that Venetian glassmakers would be familiar with what consumers were expecting. On June 11, 1569, the Venetian *bailo*, Marcantonio Barbaro wrote to the Doge, Pietro Loredan, with an order from the Grand Vizier, Mehmet Solloku Pasha. In this letter, Barbaro explains that Mehmet Pasha has requested 900 mosque lamps for a mosque currently under construction: three hundred ‘in the larger shape’, by which he means the traditional Syrian type described previously, three hundred of ‘the long shape’, which were Venetian *cesendelli* (see *fig. 5.8*), and another three hundred of these *cesendelli*, except fifty percent larger. These instructions were accompanied by rough sketches and measurements, but it was also specified that the exact proportions and measurements were to be left to the discretion of the craftsmen, who would know what was normal for such things (Mack 2002: 172). This understanding on the part of Murano’s glassmakers of the demands of foreign markets applied to Northern or Central European markets as well. For export to Germany, for example, Venetian glassmakers produced not only German motifs on Venetian forms (such as heraldic designs made by special request), but also more traditionally German forms, such as taller glasses used for drinking beer or *kuttrolf* bottles with twisted necks. This export slowed, however, after 1550, when these needs began to be more fully met by local production (McCray 1999: 149).

## THE DECLINE OF VENICE’S PRE-EMINENCE

Ultimately, a series of conservative policies and a destabilised economy weakened Venetian glassmaking from within, allowing external competition to descend upon the market in the 17<sup>th</sup> century and to eventually usurp the very industry upon which many of these foreign factories were modelled. The greatest factor contributing to this shifting balance was the outflow of knowledge, which had posed a threat to Venetian glassmaking from the very beginning.

The transfer of technical knowledge often relied on the direct participation of Venetian experts, as well as a continued network of communication between Venice and these new workshops in order for the industry to be successful in the long run. Just as Venetian glassmakers had once benefited from the expertise of Byzantine, Syrian, or other European glassmaking traditions, cities across Europe sought out enterprising individuals who might be lured away from Murano by the promise of more, or more consistent, money, or simply for the chance to distinguish themselves. Although in many ways the glassmakers of Murano were treated with favour, such as their ability to marry into the nobility (Melchior-Bonnet 2001: 19),

in other ways they were stifled by the authorities' attempts to maintain the industry's international precedence by controlling the output of its factories. The desire to emigrate was often a result of stringent Venetian policies which regulated not only what raw materials they could use, but also what products they could make, and when these could be made. One of these rules was the annual recess, which closed down Murano's furnaces from 5 August through 7 January in order to provide a time for furnace maintenance and for wares to be sold (Page 2004: 5). It was well known that this long period without work was a burden to the glassmakers, many of whom chose to find work abroad for the interim. Emigration, whether seasonal or permanent, was punishable by heavy fines or even a prison sentence (Jacoby 1993: 80). However, the ultimate success of *façon de Venise* factories across Europe, making glass in the Venetian way, attests to the fact that these rules were regularly flouted. While the advent of the printing press certainly aided in the dissemination of treatises elucidating the art of glassmaking, this could not replace the implicit knowledge of an artisan with years of experience—the knowledge gained through sight and feel often cannot easily be expressed through the written word (McCray 1999: 156).

The threat that emigration posed to the Venetian glassmaking industry was recognised from the beginning, as was the ineffectualness of the penalties set against those who chose to leave. Occasionally, the opposite approach was used and the recess would be shortened or even abolished for a length of time, such as between 1420 and 1427 (Jacoby 1993: 80; McCray 1999: 63). However, it was not only the outflow of knowledge that was beneficial to these foreign workshops, and ultimately detrimental to Venice's industry. These craftsmen would still require the high quality raw materials utilised in Venice in order to produce a comparable product. In this matter, Venetian policy also thwarted the efforts of foreign glassmakers by banning the re-export of Levantine ashes. This embargo was, ostensibly, lifted on a few occasions when it would have hindered the trade of other materials, such as in the previously mentioned case with Milan. However, these promises were only ever short lived, if they were ever kept at all. Instead, glassmaking factories in the *Terraferma*, for example, had to rely on contraband ashes smuggled out of Venice, or else purchase them through Ancona, although this city had far fewer raw materials passing through it (Jacoby 1993: 81). Other cities resigned themselves to using lesser-quality soda ashes, which were not redirected through Venice, while yet others began to make substantial strides in the production of glass using potash as the flux. As the threats from foreign competition grew too great to ignore throughout the 17<sup>th</sup> century, proposals were put forward to allow glassmakers to use cheaper soda ashes from Spain or from local sources, or even potash, in order to maintain their competitive edge (Ashtor 1983: 521). In the end, an individual named Giovanni Sola was given the privilege to import cullet from Bohemia in the early 18<sup>th</sup> century (Page 2004: 19). Yet by then the changing tide was irreversible.

In light of their failing fortunes, not only in the glass trade but in its overall economy as well, the Venetian nobility became increasingly more introverted and conservative in their

policies. Rather than encouraging invention and pursuing new business opportunities, both the Council of Ten and the glassmakers' guild instead chose to tighten regulations, which ultimately hampered any innovation. In the meantime, other glassmaking centres, such as Florence, were able to fill the void in new up-and-coming markets, such as in the manufacture of optics, while Venice was occupied with attempting to revive 'past glories' (McCray 1999: 163).

### *FAÇON DE VENISE*

From as early as the 13<sup>th</sup> century, Venetian glassmakers had left their homeland to practice their craft in new workshops in Mantua, Ferrara, Vicenza, and Bologna (Ashtor 1983: 504). As the popularity of Venetian *crystallo* expanded throughout the world, there was an increasing desire amongst the elite ranks of European cities to capitalise on the demand for luxury glass.

Although there were at times significant regional differences in regards to the shapes and uses of glassware, even within Italy—such as *bicchieri fiorentini*, *bocali da Milan*, or *inghestere todesche* north of the Alps—consumers elsewhere in Europe began to incorporate more Venetian styles (such as goblets or *tazze* with moulded lion-mask stems), first in their imports and later in locally-made products (Page 2004: 3). Glasshouses were established at several royal courts, where even the nobility could have a direct influence. The glass factory at Innsbruck was created in the 16<sup>th</sup> century for the personal amusement of Archduke Ferdinand II, who recruited artistically adventurous craftsmen from Murano to not only create beautiful and whimsical glass objects, but to teach the craft to the archduke as well (McCray 1999: 156) Perhaps the best known of these *façon de Venise* centres were in England, the Netherlands, Spain, France, and Austria. However, for the purpose of this research it is important to note that glass workshops in the Venetian style were set up in the early modern Balkans as well, most prominently in Dubrovnik and Ljubljana.

### *Dubrovnik*

As in other areas of trade, Dubrovnik's role as a glassmaking centre relied on its intermediary position and its relationships with both Venice and the Ottoman Empire. Thanks to Dubrovnik's extensive networks of exchange, and the city's close cultural connection to Venice, Venetian-style glass was propagated across the Balkans through the end of the 16<sup>th</sup> century (Bikić 2006: 208). These dual roles, as both producer and intermediary, allowed Dubrovnik to maintain its prominence in the glass industry and trade throughout much of the Middle Ages and early modern period: during phases when the local glass industry faltered, glass from Murano was still passing through Ragusan hands on its way to the Ottoman Empire, and when demands for glass were not being met by Murano, Ragusan glassmakers were able to exploit Dubrovnik's ample trade connections. The rich silver mines of Novo Brdo (located in present-day Kosovo) were the most profitable in all of medieval Serbia, and acted as a magnet for merchants from



Dubrovnik and elsewhere, where, as in other Serbian mining towns, they enjoyed the benefits of privileged colonies (Fine 1987: 200). Prosperous centres such as these provided Dubrovnik with a wealthy market for their glassware, and helped the industry to flourish (Han 1975: 121). Later, Venice's loss of its Albanian colonies during the course of the 15<sup>th</sup> century opened up another, apparently quite important, market for goods made in Dubrovnik as well as a source of raw materials, particularly during periods when relations between Venice and the Ottoman Empire were strained (Han 1981b: 231).

In the first half of the 14<sup>th</sup> century, five glassmakers originally hailing from the region of Padua set up the first Venetian-style glass workshops in Dubrovnik. One individual, Maffeus de Pianiga, was notable for establishing the Society for Glass in Dubrovnik, the primary purpose of which was to promote trade with Serbia, particularly with wealthy mining centres such as Novo Brdo (Han 1975: 121). Another of these founding glassmakers, Donatus Pianiga de Murano, was the first to employ a local apprentice (Han 1981b: 218). However, after only a few decades, the Venetian masters left, leaving the factories to the devices of local craftsmen, under whom the industry is thought to have dwindled for the next century.

It was not until the early 15<sup>th</sup> century that the first documentary evidence for a multi-generational workshop specialising in windows was written, regarding a factory established by the Ragusan Friar Petar in the Dominican monastery (or in the neighbouring, eastern suburb of Ploče) and continued by his son Nikola and his grandson Bernardo (Han 1981b: 221). Friar Petar and Nikola, as well as a glassmaker at another workshop in the city, Petar Božiković-Natalis, were also making 'oculi' for glazing windows in monasteries and churches, and even public and private secular buildings. Oculi were circles of crown-glass, with the rounded edges folded over for protection, and could be made of either colourless or coloured glass. Unlike crown glass made elsewhere, these circles were not cut down into several rectangles, but instead were left as roundels held in place by wires. In this earlier period, these oculi generally ranged in diameter from approximately 11 to 11.5 cm; however, by the later 15<sup>th</sup> and 16<sup>th</sup> centuries, these were being made up to just over 16 cm in diameter (Topić 2015: 495).

Another glass factory was established contemporaneously by a Florentine, Georgio de Georgii, who was given a five-year contract from the city to establish a glass industry making tableware in the western suburb of Pile, along with two other foreign glassmakers. This may have introduced a Central Italian influence in the forms and styles some of the glassware made in Dubrovnik (Han 1975: 125). However, like earlier attempts at establishing a glass industry in Dubrovnik, this was a short-lived endeavour. It was really at the end of the 15<sup>th</sup> century and the beginning of the 16<sup>th</sup> that the Ragusan glass industry began to prosper under a local man who had trained in Murano, Nikola Ifković, who produced '*crystallo*' and '*crystallino*' glassware in Pile. While he did employ a few Venetian glassmakers, he was also known to have hired glassmakers and apprentices from the local population (Han 1981b: 229). Nevertheless, a continued connection with Venice remained evident in the products produced in Dubrovnik.

Venetian, or at least Venetian-trained, glassmakers continued to flock to the area, and there recruited local workers who kept these factories in operation throughout the 16<sup>th</sup> century. During the 1510s, these included Johannes Tamburlinus, originally from Split, Nicolaus Jacobi de la Pigna, who came from an Albanian family, and Venetian Pasqualinus and Laurentius Marci Johannis, who are all credited with injecting the Ragusan glass industry with ‘a new predominance’ of Venetian style and technology (Han 1981b: 230). Despite these brief periods of revival, however, the success of Dubrovnik’s glass industry was cyclical, often dependant on the arrival and subsequent departure of foreign glass masters, which in turn were affected by the socio-political capriciousness of the period. Although the Ragusan municipality had played an important role in recruiting glassmakers both at home and abroad, in the end, they repurposed the municipal glass factory in Pile into a poorhouse in 1595 (Han 1981b: 237).

There is relatively little documentary evidence providing scholars with details of what exactly was being produced in these various glass workshops, and among archaeological evidence it can be difficult to determine what was imported, and what was of local origin. Unlike Venetian glassmakers, Ragusans were allowed to procure raw materials (at least less-covertly) from a variety of different sources. Soda ashes from halophytic plants could be acquired from the Levant, Puglia, or perhaps Spain, depending on the current economic climate and the preference of, often foreign, glassmakers. The silica used was usually quartz pebbles imported from Albania. Again, other elements utilised as colourants could be obtained from several different sources, such as the Bosnian azurite discussed earlier. Because of the different combinations of raw materials available for use in Dubrovnik, definitive identification of Ragusan glassware is complicated (Topić, Bogdanović Radović, Fazinić, and Skoko, 2015: 16). Archival sources testify that both ‘common’ and ‘*cristallo*’ glass were being produced in Dubrovnik, in a variety of different forms, including ‘*bichieri*’, ‘*moioli*’, and ‘*cope*’ (types of beakers), ‘*gastare*’ (long-necked bottles), ‘*zucche*’ and ‘*bochali*’ (bottles), and ‘*lampe de vitro*’ (lamps) (Han 1975: 125). Other products they manufactured show that they kept up with the styles and fashions that were passing through Venice at the time, such as stemmed goblets and *tazze*. However, it is also known that they were producing ‘*gotti gropolosi*’, beakers with large prunts similar to a type which was popular in Germany known as ‘*krautstrunk*’ (see *fig. 5.9*), corresponding with vessels found in excavations throughout the Western Balkans (Han 1981b: 230). It seems, therefore, that despite their strong connections with Renaissance and Venetian trends, glassmakers were still attempting to cater to the different needs of their target markets, which in some ways were more Gothic or Central European in their tastes.

## ***Ljubljana***

Ljubljana was another glassmaking centre which produced Venetian-style glass in the 16<sup>th</sup> century. As in Dubrovnik, and other *façon de Venise* centres, the city initially attracted glassmakers from Murano, or from Altare near Genoa. In 1526, Andrej Dolenik and a

pharmacist named Zoan Fracisco Catanio were awarded a 20-year privilege to produce Venetian-style glass, and between 1527 and 1541 they employed 14 glassmakers from Murano (Kos 1994: 93). One of their financial backers, Veit Khisl, was an entrepreneur who also owned a glass factory in Fužine, just west of Ljubljana. Among the types of glass produced in that workshop during the mid-16<sup>th</sup> century were '*piuetti streti*' (ordinary drinking glasses), along with enamel-painted or *vetro a fili* goblets or dishes. In addition, '*gropiolozi*', or pruned glasses, were being manufactured, attesting to the tastes of Central Europe. In the late 16<sup>th</sup> century, window glass was being produced by Jakob Steyrer, and later both Hans Gregoritsch and Jakob Lusner were producing sheet glass (Kos 1994: 96). Analysis using PIXE and PIGE have revealed that this glass was probably *vitrum blanchum*, using a similar recipe to that developed in Venice (Šmit and Kos, 2005: 120).

## POTASH GLASS

### *Unrefined potash glass*

Regardless of the growing ubiquity of Venetian, soda-ash glass, a different tradition of glass manufacture endured in many parts of Europe well into the Post-Medieval period. Sometimes known as 'forest glass' or '*waldglas*', this glass which prevailed north of the Alps was produced using potash (potassium carbonate) made from wood ashes as the flux; the ashes of ferns might also be used, particularly west of the Rhine (Henkes 1994: 16). The demand for raw materials, for both the flux and for fuel, meant that most of these workshops were small operations located within or near a forest, and might move to a new location when resources were depleted. Due to impurities in the raw materials, particularly the sand (usually contaminated with iron oxides), this type of glass forms in colours ranging from yellowish-brown to dark green. The glass made in Central and Northern Europe was generally quite thick, and decorated with trails or prunts (such as the *krautstrunk*), or by mould-blowing (Tait 1991: 154). Tall, cylindrical beakers were also popular for drinking beer in many parts of Central Europe (Hess 2004: 18). Several of these shapes and styles continued through the early modern period, to be replicated in Venetian glass (made solely for export) and later in Bohemian refined-potash glass.

### *Bohemian Glass*

In Bohemia, the use of purer raw materials allowed glassmakers there in the mid-14<sup>th</sup> century to produce a much thinner, almost-colourless, higher-quality glass, which was encouraged by the prosperity of the region's silver mines (Tait 1991: 153). This glass was made with roughly a 2:1:1 ratio of sand, limestone, and potash, and thus many late medieval glasshouses were located in areas rich in limestone (Langhamer 2003: 17). Excavations have revealed that the Bohemian elites or bourgeois were not the only ones to enjoy glass tableware in the 15<sup>th</sup>

century. It was even within the reach of the lower classes, and was exported into eastern Central Europe (though not, it seems, south into Austria) (Haggrén 2015: 328).

In the 16<sup>th</sup> century, enamel-painting was still a popular decorative technique in Bohemian glasshouses, particularly for applying heraldic symbols of the purchaser or imperial symbols on *Vilkums*, or ‘welcome glasses’ (Victoria and Albert Museum 1965: 6). By the end of the that century, Bohemian glassmakers’ practices for purifying their raw ingredients and using manganese as a decolouriser had been perfected to a level of clarity that, if still not fully rivalling the brilliance of Venetian *crystallo*, had other qualities which allowed it to succeed in filling the market for luxury glassware. Significantly, Bohemian potash glass was denser and harder than Venetian soda glass, meaning that it could withstand being decorated by wheel-cutting, rather than engraved with a diamond-point. Deep facets carved into the glass could catch the light similar to rock crystal, and it is not surprising that some of the early pioneers in this technique were masters in engraving hard gemstones. In 1683, a glass master named Michael Müller further perfected the batch recipe by adding chalk (Tait 1999: 180). South Bohemia had the highest number of glass factories, although factories all over Bohemia (along with Moravia, Silesia, Upper Palatinate, Bavaria, Thuringia, and Saxony (Lukáš 1981: 56)) were producing high-quality potash glass, as well as cruder green glass, crown glass, optical glass, and beads (Langhamer 2004: 35). Peddlers then transported these goods to customers first in baskets carried on their backs, and in later periods travelled in convoy with wheelbarrows on particularly difficult roads, or with wagons for more distant markets (Lukáš 1981: 58). For goods bound for Italy, Anatolia, or other destinations which required travelling through the Adriatic, Trieste was the primary port (Klíma 1984: 515).

By the late 17<sup>th</sup> century, Baroque styles throughout Europe began to favour the opulence and brilliance that were achieved in Bohemian glass over what was being produced in Venice. A popular style of goblet was the baluster shape, which was heftier than the fragile dragon-stemmed glasses coming out of Venice. This might be left undecorated, or could be embellished by mould-blowing or with an opaque coloured thread twisted on the inside of the stem. The cups, in turn, could be decorated with elaborate engravings, or with deep-cut facets. Bohemian ‘chalk’ crystal quickly gained admiration and soon infringed on the Venetian market, so much so that Venetian glassmakers of the 1730s were attempting to replicate Bohemian wheel-cut styles in order to remain relevant (Tait 1999: 182).

## OTTOMAN GLASS

Traditionally, the narrative surrounding the manufacture of glass in the Islamic world has maintained that very little happened after the 15<sup>th</sup> century, only enough to be relegated to a short, obligatory chapter at the end of any book concerning the history of Islamic glass art. The brief amount that is presented almost entirely focuses the glassmaking practices of Mughal India. While it is certainly true that the Ottoman court exhibited a strong preference for

imported, European luxury glass, first from Venice, and later from their competitors, local manufacture was able to provide utilitarian glass, and perhaps even decorative glass objects, to the Ottoman market (Carboni 2001b: 280). The most frequently-sited evidence of this industry is an illustrated manuscript commemorating the circumcision of Sultan Murad III's son, which depicts a parade of Istanbul's craftsmen before the sultan. Included amongst these numbers are several glassmakers, some of whom are shown demonstrating glassblowing and working, while others display their finished wares. The bottles in this illustration, many of which have moulded, twisted ribs, have been corroborated by bottles found in excavations at Saraçhane in Istanbul. According to documentary evidence, other glassmakers appear to have been employed in manufacturing mirrors, windows, and lamps (Carboni 2001a: 378).

Glass production in Istanbul began as early as the reign of Bayezid II (1481-1512); however, little is known what these early artisans' products would have looked like. Outside of Istanbul, glassmakers remained active in Egypt and the Levant, but again, it is difficult to attribute excavated glassware to a particular provenance. Some examples of glass vessels produced in Rhodes or Cyprus might include a particular set of bulbous vessels made of thick, dark-green glass which are commonly assumed to be hand grenades, but which may have served numerous different purposes (Carboni 2001b: 280). Other bottles which have been traditionally credited to Rhodes may only be indicative of that island's role as a trading post; at any rate, the high levels of potassium and low levels of aluminium, magnesium, and calcium within the glass suggests that these bottles were produced using cullet from a European source (Carboni 2001a: 379).

## OTHER GLASSMAKING CENTRES?

The descriptions above are only of the major glassmaking centres in the region for which there is enough documentary evidence to assert with little doubt that their products were being traded in the study area of this thesis. However, that is not to discount the possible existence of other, albeit smaller, areas of glass production elsewhere in the Balkans or the surrounding area. Byzantine glass from Corinth may have influenced medieval glassmakers producing bracelets, beads, or faux jewels in locations such as Buljino Gnezdo, near Popovica, Serbia, or in Pliska and Preslav in Bulgaria (Han 1975: 116). Evidence for glassmaking activity dating to the 11<sup>th</sup> and 12<sup>th</sup> centuries has also been excavated in Dürres, Albania, where they may have been making silica-soda-lime glass using cullet from the Levant (Boschetti *et al.* 2008: e36). Other glass workshops might have utilised local raw materials, such as natron found in Macedonia; otherwise, fragments of antique glass vessels or tesserae might be melted down for reuse (Han 1975: 117).

Into the early modern period, ambulatory glass workshops might have manufactured windows or other simple items throughout the Balkans, working in a similar way to transient *waldglas* workshops in Central Europe. Verena Han has postulated that centres such as

Popovica or Veliko Tarnovo may have had some sort of small-scale glass industries, as might have Venetian Corfu in the 15<sup>th</sup> century (1981a: 198). More recently, Luka Bekić has presented archaeological evidence for the presence of glassmaking activity in Veštar, near Rovinj in Istria, during the 17<sup>th</sup> and 18<sup>th</sup> centuries. This evidence includes several pieces of raw glass, over twenty uncut, single-colour glass canes in various colours and sizes, and, perhaps, a furnace (although this might have been a kiln for firing pottery). If vessels were not being produced in Veštar, it is at the very least possible that craftsmen in this town were finishing vessels, by adding handles or ornamentation, or manufacturing beads or other jewellery (Bekić 2014: 57-58).

It would not be surprising if more early modern glassworks, of various capacities, were to be found in excavations in the coming years. For the smaller-scale production of beads or other jewellery, a single person could be employed in lamp-working, which did not require the large, specially equipped workshop needed in glassblowing (Han 1975: 116). Glassblowers might exploit the rich and varied trade networks of the Adriatic to procure the raw materials they needed, if they were not depending on cullet for secondary production. Even in Venetian-controlled territories, where the trade in raw materials to glassmaking competitors would be ostensibly restricted, smuggling was always an alternative, as might have been the case in Veštar (Bekić 2014: 64). Part of the difficulty in positively identifying places of glass manufacture lies in the fact that the archives of many towns in the Balkans have been destroyed or otherwise lost (Han 1981: 199). With this lack of documentary evidence, archaeology will hopefully help to fill in the gaps in our knowledge of early-modern glassmaking practices.



**Figure 5.1**

Mosque lamp  
Cairo  
c. 1330

This lamp was made for Saif al-Din Shaikhu al-'Umar (d. 1357) and was decorated with blue, white, red, and yellow enamels and gilded. It is inscribed with a verse from the Qur'an, Surat an-Nur 24:35.

Reg. no. G.497.  
The British Museum

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**Figure 5.2**

Millefiori Cup  
Venice  
16<sup>th</sup> century

This small drinking cup with mould-blown ribbing is decorated in *millefiori* in red, dark blue, light blue, green, and white, in a variety of simple and complex patterns. Maria Barovier was one of the first glassmakers to be recorded as making *millefiori* vessels in 1496. However, earlier examples of *millefiori* were generally confined to only opaque red and white, and bright, translucent blue (Tait 1999: 163).

Museum no. 1910-1855  
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**Figure 5.3**

Detail of *tazza* cup  
Venice  
c.1550-1600

This goblet has been decorated with opaque white *vetro a fili* canes and twisted *retorti* using opaque white, blue, and red glass. Cropped from original image.

Museum no. 597-1903  
© Victoria and Albert Museum, London



**Figure 5.4**

Footed bowl with *reticello* decoration  
Venice  
Late 16<sup>th</sup> century

One way of achieving the mesh-like *reticello* decorative style was to create a vessel of glass with *vetro a fili* spiralling clockwise. A second tube of glass, with *vetro a fili* spiralling anticlockwise, was carefully lowered into the first vessel and then quickly inflated, so that the two layers fused. In doing so, however, the ridges formed by the opaque canes caused air to be trapped within the netting pattern as small, light-catching bubbles.

Reg. no. S.692  
The British Museum

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**Figure 5.5**

*Calcedonio* jug  
Venice  
c. 1500-1525

Layers of brown, yellow, and blue glass were mixed together and underwent a special heat treatment to create this jug, meant to imitate chalcedony.

Museum no. 5575-1859  
©Victoria and Albert Museum, London



**Figure 5.6**

*Calcedonio* tankard with aventurine spots  
Venice  
Late 17<sup>th</sup> century

This lidded tankard was made of *calcedonio* glass of mixed brown, blue, and green colours. Spots of aventurine glass were then applied.

Reg. no. S.815  
The British Museum



**Figure 5.7**

*Flugelglas* or 'winged goblet'  
Germany  
c. 1760

'Winged goblets' with applied *morise* bit-work in colourless or bright blue glass was popular not only in Venice but also in many *façon de Venise* workshops throughout Europe. Earlier Dutch or other non-Venetian examples in the 17<sup>th</sup> century are almost indistinguishable from the Venetian vessels that inspired them; however, a considerable decrease in quality can be perceived in later attempts (Tait 1991: 174-76).

Acc. no. 27.185.302  
The Metropolitan Museum of Art



**Figure 5.8**

*Cesendello* lamp  
Venice?  
c. 1550-1650

This *cesendello* lamp has been decorated with *vetro a fili* and *retorti canes* and a solid finial. The photo has been rotated to illustrate how the lamp would have been viewed when in use.

Museum no. C.19-1965  
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**Figure 5.9**

*Krautstrunk* beaker  
Germany  
15<sup>th</sup>-early 16<sup>th</sup> century

This beaker, made of vivid green glass, has been decorated with large, flat applied prunts, a ring applied below the rim, and a crimped-ring base.

Museum no. 243-1872  
©Victoria and Albert Museum, London

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## VI

# TYPOLOGY OF GLASS IN THE WESTERN BALKANS

All of the glass artefacts which have been excavated in the Balkans and from the sea floor of the Adriatic were manufactured in the regions, and using the methods, described in the previous chapter. The objects of the late medieval period through the mid-17<sup>th</sup> century are predominantly the products of Venetian workshops, although not without a few exceptions. From the late 17<sup>th</sup> century onwards a greater influx of imports from Bohemia and perhaps elsewhere in Central Europe can be witnessed much the same as it can elsewhere on the continent, although this might have been just as much to do with traditional trade networks which linked the Balkans to regions to the north and west as it did with the changing fashions of the time. These networks had some influence on the types of glass to be found from region to region. Therefore, the second half of this thesis has been divided between five different geographical regions in addition to those objects from shipwrecks, which joined the archaeological record before ever reaching their intended destination. While there are some distinct differences in some of the types of glass to be found between one region and the next, there are many other types which transcended these geographical and political boundaries. Those types and styles of glass which have been found sizable quantities or in more than one designated region will be described and illustrated in the following pages. This does not, however, discount the many unique examples, to be discussed later in this thesis, which have been discovered which have no analogies within the region or, occasionally, any other known location. Together, these everyday items and luxury goods give insight into the material worlds of different social groups, and the networks of exchange which connected them together and to the rest of the world.

## METHODOLOGY

The artefacts presented in this half of the thesis have been studied through a mixture of first-hand analysis and secondary literature, depending on the accessibility of each museum collection examined in this study. These collections ranged from being completely inaccessible, for which this research relied solely on secondary sources, to fully accessible post-medieval glass collections which had not yet been studied or published. Within this spectrum were also collections which the author was able to study in depth, but which had also been previously analysed and published, and those of which the author was able to observe only a small portion

and was not able to fully examine; of the latter, some of these artefacts have been published extensively, while others have been less well-studied. This accessibility has determined the level of detail which this thesis is able to offer for each site, which in turn differs from region to region.

With the exception of the Republic of Ragusa and Venetian Albania in Chapter XI, each regional chapter focuses on a particular museum collection which the author was able to examine extensively. However, collection conditions and the amount of time the author was able to spend at each location differed from museum to museum. This was also the case for the shipwreck assemblages described in Chapter VII. The table below illustrates accessibility of each site featured in this thesis, as well as any secondary sources used in addition to the author's own observations. Accessibility is divided into four categories: none, for which this research relied entirely on secondary sources; minimal, for which the author was able to briefly view the collections either in museum displays or in stores but was unable to undertake more thorough analysis; medium, for which the author was able to examine many, if not most, of the artefacts but also relied on previous publications or on excavation notes in order to understand the collection as a whole; and full, for which the author was able to access all or nearly all of the identified post-medieval glass from that particular assemblage.

Chapter	Site Type	Site/Museum	Accessibility	Length of visit	Secondary sources
VII	Shipwreck	Gnalić Zavičajni Muzej Biograd na Moru	Minimal	1 day	Lazar and Willmott 2006
VII	Shipwreck	Kačol-Rogoznica Muzej grada Šibenika	Medium	5 days	Illustrations from collection notes
VII	Shipwreck	Sv Pavao Hrvatski Restauratorski Zavod	Full	2 days	Ferri 2014
VII	Shipwreck	Drevine Pomorski muzej	Minimal	1 days	Kisić 1982
VII	Shipwreck	Koločep	None	n/a	Medici 2010; Medici 2012; Radić Rossi 2005; Radić Rossi 2006
VIII	Land Kvarner Gulf	Osor Lošinjski muzej	Full	5 days	n/a
IX	Land Northern Dalmatia	Šibenik Muzej grada Šibenika	Full	5 days	n/a
X	Land Central Dalmatia	Trogir Muzej grada Trogira	Full	10 days	n/a
XI	Land Southern Dalmatia	Dubrovnik Dubrovački muzeji	Minimal	1 day	Topić 2015; Topić 2017; Topić et al 2016
XII	Land Serbia	Belgrade Arheološki Institut	Full	5 days	n/a
XII	Land Eastern Croatia	Osijek Muzej Slavonije	Medium	4 days	Horvat and Biondić 2007

Within each of the collections to which the author had medium or full access, artefacts were first identified and divided according to glass type, whether unrefined potash, soda-rich, or refined potash glass. Unrefined potash artefacts, distinctive in their ‘natural’ colour such as green or brown, are in this region mostly associated either with objects from the earlier, medieval period, or with non-Venetian imports during the post-medieval period. Soda-rich glass, while it might exhibit a slight bluish, yellowish, or pinkish hue, was more often colourless or nearly colourless during the late medieval and early modern period. This glass was also often exceptionally thin, particularly in the earlier period, making it often easily distinguishable from colourless refined potash glass from the late 17<sup>th</sup> century onwards. On the rare occasion that it was difficult to determine whether the artefact was soda-rich or potash-rich, this has been described on the basis of the individual artefacts concerned.

Artefacts were then divided between vessels, flat glass, or other glass, and from there into the groups described below in this chapter: beakers, goblets, bowls, bottles, lamps, mirrors, windows, beads, and canes. Dating was determined primarily on typology, as many of the artefacts came from unknown contexts. However, some collections, such as the one in Belgrade, were already divided by date due to the contexts in which they were found, or were found in closed contexts, such as in Osijek. Analogies used for identifying and dating the rest of the collections are presented throughout this chapter.

In addition to the collections specifically featured in each chapter, many more secondary sources were used to look at sites elsewhere in each region in order to create a broader picture of glass throughout the entirety of the study area, and these sites and sources are cited accordingly. Some regions, such as Southern Dalmatia, have benefited from rigorous recent scholarship; others, however, have had little attention since the 1980s. Particularly from some of the older sources, a lack of a standardised terminology used to identify and describe these artefacts (especially pruned beakers and *krautstrunk*) has at times made it difficult to determine the precise type of artefact which has been examined. This has been perhaps due, in part, to differing practices between diverse nationalities studying these objects at different times between the mid-20<sup>th</sup> century and the present. Therefore, while the terms used to define the types and styles of artefacts which follow may diverge from those used in these secondary sources, these terms have been chosen to create a concise and standardised catalogue throughout this thesis.

## VESSEL GLASS

Vessels are the most plentiful type of glass excavated in each of these regions, and are also represented by a greater variety of shapes, styles, and functions than can be witnessed in any other type of glass discussed in this thesis. Differences in glass composition—whether unrefined potash (*waldglas* or forest glass), soda-rich, or refined potash—are significant in that they help

one distinguish between Venetian and Central European glass. These diverse glass recipes notwithstanding, many of the techniques used to blow, shape, and even decorate these vessels could be applied to glass of any composition. Thus, in certain objects at certain times it is possible to see both soda-rich and potash-rich vessels which are remarkably similar and which were undeniably influenced in style and shape by each other. In other objects, however, contemporary fashions and preferences dictated profound differences in style, although these vessels might be manufactured using similar methods of production. Of course, many excavations uncover artefacts for which the function and provenance cannot always be easily determined; these, however, will be discussed on an individual basis in subsequent chapters. The rest of the vessels are divided into five main broad categories: beakers, goblets, bowls, bottles, and lamps.

## ***Beakers***

Beakers are perhaps the most diverse type of vessel in regards to glass type and quality within the following archaeological collections. These drinking vessels were produced in both potash- and soda-rich glass, and also vary in the degree of skill with which they were fashioned, from simple and sometimes crude examples to those which have been more sophisticatedly embellished. Only the base has been preserved from most of these vessels, although a few notable objects have extant rims or are even nearly complete. Despite their differences in glass type or decoration, all were produced using a single gather of glass. Thus, these were the simplest form of drinking vessel, which would have been available to a wider portion of the population. As dining practices evolved, the need for a larger quantity of beakers grew as diners came to expect to drink from their own cup, rather than share from communal vessels. Late medieval paintings of dining scenes often depict several beakers on the table, but still not enough for every diner to have his or her own drinking vessel (Whitehouse 2010: 34). As the example of Leonardo da Vinci's *Last Supper* illustrates, however, it had grown more common for enough beakers to be provided for everyone at the table.

### **Truncated-conical and cylindrical beakers**

#### *Soda ash-rich beakers*

The simplest, and most frequently found, type is a plain beaker made of soda-ash glass, the walls of which were vertical, or else slightly tapered in a truncated-conical shape. The bases found in Dalmatia, which are the most commonly excavated and recognisable part of the vessels, range in diameter from 4.5 to 6.5 cm. This shape was common from the late 13<sup>th</sup> century when they began to go by a variety of different terms, particularly '*moioli*' and '*muzoli*' (Gasparetto 1978: 248), and they retained their popularity all the way through the 17<sup>th</sup> century. The kicks on these beakers could either be high and pointed, or low and rounded, the former of which was more typical for earlier examples (Lazar and Willmott 2006: 26). Besides being the

simplest method of forming the base, beakers, bottles, and other objects were most likely made with kicks on their bases to strengthen the vessels, to protect against breaking during the annealing process and in later use (Whitehouse 2010: 75).<sup>1</sup> While these simple beakers could potentially be decorated with trailing or other applied ornamentation, there is unfortunately little evidence that this was the case for most of the examples found in the study area, as only the base remains. In general, these beakers were colourless or nearly colourless, although many are slightly yellowish, bluish, or greyish, suggesting the utilisation of lower-quality raw materials. The lower-quality glass seen in many of these also contains several bubbles of various sizes, further attesting to the utilitarian, rather than decorative, nature of these simple vessels.

*Plate 1.a.*

#### *Beakers with Blue Trails*

Truncated-conical, soda-rich beakers such as these could also be enhanced by the application of blue threads of glass. While the vast majority of these beakers are preserved only at their base, a few examples of rims with applied blue trails have been found. Glassmakers in Murano began using blue threads as a decorative motif in the 13<sup>th</sup> century, a style which peaked in the 14<sup>th</sup> and 15<sup>th</sup> centuries (Pešić 2006: 118). Examples with applied blue trails have been found in Rocca di Asolo made of soda-rich glass from the late medieval period (Gallo and Silvestri 2012: 1027), and in the Venetian lagoon (Pause 2000: 321). Similar use of blue trails can be observed on several other different types of objects in this study as well. Bosnia was a primary source for lazurite or azurite and was exported through Dubrovnik as ‘*azuro raguseo*’, which may have been imported into Venice and used to colour glass during this period, although the evidence of this is inconclusive (Han 1981: 201). *Plate 1.b.*

#### *Refined-potash Beakers*

From the late 17<sup>th</sup> century onwards, these beakers began to be phased out by their refined potash-glass counterparts in many parts of the Balkans. Similar to the earlier, soda-based versions, these beakers are found in high numbers, and have a base diameter of 4 to 6.5 cm. However, these bases are typically flat, both on the inner and outer surface, rather than having a kick. Potash-glass beakers were also produced in a greater variety of shapes achieved by mould-blowing or faceting, such as beakers with prominent vertical ribs with a scalloped footprint, or those with arched ribbing. Again, these were produced in clear, colourless glass, although some of these were embellished with wheel-cut engraving, rather than with applied decoration. By the late 17<sup>th</sup> century, the production and decoration of glass had become two separate industries: merchants, who were more directly informed about the preferences of their client base, began

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<sup>1</sup> William Gudenrath (2010: 76) surmises that medieval glasshouses were not as skilled at controlling the temperature during annealing as glassmakers had perhaps been during Roman or post-medieval times, thus necessitating the kick.



purchasing blank vessels from glassmakers and had them decorated by local craftsmen (Lukáš 1981: 58). *Plate 1.c.*

### **Prunted beakers**

Prunted beakers found in the Balkans can be divided into three main categories corresponding to three different periods of production. Prunted vessels were produced in Venice, for both domestic use and export, during the Middle Ages. Early pruned vessels are thought by many scholars to have been drawn from Middle Eastern inspiration, and replicated in European factories such as in Corinth. Production there was traditionally dated to the 11<sup>th</sup> and 12<sup>th</sup> centuries, whereby they would have significantly influenced glassmaking in northern Italy; however, more recent scholarship has established that these Corinthian glass factories and their wares were in fact the products of Italian craftsmen in the 13<sup>th</sup> century (Whitehouse 2010: 125). Regardless, applied prunts were a popular form of decoration in the Balkans, Italy, Germany, and Switzerland, which, besides adding some visual excitement to these vessels, was also useful for enabling a better grip on the glass, particularly if one had greasy hands from eating without forks (Gudenrath 2010: 72). Early pruned beakers made of pale green glass with either small, slightly coiled prunts or pointed prunts were found in the Venetian lagoon (Pause 2000: 321). As tastes changed, however, these were manufactured strictly for export, before finally becoming obsolete outside of Central or Northern Europe, where they continued to be produced with larger, flatter prunts throughout the 17<sup>th</sup> century.

#### *Small-pruned beakers*

Amongst the oldest types of beakers excavated in the region are vessels made of yellow or colourless glass decorated with applied prunts. Similar beakers with small, round, or slightly pointed prunts have been excavated throughout the Italian peninsula and Sicily (Whitehouse 1981: 167). Considerable numbers of medieval pruned beakers have been found at Farfa and Tarquinia in Italy, where they fall into two distinct types which may have been used for different types of drinks: beakers with nearly-cylindrical bodies and plain applied base rings, and beakers with truncated-conical shaped bodies and applied base rings which had been crimped to form small 'toes' (Newby 2000: 258). Both types had undecorated rims, separated from their pruned bodies by an applied ring. It is now thought that these Italian beakers influenced the production in Corinth during the late 13<sup>th</sup> and early 14<sup>th</sup> centuries, rather than vice-versa (Whitehouse 1993: 659). In Venice, pruned beakers, under names such as *de girlanda et imperlati*, can be found in documents around the year 1280 (Zecchin 1987: 6). Fourteenth-century fragments have been found at Cividale del Friuli and perhaps the Venetian Lagoon (Barovier Mentasti 1982: figs. 6 and 7). It is thought that the oldest example in the Balkans has been found at Kolovrat in western Serbia, dated to between the 12<sup>th</sup> and 14<sup>th</sup> centuries (Ljubinkovic 1985: 190). In central Italy, it appears that these beakers were available

in a wide range of fairly standardised sizes, and it has been suggested that these might have been specialised for the consumption of different beverages: liqueurs in the smallest vessels, wine in the intermediate size, and beer in the largest beakers (Newby 1999: 66).

Similar small prunts have been found on a footed beaker in the Czech Republic (Hejdová 1972: fig. 3); unlike the Corinthian and Italian examples, however, this had a skittle-shaped profile, rather than an outplayed rim. Very tall, narrow footed beakers with small prunts have been found in many parts of Central Europe, such as the Czech Republic (Hejdová 1972: fig. 1) and Poland (Ciepiela 1972: fig. 7). Several examples of cylindrical- or barrel-shaped beakers with pointed prunts were found in Buda (Gyürky 2003: figs. 5.7-5.9), and also in the Venetian lagoon at S. Lorenzo di Ammiana, Fusina, and S. Giacomo in Palude (Pause 2000: figs. 1.5-1.7). A beaker in Mileševa, for example, had small, coiled prunts, on the slightly bulging body of a cupped-rim beaker with a crimped-ring base (Ljubinkovic 1985: fig. 2). The only evidence of these early, small-prunted beakers in Dalmatia are very small body fragments, and thus their exact shape cannot be determined. However, a cupped rim would perhaps be a logical transition to the next phase of prunted beakers found in the region.

#### *Early flat-prunted beakers (krautstrunk)*

Small coiled or pointed prunts characteristic of medieval vessels gave way to larger, flatter prunts that were applied to a variety of differently-shaped vessels. The few rims that have been found are cupped, usually with a thread applied below it, above a cylindrical body. These have been dated to the 15<sup>th</sup> century or later. None of the vessels in the assemblages presented in this thesis have been found in their entirety, but almost all of the bases which have been identified as coming from prunted vessels have been decorated with a crimped ring of self-coloured glass applied around the outer edge of the base. Thus the colourless, yellowish, or olive-green 15<sup>th</sup>-century examples found in the Balkans appear to be early forms of vessels commonly referred to as *krautstrunk*, or ‘cabbage stalk’, beakers. Early beakers of this style may have been produced in Murano and Dubrovnik under the name *gotti gropolosi* (Han 1981a: 205); however, Germany appears to have been the main producer of flat-prunted beakers. *Plate 1.d.*

#### *Late flat-prunted beakers*

From the late 15<sup>th</sup> century onwards, German examples of *krautstrunk* or *berkemeyer* beakers—*berkemeyer* beakers being vessels with shorter, prunted bodies and large, wide, funnel-shaped rims which replaced the *krautstrunk* in many regions after 1550 (Henkes 1994: 67)—are commonly made of unrefined potash glass and are frequently bluish-green or greenish-blue in colour (see Whitehouse 2010: cat. nos. 74-85), although green and light green examples could still be found (Henkes 1994: cat. nos. 18.4, 18.6). In the late 15<sup>th</sup> and 16<sup>th</sup> centuries, cylindrical *stanegengläser* might also be produced with prunts and crimped-ring bases (Henkes 1994: cat.

no. 19.1). The distinctive blue-green colour of later 16<sup>th</sup>- and 17<sup>th</sup>-century printed beakers found in Dalmatia suggests that their provenance differed from 15<sup>th</sup>-century examples.

### **Mould-blown Beakers**

In Central Italy, it appears that the 14<sup>th</sup> century was a period of transition for decorated beakers, during which time printed beakers were gradually phased out while vessels with mould-blown decoration grew in popularity. The first two types of beakers to be discussed are related in regards the types of decoration which have been moulded and applied. The first will be discussed separately, however, due to its regionally-specific shape.

#### *Cupped-rim Beakers with Blue Trails and Ribs*

Beakers with prominent, vertical ribs around the body, crimped-ring bases, and blue trails applied to everted rims have been found outside of the Balkans most commonly in southern Germany, Switzerland, and Italy, with examples also having been discovered in Strasbourg and Corinth. However, examples cited by David Whitehouse (2010: cat. nos. 38-40), the production of which he has attributed to southern Germany, do not have the same cupped rim as those found in Bosnia, Hercegovina, and other parts of the Balkans (which are frequently referred to as 'Biskup' beakers, after the village in Hercegovina in which this type was first discovered). Instead, these rims range from slightly everted to funnel-shaped. In Buda as well, a smooth-sided beaker had applied trails between the body and the much wider, everted rim. This, however, did not have a crimped-ring base, and the rim was straight, creating a funnel shape, rather than a cupped one (Gyürky 2003: fig. 1.1). While many, if not most, of the blue-trailed, cupped-rimmed beakers found in the Balkans have mould-blown ribbing, a few examples do not and instead have smooth bodies (see *Pl. 1.e*). Marian Wenzel (1975) has suggested that the majority of cupped-rim beakers with blue threads were imported from a source other than Venice, and Verena Han (1975: 125) has suggested Dubrovnik as the most likely source, perhaps as the vessels referred to in documents as '*bichieri grandi de vetro*' or '*bichieri de vitro groxi*'. In Stalać and Studenica, ceramic fragments demonstrate that local potters took inspiration from these beakers, and mimicked their cupped rims, and either their ribs or their crimped-ring feet, in ceramic during the mid-15<sup>th</sup> century (Bikić 2006: 207). There were other types of beakers with mould-blown ribbing and trails, however, which also became popular in many places in Europe from the 14<sup>th</sup> century onwards.

#### *Mezza stampatura Beakers*

Late 13<sup>th</sup> or early 14<sup>th</sup>-century beakers from Corinth were given prominent vertical ribs on the lower portion of their vertical or tapering walls, and were further decorated by the application of a self-coloured or dark blue trail to the slightly outsplayed rim (Whitehouse 1993: 659). While this method of moulded half-ribs was known in Roman glass, it appears that this form of

decoration only began in Venice around the start of the 15<sup>th</sup> century (Zecchin 1987: 61). *Mezza stampatura* beakers with either plain or crimped applied rings around the base were found in the Venetian lagoon along with similarly decorated bowls, mostly dating to the years around 1400 (Pause 2000: 321). Small fragments were also excavated in Poland from 14<sup>th</sup> century contexts (Ciepiela 1972: fig. 5), and an early 16<sup>th</sup> century example discovered in Southampton had both the vertical ribbing and the crimped-ring base, but was also further embellished with enamel-painted rosettes and gilding on the ribs (Willmott sd: GL71). Another late 15<sup>th</sup>- or early 16<sup>th</sup>-century beaker with dotted enamel decoration between the ribs and rim can be seen in the Museo Civico of Turin (Barovier Mentasti 1982: fig. 49). Many of these, like examples found in Dalmatia, were decorated with an applied trail, often coloured, between the ribs and the rim. A beaker with a blue trail above *mezza stampatura* ribbing was found at the Church of Sv Šime in Zadar, which was further adorned with a gilded pattern applied just below the rim (Pešić 2006: 118). This, in turn, resembles the decoration seen on a beaker from Cividale del Friuli dated to perhaps the 14<sup>th</sup> century (Gasparetto 1975: Tab. V). However, similar beakers with applied blue threads appear to have also been made in Ljubljana in the early 16<sup>th</sup> century (although this glass did contain a slight olive tinge) (Kos 2007: 72). Comparable ribbing and, on occasion, applied trails can be observed on goblet cups as well.

#### *Early beakers with all-over decoration (gambassini)*

Like pruned beakers, this type decoration would have also served a practical purpose, to help greasy fingers grip the glass (Newby 1999: 67), which would have been particularly useful in the age before forks became commonplace. Moulded decoration on these beakers (and similar goblets and bowls) was achieved by inserting the paraison into dip (also known as ‘optic’) moulds before the glass was expanded into its final shape (Whitehouse 2010: 85). The 13<sup>th</sup>- and 14<sup>th</sup>-century examples of these decorated beakers, referred to as *gambassini* from late 14<sup>th</sup> century, were thin-walled, truncated-conical beakers, some with raised or recessed circles, vertical or spiralled ribs, lozenges, and recessed honey-comb patterns. These have been excavated in significant numbers in Tarquinia, (Newby 2000: 260-62), Otranto (Giannotta 1992: cat. nos. 71, 72, 94, 95, 117-19), southern France (Foy 1981: fig. 5.1-5.5), and Corinth, where patterns of spiralled ribs and herringbones were also found (Whitehouse 1993: 659). Such beakers with circles and ribs were also discovered in the Venetian lagoon (Pause 2000: 321), and beakers with shallow vertical ribbing are common finds in Buda and the rest of Hungary (Gyürky 2003: 21).

#### *Later beakers with all-over moulded decoration*

Later, beakers with all-over moulded decoration were produced in thicker glass, many in more vibrant colours than their predecessors. Squat beakers with mould-blown diamond or teardrop shaped bosses were amongst the vessels requested by London Merchant John Greene in the late-

1660s to early-1670s and were illustrated in his letters sent to the Venetian glassmaker Alessio Morelli (Willmott 2005: 115). In the Netherlands, small *maigelein* and taller *maigel*-beakers made of green glass with mould-blown ribs and lozenges were imported from Germany and produced locally from the late 14<sup>th</sup> through early 16<sup>th</sup> centuries; from the late 16<sup>th</sup> through 17<sup>th</sup> centuries, beakers with diamond-shaped bosses were produced locally in colourless, green, yellowish, and vivid aquamarine glass, with or without 'raspberry prunt' feet (Henkes 1994: 55, 138). Those examples found in Dalmatia also appear to have been decorated with raised diamonds and rounded lozenges, but not with as great a variety of patterns as can be seen on earlier beakers (see *Pl. 2.a*). As was mentioned above, in Bohemian and other Central and Northern European workshops refined-potash beakers could also be blown into moulds to create vertical ribs, usually more prominent than those seen on their soda-rich counterparts, or to otherwise shape the vessel. *Plate 2.b-c*.

### ***Goblets***

Goblets were another popular form of drinking vessel during the period in question, and the ones found within these assemblages are illustrative of both the Venetian and later Central European styles which dominated glassmaking and glass consumption in the region. Unlike the aforementioned beakers, the cups of these vessels were elevated on an additional stem and foot, which could take a wide range of different forms. In this sense, the goblets excavated in this region reveal the substantial breadth of creativity employed by early-modern glassmakers.

Prior to the predominance of Venetian-style glass in Southeast Europe, Byzantine glassmaking influences can be traced in four small medieval goblets found within the study area (see *Pl. 3.a*). Two of these were discovered in Osor on the island of Cres in the Kvarner Gulf, while the other two were excavated in Trogir near Split; however, they were all produced using similar methods which were not continued by the Venetians, but which can be observed elsewhere in the Byzantine world (for example, see for Syria, Pirling 1978: fig. 2; 5<sup>th</sup> to 11<sup>th</sup>-century examples at the Odarci Fortification in Bulgaria, Dekówa 1985: 161; and, of course, Constantinople itself, Özgümüş 2010: fig. 6). These goblets were all created using a single gather of glass, either greenish-yellow or bluish-green in these cases, wherein the stem and foot were created by pinching one end of the ball of molten glass into a short stem, while folding the excess glass at the end under and pushing it into the stem to form a foot just under 4 cm in diameter. In one particular specimen from Osor, the foot has been pushed upwards through the stem and into the base of the cup, forming a 'convex' shape. On the other hand, the other goblet from Osor had instead the cup pushed downwards into the stem, in a 'concave' shape. Furthermore, the two examples from Trogir have both the cup and the foot pushed inwards to meet in the middle of the stem.

In contrast, later goblets made in the Venetian fashion were typically made in two or three separate parts. A great variety of different stems were created, whether solid or hollow,

plain or decorated. These are the most easily diagnostic parts of these vessels, which again demonstrate that particular fashions could be replicated in both soda-rich and potash-rich glass. These stems are often the only remaining portions of many of these objects, yet those which also have some amount of the bowl still attached have illustrated that these bowls were created in many different shapes, allowing for an even greater diversity in silhouettes when mixed and matched with different stems. Since goblets with similar stems could be attached to different types of bowls—such as shallow cups, deep cups, conical, fluted, or squared, all of which in turn could be embellished with moulded or applied decoration—the stems will be discussed without reference to any one particular bowl shape (see *Pl. 4.a-e* for some additional examples of cup shapes).

### **Hollow-footed goblets**

A very common type of goblet found in the study area was created in two parts. The bowl, of whatever shape, was attached directly to the hollow foot, which was elongated to create a tall, narrow stem reminiscent to a trumpet. A late 15<sup>th</sup>-century goblet with a hollow foot attached directly to a funnel-shaped cup, decorated with enamels, was found in the ruins following the collapse of the San Marco campanile in 1902 (Barovier Mentasti 1982: fig. 41). Another 15<sup>th</sup>-century example is held in the collection of the Corning Museum of Glass (Acc.No. 79.3.369).

A frequent variation of this type of goblet saw the trumpet-shaped, hollow foot attached to the bowl of the goblet with a thin, reel-shaped merese.<sup>2</sup> Such a goblet, with a cup decorated *with mezza stampatura* moulding, was discovered in the Venetian Lagoon and has been dated to the first half of the 15<sup>th</sup> century (Zecchin 1987: 60). Additionally, this merese might be replaced by a large knop, either flattened or round, such as seen in several goblets excavated from 15<sup>th</sup> and 16<sup>th</sup>-century contexts at the Concordia Sagittaria in Venice (Cozza 2010: 85). These knops in turn could also be given moulded ribs or other decoration, as displayed in a *façon de Venise* goblet from Antwerp, for example (Henkes 1994: cat. no. 44.2). *Plate 3.b-d*.

### **Lion-mask stems**

Lion-mask stems were popular from the mid-16<sup>th</sup> through mid-17<sup>th</sup> centuries, and were quickly incorporated into the glass-making repertoires of factories outside of Venice. Many locally produced, *façon de Venise* goblets have been found throughout England (Willmott 2000: fig. 1), Olomouc (Sedláčková 2000: fig. 2.1), the Netherlands (Henkes 1994: cat. Nos. 46.14-46.19), Spain (Doménech 2004: 95), and Austria (lion-mask stems in the collections of Tyrol and Veste Coburg are thought to be the products of Innsbruck, rather than Venice (Page 2004b: 47)). While the winged lion of Saint Mark was a well-known symbol of Venice, these lions' heads

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<sup>2</sup> A merese is generally a flattened, collar-like knop joining two pieces of a goblet (or similar object), such as the cup and stem. In this case, these merese are slightly elongated, forming a small, narrow stem between the cup and stem.

could still hold significant meaning outside of a Venetian context: for example, the Habsburg emperor displayed the symbol of the lion as his title of governor of Bohemia (Page 2004b: 60).  
*Plate 3.e.*

### **Inverted baluster stemmed goblets**

Baluster stems are typically associated with English lead crystal glassmaking of the late 17<sup>th</sup> and 18<sup>th</sup> centuries (The Corning Museum of Glass 2002). However, as the following chapters will demonstrate, this form of goblet was also a popular style in both Venetian or *façon de Venise* soda-rich glass (or mixed-alkali glass in late 16<sup>th</sup>- through mid-17<sup>th</sup>-century England (Willmott 2002: 58)) and Bohemian refined-potash glass. These stems were made up of a knop towards the upper end of the stem which was broad and round at the top and tapered inwards towards the foot. Soda-rich versions could be found in both hollow and solid varieties, which could be further elaborated by additional rounded knops or by decorating the stem with mould-blown ribbing (see *plates 4.a-e and 5.a-b.*). A variation of this, known by earlier scholars as a ‘cigar stem’ (although this term is now outdated) (Willmott 2002: 60), saw this baluster elongated to form a tall, slightly tapering stem which was attached to the cup by a merese in earlier versions (see, for example, Caravaggio’s *Bacchus*), but later was attached directly to the cup. *Plate 5.d.*

### **Plain stemmed goblets**

By the end of the 17<sup>th</sup> century, glassmakers began to favour the sturdier, simpler styles popularised in Bohemian and English crystal (see *Pl. 5.c*). Even in Venetian and *façon de Venise* soda-rich glass, goblets were being made in two parts by drawing the base of the bowl downwards to form a plain, straight stem and attaching it to the foot, and mereses were gradually phased out (Henkes 1994: 267) (see *Pl. 5.e*).

## ***Bowls***

Bowls can be broadly divided into two types: those with applied feet, and ‘hemispherical’ bowls without an applied foot. The fragments found throughout the region are comprised mostly of bases and rims, with only a few examples preserved in their entirety, mostly coming from shipwreck assemblages. Besides being used for the immediate serving of food, bowls such as these could also be display pieces, which would explain why most of the bowls discovered in the study region are either decorated or are raised on a pedestal foot.

### **Hemispherical bowls**

Hemispherical bowls from the region are simple in their profile, being half-spheres with a small kick on their base. However, these bowls have been decorated either by applying trails or canes, or by blowing them into a mould to create ribs or other patterns all over the surface of the vessels.

### *Decorated rims*

It is possible that some of the decorated rims which have been found in Dalmatia belonged to footed bowls; however, they are analogous to several complete bowls excavated from the Gnalić (Lazar and Willmott 2006: fig. 44) and Rogoznica shipwrecks (see Chapter 9). These have all been created out of clear, colourless glass, with trails applied to the rims, of both solid-coloured glass and twisted *filigrana* canes. Other hemispherical bowls have been decorated with plain and twisted canes radiating from the underside of the bowl, similar to an early 16<sup>th</sup>-century bowl discovered at the Concordia Sagittaria Cathedral in the Veneto (Cozza 2010: 85). *Plate 7.a-b*.

### *Mould-blown*

These bowls were decorated with all-over, mould-blown patterns of raised diamonds or drops, similar to the beakers described earlier in this chapter but on a larger scale. The presence of both of these mould-blown objects on the Kacol-Rogoznica wreck illustrates that these were being made contemporaneously in the late 17<sup>th</sup> century. There do not appear to be many analogies from outside the region, however. *Plate 7.c-e*.

## **Footed bowls**

### *Crimped-ring base*

One type of footed bowl seemed to transcend the late medieval period into the 15<sup>th</sup> century. These bowls were often moulded with ribs, either spiralling or *mezza stampatura* vertical ones. Like hemispherical bowls, these had a low kick, but a crimped ring was also applied to the underside of the base. Italian examples include vessels from Farfa and fragments from Faenza, which were found with coins of Lodovico Gonzaga (1369-82) (Newby 2000: 260), another late-medieval bowl found at S. Ariano in the Venetian Lagoon (Pause 2000: 322), and late 15<sup>th</sup>-century bowls excavated from the Concordia Sagittaria Cathedral in the Veneto (Cozza 2010: 85). Bowls with similar pinched-ring feet (although with applied, rather than moulded, decorations) have also been found as far afield as England, in Boston and Southampton (Charleston 1975: figs. 1 and 2). *Plate 8.a*.

### *Pedestal foot*

Some bowls discovered in Dalmatia were created with a tall, raised foot, most frequently made by attaching a separate foot to the bottom of a pre-formed bowl, although occasionally by folding a gather of glass in on itself. Pedestal-footed bowls from the late 15<sup>th</sup> and early 16<sup>th</sup> centuries seem to generally have taller, narrow feet and deep bowls (see for example Corning Museum of Glass acc. nos. 2000.3.65, 60.3.88, and 59.3.23; Victoria & Albert Museum<sup>3</sup> no. C.2472-1910 and C.88-1957; British Museum reg. no. 1873,0502.109). Later examples,

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<sup>3</sup> Hereafter referred to as V&A.



however, seem to either have narrow feet but wide, shallow bowls (*tazze*) (some examples being British Museum reg. no. S.674 and S.543; V&A museum no. C.201-1936) or else lower feet and deeper bowls (such as V&A museum no. 72-1853). The late 16<sup>th</sup>-century bowls from the study region all seem to correspond to the second category. Unlike the bottles to be described in the next section, it appears that most of these bowls were not made with a kick and instead had flat bottoms. *Plate 8.b-c*.

## **Bottles**

Although many of the bottles in question served a primarily utilitarian, rather than decorative, function, differences in style and glassmaking technique can be observed through both time and space. Earlier bottles can be differentiated as coming from either Venetian or *façon de Venise* factories, or else from the Central European tradition; later, however, bottles began appearing from possibly further afield.

## **Inghistere**

The first type of bottle to be considered in this study had a globular body, a very long neck, and often some sort of raised foot, which was ubiquitous in many regions throughout the last centuries of the Middle Ages and the first of the early modern period. A document from 1341 discloses that these bottles went by many different, yet perhaps interchangeable, names, such as '*enghstera*', '*angastera*', '*fiala*', or the name which is frequently used today to describe these bottles, '*inghstera*' (Zecchin 1987: 19). Due to the long duration of this style of bottle, and differences in the regions in which they were made and utilised, there is a fair amount of variety to be seen in rim shape, foot shape, and decoration. Long-necked bottles with slightly flared or tapered rims and tall, pedestal feet were found at SS Maria e Donato in Murano from 12<sup>th</sup>-15<sup>th</sup> century contexts (Gasparetto 1978: figs. 2 and 4). These tall feet, similar to many found in Dalmatia, were created by folding the base of the bottle in on itself and creating a kick which protruded into the body of the vessel, rather than by applying a separate foot to the base. Similar bottles with vertical ribbing dated to the 14<sup>th</sup> century were found in Hungary as well (Holl-Gyürky 1986: fig. 8.8). Examples from Malamocco in the Venetian lagoon were decorated with vertical ribbing, or spiralled ribbing with a small bulge below the tapered rim (Pause 2000: figs. 1.11-1.12). A late 14<sup>th</sup>- or early 15<sup>th</sup>-century example at the Museo Vetrario in Murano has vertical ribbing on the tapered rim, neck, and body, and a low, folded, ring-shaped base (Museo Vetrario di Murano: no. cl. VI n. 01172). Bottles in Corinth, on the other hand, had flared rims and thick rings applied to the bases, rather than a folded foot. Their long necks might be enhanced with a bulge or applied trails (Whitehouse 1993: figs. 1.780 and 1.781). Tall, folded pedestal feet belonging to *inghstere* have also been found in Southampton, dated to the late 15<sup>th</sup> or early 16<sup>th</sup> century (Willmott sd: GL1). Frescos and other visual sources further depict the variety of *inghstere* available. For example, two bottles with

slightly flared rims, tall feet, and spiralled ribbing on one can be observed in a 13<sup>th</sup>-century depiction of the last supper at the Musée du Petit Palais in Avignon; a bottle with a funnel-shaped rim, neck bulge, and low folded or applied foot is seen in the 14<sup>th</sup>-century 'Last Supper of Christ' at Pomposa Abbey in Codigoro near Ferrara; a mid-14<sup>th</sup> century bottle with an outplayed rim and a low foot on Taddeo Gaddi's 'Last Supper' at the Museo dell'Opera di Santa Croce in Florence; bottles with tapered rims and tall, folded feet in the 15<sup>th</sup>-century fresco of St Albert turning water into wine before Pope Alexander II at the hermitage of Sant'Alberto di Butrio in Lombardia; bottles with no foot, a bulbous body, and long necks in the early 15<sup>th</sup>-century frescos at Manasija in Serbia; and bottles of a similar shape with spiralled ribbing in the eighth scene of the cycle of the life of St Francis, painted by Benozzo Gozzoli circa 1450. Similar bases have been excavated at Cividale del Friuli dating from the 14<sup>th</sup> century (Gasparetto 1975: Tab. IV nos. 12 and 13) and at the Concordia Sagittaria Cathedral from contexts dated from the late 15<sup>th</sup> to early 16<sup>th</sup> centuries (Cozza 2010: 85), demonstrating that they were being produced in Venice from the 14<sup>th</sup> through the 17<sup>th</sup> centuries (Pešić 2006: 118), as they were in Dubrovnik (Han 1981: Tab. II) and perhaps Ljubljana (Kos 2007: *figs.* 169 and 199). *Plate 9.a-e.*

### **Biconical**

Bottles of a so-called 'biconical' shape were ubiquitous in many parts of the Balkans and Central Europe, and were formed most frequently with a folded ring-shaped foot, a tapering lower half, and a wider top half of the body which was either folded or slumped over the midsection. In some regions of this type's wide range of distribution, these bottles were used for brandy and other spirits (Henkes 1994: 49). Biconical bottles were frequently associated with the Rhineland, and the majority these bottles are found in Germany and Bohemia and rarely in eastern France (Whitehouse 2010: 45). Yet they were also pervasive throughout the Balkans and Hungary, as far north as Buda and the fortress of Kőszeg, albeit of a different form and quality than German examples (Holl-Gyürky 1986: 74; for 15<sup>th</sup>- and 16<sup>th</sup>-century German examples, see Whitehouse 2010: cat. nos. 97-99). Those from Buda are perhaps some of the earliest specimens, dated from the 13<sup>th</sup> to 15<sup>th</sup> century, but their provenance is unknown (Han 1975: 124). Gyürky Katalin (2003: 21) has suggested that the 14<sup>th</sup>-century examples found at Fortuna Street in Buda were of both Venetian and local production, as these were of similar forms but different qualities. However, several such bottles were excavated at the sites of known glass workshops in Ljubljana, most of which have been dated to the 16<sup>th</sup> century (Kos 2007: cat. nos. 219-228). *Plate 10.a-c.*

### **Kuttrolf**

The distinguishing feature of this next type of bottle, the *kuttrolf*, is its multi-partitioned neck. This neck is divided into two or more long, narrow tubes which are twisted about each other,

ending in a wide, spouted rim. Although this shape was known in Central Europe in the Classical and early medieval periods, it grew in popularity during the 14<sup>th</sup> century (Whitehouse 2010: 211), and one rare example has been excavated in central Italy amongst 14<sup>th</sup> century contexts, which has been assumed to be an import from north of the Alps (Newby 1999: 73). Later, Venetian and *façon de Venise* workshops continued to produce this type into the 17<sup>th</sup> and even early 18<sup>th</sup> centuries (Whitehouse 2010: 45); yet its primary base of popularity remained Spessart and the Rhine-Main region, where it was also produced in quantity and occasionally exported to places such as the Netherlands (Henkes 1994: 115). Most of the examples found in the Balkans, however, were not manufactured in soda-rich, Venetian-style glass, suggesting that they were produced in Central Europe. *Plate 11.a.*

### **Bottles with pedestal feet**

Similar to the earlier *inghistere*, these 16<sup>th</sup>-century bottles had globular bodies on raised feet, formed either by folding the paraison in on itself, as was done for many of the *inghistere*, or else by applying the foot separately after the rest of the bottle was formed. These bottles also had long, narrow necks. Some examples have been found which have thin handles applied at the neck and shoulder. Others were also decorated with opaque white canes applied vertically around the foot, similar to 16<sup>th</sup>-century examples excavated at Sirkeci in Istanbul. Like those found in Dalmatia, these canes were unevenly placed on the bottles, and were not of the highest quality (Özgümüş 2010: 131). *Plate 11.b.*

### **Tall square bottles with skittle-shaped rims**

This next type of bottle could be found in many parts of Dalmatia during the late 17<sup>th</sup> and early 18<sup>th</sup> centuries. These are characterised by their thick, slightly pushed-in square bases, tall, straight walls, rounded shoulders, and short, skittle-shaped necks. The most common colour for these bottles is a dark greenish-blue, although tall, square bottles have occasionally appeared in colourless glass as well. Similar 18<sup>th</sup>-century bottles, also in bluish-green or greenish-blue, have been found at the Fortress of Louisbourg in Nova Scotia, and have been attributed to French manufacture. These seem to have been available in several different sizes (Harris 1979: fig. 7), which also appear to correspond with bottles made from visually similar glass but with cylindrical or slightly tapered necks of different lengths, or with circular bases (Harris 1979: figs. 13-15). Some of these square-based French bottles have also been stamped with various letters (Harris 1979: fig. 6), which has not been observed on the bottles from Dalmatia. Other examples have been found in French Guiana and Guadeloupe, which may have been produced in the southwest of France (Losier 2012: figs. 7a and 2). Because of these examples, a 17<sup>th</sup> or 18<sup>th</sup>-century bottle found in Delft has also been thought to have come from France (Henkes 1994: cat. No. 59.3). *Plate 11.c.*

### **Bottles with short necks and funnel-shaped rims**

Bottles with short necks and funnel-shaped rims were produced in glass of a variety of different colours, although shades of green and bluish-green seem to be the most common. While some examples are left undecorated, a distinguishing feature of these bottles is the opaque white trail applied around the rim. This corresponds to the group of bottles identified by Luka Bekić, which he has potentially attributed to local manufacture from the 16<sup>th</sup> to 18<sup>th</sup> centuries (although he suggests the possibility that undecorated examples might date from the two centuries prior) (Bekić 2014: 16-17). Bottles with similar rims have also been thought have been produced during this time in Modena, ostensibly for the storing of balsamic vinegar (Ferrari and Polacci 1988: Cat. no. 2, 3, and 5), and also perhaps in France, particularly the south of the country (Van den Bossche 2001: Plate 182; Corning Museum of Glass 69.3.11: pers. comm. K. Larson, 4/12/2016). None of the bottles found in Dalmatia are complete, and indeed for most only the rim remains; however, a small amount of the shoulder can be seen on a few examples, suggesting that these rims could be found on both square and oval-shaped bodies. *Plate 12.a-c.*

### **Bottles with ring applied below rim**

Finally, amongst the latest bottles found in these assemblages are those made generally of olive-green or brown glass with a long cylindrical or slightly tapered neck, with a ring of self-coloured glass shortly below the rim. Sometimes referred to as a 'string finish', these rings were applied on bottles throughout Europe from the mid-17<sup>th</sup> through the early 19<sup>th</sup> centuries by adding glass to the neck. The neck was usually cracked-off or fire-polished in the early part of this period. This ring of glass helped to both reinforce the rim and tie down a stopper when it was inserted (Jones 1986: 33). Thus, these bottles were particularly used for wine or beer.

### ***Lamps***

At least three broad types of glass oil lamps have been identified in the Eastern Adriatic region. The first two were used throughout the Eastern Mediterranean in both Christian and Muslim contexts, for a length of time which spanned from the medieval into the beginning of the early modern period. The third type had been known in the Roman and Byzantine periods, but was later adapted by the Venetians for both domestic sale and as exports to the Ottoman Empire. Other types of lamps have been found in the Balkans, but with less frequency; however, again the dating for these lamps is often uncertain and covers a broad time frame. For example, eight lamps '*en forme de gobelet avec anses*' were found at the monastery in Dečan/Dečani, thought to date from the 14<sup>th</sup> century but possibly as early as the 11<sup>th</sup> century (Ljubinkovic 1985: 186). Bowl-shaped lamps with small applied handles around the rim can be found in some parts of the Central Balkans, such as Novo Brdo, Novi Pazar, and Gradac (Han 1975: fig. 1), but have not been identified as such elsewhere in the region (although these might have been labelled simply as 'bowls').

### **Bell-shaped lamps**

The first lamp type was a long-enduring style, shaped like an inverted handled bell and intended to be suspended in a metal frame. These have been found throughout the Mediterranean world, in both Byzantine and Islamic spheres. Near Eastern examples of this shape have been discovered dating to perhaps as early as the 4<sup>th</sup>-8<sup>th</sup> centuries at Jerash in Jordan, yet many more have been dated to the 9<sup>th</sup>-14<sup>th</sup> centuries (Hadad 1998: 69). Of these late-medieval specimens, one was found in the stratum dated to the Mamluk period (up to the 14<sup>th</sup> century) in al-Fustat in Egypt (Shindo 2000: fig. 1.9), while several fragments from the Fatimid period were excavated at Caesarea Maritima in Israel, which are thought to have evolved from the Byzantine stemmed lamp which had been in use there in the previous centuries (Pollak 2000: fig. 6.5 and 6.6). Bell-shaped lamps were also found in Persia dating from as late as the 13<sup>th</sup> or 14<sup>th</sup> centuries (Whitehouse 1970: 18). In Murano, fragments were discovered in the excavation of SS Maria e Donato, thought to be dated to before the 11<sup>th</sup> century, but similar to other examples found on Torcello in contexts dated from the 12<sup>th</sup> to early 14<sup>th</sup> centuries (Gasparetto 1978: 235); in addition, similar stems dated to the 15<sup>th</sup> century have also been found in excavations in Venice (Cozza 2010: cat. no. I.17). It appears that this style of lamp continued to be manufactured in Hungarian glasshouses throughout the 15<sup>th</sup> and even 16<sup>th</sup> centuries (Holl-Gyürky 1986: 77).

*Plate 13.a.*

### **Biconical lamps**

The next type of lamp is frequently associated with mosques, and is thus sometimes referred to as a 'mosque lamp' or 'Islamic lamp'. However, lamps of this style have also been excavated in other contexts throughout the eastern Mediterranean and Italy. These lamps typically have a large, truncated-conical neck above a spherical body, often with a kick on the base, which may or may not have an applied ring foot or a pedestal foot. Lamps from Egypt and the Middle East are well known for their elaborate enamelled decoration (see *fig. 5.1*), while those from outside these regions were given simpler ornamentation, frequently in the form of applied trails which circle down the rim. Most lamps which have been more fully preserved can be seen to have several small handles applied around the body. Examples from the medieval period have been found in Ragogna and nearby Udine, Rome, Ferrara, and Palermo, and Betika in Istria (Siena and Zuech 2000: fig. 3) and Farfa (Newby 2000: fig. 7.e). These lamps have also been discovered in Venice and the surrounding lagoon, including an early to mid-15<sup>th</sup>-century example at S. Alvise (Minini 2000: 272). Those from Dalmatia are also thought to date from the 14<sup>th</sup> or 15<sup>th</sup> centuries (Han 1981b: Tabs. II and III). *Plate 13.b-d.*

### **Cesendelli**

These long, cylindrical lamps were first used in Roman and Byzantine times when they were placed together in large metal chandeliers. Later, Venetian glassmakers made these lamps large

enough that they acted as a lighting source by themselves and thus could be hung individually by chains (Carboni 2007: 343). This type was represented in paintings beginning in the late 15<sup>th</sup> to early 16<sup>th</sup> centuries, but very few examples have been preserved (Minini 2000: 274). A number of 16<sup>th</sup>-century examples decorated with vertically-applied opaque white trails have been excavated from the Sirkeci area of Istanbul, and are thought to be of Venetian production (Canav-Özgümüş 2012: 330). In the 17<sup>th</sup> century, these lamps were still being produced locally in the Netherlands, as seen in an example with a white and blue knob on its base (Henkes 1994: cat. no. 67.18). It is possible that archaeological fragments, particularly outsplayed rims or finials on the base, are sometimes misidentified as other objects, such as lids or vases. *Plate 14.a-b.*

## FLAT GLASS

### *Windows*

#### **Oculi**

Windows in Dalmatia and many other parts of the Balkans were frequently glazed with crown glass panes. The edges of these panes were folded over to form disks of different sizes, which were then placed in rows or other formations in their frame. Venetian workshops began producing this type of window around the 13<sup>th</sup> century, and by the 15<sup>th</sup> century they came to be known by a variety of different names, such as ‘*ruodi*’, ‘*rotuli*’, ‘*rotele*’, ‘*ru*’, and particularly ‘*oculi*’ (Gasparetto 1978: 252). These were to be found all throughout the Balkans, and may have also been the products of local or ambulatory workshops. During the Middle Ages—evidence shows that crown glass was used as early as the 9<sup>th</sup> or 10<sup>th</sup> century in Bulgaria—glazed windows were reserved for churches or other sacral buildings. By the 1430s, crown glass was also being made in Dubrovnik, to be used not only in churches, but also in important secular buildings and even private homes, particularly those of the pashas of Bosnia and Hercegovina (Han 1981a: 206-7). Oculi of many different sizes and colours were used in churches and monasteries, and were ‘one of the distinguishing marks of Balkan church architecture at this period’ (Han 1975: 118). In the Ottoman Empire, ‘wheel windows’ of several roundels arranged in a circular opening were used in architecture as early as the 14<sup>th</sup> century at the Suleyman Pasha Medrese in Iznik. Crown glass of many different colours was also used in domes, particularly in hamams (Goodwin 1971: 25, 113). These could occasionally have moulded decoration, as seen in several oculi with honeycomb patterns discovered in the excavations at Sirkeci (Canav-Özgümüş 2012: 330). Over time, however, changes to glassmaking technology allowed for larger window panes.

## **Other**

Crown glass could also be cut into different shapes, such as the crudely-shaped rectangles excavated at SS Maria e Donato in Murano (Gasparetto 1978: 251), and also filed into small triangles to fit in between oculi in rectangular-shaped windows. Larger panes of flat glass could be used on their own, or in the 17th-century Ottoman Empire, panes of coloured glass might still be arranged in patterns framed in plaster (Rogers 1983: 251), although eventually this coloured glass was more and more restricted to borders around colourless glass in the 18<sup>th</sup> century (Goodwin 1971: 372).

## ***Mirrors***

Few mirrors with their reflective backings have been excavated, or at least identified as such, in the study area. Those which have been found were produced in the later period, and many appear to have been cast. In addition, many of these were half finished, meant to be silvered and cut into shape upon arrival at their destination (Lazar and Willmott 2006: 68). Therefore, it is also possible that some panels amongst the large quantities of sheet glass which have been found submerged in shipwrecks but have not been fully excavated might have been meant to be used eventually as mirrors, rather than as windows. Finally, smaller pieces of flat glass cut into various shapes may have been attached to the ornate frames of large mirrors, or perhaps other sorts of furniture.

## **BEADS**

Unfortunately, in many cases scholarship has given even less attention to beads excavated in the region. Probate and commercial inventories have given some insight into how these beads were used. Rosaries with amber or glass beads were recorded in Zadar in the 14<sup>th</sup> century. It appears that these beads, referred to as '*patrinostri*' were transported loose, to be assembled later (Anzulović 2007: 269). Beads were also used for jewellery on the Dalmatian coast, which generally followed the fashion of other European centres such as Italy, Germany, Spain, and the Netherlands. Glass beads were made into bracelets and seem to have been worn in pairs in the late 16<sup>th</sup> century, around the same time that false gems made of glass came into fashion in the area. During this time earrings were rare, but then became more common in the following century, particularly almond-shaped drops made of glass or metal (Anzulović 2006: 208-213). Beads might also be used to ornament hats in Serbia, or to decorate wagon horses in other parts of the Central Balkans (Koch 1908: 152, 154). Han (1975: 116-17) has suggested that a continuation of early-medieval bead-making and false jewel-making practices may have taken place in parts of the Balkans, and that the significance of these beads can be seen in their placement within the graves of women and children in the later Middle Ages.

Again, this chapter is not a complete account of all of the forms and styles of glass excavated in the study area, but it instead covers those types which appear in the Western Balkans with some frequency. The following chapters will examine these objects in more detail, divided by geographic region.



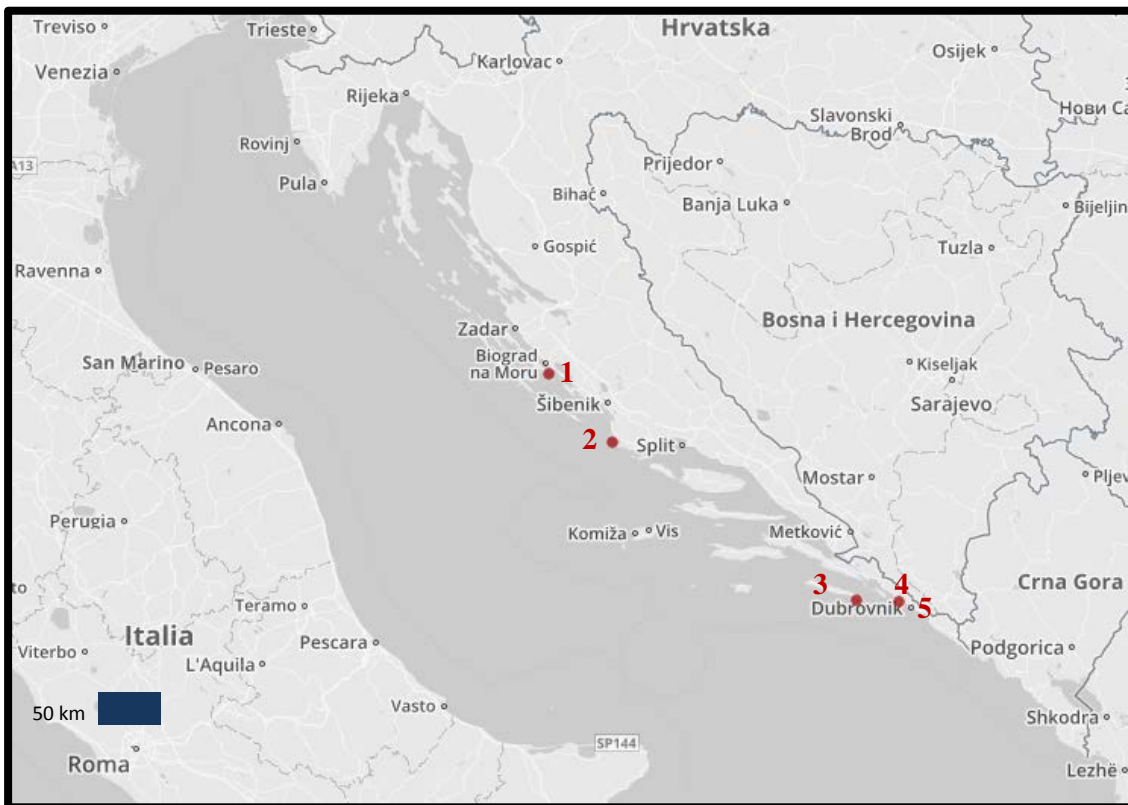


## VII

# GLASS TRANSPORTED IN THE ADRIATIC

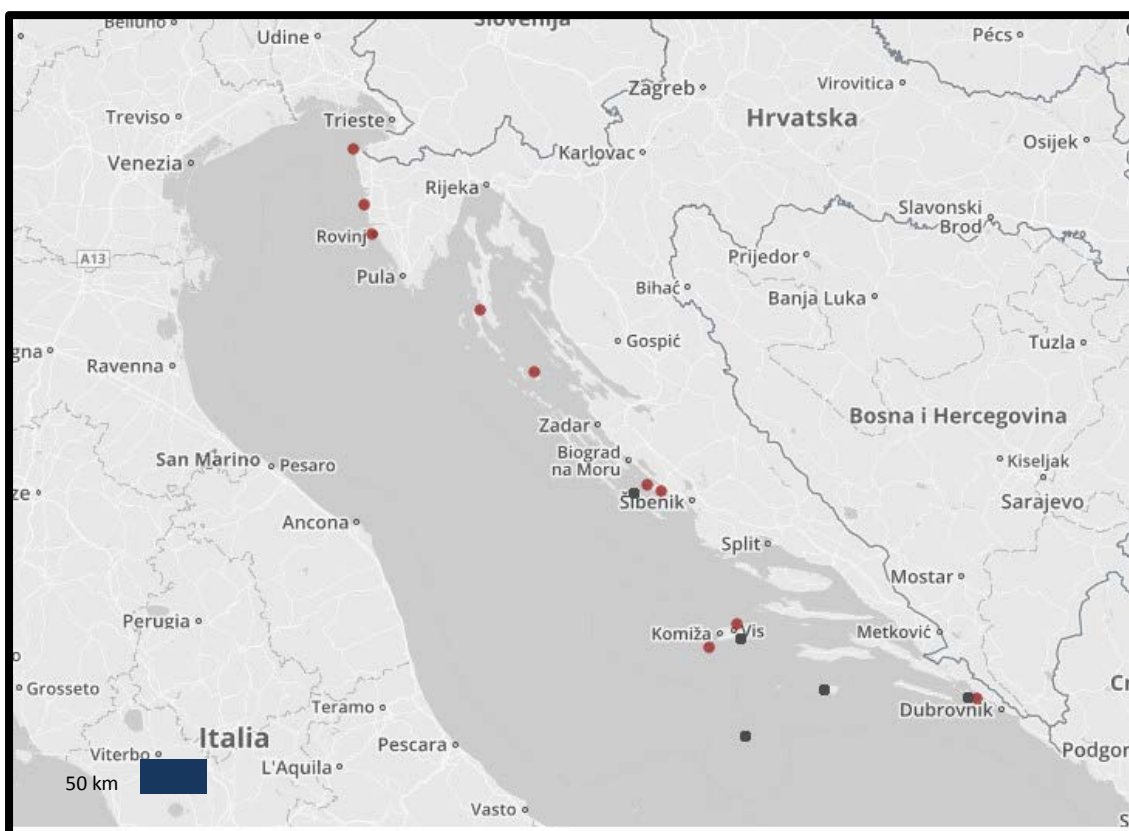
As this thesis aims to demonstrate, glass artefacts are able to give scholars insight into the technological and stylistic practices and preferences of the post-medieval era, which in turn are reflections of the social changes and economic climate of that time. Perhaps even more invaluable than those collections assembled from settlements on the shore, however, are those artefacts excavated from the numerous shipwrecks which litter the seabed of the Adriatic. These assemblages are all the more significant in that they give physical evidence of how these objects were traded and carried long distances. In some cases, such as the wreck at Gnalić, these cargoes illustrate the substantial quantities of glass objects being transported and sold at one time. Others, such as that at Sv Pavao, show how glass was being exchanged between disparate communities even when it was the products which these vessels contained, rather than the glass itself, that were being specifically traded. Some of these collections exemplify the popular fashions of the time, while still others reflect the nearly boundless diversity of style which could be produced in glass, but which is not always readily apparent through conventional excavations on land.

Glass is not the only material to be recovered from these shipwrecks, and indeed, there are many more wrecks than those presented here which contained cargoes of ceramic, metal, or other goods which have been excavated from the Adriatic. In addition, there are many more which have produced glass finds, but in limited numbers such as single wine bottles, perhaps meant for use on board the ship rather than for trade. Furthermore, many of the shipwrecks described in this chapter have suffered from looting in the past or the present, or had their cargos recovered shortly after their wreck by local coral divers, who began to be recruited in Dubrovnik as early as the 14<sup>th</sup> century for retrieving sunken cargo and equipment (Radić Rossi 2012: 56). As a result, this research is unable to offer a complete picture of shipping and trade practices in the Adriatic, and further excavation and study may one day contradict these findings. However, these shipwreck assemblages, when combined with those excavated from settlements on land, have added greatly to the scholarly knowledge surrounding glass production, trade, and use not only in the Balkans but the wider post-medieval world as well.



**Map 7.1.** Post-medieval shipwrecks in the eastern Adriatic discussed in this chapter.

1. Gnalić 2. Kačol-Rogoznica 3. Sv Pavao 4. Drevine (near Koločep) 5. Koločep



**Map 7.2.** Other post-medieval shipwrecks in the Adriatic. Those with smaller assemblages of glass finds are in red, those with no known glass are in black (Glušćević 2006 and Gelichi 2014).

## GNALIĆ

The 16<sup>th</sup>-century shipwreck at Gnalić is not only one of the best-studied shipwrecks from the Adriatic, but also the largest and best-preserved collection of 16<sup>th</sup>-century glass in the Mediterranean. This ship was transporting a large and varied cargo, although its glassware has been given the most scholarly attention in recent decades. This research has been highly influential in the study of Renaissance-era archaeological glass throughout Europe, and is a natural starting point for discussing glass in Dalmatia.

The ship in question sank near the small islet of Gnalić, located just off the southern tip of the island of Pašman and near the mainland towns of Pakoštane and Biograd na Moru, where the artefacts are now held. Although the wreck was initially discovered by local sponge divers, archaeological campaigns were quickly organised beginning in 1967 (Gasparetto 1973: 79). Four more excavations were conducted by 1973, and many more between then and 1996. Then in the early 2000s, a catalogue of the wreck and its cargo was prepared by various specialists from around Europe as part of *The Heritage of the Serenissima* project (Guštin and Gelichi 2006), producing one publication on the entirety of the cargo and another just focusing on the glass, which made up the bulk of the merchandise being transported (Lazar and Willmott 2006).

Like the Sv Pavao shipwreck described later in this chapter, the Gnalić wreck was loaded with several cannons, the markings of which have been used to help date the vessel: the two largest guns were stamped with the year 1582 (Heritage of the Serenissima 2004: 11). Numerous other metal objects were found on board the ship, most notably candelabras, chandeliers, and sconces thought to have been produced in Germany (Stadler 2006: 109). Several sleigh bells, as well, may have come from the southern or central parts of the country (Schick 2006: 112). Ceramics and bolts of fabric, on the other hand, appear to be Italian in origin, if not from Venice itself. Maiolica, sgraffito ware, and undecorated vessels were excavated, although not in any great numbers (Mileusnić 2006: 104). One particularly large bolt of damask measured 540 cm in length and 62 cm in width, and several finished articles of linen clothing were also found (Davanzo Poli 2006: 98-99). However, at over 4,000 fragments, the glass was the most abundant material in the cargo.

### *Vessels*

#### **Beakers**

The beakers excavated from the Gnalić wreck make up perhaps the most homogeneous collection in this study. In comparison with goblets these drinking vessels were very few in number at only 22 examples. All of these beakers were truncated-conical beakers with no apparent decoration, made of colourless or slightly tinted glass. The only feature which distinguishes these beakers from each other is their base diameters, which divides these vessels into two groups at 4 cm and 6 cm (Lazar and Willmott 2006: cat. no. S1)

## Tankards

Another type of drinking vessel made from one piece of glass, the tankard, was rare to non-existent on the Dalmatian coast but somewhat more common in the Balkan interior in Austrian-controlled territories. Interestingly, 17 tankards and an additional six corresponding lids were discovered in this wreck, which were all similar in their shape with a low, folded foot, globular body, and cylindrical neck and rim. However, they can be categorised into four groups according to decorative style. While some of these were plain except for an applied crimped trail (see *fig. 7.1*), the most plentiful type of tankard was decorated with widely-spaced vertical opaque white trails. Only one was decorated with alternating opaque white trails and twisted *retorti* canes, closely spaced. The final four vessels, like many of the other drinking vessels in this collection, were decorated with engraved scrolls and foliage (Lazar and Willmott 2006: cat. no. S8)

## Goblets

Goblets, on the other hand, were far more varied in form. In addition to the numerous types of stems represented in this collection, many of these were found with both plain and decorated cups, either with mould-blown patterns or occasionally with engraved or trailed ornamentation. Unlike beakers, which were relatively easy to transport by stacking, these goblets would have required much more careful packaging (Lazar and Willmott 2006: 27).

By far the most abundant category of goblets was those with hollow feet attached directly to the bottom of their bowl: 2,552 of these were plain, with an undecorated, trumpet-shaped cup (see *fig. 7.2*), while a further 38 had cups which were mould-blown or had a folded ring in the middle. Hollow feet attached by reel-shaped mereses were also well-represented, with 993 plain examples (see *fig. 7.3*) and 21 with mould-blown cups (Lazar and Willmott 2006: cat. nos. S2 and S3).

The remaining 150 goblets in this collection can be divided into multiple different categories, some represented by only a single example, thus representing the breadth of diversity being produced at the end of the 16<sup>th</sup> century. A sizeable number of lion-mask stems (107) were excavated from the wreck (see *fig. 7.4*), which appear to have been produced from only five different moulds (Lazar and Willmott 2006: cat. no. S7). Unlike those found elsewhere in the study area, some of the cups of these goblets were engraved. Interestingly, four ladder-stemmed goblets (see *fig. 7.5*), produced in the same way as lion-mask stems, were also found amongst the collection (Lazar and Willmott 2006: cat. no. S6). However, no other examples of this type of goblet have been found anywhere in the study area, and are generally assumed to be the products of Northern European, usually English, *façon de Venise* factories (Willmott 2002: 65).

Solid inverse baluster stems appear in both plain and ribbed versions (Lazar and Willmott 2006: cat. no. S4), as do stems with flattened knops (see *fig. 7.6*) (Lazar and Willmott

2006: cat. no. S5). One single goblet was also found with a stem made up of three ribbed knops, and a crimped trail applied to the lower wall of the bowl (see *fig. 7.7*) (Lazar and Willmott 2006: cat. no. S5f). Most of the rest of the bowls were hemispherical in shape, and once again, some were decorated with engraved motifs.

### **Tazze**

The *tazze* found on board the Gnalić wreck were far fewer in number, probably due to their larger size and more extravagant decoration, making them more exclusive items. Their bowls are also more likely to fragment, making them difficult to identify as stemmed *tazze* rather than goblets. Three of the most intricately ornamented examples had knop stems. One of these was decorated with solid opaque white and twisted *filigrana* canes, while the other two were engraved (see *fig. 7.8*). The final four *tazze* in this collection had applied wide, hollow feet, and were decorated with applied trails, which were crimped on one example (Lazar and Willmott 2006: cat. no. SS13).

### **Bowls**

As with many other parts of the study area, bowls from the Gnalić wreck can be divided into two broad categories: footed bowls and hemispherical bowls with no feet. The majority of vessels in this collection belong to the former group, at 170 examples (Lazar and Willmott 2006: cat. no. S10). Most of these were plain, with a folded pedestal foot (see *fig. 7.9*). However, one of these instead had an applied pedestal foot, while another two were richly engraved with foliage and scrolling patterns.

Seven bowls were hemispherical and left without feet (Lazar and Willmott 2006: cat. no. S9). These were decorated with either plain opaque white trails or twisted white and blue canes applied to the rim (see *fig. 7.10*). An additional two bowls of a similar shape, though slightly larger, were discovered with a ring applied to the underside of the vessel (Lazar and Willmott 2006: cat. no. S9b), with the base of the bowl slumped slightly over the ring (see *fig. 7.11*). Lazar and Willmott were unable to offer any comparisons for these vessels, and thus it is possible that these belonged to a different type of vessel altogether. The only similar bases in the study region are thought to come from biconical lamps, yet generally from an earlier period.

Eight other bowls also had applied trail feet with a slightly pushed-in base, although these trails were thicker and the hemispherical bowls themselves smaller so that they perched atop the ring rather than folded over it. Two of these (Lazar and Willmott 2006: cat. no. S22a) were a deep blue colour, one was made of *calcedonio* glass (Lazar and Willmott 2006: cat. no. S22c), and the final five were blue with splashed white, blue, and red decoration (Lazar and Willmott 2006: cat. no. S22b). Another coloured footed bowl was produced in opaque red glass with splashed white, red, and blue pieces; however, this example had a foot applied in a

hexagonal shape, while the base of the bowl itself was slightly trumpet-shaped and was not pushed in at all (Lazar and Willmott 2006: cat. no. S22d).

Fragments which may have come from a more unusual vessel were also discovered. A small fragment of a vessel with a curved body made of ice glass, and long, twisted solid canes formed into a large curved handle, may have come from a type of decorative basket or bucket (Lazar and Willmott 2006: cat. no. S26e-26f). Yet, the fragment is small enough that the vessel's overall form is impossible to determine with certainty.

### **Lids**

Very few lids have been identified in this study area, and only a limited number were discovered in this particular collection, in comparison to other types of glassware. Of the thirteen lids in this assemblage, nine were flat (see *fig. 9.12*), while the remaining objects were domed in shape (see *fig. 9.13*). Both types were found in plain and engraved varieties, although one flat lid was decorated with an optic-blown rosette pattern. The flat lids all had solid, straight finials with knobs; on the other hand, some of the domed examples had twisted loops applied to the top (Lazar and Willmott 2006: cat. no. S11-S12).

### **Jars**

A number of jars were also discovered amongst the wreck, which may have been transported for their contents rather than as commodities in and of themselves (Lazar and Willmott 2006: 59). All 29 of these had very wide, short rims which were slightly turned-out, although some had plain, cylindrical bodies, while others had a large bulge below the neck and above the cylindrical body (see *fig. 9.14*) (Lazar and Willmott 2006: cat. no. S21).

### **Bottles**

Considering the large cargo of luxury glassware on board this ship, the assemblage of bottles is somewhat more refined than other collections. Most of the bottles from the Gnalić wreck were made of clear, colourless, or nearly colourless, glass; the remaining bottles were made of vividly-coloured and even multi-coloured glass, rather than naturally-coloured glass.

Long-necked *inghistere* (Lazar and Willmott 2006: cat. no. S20) were mostly found in clear, colourless glass, but in three different groups: those with tapered rims and applied base rings, those with funnel-shaped rims and applied base rings, and those with straight rims and folded base rings. The most numerous of these, with straight rims, were additionally decorated with fine white trails applied more or less vertically. Some of these 30 bottles also had applied plain or wavy trails applied around the neck. Interestingly, one final example of this straight-rimmed type was discovered made of clear, dark blue glass (Lazar and Willmott 2006: cat. no. S20d). This did not have any white trails, but it did have two self-coloured trails applied around the neck.

Another type of bottle which has been found regularly in the study area is a handled flask with a long, straight neck and rim, globular body, high kick, and pedestal foot (see *fig. 7.15 and 7.16*). The handles are attached at a ring applied around the neck and at the shoulder. The colour of the glass used for these bottles was less uniform, however, varying between green, purple, and grey tinted (Lazar and Willmott 2006: cat. no. S18).

The rest of the bottles found on the Gnalić wreck have not been identified elsewhere in the region. The first of these, sprinklers, were discovered either plain, ribbed, or with opaque white trails applied vertically (see *figs. 7.17 and 7.18*). However, all 44 of these were similar in shape, with narrow, pinched tops (which could be broken off to open the vessel), tall, tapering necks with two constrictions creating a bulge above the spherical bodies, and folded base rings (Lazar and Willmott 2006: cat. no. S17).

Another category of clear, colourless bottle was a group of 17 pear-shaped bottles with applied rings on the base (which was slightly pushed in) and a flattened rim with a very narrow opening (see *fig. 7.19*). These might have been used as sandglasses (Lazar and Willmott 2006: cat. no. S19), similar to those depicted in the *Surname-i Hümayun*, which commemorated the procession celebrating the circumcision of Sultan Murad III's son in 1582.

Two other bottles were likened to the long-necked, globular-bodied bottles viewed in that same painting (Lazar and Willmott 2006: 64). These were made of blueish-green glass in three gathers, which is not generally seen in bottles of Venetian production, and had a sheared rim. While these bottles might not have come from Venice and may have been used to transport some other product, the bottles of the Sv Pavao wreck presented later in this chapter are perhaps more closely reminiscent of the bottles pictured in the *Surname-i Hümayun* and very likely were of Ottoman manufacture.

A sizeable quantity of large, oval-based bottles with stepped rims—a nearly flattened rim with a ring-shaped bulge directly underneath it—were produced in a good quality, deep blue glass (see *fig. 7.20*) (Lazar and Willmott 2006: cat. no. S24c). Stepped rims on long necks can frequently be seen on globular bottles with mould-blown decoration produced around Iran in the 12<sup>th</sup> to early 13<sup>th</sup> centuries (Carboni 2001a: 237). This shape of rim was once again produced in the Middle East or Anatolia in the 18<sup>th</sup> and 19<sup>th</sup> centuries, such as an oval-based bottle made of colourless glass with manganese streaks and a twisted rim thought to have been found in Turkey (British Museum reg. no. 1873,0502.116) or another 18<sup>th</sup> or 19<sup>th</sup>-century vessel with a circular base made of blue glass with spiralled ribbing which has been attributed to Shiraz (The Metropolitan Museum of Art acc. no. 87.7.227). Excavations such as Gnalić have demonstrated, however, that this shape of rim, particularly on oval-based vessels with long necks, was continued through the intermediary period. Bottles such as these have also been excavated from cemeteries in multiple locations across Greece including Thessaloniki, Patras, and Athens, while rim fragments have also been discovered elsewhere in Attica, Italy, and Syria. These have been variously dated to between the 13<sup>th</sup> and 17<sup>th</sup> centuries, many having been found with



Frankish and later Venetian coins. Many of these examples were also made of blue glass, although olive green and colourless bottles were also found, some additionally painted with a checkerboard pattern while others had mould-blown, sometimes twisted, ribbing. Most of these, however, had an additional rounded bulge at the base of the neck, above the shoulder, and some did not have a bulge beneath their cupped rim (Antonaras 2003: 199-200).

A smaller oval bottle also had a stepped rim, albeit with a shorter, wider neck (Lazar and Willmott 2006: cat. no. S24b). This bottle had two more distinguishing features, however. Firstly, two opposite walls of bottle were pinched together in the centre of the body, making it into a donut-like shape. Secondly, this bottle was produced in blue glass, with pieces of white, blue, and red splashed across it (see *fig. 7.21*).

Several other bottles were made of opaque, vivid red glass which appears swirled. These were present in various forms, including five oval bottles with an out-turned rim (see *fig. 7.22*) (Lazar and Willmott 2006: cat. no. S24a), two bottles with a trefoil rim and an applied raspberry prunt (Lazar and Willmott 2006: cat. no. S23a), and two square bottles, one with an out-turned rim and one with a straight rim and an applied handle (Lazar and Willmott 2006: cat. no. S25). No immediate analogies of these bottles have been thus far identified. A Dutch-produced early 17<sup>th</sup>-century jug found in Leiden was produced in ruby-red glass and with red, blue, white, and yellow picked-up pieces and an opaque white trail on the rim (Henkes 1994: cat. no. 49.6). More closely reminiscent of the swirling opaque red glass, however, is a small vessel held at the British Museum (acc. no. 1873,0502.118). This is a small container with a spherical body and a very short, slightly tapered neck and rim. The bottom of the body is flattened slightly so that the vessel can sit upright, although it is also slightly flattened and worn on its side as well, allowing it to sit at an angle. The same wearing, slightly pitted marks can be observed around the rim as well. Due to this, and the very thick, decorative glass, it is possible that this was used as an inkwell. Unfortunately, the exact find spot of this object is unknown, listed as either Syria, Turkey, or Iran. It has also been broadly dated to the 18<sup>th</sup> or 19<sup>th</sup> century. However, its shape and wear patterns match very closely to a vessel made of very thick, translucent dark olive-green glass, thought to be Turkish dated to the 16<sup>th</sup> century (Carboni 2001a: cat. no. 103a). Other Islamic examples of this type of opaque red, swirled glass date instead to the 8<sup>th</sup> or 9<sup>th</sup> centuries (Carboni 2001a: cat. No. 3.3a-h).

## **Vases**

In addition to a wide variety of bottles, this assemblage also contains a relatively large number of vases in comparison to other collections in the study region, although they are limited in number compared to other types of vessels found in this wreck. These can be divided into four different types, which, due to their differences in size, might have served different purposes. All were manufactured in clear, colourless glass.

Four of these vases were smaller in size, and may have also been used for storing precious liquids such as perfumes, in addition to being purely decorative items (see *fig. 7.23*). These had an out-turned rim and a wavy trail applied to the neck. More noticeably, however, these were produced in a good quality glass which was decorated with engraved vegetal and scrolling designs (Lazar and Willmott 2006: cat. no. S15a).

Another four vessels were larger, with ribbed knop stems (Lazar and Willmott 2006: cat. no. S15b). These had plain, globular bodies, although thick wavy trails were applied around the neck. It is possible that these vessels were used as wine carafes. Similar in overall shape to these was the third type of vase (Lazar and Willmott 2006: cat. no. S15c), which had an out-turned (and flattened) rim, wavy trail applied to the neck, and a ribbed knop stem. These ten examples had tapering bodies and three hollow handles which were attached at the rim and shoulder, where the handles ended in a shell appliqué decorated with a raspberry prunt. A straight spout attached just below the shoulder was also finished in a shell appliqué and a trail applied to the rim (see *fig. 7.24*). These were engraved with foliage and scroll decorations on the body and foot. These vases were associated with a domed lid with a solid finial, decorated again with leaf engravings and raspberry prunts.

The final two vases in this collection were given mould-blown decoration, with gadrooning on the lower and upper parts of the body with three human faces in between (Lazar and Willmott 2006: cat. no. S16). These had only slightly tapered rims, with either a plain or wavy applied trail.

## ***Flat Glass***

### **Oculi**

A substantial number of oculi were excavated from the Gnalić wreck (see *fig. 7.25*). These 743 examples ranged in diameter from 12 to 22 cm, and were made of a good quality glass (Lazar and Willmott 2006: cat. no. S29a). In addition to these plain oculi with folded edges, however, were another 14 panes which were decorated with optic-blown rosette designs of indeterminate dimensions, again produced from fine quality glass (Lazar and Willmott 2006: cat. no. S29b). At Sirkeci, mould-blown panes with honeycomb patterns were found alongside a number of plain amber, green, and light green oculi (Canav-Özgümüş 2012: 330). Some possible 15<sup>th</sup>-century glass panes with moulded patterns were also found in Buda at the Royal Palace (Holl-Gyürky 1986: 77).

### **Mirrors**

Nearly as many mirrors, both finished and unfinished, were also discovered (Lazar and Willmott 2006: cat. no. S27-S28). Unfinished cast sheets were present in two sizes: 21 x 26 cm or 25 x 40 cm. However, most mirrors were finished, having been ground flat and cut into shape. Most of these (210) were small and rectangular in shape, measuring 9 x 11.5 cm. At least

16 rectangular mirrors were substantially larger, however, at 19 x 24 cm. Another 291 examples were circular in shape, with diameters at 9 or 10.5 cm.

These mirrors are an important find not only in demonstrating the quantities which were being exported from Venice, but also in providing some of the earliest evidence of mirrors produced by casting rather than blowing. The late 16<sup>th</sup>-century Gnalić cast mirrors appear over half a century before the French were known to have begun production in the mid-17<sup>th</sup> century (Lazar and Willmott 2006: 68).

### ***Beads***

A significant number of beads were found on board this wreck, and would benefit from further detailed study. These included small spherical beads and elongated oval or cylindrical beads. Common colours and patterns were blue with the edges ground to reveal a layer of white, and orange or colourless glass with opaque white stripes.

The sheer quantity of glass in this assemblage, as well as the wide range of quality of glass, from everyday beakers to elaborately engraved vases, has made the Gnalić wreck an important and influential window into the forms and fashions of glass from the late 16<sup>th</sup> century. Archival research combined with the artefacts recovered through excavation of the ship's cargo have helped to potentially identify the ship in question and its destination. In 1583, an order of 5,000 oculi was requested by the *bailo* in Istanbul for the restoration of Sultan Murad III's harem. These, along with bolts of silk damask, were loaded onto the ship known as *Gagliana grossa*. It is known to have sank somewhere between Biograd and Murter, as insurance claims were begun immediately after the event. Some of the most valuable items, particularly a linen-wrapped chest containing precious stones, were retrieved shortly thereafter (Jović Gazić 2015: 17-20).

While many of the objects are typical of the luxury glass known to have come out of Venice at the time, other artefacts, such as colourful stepped-rim bottles or cast mirrors, have also changed the way scholars think about how glass was made at the time. The great variety of types of objects, from tankards to 'Islamic'-style bottles, is also potentially indicative of the variety of different consumers who were to be targeted by this cargo. While it may be that this shipment was intended for the cosmopolitan inhabitants of Istanbul, who included not only people from around the Empire but also merchants, ambassadors, and others from throughout Europe, it is also possible that some of this assemblage could have been bound for another destination, whether to be sent out from Istanbul, or to disembark at an earlier port, such as Dubrovnik, and from there be disseminated along the caravan roads.



**Figure 7.1**

Plain tankard  
(Lazar and Willmott 2006:  
S8a)



**Figure 7.2**

Hollow-footed goblet  
(Lazar and Willmott 2006:  
S2a)



**Figure 7.3**

Hollow-footed goblet with reel-  
shaped merese  
(Lazar and Willmott 2006: S3a)



**Figure 7.4**

Lion-mask stem  
(Lazar and Willmott  
2006: S7b)



**Figure 7.5**

Ladder stems  
(Lazar and Willmott 2006: S6a)



**Figure 7.6**

Stem with ribbed and plain  
knops  
(Lazar and Willmott 2006: S5d)



**Figure 7.7**

Stem with three ribbed knops  
(Lazar and Willmott 2006:  
S5f)



**Figure 7.8**

Engraved *tazza* bowl  
(Lazar and Willmott 2006: S13b)



**Figure 7.9**

Footed bowl  
(Lazar and Willmott 2006: S10a)



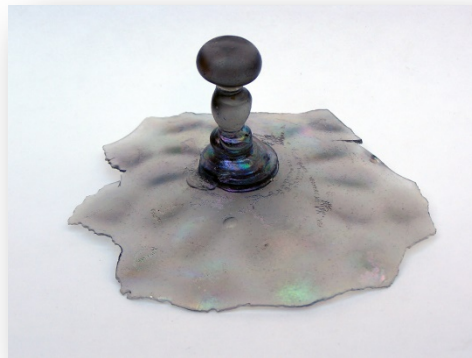
**Figure 7.10**

Hemispherical bowl with twisted *filigrana*  
cane on rim  
(Lazar and Willmott 2006: S9a)



**Figure 7.11**

Bowl with applied ring base  
(Lazar and Willmott 2006: S9b)



**Figure 7.12**

Flat lid with optic-blown decoration  
(Lazar and Willmott 2006: S11b)



**Figure 7.13**

Domed lid  
(Lazar and Willmott 2006: S12a)



**Figure 7.14**

Jar  
(Lazar and Willmott 2006: S21b)



**Figure 7.15**

Handled flask, base  
(Lazar and Willmott 2006: S18a)



**Figure 7.16**

Handled flask  
(Lazar and Willmott 2006:  
S18a)



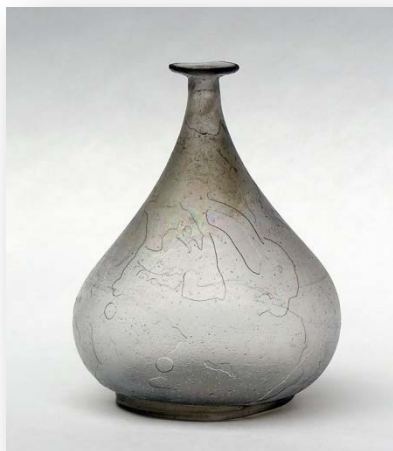
**Figure 7.17**

Sprinkler necks  
(Lazar and Willmott 2006: S17c)



**Figure 7.18**

Sprinkler base  
(Lazar and Willmott 2006:  
S17a)



**Figure 7.19**

Pear-shaped bottle  
(Lazar and Willmott 2006: S19a)



**Figure 7.20**

Stepped-rim bottles  
(Lazar and Willmott 2006: S24c)



**Figure 7.21**

Stepped-rim bottle  
(Lazar and Willmott 2006: S24b)



**Figure 7.22**

Bottle with out-splayed rim  
(Lazar and Willmott 2006: S24a)



**Figure 7.23**

Vase  
(Lazar and Willmott 2006: S15a)



**Figure 7.24**

Spouted vase  
(Lazar and Willmott 2006: S15c)



**Figure 7.25**

Oculi  
(Lazar and Willmott 2006: S29a)



**Figure 7.26**

Moulded window pane  
(Lazar and Willmott 2006: S29b)



**Figure 7.27**

Rectangular mirrors  
(Lazar and Willmott 2006: S28a)

## KAČOL-ROGOZNICA

Forty-four diagnostic fragments of glass have been recovered from the sea floor near the village of Rogoznica, located roughly equidistant between Šibenik and Split at the southernmost point of Šibenik-Knin County (these are now all held at the Muzej Grada Šibenika). All of the glass artefacts were found at a sea-depth of 7 m. Based on these and other non-glass finds, this ship is thought to have sunk sometime in the later 17<sup>th</sup> century. The glass which this ship was carrying was varied in both quality and type of glass, and is representative of the transitional period at the end of the 17<sup>th</sup> century when potash glass from the Czech region was gaining prominence throughout Europe, including in regions typically dominated by Venetian trade.

### *Vessels*

#### **Beakers**

Over half of the diagnostic fragments recovered from this wreck came from beakers, of which generally only the base has remained intact. While these beakers may have once had some form of applied decoration, this is no longer evident on the majority of the fragments; however, there are still a few which exhibit some applied or moulded decoration. Both plain and ornamented examples are observed in a variety of different glass types, both soda-rich and potash-rich.

#### *Soda-rich truncated-conical beaker*

The assemblage recovered from the wreck includes at least four examples of assumedly plain truncated-conical or cylindrical beakers. These ranged in size from 4.4 to 6.5 cm in diameter at their bases, all of which had a small kick.

#### *Refined potash cylindrical beaker*

Due to the late date of this wreck, the majority of the plain beakers which were excavated were made of Central European-style refined potash glass, rather than the previously more common soda-rich glass. However, these were similar in size to their soda-rich counterparts at approximately 4.1 to 6.5 cm in diameter at their base. At least 11 of this type of beaker were discovered with no discernible decoration and with a thick, flat base without a kick.

#### *Pruned beakers*

Interestingly, excavations also produced base fragments of at least two greenish-blue beakers with applied crimped rings on their bases. One of these also had a large, flat prunt on the remains of its wall. The other of these two had a tall, unevenly pointed kick and measured 4.9 cm in diameter. Considering the date of this shipwreck and the vivid colour of the glass, it is most likely that these vessels came from Germany; however, due to their fragmentary nature, it



is unknown if these bases belonged to *berkemeyer*, *krautstrunk*, or *roemer*-type beakers. *Figs. 7.28-7.29.*

#### *All-over moulded decoration*

Several other beakers were found with all-over mould-blown patterns. Two were made of vivid green glass, with a low, rounded kick and curved walls, greater than 5 cm in diameter at the base. These were blown into an optic mould, producing a pattern of raised, pointed diamonds on the outer surface of the beaker (see *fig. 7.30*); in contrast, most of the moulded beakers found in the rest of the region have rounded lozenges or ovals. Indeed, a beaker with such a pattern was also found in this wreck, this time made of greyish glass. This was similar in profile to the green examples, but raised, rounded teardrops radiate from the underside of the low kick, while rounded lozenges continue upwards on the remaining fragments of the walls of the vessel (see *fig. 7.31*).

Beakers made of refined potash glass were also decorated by blowing them into a mould. Four beakers were made with vertical, scalloped ribs either extending all the way to the base or else beginning slightly above it; on one of these, the moulded design also includes a multi-pointed star in the centre of the underside of the base. These were of similar dimensions to the plain beakers, between 4.7 to 6.5 cm in diameter.

#### **Goblets**

Goblets were not as numerous as other drinking vessels in this assemblage. In addition to three stems, one shallow, blown foot was also excavated with only a small portion of what appears to have been a hollow stem connected by a flat merese.

#### *Baluster stem*

Two of the goblets found on this wreck had hollow, inverse-baluster stems. One of these was made of clear, colourless glass and was otherwise undecorated (see *fig. 7.32*). The second, however, was made of pink-tinted glass with mould-blown twisted vertical ribbing (see *fig. 7.33*). Both were made of soda-rich glass.

#### *Hollow stepped stem*

The third goblet is an unusual object, with a hollow stem made of colourless glass which has been pinched and folded on itself into an accorded shape of five graduated, slightly flattened, bulging knops, growing smaller as they descend before tapering towards where the foot once was. The top of the stem is then attached to a separate, hollow chamber that would have sat between the rest of the stem and the bottom of the cup. In a similar goblet held at the Corning Museum of Glass (acc. no. 79.3.459), this hollow chamber contains a silver coin attributed to Pope Innocent XI (1676-1689). *Fig. 7.34.*

### **Beaker or Goblet**

Finally, there is one additional fragment of a rim, greater than 6 cm in diameter, which might equally have belonged to a beaker or a goblet. This vessel was made of fairly thin, colourless soda-ash glass, which was decorated with a protuberant mould-blown, rounded diamond-shaped pattern and an opaque white trail applied to the rim. A very small rim fragment with identical decoration was also discovered in an unknown context in Trogir, while one with a twisted white and colourless trail on the rim was discovered at Rt Seline near Pula (Bekić 2014: *fig. 26*). Vessels made of colourless glass decorated with opaque white trails were produced in many Venetian and *façon de Venise* glass factories during the 16<sup>th</sup> and 17<sup>th</sup> centuries. *Fig. 7.35*.

### **Bowls**

Fragments of at least two similar hemispherical bowls were found from this wreck. The base of the first is almost entirely intact, made of greyish glass with a low kick from which twelve prominent, moulded ridges emanate halfway up the bowl. Above the ridges, at least three orangish-yellow parallel trails have been applied horizontally around the bowl. While similar in profile to some of the moulded beakers, its diameter is considerably larger, at 10 cm, although the bowl also has several large bubbles in the glass, as well as a very rough pontil mark. A second fragment of a similarly ridged and traileed bowl was also found with at least eight remaining trails; unfortunately, only a drawing of this fragment has survived, and therefore the colour of the trails is unknown. However, a similar bowl has been found in Pula with yellow trails. Luka Bekić (2014: 47) suggests that it is also possible that these objects were actually the cups of goblets, of which the stems and feet have since been lost. *Fig. 7.36*.

### **Bottles**

The bottles found on the Rogoznica wreck can be divided into three main groups: small, colourless bottles; large, coloured bottles; and bottles of which the colours cannot be determined due to the fact that only drawings and measurements are available for study.

#### *Small bottles with flattened rims*

Two small, colourless bottles were found entirely intact. Both have flattened rims which form a right angle in profile. The smaller of the two has a cylindrical body with squared shoulders and a cylindrical neck which is proportionally long and wide in relationship to the size of the body. The larger bottle, on the other hand, has flattened sides to form a rectangular footprint, rounded shoulders, and a neck similar in shape and dimension to the smaller bottle. *Fig. 7.37*.

#### *Large square bottles*

Two much larger (11 cm width), square bottle bases were also found within the wreck. Both were made in thick, bubble-filled glass, one in olive-green and the other in olive-brown. The

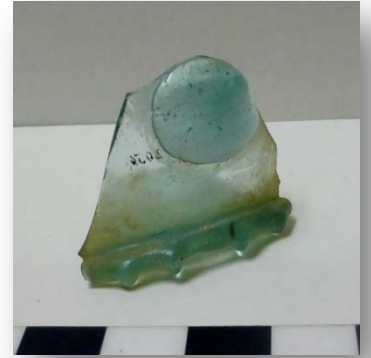
two also have very rough and prominent pontil-marks underneath high, rounded kicks. *Fig. 7.38.*

Due to the limited number of glass vessels recovered from this wreck, and the varied forms and types which were found, it is unlikely that these objects were meant to be sold in bulk when they reached their destination. Rather, it is more probable that these items might be traded on a smaller scale by the sailors themselves, as was known to happen in the Dubrovnik arsenal (Han 1981b: 226). This assemblage is significant, however, in that it shows the variety of glass goods which were available contemporaneously, during this period of transition from the predominance of soda-ash glass to refined-potash glass. Particularly for pruned beakers, which were available in the region from the late Middle Ages, this assemblage shows that they were still in use in the area during the late 17<sup>th</sup> century, although they were now being imported from a new source. Overall, this collection is the most comparable of all of these shipwreck assemblages to objects excavated on land in Dalmatia.



**Figure 7.28**

Beaker with crimped-ring base.



**Figure 7.29**

Printed beaker with crimped-ring base.



**Figure 7.30**

Beaker with all-over mould-blown decoration.



**Figure 7.31**

Beaker with all-over mould-blown decoration.

**Figure 7.32**  
Hollow inverse-baluster stem.



**Figure 7.33**  
Hollow inverse-baluster stem with mould-blown ribs.



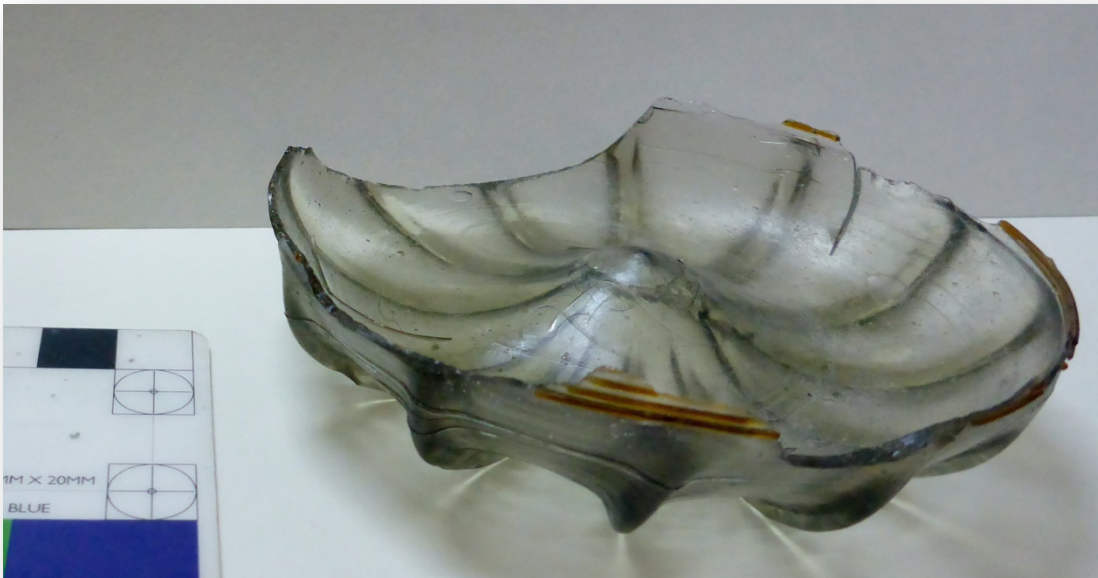
**Figure 7.34**

Hollow stepped knob stem.



**Figure 7.35**

Beaker or goblet with all-over mould-blown decoration and applied opaque white trail.



**Figure 7.36**

Bowl with mould-blown ribs and applied trails.



**Figure 7.37**

Small bottles with flattened rims.



**Figure 7.38**

Large square bottle base.

## SV PAVAO

The next shipwreck to be discussed in this chapter was discovered roughly 170 km southeast of Rogoznica, although the distance travelled between these locations would have been much greater when considering the rugged coast and the numerous islands around which a ship would need to navigate. The Sv Pavao shallow, in which this ship sank, is located approximately 200 m off the coast of the island of Mljet, just to the east of the islet of Preč. Research on this wreck began in earnest in 2007, and then between 2010 and 2012 several joint excavations were undertaken by the Department of Underwater Archaeology of the Hrvatski Restauratorski Zavod (where these artefacts are currently stored) and the Dipartimento di Studi Umanistici of the Università Ca' Foscari di Venezia (Beltrame and Miholjek 2014: 3).

Metal finds from the excavations were particularly useful for dating the ship and ascertaining its provenance. Artillery pieces were inscribed with various characteristically Venetian symbols, such as the initials of Tommaso di Conti, an early 16<sup>th</sup>-century Venetian founder, and the image of a lion's head (Mihajlović 2014: 59). The ship's bell was stamped with the year 1567 (Bezák 2014: 115); however, a number of Ottoman coins were also discovered, the latest of which were attributed to Sultan Murad III (1574-1595). These coins began to be minted in 1574, thus dating the ship to after that year (Miholjek and Perić 2014: 15). Amongst the finds was a substantial cargo of Ottoman ceramics, 53 pieces of which were undoubtedly produced in Iznik for a Western market; additional pottery made in Italy was also found, along with oriental kitchenware, but these were most likely the possessions of the ship's crew (Zmaić Kralj 2014: 64).

## *Vessels*

### **Bottles**

In contrast to the abundance of richly decorated ceramics, the glass cargo excavated from the Sv Pavao shipwreck was limited in number and served a utilitarian purpose. This assemblage consists of at least 18 bottles which can be divided into three general groups (Ferri 2014: 110), although they are all related in style and the methods by which they were manufactured. All were produced in vivid green glass, and their bodies were dipped into a second paraison of glass, known as the 'half-post' method, which reached up to the bottom of their necks, leaving a distinctive seam between the two. This type of manufacture can be observed in bottles found throughout the inland Balkans (see Chapter 12), which were produced in Austria, Germany, or other parts of Central Europe (for example, see the half-post bottles with straight necks and spiral-ribbed bodies excavated from a Dominican glasshouse in Prague (Hejdová 1985: fig. 5.1)). However, bottles made using this method have not been found in Dalmatia. In addition, the rims of many of these bottles, already quite thick, have been folded inwards on themselves.

These bottles differ from each other mostly in the shape of their necks. The first type, represented by a single bottle, has a slightly out-turned rim and a nearly-cylindrical neck which ends in a large, distinct bulge above the shoulder of the vessel (see *fig. 7.39*). The rims of the second type of bottle, the most numerous with at least 14 examples, are similar in shape to the first type. However, these cylindrical necks do not have a bulge; nevertheless, the thick second paraison of glass on some of these bottles creates a defined step between the bottom of the neck and the otherwise sloping shoulders. These bottles appear to have been slightly flattened on two sides (see *figs. 7.40 and 7.41*). The final three bottles have a spout pinched into their out-splayed rims. In addition, the second gather of glass on the body has been blown into a mould, creating slanted ribbing (see *fig. 17.42*).

Margarita Ferri (2014: 111) has suggested that these spouted bottles might have been used for serving drinks, particularly since their bases are slightly smaller than those of the second type, which were most likely used primarily for transportation and storage, rather than as tableware. It may be that these bottles once contained oil or some other product which was being traded. Considering the origins of the other trade cargo on board, namely the Iznik pottery, and the methods by which these bottles were produced which were decidedly different from Venetian glassmaking traditions, it is most likely that these bottles were manufactured in Turkey or possibly another part of the Ottoman Empire. Evidence from various other sources point to Istanbul as the production centre. Half-post bottles with spiralled ribbing on the body and a bulge on the bottom of the neck were found made of olive, brown, and yellow glass dated to the 15<sup>th</sup> and 16<sup>th</sup> centuries at the Sirkeci excavations in Istanbul; later, in the 16<sup>th</sup> century it appears that these bottles became taller and turquoise with a kicked base or ring base (Canav-Özgümüş 2012: 329-30). These finds corroborate contemporary accounts from the *Surname-i Hümayun* of 1582. The bottles depicted in these illustrations have long necks and pear-shaped bodies either with a kick or with a pedestal foot. It appears that these have been dipped into a second gather of glass covering the body of the vessel up to just below the neck, while some have also been blown into moulds producing ribbing on the body. These have been portrayed in colours comparable to the later set discovered at Sirkeci. A small collection of half-post bottles made of golden-brown and green glass with spiralled ribbing on the bodies and long necks with several bulges were excavated in Sukhumi on the eastern shore of the Black Sea, and similar examples have also been found in Tbilisi dated to the 16<sup>th</sup> or 17<sup>th</sup> centuries. These were found alongside a long-spouted pitcher with a pedestal foot, and several *inghistere*-style bottles both with and without pedestal feet. The half-post bottles were originally thought to be attributable to trade with Iran (Voronov, Voznyuk, and Yushin 1982: 254-56); however, it is perhaps more likely that these vessels are indicative, rather, of trade across the Black Sea. While several of the vessels might have been Venetian, it is possible that the half-post bottles were Ottoman products (Rogers 1983: 251). Therefore, the discovery of the bottle assemblage from the Sv Pavao



shipwreck has perhaps provided significant physical evidence towards the limited knowledge surrounding the 16<sup>th</sup>- and 17<sup>th</sup>-century Ottoman glass industry.



**Figure 7.39**

Bottle, Type I.



**Figure 7.42**

Type III bottle with spout.



**Figures 7.40 and 7.41**

Type II bottles.

## DREVINE

The remains of a late 17<sup>th</sup> or early 18<sup>th</sup>-century merchantman were discovered in the Drevine area near the island of Koločep in the 1970s. Several glass objects, along with commodities made of other materials such as ceramic and metal (produced in Northern Europe or Central Europe), were found packed into 47 wooden crates (Kisić 1982: 144). This assemblage of glass contains both utilitarian and decorative items, although the quality of glass is variable in those objects which are decorated. It is interesting to note the presence of beads and canes in addition to vessels and flat glass found on this wreck.

### *Vessels*

#### **Goblets**

The goblets found in the Drevine wreck include types which have been excavated from many other places throughout the study area: lion mask stems, tapered stems (without a merese between the stem and the cup), and hollow knob stems with vertical ribbing (see *figs. 7.16-7.18*). In addition, the latter two types were also discovered having been decorated with colourless and turquoise 'wings' (see *figs. 7.19-7.20*). Examples of both shapes of stems from the late 16<sup>th</sup> or 17<sup>th</sup> centuries can be seen at the Museo Vetrario in Murano (Barovier Mentasti 1982: fig. 101). Although this kind of decoration was prevalent throughout Europe in the 17<sup>th</sup> century, having first been made in Venice at the end of the 16<sup>th</sup> century and then almost immediately replicated elsewhere, these are some of the only examples of such goblets in the Balkans. This is not surprising, as these *vetri a serpenti*, as they were sometimes called, could cost about five times as much as a regular wine glass (Tait 2012: 174-76), and thus they are exceedingly rare in archaeological contexts in general (Willmott 2001: 65). Unlike the other goblets from this wreck, which displayed a bluish, greyish, or yellowish hue, these winged goblets were more completely colourless and appear skilfully made, making them more luxurious than items frequently found in the study area.

#### **Lamps or lids**

Around 54 artefacts in this assemblage are composed of a rounded knob which flares outward to form a ring-shaped bulge at the rounded base of an object with tall, straight walls. It is possible that these were lids to goblets, as a few fragments of folded edges were also found in the excavation (Kisić 1982: 159) and the rounded knob and vertical opaque white trails are seen on a small 17<sup>th</sup>-century lid at the Corning Museum of Glass (acc. no. 62.3.119); yet the overall shape of the Drevine artefacts is elusive, and appear to have been significantly taller than the Corning object. However, these appear to be more similar in shape to *cesendelli* lamps excavated at Sirkeci in Istanbul. Many (at least 33) are also similar in decoration, with opaque white canes applied vertically from the knob upwards, although rest of these have been kept

plain. Those from the Drevine wreck were applied irregularly and left unmarvered, as were the 16<sup>th</sup>-century examples from Sirkeci, although those from 17<sup>th</sup>-century contexts were more precisely decorated (Canav-Özgümüş 2012: 330-31). *Figs. 7.21-7.23.*

### **Bottles**

At least three types of bottles were found in the Drevine wreck. The first was an olive-green bottle with a globular body with a long neck and a flattened ring below the cut rim (see *fig. 7.24*). The second type was one seen frequently throughout the study area: tall, square, blue-green bottles with a skittle-shaped rim (see *fig. 7.25*). These have been attributed to the belongings of the ship's apothecary, matching bottles found in an apothecary's chest located at the Maritime Museum in Dubrovnik (Kisić 1982: 155-56). The final bottle was also square-based, but was considerably larger than the previous example. Its pale green colour was also far less vivid than the commonly-found blue-green case bottles, with a shorter rim as well (see *fig. 7.26*).

### ***Flat glass***

The cargo of the Drevine wreck contained several small pieces of flat glass which was deep blue in colour. These pieces had all been filed into either long, narrow rectangles or small squares with scrolls off the sides. Each of these had small circles filed through them, presumably to fix them to a surface with small nails. It is most likely that these were attached to the frame of a mirror, or else to some other sort of furniture. *Fig. 7.54.*

### ***Canes***

In addition to finished products, this collection also included solid, twisted canes made from near-colourless transparent glass. The ends of some are slightly tapered, showing that these were shipped in various lengths. *Fig. 7.55.*

### ***Beads***

Finally, numerous beads were discovered amongst the finds from the Drevine wreck. These included several small rounded seed beads made in blue, yellow, and white glass. Another set of beads was larger in size and more oval in shape, all made of the same yellow glass. *Fig. 7.56.*



**Figure 7.43**

Lion-mask stem.



**Figure 7.44**

Long tapered stem.



**Figure 7.45**

Stem with stepped, ribbed knobs.



**Figure 7.46**

Tapered *vetri a serpenti* stem.



**Figure 7.47**

Stepped-knob *vetri a serpenti* stem.



**Figure 7.48**  
*Cesendello* or lid.



**Figure 7.49**  
*Cesendello* or lid.



**Figure 7.50**  
*Cesendello* or lid.



**Figure 7.51**  
Globular bottle with string finish.



**Figure 7.52**  
Square bottle with skittle-shaped rim.

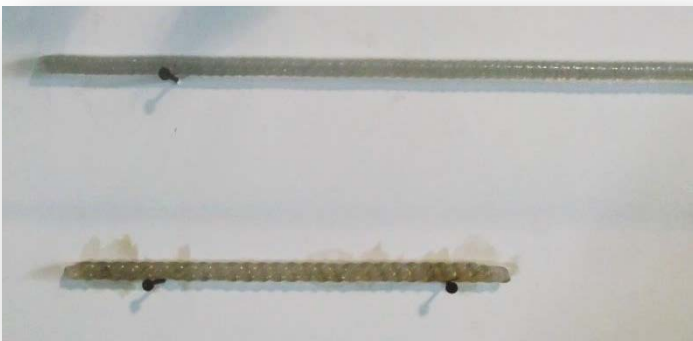


**Figure 7.53**  
Large square bottle.



**Figure 7.54**

Blue flat glass from mirror frame or furniture.



**Figure 7.55**

Twisted canes.



**Figure 7.56**

Large and small beads.

## KOLOČEP

The cargo of the final shipwreck in this chapter is one of the most singular assemblages of early modern glass in this region, while simultaneously being the least accessible collection. Along with lead objects, including thuribles, bronze cannons and candelabras, and 38 everyday ceramic goods produced in various locations throughout Italy, at least 53 glass artefacts were also discovered amongst a wreck off the coast of Koločep. These artefacts were brought to the surface by amateur divers and held in a private collection, the discovery of which piqued scholarly interest in the wreck itself. In 2009, a dive was arranged by the Minister of Cultural Heritage at the Konzervatorski odjel Dubrovnik to photograph and catalogue the remains of the wreck; however, the private collection of glass and other artefacts which have been already retrieved has been inaccessible following the wars at the end of the 20<sup>th</sup> and beginning of the 21<sup>st</sup> century (Radić Rossi 2006: 89). Thus, the scholarly benefits of this assemblage have been somewhat impeded. The descriptions presented here have been ascertained through various secondary sources and through photographs taken by Irena Lazar. Even these photographs show, however, that this was an assemblage which was unique within this region in both the forms and the types of decoration of its vessels. While Venice is a possible provenance for these objects, exact analogies cannot be found for many of these items.

### *Vessels*

#### **Goblets**

Of all the vessels in this collection, the goblets from the Koločep wreck are the most consistent with Venetian glass discovered on land in the Balkans, although they still exhibit some differences in form of decoration. This includes at least two lion mask stem goblets, albeit with two different types of cups: one has a somewhat narrow, deep curved cup, while the second has what may have been an octangular cup with a thick, crimped ribbon applied to the lower part of the cup and three closely-spaced horizontal trails above this. Both, however, were made of clear, colourless glass. A similarly decorated, more complete octangular cup was also found with no stem. The base of this cup is curved, but the walls taper outwards, creating a truncated-conical profile and an octangular rim.

This collection also contained an example of a goblet with a simple, plain stem with an enlarged knop as its merese. The remains of the deep, curved cup appear undecorated.

On the other hand, a hollow, inverse baluster stem with 'wings' and other morise bit-work were also discovered in this wreck. If this goblet stem included any coloured glass decorations, they have not survived. Additionally, no part of the cup remains; however, the stem appears fairly long, with a somewhat flattened knop towards the top of the stem, some distance above the baluster.



Finally, at least two examples of two-piece goblets were found amongst the wreck. These both had a wide, trumpet-shaped pedestal foot and a deep, curved cup. Both of these cups were also decorated with vertical, widely-spaced canes.

## **Bowls**

This collection includes several small, footed bowls, the smallest of which might have equally been used as large drinking vessels, the rim diameters of these objects varying between 10.5 and 14 cm. Although most of these bowls conformed to just a few forms, their decoration was diverse and elaborate.

The simplest of these vessels were wide, shallow, curved bowls with a self-coloured applied foot, made out of transparent, deep emerald green glass. A small fragment of a similar foot was found made of dark blue glass as well. Unlike the other bowls of this shape, the feet on these were more truncated-conical in shape, rather than trumpet-shaped. Other bowls of this type include two bowls made of opaque pale blue glass with a few swirling spots of turquoise all over the inner and outer surfaces of the bowl, as well as two slightly different bowls made of opaque turquoise glass: both have been decorated with not-fully-marvered spots of aventurine, red, and some dark blue, yet one has been decorated over the entirety of the outer surface, while the other is only decorated *a macchie* on the lower half of the outer surface, where it has also been given low, widely-spaced moulded ribs. Moulded ribs can also be seen on another footed bowl which is slightly smaller in diameter and made of transparent dark violet, almost black, glass. This, too, has been decorated with spots of aventurine, dark red, and turquoise.

While these bowls were fairly shallow, and curved with fairly straight rims, another set of footed bowls were somewhat deeper, with curved bases and flaring, tulip-like rims. These were also given mould-blown ribs, although they were otherwise decorated in different ways. The first was similar in colour to the light-blue shallow curved bowl, and was decorated with turquoise and aventurine spots. Another two bowls were of a similar shape with mould-blown ribbing, yet were produced in 'incandescent' glass made from folding opaque white glass on the inner surface with violet glass on the outer surface. This has been covered in aventurine spots on the outer surface (Medici 2010: cat. no. 79a-b).

The final bowl, or possibly cup, in this collection was of a similar shape to the last, with a slightly flaring rim; however, it did not have any mould-blown decoration. Instead, it was given two small, round, crimped handles on either side, made of opaque white glass. The rest of the vessel was also made of opaque white glass, decorated with blue spots, and the occasional red and turquoise spot, on the lower half of the bowl, while the upper half remained smooth. This was the smallest of the bowls, with a diameter of 10.5 cm (Medici 2010: cat. no. Ib.75).

Similarities in both form and decoration can be observed in Venetian or *façon de Venise* objects found throughout Europe and in museums around the world. A cup of a similar size to the handled one in this collection, although with a straight rim rather than flared, with opaque

white handles and made of opaque white glass decorated with red, blue, and aventurine spots, is held at the Corning Museum of Glass along with its matching lid (acc. no. 79.3.1109). A small, 17<sup>th</sup>-century shallow, curved cup made of blue 'opal glass' with red and blue picked-up pieces, mould-blown vertical ribs and applied crimped ribbon handle and ring base found in Delft is thought to be a Venetian import (Henkes 1994: fig. no. 50.17). However, a similarly-shaped cup with two applied crimped handles, applied base ring, and *mezza-stampatura* moulding made of clear, colourless glass was found in, and is thought to have been produced in, Middelburg in the Netherlands (Henkes 1994: fig. no. 50.16). Later, 18<sup>th</sup>-century Dutch cups with shallow mould-blown vertical ribs were made of milk-glass with marbled colours applied had applied ring bases and out-splayed rims, and were thought to have been produced either in France or the Netherlands (Henkes 1994: cat. nos. 57.7-57.8). A few analogies have been excavated in the Central Balkans as well. One small bowl with a flared rim was found in a context with 16<sup>th</sup> and 17<sup>th</sup> century objects in Smederevo (Cunjak 1998: T.XXXIII.3); however, its base was broken, so it may or may not have had a foot. It should be noted that this shape is not dissimilar to the bowl-shaped lamp described below as well. The curved, rather than flared, version of these bowls is also reminiscent of a small bowl or cup found at the Belgrade Fortress, also decorated with picked-up coloured pieces of glass (Han 1985: fig.1.b)

### **Vases**

The vase from this assemblage was complimentary to the shallow turquoise bowls described above and the jug described below. This, too, was produced in opaque turquoise glass, decorated with unmarvered spots of blue, red, and aventurine on its body, which also has very faint mould-blown ribbing, but not the rim. Its body is globular in shape, tapering slightly at its base, which is attached to a self-coloured applied pedestal foot. The nearly-cylindrical rim is wide and its edge has been folded over.

Another vessel with a wide, cylindrical rim and a spherical body was made instead of clear, colourless glass and without a foot on its slightly flattened base. While it might have been used for storage, its lack of a sturdy base would have made this less than practical, although it is far plainer in appearance than other objects transported on this ship.

### **Bottles**

The bottles from the Koločep were produced in a variety of forms, in both colourless and richly-coloured glass. Two bottles were discovered with long necks, flared rims, and a wavy ribbon of self-coloured glass applied just below the mid-point of the neck. One of these, with a slightly shorter, wider neck, was made of clear, colourless glass, while the slightly longer, narrower example was made of very dark green glass.

One bottle made of clear, colourless glass had a large, truncated-conical rim which narrowed into a small neck before immediately flaring outwards again to form the shoulder of

the sloping vessel. The small amount of body that remains shows that it had wide, mould-blown ribbing. A flask with a similar rim was excavated at Moura in Portugal; this, however, had a small ring-shaped bulge at the neck, and a spout on the body, but no ribbing (Medici 2012: cat. no. VID422).

Another parallel with the artefacts from Moura can be seen in a 'gourd-shaped' bottle from the Koločep wreck made of very thick yellowish-brown glass. This bottle has a rather bulbous lower half, which constricts at the top before expanding once more to form a second bulge, which tapers inwards toward the cylindrical neck topped with a brass stopper. The base has a low kick. The Moura example was of a similar shape, although this was made of blue, almost teal, glass with millefiori decoration (Medici 2012: cat. no. VID486). While other examples of this form of bottle have been attributed to Venice, Dubrovnik should not be discounted (Medici 2010: cat. no. Ib.86). Archival records mention a type of vessel described as 'zuche doppie grosse per la Turchia' holding roughly 4 litres (Han 1981b: 139), which otherwise have not been discovered archaeologically nor have they been otherwise associated with a known type of bottle (Bikić 2006: 205). Although these records come from an earlier period, it is possible that this was a form which endured in certain areas.

Similar in the glass with which it was made, and with a similarly-shaped lead stopper, was a bottle with a long neck and a globular body. A thick, crimped ring of the same coloured glass was applied to the base. The base was only slightly pushed in, and has a rough pontil mark. The long neck was twisted when it was formed.

A third bottle was made of similarly coloured glass, although perhaps a bit thinner, and was also topped with a metal stopper. Its shape, however, is somewhat more complex: with a scalloped footprint, the walls of the body form into six vertical bulges before curving at the shoulder and meeting the short, cylindrical neck. A much more ornate version of this form can be seen at the Victoria & Albert Museum (acc. no. C.207-1936). Instead of dark, yellowish-brown glass, this was made in *calcedonio* glass of various shades of blue and green with spots of aventurine, while the stopper was instead

The purpose of the final bottle in this collection is debatable. This bottle was made of dark green glass so thick that it becomes almost opaque to light. Its body is almost perfectly spherical, without a flattened base. The short neck is slightly bulging, and the rim has been cut roughly. It has been suggested that if this vessel were to be filled with a flammable liquid, it might be used as a handheld bomb (Radić Rossi 2006: 88). It is not terribly dissimilar to the 16<sup>th</sup>-century spherical Turkish bottle described earlier in this chapter (Carboni 2001a: cat. No. 103a).

## **Jug**

The first jug from this collection was meant for decorative purposes rather than just utility. Its wide, flaring rim has been pinched into a trefoil spout, and a pedestal foot has been attached to

the base of its globular body. The attachment of a now missing handle can be seen on its shoulder. This has been made of vivid turquoise glass which has been decorated on the body with spots of aventurine and opaque red and dark blue. A similarly-shaped jug with wide, vertical ribbing is held at the Corning Museum of Glass (acc. no. 50.3.61), made instead in opaque white glass and decorated over the entire outer surface with swirling spots of blue, red, and aventurine.

Another vessel in this collection also had a round body, a wide, cylindrical rim, an applied crimped ring foot, and a small applied crimped handle. Both the handle and the rest of the vessel were produced in opaque white glass, with a few spots of turquoise glass near the underside of the body. While this may have been used as a jug, the wide rim (11.3 cm in diameter) with no spout and the delicate handle make this vessel somewhat less practical for pouring than the jug described above. Therefore, it may have been intended more for display than for use.

### **Lamps**

The cargo of this wreck included the remains of two different types of possible lamps. The first of these does not have any known analogies on the Dalmatian coast, although with the simple shape of its rim, it is possible that fragments belonging to similar vessels have been misidentified. These lamps have a rounded, curving base which flares outward to form a large cup with a wide, folded rim measuring 14 cm in diameter. Three small hooks of clear, colourless glass have been applied to this rim (Medici 2010: cat. no. Ib.87). A parallel has been drawn with unpublished hemispherical lamps from the monastery of St Nicholas in Kuršumljija in Serbia (Medici and Radić Rossi 2015: 486).

This collection also contains fragments of *cesendelli* lamps, although admittedly these could have been the cups to large goblets or lids. The long, cylindrical bodies of these lamps were made of clear, colourless glass which has been decorated with vertically-applied canes, opaque white on at least one example, and alternating blue and opaque white on another. A solid clear, colourless finial has been applied to the base of this vessel, attached by a large, flattened knob with twisted ribbing.

### ***Flat glass***

At least one oculus has been documented amongst the private collection of glass from the Koločep wreck. This was made of clear, colourless glass with a folded edge 15 cm in diameter (Medici 2010: cat. no. Ib.88). However, very large quantities of cast glass cut into rectangular panes were discovered during the 2009 reconnaissance mission (Radić Rossi 2010: 112). If these artefacts are one day excavated, it would be interesting to see if any had been polished as unfinished mirrors, or if they conform to the fairly standardised proportions witnessed in the Gnalić assemblage.

## ***Beads***

It has been noted that numerous beads were also discovered amongst the wreck (Radić Rossi 2006: 88). However, no information has been published regarding the exact quantities, sizes, or types of beads which were found.

Where the Gnalić wreck was representative of the preferred styles of luxury glass in the late 16<sup>th</sup> century—fine clear, colourless glass with delicate engraving—the glass of the Koločep wreck demonstrates the vivid colours which were popularised a century later. The repetition of glass colours and decorative styles across different forms and types of objects suggests that they might, perhaps, have been intended as matching sets; the opaque turquoise vessels, for example, included a jug, a vase, and two slightly different types of bowls. This might correspond with the growing desire for sets with matching patterns or decorative styles made of other types of materials, such as porcelain, by the 18<sup>th</sup> century (Lunsingh Scheurleer 1974: 102). Teresa Medici and Irena Radić Rossi have suggested that these objects were produced in Venice, although admit that another production centre should not be ruled out. While Dubrovnik is proposed, it is more likely that this city acted instead as an intermediary, rather than a producer, since the glass industry there was thought to have ceased operations in the previous century. Istanbul, however, appears to be a likely destination, due to a proclivity for many of the colours and decorative styles found in this cargo (Medici and Radić Rossi 2015: 485, 487). The fact that the rest of the ship remains unexcavated is unfortunate, as such abundantly decorated objects are rarely seen in archaeological contexts and it would be interesting to see if more are still submerged, as well as the information to be gained from learning more about the ship's structure and other cargo.

Smaller quantities of glass artefacts have been excavated from other post-medieval shipwrecks in the Adriatic, and these, too, have unfortunately been inaccessible for the purposes of this research. These artefacts include baluster stems found at Sv Katarina near Rovinj and near Šipan, and sheets of glass at several other sites; however, many other artefacts from underwater sites held at museums around Croatia have come from unknown locations (Glušćević 2006: 11-12). The artefacts discovered on these shipwrecks from across the Adriatic, whether they were cargo intended for trade or the personal goods of sailors or passengers, give scholars some indication of the types, forms, and styles of glass being produced and used in the early modern period. As this seaway was the major artery through which trade between Europe and the Ottoman Empire took place, trade is generally considered only in relation to the powerful port cities of Venice and Istanbul. Over the next several chapters, however, this thesis will examine the rich variety of glass used in the Balkans, both on the coast and in the interior, and will question how these trade routes affected these smaller cities and the objects which they used.

## VIII

# ISTRIA AND THE KVARNER GULF

The first region to be discussed in this study, the northernmost corner of the Eastern Adriatic, was an area divided between the Venetian Republic and the Habsburg Empire. The coast of the Istrian Peninsula and the islands of the Kvarner Gulf, including Cres, Osor, Rab, and Krk, were geographically the closest of any of Venice's overseas territories to the city itself—so close, in fact, that Istria was at times grouped together with the *terrafirma* (see map 8.1). Yet, perhaps due to its cultural distance from Venice, and even Friuli, it was more often considered the first stopping-point in the *Stato da Mar* (Arbel 2013: 131). Despite Venice's control of the overwhelming majority of the Dalmatian coast, Venetian ships still relied on the skills of local pilots to navigate the maze of channels between Dalmatia's thousands of islands. George Wheler (1682: 3) remarked that all ships, Venetian or otherwise, were required to stop in Rovinj to take on a 'profess'd pilot' to navigate the perilous route. Poreč and Pula were other cities where ships could take on more crew members or a pilot on their journey south, or, vice-versa, to take on a pilot to bring the ship through the Venetian lagoon (Arbel 2013: 225).

As one moved along the mainland around the gulf, however, they moved from Venetian into Habsburg territory. By the early 18<sup>th</sup> century Rijeka, near the top of the gulf, had become one of Austria's principal port cities and, along with Trieste, posed a significant threat to Venice's monopoly on Adriatic trade (Arbel 2013: 228). Just over 50 km further down the coast was another port which had long been a hazard to all shipping in the Adriatic: Senj, the base of the uskoc pirates. This stretch of the coast, from opposite the island of Krk through the Velebit Channel, was avoided by many ships traversing the Adriatic, which is reflected by its absence from many navigational guides to the region (Pavić 2000: 180-86).

### OSOR/OSSERO

Unlike many of the other sites in question, Osor, or *Ossero* as it was known to early modern Venetians, underwent a long decline following its glory days during antiquity. Although the assemblage of glass which has been excavated in various locations within the vicinity of Osor is limited in size, it includes a sampling of vessels from the late Middle Ages into the early 19<sup>th</sup> century. These artefacts echo both the series of political and social upheavals to which the town was subjected, as well as the overall shift in trends within the glass trade.

The village of Osor, as it is known today, occupies a small peninsula at the point of meeting between two long, narrow islands, Cres and Lošinj. These two were once united as one large island known by some variant of Osor or Ossero, before a channel was dug out at the narrowest point, forming the western boundary of the village. However, this channel is so slender that Alberto Fortis chose to describe the land as ‘two islands united,’ as the channel ‘is so very narrow, that it can scarcely be reckoned any separation at all’ (1778: 389). As such, the islands, although ostensibly separated, shared a common history and were frequently considered together in any description of their past.

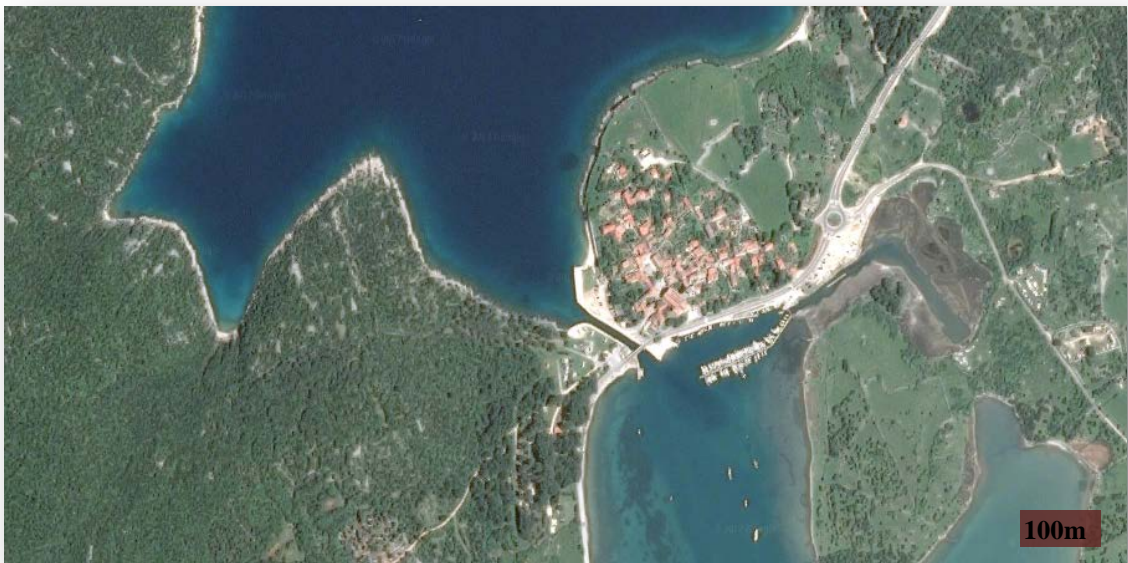
Once a prominent Roman settlement, the town of Osor, along with the two islands it joined, changed hands frequently over the course of the Middle Ages. Located in the Kvarner Gulf which separates Dalmatia from the Istrian Peninsula, the islands frequently found themselves caught between the powers of Byzantium, Hungary, Venice, and eventually the Ottoman Empire. Although the islands were taken by Venice for a short time in the early 14<sup>th</sup> century, they, along with Nin and the nearby island of Rab, sent an envoy to Venice to submit once again during the summer of 1409 after Ladislas sold his rights to Dalmatia (Fine 1987: 489). The town of Osor had long been the seat of a diocese, and between 1465 and 1498 a cathedral, the Church of the Assumption of Mary, was erected; it has been suggested that it may have been built in part by Giorgio da Sebenico (also known posthumously as Giorgio Orsini), the architect of the Katedrala sv Jakova (Cathedral of St James) in Šibenik (Jackson 1887: 102).

Frequent malaria outbreaks resulted in Osor’s depopulation, and eventually its economic decline. By the time of Fortis’s visit in the late 18<sup>th</sup> century, the town had been reduced to a mere 250 inhabitants, which he described as a ‘skeleton of a city, where perhaps there are more ruined and uninhabited houses than inhabitants’ (Fortis 1778: 393).

The small collection of diagnostic glass excavated in the area is confined to vessel glass, namely goblets or other stemmed wares, lamps, a single bowl, and bottles, all of which are now housed at the Arheološka zbirka branch of Lošinjski muzej in Osor. As Osor is the smallest settlement to be examined in detail within this study, it is not surprising that this is also the smallest assemblage presented here. Nevertheless, it contains examples of typical 16<sup>th</sup>- and 17<sup>th</sup>-century Venetian drinking vessels and non-Venetian bottles of the same period. These objects were excavated from various locations in the old town.



**Map 8.1.** The northern Adriatic Sea, including Istria and the Kvarner Gulf.



**Map 8.2.** The channel between the islands of Cres and Lošinj and the village of Osor.



## **Vessels**

### **Goblets**

Osor's collection contains the partial stems of at least four different vessels which can be classed as goblets or potentially *tazze*. These vessels are representative of middling-quality Venetian glass of the 16<sup>th</sup> and 17<sup>th</sup> centuries. Parallels can be seen in assemblages throughout the Dalmatian coast.

#### *Tall, hollow foot with reel-shaped merese*

The first is a goblet of clear, colourless glass with a tall, hollow foot attached to a curved cup by a separate reel-shaped merese. Due to its heavy weathering, the quality of the glass is unknown. However, it is similar to several examples of medium-quality glass found both on the Gnalić wreck (Lazar and Willmott 2006: S3a) and in excavations carried out in Šibenik, many of which had a curved cup. *Fig. 8.1.*

#### *Hollow, tapered stem*

The second goblet has a tall, narrow cup which flares outwards towards the rim, attached to a hollow, tapering stem, which in turn is attached to a separate, shallow foot. Unlike other tapered-stemmed goblets from this period, such as the well-known example from Caravaggio's *Bacchus*, this specimen does not have a decorative knob, or even a merese, separating the stem from the cup. Higher-quality goblets of a comparable shape, without a merese, dating from the late-16<sup>th</sup> through 17<sup>th</sup> centuries can also be observed decorated with applied 'wings' (Barovier Mentasti 1982: *fig.* 101), evoking the fashion of elaborate *vetri a serpenti* goblets, such as the ones discovered in the Drevine wreck. On the other hand, this vessel was produced in smoky-grey glass with several small bubbles, suggesting that it was a more moderately-priced incarnation of the style. Similar plain goblets were also found in the late-17<sup>th</sup> century Drevine wreck, made of greyish or colourless glass. *Fig. 8.2.*

#### *Lion mask stems*

The collection also contains the fragments of two distinct lion-mask stems. Since the mould-blown lion mask is the only portion that remains of each vessel, it is unknown whether these stems were part of goblets or *tazze*. However, the difference in gadrooning above the lions' faces allows us to infer that these two examples were produced using two different moulds. Both have been made using clear, colourless glass, although one has a slightly greyish tint. *Fig. 8.3.*

### **Bowl**

Osor's collection contains the remains of only a single bowl. This rim fragment was made of clear, colourless glass, decorated with unmarvered opaque white canes which have been applied

vertically and which curve slightly towards the right at the rim, which would have had a diameter of approximately 11 cm. The glass measures 2 mm thick and contains some small bubbles, while the canes were approximately 3.2 mm thick. As the rim is the only part which remains, it is unknown whether this bowl was of a simple, hemispherical shape, or if it had some sort of applied foot. The closest known example in the region was found at Sv Grisogono in Zadar, which was a hemispherical bowl with no foot, decorated with unmarvered, opaque white trails which also curve to the right (although this curve is much more pronounced on the Zadar bowl) (Pešić 2006: *fig.* 14). *Fig. 8.4.*

## **Bottles**

This assemblage contains the rims or bases of at least 10 different bottles, which can be divided into three types, and a further four subtypes. Most of these can be dated from the late 16<sup>th</sup> through early 18<sup>th</sup> centuries, although two examples might possibly be from an earlier period, and another two from the late-18<sup>th</sup> century or perhaps slightly later.

### *Inghistere*

Two bottle bases belonged to examples of long-necked, spherical-bodied *inghistere* produced in Venice and elsewhere, transcending the late medieval and early modern periods. The first conforms to the tall-footed style, which has been discovered more frequently throughout Dalmatia, while the second has a low, folded ring-style foot. Late-fifteenth-century paintings and frescos, however, demonstrate that these were used contemporaneously, at least during part of this period (Barovier Mentasti 1982: *figs.* 16-18).

The remains of only one tall-footed *inghistera*-style bottle have been excavated from Osor. Like many other examples from the region, this was made of slightly yellowish, almost colourless glass, with relatively few bubbles, and with a kick into the body of the bottle. The raised foot measures nearly 8 cm in diameter, and bulges slightly where it tapers inwards at the base of the bottle. *Inghistere* with these tall feet have also been found also in Seline near Pula and Nin, north of Zadar (Bekic 2014: 29). *Fig. 8.5.*

The other possible example of a different type of *inghistera* is a bottle of clear, colourless glass with a low folded foot and a globular body. The foot measures 9.5 cm in diameter with a low, pointed kick, and the small amount of wall which remains is 1.5 mm thick and contains very few bubbles; however, the underside displays a rough pontil mark. While this is identified in this study as a bottle, comparable to an *inghistere* from Kotor (Križanac 2001: Tab. IV no 34) and a similar 13<sup>th</sup> or 14<sup>th</sup> century bottle from Corinth (Whitehouse 1993: *fig.* 1 no. 780), it is possible that, like the example from Šibenik which will be described in the following chapter, this may have been the base to a lamp (such as those found at Sv Sergius on Koločep, see Han 1981: Tab. IV; and for those at Kotor, see Križanac 2001: Tab. XIX nos.

123, 124, and 126) or to some other form of bottle, such as a sprinkler (for example, Lazar and Willmott 2006: Fig. 62). *Fig. 8.6.*

#### *Narrow neck with ring-shaped bulge*

The rim and neck are all that remain of a bottle made of light olive-green glass. The bulbous rim measures 2.5 cm in diameter, with another bulge lower down the narrow neck which measures 3.5 cm, from which the neck flares outward to meet the body. The glass measures 2 mm thick at this point. This rim and neck correspond to three such fragments, made of glass in varying shades of green, discovered in Ferrara which were dated to the 12<sup>th</sup> and 13<sup>th</sup> centuries. One greyish-green example from that collection was analysed and found to be chemically similar to glass produced in Venice in the late Middle Ages (Visser Travagli 2000: 268). Examples dated to the 13<sup>th</sup> century have also been found in Buda, which in turn have been compared to an often-cited bottle from Panik in Bosnia (Gyürky 2003: 20; Popović 1973: Tab. XII fig. 2). *Fig. 8.7.*

#### *Funnel-shaped rims with short necks*

The majority of the bottles within this assemblage fall into the type which possessed short necks and flared rims. Some of these rims are more funnel-shaped, while others have been pushed downward, flattening them. These bottles appear in a variety of different colours, shapes, and sizes; however, what unifies these two subgroups is the application of white, opaque trails on the rims of all save one bottle. This corresponds to the group of bottles identified by Luka Bekić (2014: 16-17) as 16<sup>th</sup> to 18<sup>th</sup>-century bottles of possibly local manufacture.

Only one of these bottles was left without an opaque white trail on the rim. This was made of grey glass containing small bubbles. The neck on this example is very short, almost non-existent, while the rim is funnel-shaped and left unrounded, 4.6 cm in diameter. Only a small portion of the shoulder remains, which shows that the shoulder was more gently sloping than other examples in this collection, and where it curves downward to form the body is less severe and angular. Nevertheless, this might still have had a square or rectangular cross-section, seen in the majority of instances of this bottle type. *Fig. 8.8.*

Two bottles from Osor have a more defined, squared cross-section. The first of these is made of yellowish-green glass containing at least two large bubbles, with a longer and more distinct neck than the previous example, and a rim which has been flattened outward. This rim edge has been decorated with an applied white thread, and measures 6.7 cm in diameter. The neck forms almost a right angle with the shoulder, and then curves downward to form the body of the bottle (see *fig. 8.9*). The next bottle also has a longer neck and a square cross-section. However, this was made of slightly-pinkish glass, again with several small and medium-sized bubbles. In addition, this rim retains its funnel shape, 5.3 cm in diameter, but was pushed downward so much that the neck was pushed down into the shoulder slightly so that it does not create the same neat angle.

Conversely, the fourth bottle of this type had either an ovular or, more likely, a rectangular footprint, meaning that two walls of the body were wider and flattened. This example was also produced in medium, yellowish-green glass with a few small bubbles, but is one of the smaller examples, with a rim diameter of 3.7 cm. Again, this example has a more funnel-shaped rim and a very short neck, with steeply-sloping shoulders on two sides, and almost no shoulder at all above the two flat walls. The white trail on this rim has not been joined up properly on the ends, and is unevenly thick throughout the circle. *Fig. 8.10.*

The final two bottles in this group have more indeterminate shapes, simply for the fact of them being less complete than the previous examples; however, by comparison with this and other collections, it can be assumed that they align with the two shapes detailed above. The first was made of very pale greyish-blue glass with several small bubbles, with a very short, slightly flattened rim and longer neck, which creates a more defined angle with the shoulder. The white trail is again unevenly applied on the rim, and measures 6.2 cm in diameter. The last rim of this type is the largest, measuring 6.8 cm in diameter, and was made in dark green glass with small bubbles. This rim was flattened, and both this rim and the neck are very short; however, the white trail appears to have been applied with a steadier hand. Only one small portion of the shoulder remains, which is very sloped, suggesting that it may have been rectangular in shape.

#### *Flat-rimmed, long necked bottles*

Two slightly different bottles belong to this group, both of clear, colourless glass, presumably from the 18<sup>th</sup> or early 19<sup>th</sup> centuries. The first is the simpler of the two—a small rim, 5.5 cm in diameter, which has been flattened to form a right angle with the neck, which is long and fairly straight before sloping gradually towards the shoulders. The glass contains very few small bubbles, but one or two larger ones. This is similar to several bottles found in Pula at Rt Seline (Bekić 2014: Cat. nos. 47, 211, and 213). *Fig. 8.11.*

The second bottle, however, is slightly more distinctive (see *fig. 8.12*). The rim is of a similar shape, although slightly larger (6.6 cm in diameter) and flared outward slightly. Yet this neck has been wreathed with an applied ring, 1.4 cm wide, made of the same colourless glass. This has been pinched to form a slightly pointed shape. In addition, there appears to have been a small bulge at the top of the shoulder. Finally, above the ring someone has etched the figures ‘1 ½’ followed by what could be the letter ‘L’ (see *fig. 8.13*). In the first decade of the 20<sup>th</sup> century, F. J. Koch described a type of plain glass decanter used for holding a litre of wine which he encountered on his travels through the Balkans. These were ubiquitous in the region, since wine was less expensive than the drinking water which was sold. This was served with two plain tumblers—one for the wine, the other for water with which to dilute the wine (Koch 1908: 150). It could be that these two bottles were part of an earlier manifestation of this practice.

## Lamps

This collection contains four vessels of three different types which may have been used as lamps in different periods of Osor's history.

### *Bell-shaped*

The first type is represented by two examples: the first was made of slightly greenish glass which has been heavily weathered with pitting and iridescence, and the second of grey-hued glass which has been slightly better preserved and which contains a few small bubbles. Although little of the lamps' cups remain, it appears that their floors were nearly flat, before curving down somewhat to form long, narrow, hollow stems ending in hollow, rounded balls. These were the earliest of the lamps found at Osor, most likely dating from the late medieval period, but perhaps as late as the 16<sup>th</sup> century as seen in Hungary (Holl- Gyürky 1986: 77). *Fig. 8.14.*

### *Cesendello*

This collection contains one small fragment of purplish-grey glass which may have been the rounded knob at the base of a *cesendello*-style lamp. The knob, which is 3.3 cm wide and which has a small, smoothed pontil mark, tapers inwards to form a small neck before flaring out for the body of the vessel. The colour of the lamp, as well as the small and medium-sized bubbles within the glass, suggest that this was not of the highest quality. Examples from the Drevine wreck also appear in a variety of colours, and those that were decorated feature unevenly-applied opaque white canes, which could be an indication of the typical standard of quality for these types of vessels. Few other analogies are found in Dalmatia, with one possible example identified from Ližnjan (Bekić 2014: object 189), located opposite Cres on the tip of the Istrian peninsula. However, it is well known that this style of lamp was frequently sent to the Ottoman Empire, as seen in the 16<sup>th</sup>- and 17<sup>th</sup>-century lamps excavated at Sirkeci in Istanbul (Canav-Özgümüş 2012: 330). It is possible, however, that this fragment could have belonged to a tall, domed (though not spherical) lid. *Fig. 8.15.*

### *Hand lamp*

The final lamp in this collection was a product of the late 18<sup>th</sup> century or the first decades of the 19<sup>th</sup> century, and was made in thick, clear, colourless glass similar to the two bottles described at the end of this chapter. This lamp has a squat, biconical shape, and would have had a small opening for the oil and wick. The base measures at least 6.7 cm in diameter, and was attached to a circular handle of the same type of glass, 9.6 mm thick. *Fig. 8.16.*

## GLASS IN ISTRIA AND THE KVARNER GULF

The most thorough survey to date on Istrian post-medieval glass has to be Luka Bekić's recent publication, *Novovjekovno staklo iz podmorja Istre i Dalmacije*. While he references artefacts from up and down the Adriatic coast, his catalogue draws heavily from excavations in Pula, Rovinj, and Ližnjan, making this work a valuable resource in the study of Istrian material culture history in particular. For the most part, these objects illustrate that glass consumption on the peninsula adhered to tastes and trends witnessed in northern Italy and much of the Dalmatian coast. However, the rest of the Kvarner Gulf region is less-well represented in published materials. Whether this is due to simply a dearth of published materials, or due to the absence of glassware use in this part of the Habsburg frontier, is unknown. It would be especially interesting to know if this part of the coast line imported their goods from Venice, or looked instead to Ljubljana, Bohemia, or elsewhere, following the example of the Croatian interior (see Chapter XII).

Artefacts possibly dating from the earliest part of this time period could have been made as early as the 14<sup>th</sup> century or as late as the 16<sup>th</sup> or even 17<sup>th</sup> century. These include *inghistere*—consisting of a tall foot/base and perhaps a ribbed rim—which were both discovered in Pula (Bekić 2014: cat. nos. 17 and 204), fragments of bluish-green *krautstrunk* from Pula and Žminj (*ibid.*: cat. no. 18), and a rim of a biconical bottle from Pula (*ibid.*: cat. no. 206). The latter two types in particular represent a continuation of the Gothic style not typically thought to be found on the coast, particularly from the later end of the period. However, the peninsula's close proximity to Ljubljana could help to explain the biconical bottle at least. Interestingly, this catalogue does not include any artefacts decorated with blue trails, although some 13<sup>th</sup> or 14<sup>th</sup> century beakers with a blue trail on the rim have been found in Tar, about 10 km north of Poreč on the Istrian Peninsula. An *inghistera* with a 'discoid enlargement' on the neck, a flared rim, and a folded ring base was found in the same context (Šiljeg 2009: 115).

Tableware from the 16<sup>th</sup>, 17<sup>th</sup>, and early 18<sup>th</sup> centuries consists of clear-colourless glass conforming to contemporary Venetian or *façon de Venise* glass developments. The majority of goblets from Pula have a high, hollow foot separated from the curved or flared cup from either a ball or a flattened knob (Bekić 2014: cat. nos. 6, 11, and 13). There is also at least one instance of a soda-ash glass baluster stemmed goblet (*ibid.*: cat. no. 12), and a single example of a plain-stemmed goblet made of green glass from Rovinj, similar to an example from Trogir (*ibid.*: cat. no. 88). Excavations at Veštar near Rovinj also produced two fragments of *vetri a serpenti* or *Flügelglas* (*ibid.*: cat. no. 85 and 86). Mould-blown beakers or bowls appear to have been common as well, both in colourless (*ibid.*: cat. no. 9) and coloured glass (*ibid.*: cat. nos. 81, 82, and 248) with raised diamonds or teardrops, and colourless glass decorated with prominent ribs and applied gold-coloured threads (*ibid.*: cat. nos. 1 and 77). At the end of this period, refined-potash beakers in the Bohemian style could be found, either plain or with wheel-cut engravings (*ibid.*: cat. nos. 227, 228, 229, and 238). Several purplish or grey-coloured beakers were also

found, either plain cylindrical beakers with flat bases, or tall, skittle-shaped beakers; however, the provenance of these vessels is as yet unknown (*ibid.*: 45).

Bottles from this period consist predominantly of funnel-shaped rims (both with and without an opaque white trail), as well as a few tall, square blue-green bottles with skittle-shaped necks. Bekić's catalogue contains perhaps the largest collection of funnel-shaped rims known in the Adriatic region, as most of these have come from Pula; however, this could also be due to mislabelling this type of bottle to an earlier time period in museums or publications, thus skewing the numbers elsewhere. As was previously mentioned, Bekić (2014: 53) believes that this is indicative of an Eastern Adriatic glassmaking enterprise, and if this is so, perhaps the high concentration of this bottle type in Istria points to a nearby factory. The mountainous Gorski Kotar region outside of Rijeka was known for its dense forests and the industries it supported, such as sawmills and charcoal making. This would have also provided fuel for glassmaking, as it did for a successful factory in Sušice in the late-18<sup>th</sup> century (Despot 1959: 312). Perhaps this resource was used a century before as well—in addition to a linen factory and a sugar refinery, Fortis mentioned that Fiume (Rijeka) also housed a glass factory, altogether making it a city of 'considerable' trade (1778: 510). Or, perhaps, Pula was a major port for importing and redistributing this bottle type, and their contents, from abroad, such as those reputedly used for balsamic vinegar in Modena. As for tall, square-based bottles made of blue-green glass, at least one fragment from Ližnjan had a circular seal stamped on its shoulder, depicting the double-headed crowned Austrian eagle with the words 'ZARA' and 'DI ANT. COSMACENDI' encircling it, indicating that the bottle was used for the maraschino liqueur distilled in Zadar during the 19<sup>th</sup> and early 20<sup>th</sup> century (Bekić 2014: 33).

Finally, only three small beads were found in Veštar near Rovinj (Bekić: cat. nos. 89, 90, and 92); however, at least 20 coloured canes of various thicknesses were also found, suggesting at the very least a bead-making workshop. Combined with finds of molten and waste glass (of unverified date, however), Bekić cites this as evidence for glass production at the site, or for the smuggling of materials for glassmaking elsewhere in the region (*ibid.*: 64).



**Figure 8.1**

Hollow-footed goblet with reel-shaped merese.

H: 4.43 cm  
W: 1.86 cm



**Figure 8.3**

Hollow tapered stem.

H: 9.13 cm  
W: 1.47 cm (at stem)



**Figure 8.2**

Lion-mask stem.

H: 2.91 cm  
W: 2.93 cm



**Figure 8.4**

Bowl rim with applied opaque white canes.

H: 3.49 cm  
D: 11 cm

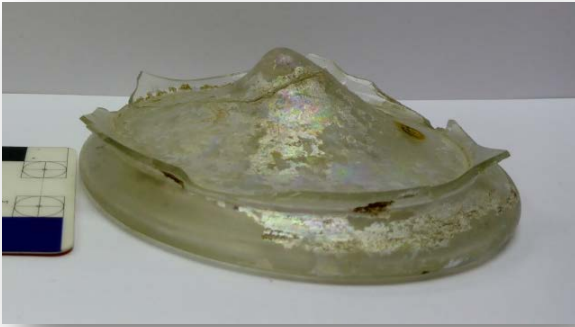


**Figure 8.5**

*Inghistera* with pedestal foot.

H: 3.92 cm  
D: 7.97 cm





**Figure 8.6**

*Inghistera* with low folded foot.

H: 2.95 cm  
D: 9.5 cm



**Figure 8.7**

Bottle rim with ring-shaped bulge.

H: 4.57 cm  
W: 3.51 cm  
D: 2.41 cm (rim)



**Figure 8.8**

Funnel-shaped rim with short neck.

H: 4.66 cm  
D: 4.63 cm (rim)



**Figure 8.9**

Square bottle with flat rim with opaque white trail.

H: 7.77 cm  
D: 6.73 cm (rim)

**Figure 8.10**

Funnel-shaped rim with opaque white trail.

H: 4.51 cm  
D: 3.72 cm (rim)



**Figure 8.11**

Flat-rimmed long-necked bottle.

H: 11.1 cm  
D: 5.5 cm (rim)



**Figure 8.12**

Flat-rimmed long-necked bottle with applied ring.

H: 12.59 cm  
D: 6.56 cm (rim)



**Figure 8.13**

Detail from flat-rimmed long-necked bottle with applied ring.

'1 1/2 L' etched onto the neck.



**Figure 8.14**

Bell-shaped lamp.

H: 6.08 cm

W: 1.84 cm (at knob)



**Figure 8.15**

Cesendello

H: 5.40 cm

W: 4.85 cm

**Figure 8.16**

Hand lamp.

H: 4.29 cm

D: 6.71 cm



## IX

# NORTHERN DALMATIA

Across from the southernmost reaches of the Habsburg territories on the Dalmatian mainland, the Venetian-controlled island of Pag forms the long, narrow Velebit Channel. At the southern end of this channel one would pass into Venetian territory on the mainland once again, and would soon arrive at one of the most influential cities in Venetian Dalmatia: Zadar. Zadar's hinterland was the most agriculturally thriving in Dalmatia during the early modern period (Mayhew 2008: 131). Nevertheless, Wheler (1682: 10) noted that while the land around Zadar was well-cultivated, Turkish raids had left the immediate hinterland entirely deforested. The city itself, however, was well-renowned. Of Zadar's citizenry, Alberto Fortis (1778: 14) wrote: 'The inhabitants of Zara, are as civilized as any of the cities of Italy; and in every age, it has produced men distinguished for learning.' Venice recognised the value of the city, and invested in it accordingly. By 1561, Venice had spent around 250,000 ducats on various fortification projects throughout Dalmatia, of which at least 144,000 ducats were allocated to Zadar (Arbel 2013: 220). Yet this was not the only city of importance on the northern Dalmatian coast. Art and architecture also flourished in Šibenik, known as Sebenico to the Venetians.

### ŠIBENIK/SEBENICO

The city of Šibenik, like many other coastal towns in Dalmatia, is positioned wedged between the hills and the sea, running lengthwise roughly northwest to southeast. Unlike the other sites examined in this study, however, Šibenik is tucked along the inner shore of a bay formed by the Krka River, which ultimately flows into the Adriatic via a channel directly opposite the city. The mouth of this channel on the sea is guarded by the Tvrđava Sv Nikole, or St. Nicholas's Fortress, a 16<sup>th</sup> century triangular fortress jutting into the middle of the channel on its own small island. The two-and-a-half-kilometre-long channel over which it presides—only 134 m wide at its narrowest point—once sheltered a safe harbour for ships traversing the Adriatic.

Šibenik's history differs from the other Dalmatian cities highlighted in this study in that it was not established by the Greeks or Romans, but rather was founded centuries later during the Slavic migrations. Nevertheless, this did not discourage the city's citizens, who later attempted to fabricate a classical origin story by linking Šibenik to an unconfirmed settlement called *Sicum*. These attempts at building historical legitimacy were noticed by Alberto Fortis (1778: 118-119), who also pointed out that the sole Roman inscription within the city walls had

been brought there from the interior of the territory. Like the much of the rest of Dalmatia, however, the city passed from Hungarian back to Venetian rule in the early 15<sup>th</sup> century. Yet despite Fortis's (1778: 119-120) claims that the people of Šibenik submitted 'voluntarily to the republic of Venice, as being a just and equitable government', the city's allegiance to the Hungarian king led Venice to attack the town in 1411 (Fine 1987: 489). Later, however, it became an important port in the *Stato da Mar*. Upon sailing past 'Sabenigo' in the 17<sup>th</sup> century, George Wheler (1682: 14) remarked that it was 'the strongest City of Dalmatia belonging to the State of Venice', and that the population was seven or eight thousand.

The vast majority of the post-medieval glass found in Šibenik has come from excavations which took place at Tvrdava Sv Mihovila, or St. Michael's Fortress, located on a hilltop to the immediate north of the preserved medieval town. Only a few individual artefacts are attributed to excavations elsewhere, such as Tvrdava Barone, the Baron's Fortress (nowadays also known as Tvrdava Šubićevac) perched slightly southwest of St. Michael's on the hills that form the boundary of the modern city, as well as excavations at the Muzej Grada Šibenika (where these assemblages are now held), located just off the waterfront to the south of Sv Mihovila.

The glass finds excavated throughout Šibenik include plain tableware and other utilitarian vessels such as those found elsewhere throughout Dalmatia. However, this collection also includes a number of elaborately embellished fragments, some of which do not have any direct parallels within the study region. In addition to having the 'best and most agreeable situation of any city in Dalmatia,' Fortis (1778: 120) claimed that, after Zadar, it had the most noble families 'who are now as far from the barbarous manners of ancient pirates, as their houses are unlike the former cottages'. Perhaps more so than many other sites in the area, this collection represents the full range from cheap, quotidian glassware all the way up to high quality luxury goods.



**Map 9.1.** Šibenik and the surrounding area.  
The modern city of Šibenik is seen opposite a channel through which the Krka River flows into the Adriatic Sea.



**Map 9.2.** Šibenik.  
1. Tvrđava Sv Mihovila. 2. Muzej Grada Šibenika. 3. Tvrđava Barone/ Šubićevac.  
4. Tvrđava Sv Ivan.

## *Vessels*

### **Beakers**

The assemblage excavated at Šibenik contains fragments of at least 47 beakers, spanning from late medieval Venetian soda-rich glass, through 16<sup>th</sup> and 17<sup>th</sup>-century Venetian glass (again, soda-rich), and up to early Central European refined-potash glass. Within these categories, beakers are subsequently distinguished by form and decoration, or lack thereof. Two beakers within this assemblage fall into the category of medieval Venetian (or Ragusan) glass that was, by the end of the Middle Ages and the beginning of the early modern period, made primarily for export: one with a crimped ring on the base, and another with a decorated, cupped rim. Plain beakers were found made of both Venetian-style soda-ash glass and refined-potash glass, as were beakers with mould-blown decoration.

#### *Crimped-ring-base beaker*

The first of these is represented solely by its base. What remains is a 4.1 cm diameter base with a kick, made of clear, colourless glass and decorated with an evenly-crimped ring around the outside of the base, 4.6 mm thick. The small amount of extant wall appears fairly straight and vertical, but no additional decoration is visible. Unfortunately, this beaker has sustained a high level of weathering, making the quality of glass indiscernible. Crimped-ring bases were found on a variety of different types of vessels available in the Balkans in the late medieval and early modern periods, including cupped-rim beakers (the ‘Biskup’ type found typically in Bosnia) and later *krautstrunk*. *Fig. 9.1.*

#### *Cupped-rim beaker*

The second late-medieval fragment is the decorated rim of a cupped-rim beaker, made of clear, colourless glass and adorned with two parallel dark blue trails (2.0 to 2.8 mm thick), one directly on the rim, and the other 0.8 cm below it. The rim would have measured 8 cm in diameter, but cups inward to a much narrower body. Although most examples of this beaker have been given mould-blown vertical ribs below the cup and a slightly bulging body, this is not seen on the beaker in question (although very little of the walls of the beaker remain, thus obscuring any ribbed decoration it may have once had). Instead, it appears more similar in decoration and profile to a particular beaker from Kraljeva Sutjeska, Bosnia, which had a cupped rim, a cylindrical body, and a crimped ring on the base, with three trails applied parallel to the rim (Wenzel 1977: 64). Another beaker from Bribir also had smooth walls without ribs, yet this example had a bulging body (DeLonga 1996: Tab. VI). *Fig. 9.2.*

#### *Truncated-conical and cylindrical beakers*

Plain, Venetian-style soda-ash glass beakers were the most abundant type in Šibenik, totalling at least 34 individual objects. These are mostly clear and colourless, although some tended

towards slight yellowish or bluish hues. They also vary in size from 4.8 to 6.4 cm in diameter at the base. All were made of relatively thin glass, between 0.7 and 0.8 mm thick, of a lower-to-middling quality with some small and medium-sized bubbles. Those with remaining walls appear either cylindrical or slightly tapered outwards, and all of the beakers have a kick between 1 and 1.5 cm tall. *Fig. 9.3.*

#### *Cylindrical beaker*

A single plain, cylindrical beaker of the later period was also found, distinguished from the beakers above by its flat base and lack of kick. This particular beaker was made of colourless glass with a greyish hue, and has a diameter of 6.6 cm at the base. The glass of this beaker is also thicker than the earlier versions described above, at 2.8 mm, yet is still considerably thinner than many contemporaneous Bohemian refined-potash glass cylindrical beakers. Similar beakers have been found in Istria, ranging in hue from greyish to purplish, yet a precise date and manufacturing centre have hitherto remained unidentified (Bekić 2014: 45). *Fig. 9.4.*

Finally, the partial rim of a refined-potash beaker was found with no visible decoration. This was made of clear, colourless glass 3.8 mm thick. The vessel has a rim diameter of 6 cm, and would have been cylindrical in shape. This was the latest of the plain beakers found in Šibenik, dating from the late 17<sup>th</sup> to 18<sup>th</sup> centuries.

#### *Mezza-stampatura beaker*

Only a single fragment has survived from a beaker with shallowly-curved, almost straight walls and a diameter of around 9 cm. Unlike the plain bases illustrated above, however, this example has preserved decoration. This beaker was ornamented with long, narrow, prominent ribs which thicken slightly at the top and an opaque, maroon-coloured trail 1.9 mm thick, applied horizontally 2.8 cm below the rim, just above the terminus of the ribbing. Unlike the *mezza-stampatura* goblets described later in this chapter, the walls of this beaker were almost straight. *Fig. 9.5.*

#### *Skittle-shaped beakers*

Two skittle-shaped beakers were excavated from the Sv Mihovila Fortress, and a third was found at the site of today's Muzej Grada. These beakers have a low ring base which pinches inward before bulging outward towards the rim. The bases of these were pushed inwards and rounded, forming a small pocket in the ring base which was not quite cut off from the rest of the interior of the vessel. These are similar to a series of beakers identified around Istria by Luka Bekić (2014: 45). One of the beakers from Sv Mihovila and the one from the Muzej Grada are both made of thicker clear, colourless glass (1.2 and 2.4 mm thick respectively), while the third vessel is thinner (0.6 mm thick) and slightly greyish; however, none of this glass appears to contain any bubbles or other imperfections. The base diameter for the Muzej Grada beaker and



the greyish beaker are both approximately 6.5 cm, while the colourless Sv Mihovila beaker is larger, at 8.2 cm.

Judging by the fact that this shape appears to have been available in both thin soda-rich glass and thicker glass similar to Bohemian beakers available in the region, it might be that these originated in the late-17<sup>th</sup> or early-18<sup>th</sup> century. Similar beakers have been found in Pula and Trogir, although these vary in colour from greyish to purplish. These examples are also reminiscent of the flat-based plain beaker described in the section above. *Fig. 9.6.*

#### *Beakers with all-over mould-blown decoration*

Two beakers made of light-green glass in this collection were decorated on the exterior surface with shallow ribs which initiated in the centre of the kick. As only the bases remain, it is uncertain whether these ribs continued up the walls of the vessels to the rim; however, on one example, it appears that this ribbing terminated at the bottom of the kick, while another vertical, mould-blown boss or rib began on the wall of the beaker. This, perhaps, was similar to 17<sup>th</sup>-century examples found in Portugal (Ferreira and Medici 2010: 409). *Fig. 9.7.*

Another mould-blown example was found made of clear, colourless glass, similar to that found in the Kačol-Rogoznica wreck, with large, closely-spaced, rounded lozenges in relief in an almost interlocking pattern. This appears to have also been similar in size, with a diameter of 6 cm at the base. However, this example is more perfectly colourless, not exhibiting the same greyish hue as the shipwreck artefact, and contains very few bubbles. The glass is quite thick, 3.9 mm on the bosses, although it is only 1.1 mm thick between them, making the decorations quite prominent. *Fig. 9.8.*

The final example is a rim fragment coming from a cylindrical-shaped beaker made of possibly light green glass which was mould-blown with small, pointed, widely-spaced diamond-shaped bosses. This is similar to the other mould-blown example from the Kačol-Rogoznica wreck. The glass was unfortunately too badly weathered to be able to determine its quality, but it measured 1.4 mm thick, and 3.3 mm thick on the bosses. *Fig. 9.9.*

#### *Mould-blown beakers, refined potash*

Two refined-potash beakers were also shaped by mould-blowing. The first was decorated with prominent, narrow vertical ribs on the outer surface of the walls which terminate at the flattened base, giving the vessels a scalloped footprint which would have been about 6 cm in diameter. The glass is clear and colourless with almost no bubbles, and measures 1.6 mm thick between the ribs, or 3 mm thick on the ribs. *Fig. 9.10.*

The second example is a very thick, heavy beaker with an octagonal footprint, 6 cm in diameter, and wheel-cut scalloping around the edge of the base on each of the eight sides. Again, this clear colourless glass contained almost no bubbles, but was considerably thicker at

3.8 mm on the walls. Each cut arc rises approximately 2.4 cm, yet nothing remains of any additional embellishments. *Fig. 9.11.*

#### *Prunted beakers*

Six wall fragments of aquamarine-coloured glass with large, flat prunts were found which could have belonged to beakers such as a *krautstrunk* or *berkemeyer*. These prunts ranged in size from 1.2 x 1.4 cm to 2.3 x 2.4 cm, on walls which ranged in thickness from 0.7 to 1.6 mm. None of these fragments appeared to contain any bubbles or other imperfections, but the colour ranged from light- to dark-aquamarine. These fragments were slightly curved, but not enough to determine their overall shape; one fragment, however, is curved to form bulged shaped, which would coincide with the shape of *krautstrunk* found throughout the Balkans, such as in Belgrade, although the colour corresponds to the latest period of prunted beakers mostly imported from Germany.

#### **Goblets**

Seventy-one fragments of goblet cups, stems, and feet have been excavated in Šibenik, amounting to a minimum of 39 individual objects. Perhaps ten of these are cup rims which may have equally belonged to goblets or bowls but will be discussed in this section, as well as additional pieces of eight lion-mask stems, the cups and feet of which are unknown. All save one of these goblets were made of soda-ash glass in the Venetian style, while only that single example was produced in refined-potash glass. The goblets found in Šibenik are particularly useful at illustrating the variation in forms that could be created by applying a mix-and-match approach to the different components which made up the goblets—a goblet with a hollow stem, for example, might be given either a curved cup, a conical cup, or a cup of any number of other shapes, depending on its intended use or the personal preferences of the consumer. Because of this interchangeability, these goblets have been divided by type of stem/foot. However, a number of cups were found no longer attached to a diagnostic amount of stem; therefore, these will be discussed separately.

#### *Tall, hollow foot*

At least 19 of the goblets found in Šibenik had some sort of tall, hollow foot. Few of these feet were complete to their folded edge, but those which did were varied in diameter between 4 cm and 7.5 cm. These were mostly produced in colourless glass, although a few examples exhibit a slight grey or aquamarine tint, and all appear to have been medium-quality glass with some small bubbles. Many of these have been broken so that it is impossible to determine their overall shape; however, those which are more complete can be divided into three types. The first group of these was made without a merese (see *fig. 9.12*). These appear to have had either a tall, flared

cup or a tall, narrower, curved cup. A comparable goblet was also found in Zadar at the Sv Grisogon monastery (Pešić 2006: *fig.* 2).

#### *Tall, hollow foot with merese*

Amongst the 19 goblets with a tall, hollow foot, some have a separate, reel-shaped merese connecting this foot with the cup (see *fig.* 9.13), or with a small, ring-shaped merese between the foot and the cup. All of those with a reel-shaped merese appear to have a low, wide, curved cup, similar to several found on the Gnalić wreck (Lazar and Willmott 2006: 30).

#### *Tall, hollow, wide foot*

A single hollow, wide foot for a goblet exists in this collection. This applied foot with a folded edge is reminiscent of pedestal-footed bowls described in the next section, except narrower to accommodate the cup of a goblet. The diameter of this foot was 6.7 cm, and a small amount of the wall of the cup remains, enough to suggest that it was narrow and curved in shape, and not much wider than the foot. *Fig.* 9.14.

#### *Flattened knop stem*

Finally, a single stem was produced in colourless glass with a large, flattened knop with vertical ribbing. This was attached to the curved cup by a reel-shaped merese. A low, plain foot flared out directly from the underside of this knop. *Fig.* 9.15.

#### *Inverse baluster stems*

The majority of the rest of the soda-ash stems (at least 16) in the collection had inverse baluster stems. Most of these were solid (see *fig.* 9.16); however, at least four of these were hollow (see *fig.* 9.17), one of which was decorated with vertical ribbing (see *fig.* 9.18). These were all attached to their cups with a reel-shaped merese. A small number of the solid and hollow versions of the baluster stems, including the ribbed example, are still attached to a slight fragment of a curved cup. Another solid stem was also found with another large, round knop located above the inverted baluster, giving the stem additional height (see *fig.* 9.19). This knop was connected directly to a flared cup. All of these stems remained fairly narrow, only reaching between 1.8 and 2.6 cm in width at the baluster. While none of these has a complete foot, similar examples from the Gnalić wreck show a low, plain foot (Lazar and Willmott 2006: 31). However, some low feet from Šibenik which have been found separate from their stems appear to have been decorated with moulded ribbing. The hollow baluster stems were made in clear, colourless glass, while some of the solid versions have a slight green, blue, aquamarine, or grey tint. These solid balusters also appear to have been made with less-even precision than their hollow counterparts.

The single refined-potash goblet from this collection was also a solid, inverted baluster stem (see *fig. 9.20*). Unlike other examples in this region, however, it is possible that this was made of lead glass, such as the type manufactured in England, rather than the chalk-based potash glass produced in Bohemia. Contrasting with many of the soda-ash solid baluster stems, this one was attached directly to its fluted cup. This cup was decorated with tightly-spaced, vertical moulded ribbing.

#### *Curved Cups*

In addition to the examples discussed above, an additional five curved cups were found attached to a merese, but no stem. Two of these were decorated with a mould-blown honeycomb pattern, somewhat stretched on the lower half, one in slightly grey-coloured glass, the other in slightly yellowish-green. Both displayed several small and medium-sized bubbles. There is also an additional rim for a curved cup with a diameter of 9 cm, decorated with the same moulded honeycomb pattern and also a thin, blue trail (1.4 mm wide) applied to the rim (see *fig. 9.21*). While the clear, colourless glass used for this vessel is not tinted like the other two examples, it, too, contains some small bubbles. Another goblet was found with shallower honeycomb-type moulding, but with two parallel, thicker (nearly 2 mm thick) blue trails at the rim. This was of a lesser quality than the other example, with several bubbles in the walls of the cup, and unevenly-applied trails. This honeycomb-type moulding was also found at Stari Bar, both on a curved-cup goblet and on a footless cup (which also had a trail applied to the rim) (D'Amico, Ferri, and Fresia 2011: 90).

#### *Conical cup*

A lone conical cup was found, also attached to only a merese (see *fig. 9.22*). Again, this was made in clear, colourless glass, 1.0 mm thick. However, it was too weathered to determine the quality of the glass. At the monastery of Sv Grisogon in Zadar, a similar cup was found attached by a reel-shaped merese to a hollow, narrow, trumpet-shaped foot; however, another from the same location appears to be attached by a reel-shaped merese directly to a low foot (Pešić 2006: 116).

#### *Mezza-stampatura cups*

Moulded ribbing was a popular form of decoration on the lower halves of goblets, bowls, and beakers during the early modern period, which could be adapted to many different forms, which we have also seen in the ribbed beaker previously described. These ribs are long and narrow, thickening slightly at the top. Nearly all of these goblets appear to have been made of medium- to high-quality glass, with only a few small bubbles. Two examples have a wide, shallow, curved cup, one in clear, clear colourless glass and the other made of clear medium-blue glass (see *fig. 9.23*). The colourless cup had a rim diameter of 11 cm, while the small remnant rim of

the blue cup suggests it had a diameter of roughly 13 cm. On both of these examples their vertical, widely-spaced ribs are prominent but relatively narrow and rounded at the top, and extend almost to the rim. Another two goblets also had a wide, shallow cup, but this time with a more angular profile—almost-vertical walls traveling downwards from the rim, which then curve inward at an obtuse angle—and wider ribs terminating three centimetres below the rim (see *fig. 9.24*). A small *tazza* or salt cellar found in Blagaj had a similar profile, although it possessed thicker ribs resembling gadroons (Bikic 2006: 205).

Several goblets have been further decorated with an applied trail between the ribbing and the rim, again in diverse forms. A wide, shallow cup with an ogee-shaped profile was found made of clear, colourless glass with a 2.20 mm wide colourless glass trail applied just above the ribs (see *fig. 9.25*). Another goblet was discovered with a taller, curved cup and narrow ribs, above which was applied a 1.08 mm wide clear, medium-blue trail (see *fig. 9.26*). The final goblet of this type was of an indeterminate shape, with very shallow ribs and two thick (3 mm), parallel light-blue trails unevenly applied to rather thick (2.5 mm) clear, colourless glass, which suggests that this was perhaps a somewhat later incarnation of this type of decoration.

#### *Filigrana cups*

The assemblage contains a single example of a wide, shallow cup which would have belonged to a stemmed goblet or *tazza*, or perhaps a lid, which has been decorated with 19 opaque white canes radiating from the centre of the outer surface of the vessel (see *fig. 9.27*). Some of these appear to have been broken and slightly twisted near the centre, suggesting that there may have been a stem attached at this point which no longer remains. Each cane was approximately 1.94 mm wide, and they have been flattened, but not completely marvered into the colourless glass on which they sit. While the colourless glass of the cup is relatively fine, at only 0.72 mm thick and with very few bubbles, the canes have been spaced rather unevenly from what can be seen. Although a goblet or *tazza* is suggested, it is worth noting that the way in which the canes have been placed and marvered on this artefact, as well as the pattern of weathering, is reminiscent of the foot of a pedestal-footed bowl described later in this assemblage.

Two fragments of curved cups were also ornamented with applied canes. The canes of one cup were applied in a similar fashion to the previous cup, radiating from the centre of the outer surface of the vessel; however, these were roughly 2.3 mm thick, and were left entirely unmarvered. The canes of the second example, which are 2.9 mm thick and also unmarvered, were applied parallel to each other but then were pinched together at intervals, creating a chain-like pattern. Most of these canes are opaque white, similar to the other vessels, yet a few are twisted opaque white and colourless. *Fig. 9.28*.

### *Lion-mask stems*

The upper portions of eight lion-mask stems would have belonged to goblets, tazze, or other types of stemmed, soda-rich glass vessels. The varieties seen here have either 12 or 14 upper gadroons, either straight or slightly twisted, above the lion's face. As only a small fragment remains of each of these, it is difficult to determine their full dimensions; however, it appears that they vary greatly in size, judging by the thickness of the glass which ranged between 1.2 mm and 2.4 mm. Three of these were topped by a reel-shaped merese, but one of the larger ones was topped first by a rounded knop, above which was perhaps the reel-shaped merese. They all have been produced in clear, colourless glass, although some are slightly greyish. Only one lion-mask amongst these is complete, although it is not attached to any part of a stem or merese, and this measured 3.5 cm in length, and 2.6 cm in width at the gadroons. *Fig. 9.29.*

### **Bowls**

Bowls excavated in Šibenik present a greater diversity in forms than found elsewhere in the study area. These can be divided into five main groups, namely hemispherical bowls without feet, bowls with crimped ring feet, bowls with plain ring feet, bowls with raised pedestal feet, and bowls with applied trefoil feet. In addition, there are several bowl rims which are worth mentioning due to their decoration.

### *Hemispherical bowls*

The first fragment in this category is a base with a low kick and shallow, curved walls. This was made in colourless glass which was decorated with mould-blown, raised lozenges on the outer surface, similar in appearance to the grey, mould-blown beaker found on the Kačol-Rogoznica wreck. However, this bowl is considerably larger, with a diameter which would have exceeded 9 cm. The vessel is too weathered to determine the quality of the relatively thick glass (1.6 mm, up to 5 mm thick on the moulded bumps), although it does have a rough pontil mark. *Fig. 9.30.*

Several rim fragments were also decorated by mould-blowing. The first was patterned with rounded diamonds in relief on the outer surface in pale green glass with several small and medium bubbles (see *fig. 9.31*). In addition, it was further decorated with an opaque white trail on the rim, which was left un-marvered and unrounded. This would have been slightly larger than the curved goblet cups described earlier, at about 10 cm in diameter. The rims of two more bowls with mould-blown rounded lozenges were found, yet this time in clear, colourless glass, both with an applied trail on the rim: one with a solid, opaque white trail, the other with a twisted opaque white and clear colourless cane. Both rims are 3 cm in diameter. Unfortunately, both were also too weathered to determine the quality of the glass. A similar twisted-cane rim was also seen on another bowl, yet without the mould-blown decoration. This example measures 12.5 cm in diameter.

### *Bowls with crimped-ring feet*

This example was made of naturally yellow glass with some small air bubbles, with an applied, unevenly-crimped ring of the same colour glass which would have measured approximately 6 cm in diameter. Like the hemispherical bowls, it appears that this bowl also had a kick, but unlike beakers made with a crimped ring such as this, it has been applied to the underside of the base, rather than the outside. *Fig. 9.32.*

### *Bowls with plain ring feet*

Two bowls with a plain applied ring foot were made somewhat later than the previous artefact, in the 16th or possibly 17th century. One bowl is plain and the other decorated with alternating canes. The glass at the bases of both of these is fairly thick, 2.7 mm on the plain one and 3.5 mm thick on the decorated bowl, as are both of the rings, 5.5 mm and 6.9 mm respectively. Unlike the other examples above, neither of these bowls has a kick. The plain bowl was made of clear, colourless glass, with a total extant width of 9.7 cm, and a ring diameter of 7 cm. The glass from which it was made contains several small and a few medium-sized bubbles, and the base features a rough pontil mark. On the other hand, the body of the other bowl has been decorated with a pattern of four opaque, white canes followed by a twisted white and colourless cane (*vetro a retorti*), repeating nearly five times (see *fig. 9.33*). These canes, which have been marvered flush, emanate from the centre of the base and spiral clockwise. The ring, however, is clear and colourless, and 4.7 cm in diameter. Similar to the plain bowl, this example has a rough pontil mark, which would have been filed smooth on a higher quality item. A 16<sup>th</sup>-century ring-footed bowl decorated with *vetro a fili* and *retorti* canes was found in the cemetery of St. Peter's Church outside Novi Pazar, which has been attributed to workshops either in Murano or Dubrovnik (Han 1981b: 266).

### *Bowls with raised pedestal feet*

Two different types of bowls with raised pedestal feet can be differentiated determined by the methods with which they were produced. Six of these bowls were made in two parts: the main body of the bowl, and an applied foot (see *fig. 9.34*). These feet varied in diameter from 7.3 cm to 10 cm, and in height from 1.3 to 2.1 cm. All of these were made in medium-quality clear, colourless glass with some small and medium bubbles. Only three examples have any remaining walls of their bowls, which are wide and curved, and only one other pedestal foot has any decoration, in the form of vertically-positioned opaque white canes 2.6 mm wide and spaced 9.4 mm apart. These have been flattened onto the foot, but not fully marvered.

However, there is also one example of a bowl manufactured all in one piece, made by pinching, folding, and stretching a ring on the gather of glass to form the pedestal foot, and then flattening the base of the bowl so that there is no kick. This measures 9.6 cm in diameter and 2.2

cm tall, and was also made of clear, colourless glass with a few small, medium, and large bubbles and a rough pontil mark. *Fig. 9.35.*

#### *Bowl with trefoil applied feet*

The most unusual artefact within this assemblage, and perhaps within any of these coastal sites, is a fragment of a small *millefiori* bowl or saucer, featuring applied trefoil feet (see *fig. 9.36*). This fragment is limited to only two of these feet and a small amount of the base and wall of the bowl; however, this small portion matches a specimen held at the British Museum (reg. no. 1872,0726.13) in both style and proportions. The example from the British Museum was ostensibly discovered in Cyprus and bequeathed to the museum in the 19<sup>th</sup> century, and unlike the bowl from Šibenik it is nearly whole, missing only two chips from the rim. Both bowls appear to have had shallow, wide ribbing moulded on the outside surface (15 ribs in the case of the Cypriot bowl), while the feet were applied by attaching a ring of glass on the underside of the bowl, pulling and pinching the glass with the jacks to form five individual feet, and then partially shearing between the feet to separate them. This is in contrast to a small fragment found in Corfu (British Museum reg. no. OA.5894), again discovered in the 19<sup>th</sup> century, which has similarly shaped feet attached to the base of a cup or bowl. Unlike the other two artefacts mentioned here, these feet have been attached in a solid piece below the bowl rather than as a ring, so that the underside of the bowl cannot be seen between the feet, as it can on the other two. Similar pinched and pulled appendages can be seen on late-15<sup>th</sup> or early-16<sup>th</sup> century standing cups (Victoria and Albert Museum n.677:1-1884; Tait 1979: plates 2 and 3; early-16<sup>th</sup> century lattimo cup at Narodni Muzeum Praga, in Bova 2010: plate II.3), placed between the base of the cup and the foot. However, these are pointed horizontally, and the vessels have been decorated with enamelling and applied, coloured glass, rather than *millefiori*.

The nearly-complete bowl from Cyprus is fairly small, with a total height of only 3.7 cm and a rim diameter of 7.1 cm (see *fig. 9.37*). Both bowls have feet which are between 1.4 and 1.6 mm long and around 1.8 cm wide at the point where they are sheared from each other, forming a diameter of approximately 2 cm where they attach to the base of the bowl. Both were made of slightly tinted glass, which appears aquamarine in the thick, solid feet. Pieces of dark blue, white, red, and turquoise chevron *millefiori*, cut both in cross-section and lengthwise, have been picked up on the outer surface of the bowls and mostly marvered smooth; however, the Cypriot example has a few pieces which have not been smoothed on the base. The complete bowl has also been decorated with a 2.8 mm thick ring 8.1 mm below the rim. A similar rim, with an applied trail around a ribbed body, was excavated in Southampton, although this was made of colourless glass with picked-up *millefiori*, and was attributed to a lid rather than a bowl (Willmott 2009: GL4). A 13<sup>th</sup>-century depiction of the Last Supper held at the Musée du Petit Palais in Avignon shows two small, footed bowls (most likely for salt) with vertical ribbing. One is lidded, while the other is not; both have a small ring or ridge just below the rim



(Whitehouse 2010: 34). Neither of the Southern European bowls had a kick—in fact, the Cypriot bowl had a small indentation downwards in between the feet—while the feet from Corfu had a small indentation upwards into the bowl. It is possible that this was in fact part of a stemmed goblet, rather than a standalone bowl.

## **Bottles**

By far the most numerous glass artefacts coming out of Šibenik, at least 54 individual bottles have been identified in the collection. Most of these fragments are either high, pointed kicks (23) or low kicks (18) without any additional diagnostic parts, thus leaving us unable to determine these bottles' forms. However, many different types of bottles can still be identified amongst the remaining fragments. These consist of mostly bases and rims, with very few extant bodies.

### *Low-footed bottles*

Two different possible bottle types with low, folded feet and kicks were identified in this assemblage. The first, the smaller of the two, is represented by two bottles, 4 and 5.7 cm in diameter each, which had walls which appear to have tapered inward towards the low, folded foot (see *fig. 9.38*). This is similar to feet seen on biconical flasks, such as from Kolovrat and Mileševa Monastery, both near Prijepolje, Serbia (Han 1981b: Tab. V; Bikić 2006: 204); in the necropolis at Mirijevo, Serbia (Han 1975: 123); Belgrade (Bikić 2006: 204); Ljubljana (Kos and Žvanut 1994: cat. no. 30); Varaždin, Croatia (Šimek 2010: 308-11); and Bribir, Croatia (DeLonga 1996: Tab. XIV). Most of these are dated to between the 13<sup>th</sup> and 15<sup>th</sup> centuries, though this type may have been part of the repertoire of the Ljubljana glass factories in the 16<sup>th</sup> century as well (Šimek 2010: 311).

Another vessel in this collection has a similar folded foot, although this example was considerably larger with a base diameter of 9.2 cm, and would have had a globular body, similar to a bottle from Osor. This was made of lower-quality, bubble-filled glass, although the pontil mark was smoothed. *Fig. 9.39*.

### *Inghistere*

This collection contained two slightly different styles of bottle with tall, folded feet, belonging to the *inghistere* type (see *fig. 9.40*). The first of these styles has a tall, sloping foot, while the second has slightly shorter, but more vertical feet, similar to the tall, pedestal feet of the bowls described earlier, which might suggest that these were later examples of this type. However, both of these styles would have had an onion-shaped body, a very high kick, and a long neck with a slightly tapered rim. Those found in Šibenik include six complete feet and four partial feet, one of which was decorated with faint, shallow ribbing. In addition, one long neck and seven tapered rims are present which may have also belonged to this type. Equally, the shorter

feet might have belonged to flasks such as the type found in the Gnalić wreck, which would place them in the 16<sup>th</sup> or 17<sup>th</sup> century.

The examples from Šibenik were made of mostly clear, colourless glass, although some, particularly of the taller, sloping style, exhibit a slightly yellowish hue, while one of the shorter type is somewhat greyish in tone. The smallest of these have base diameters of 4.2 cm and 5.8 cm, but the rest range from 7.8 to 10 cm in diameter. On the other hand, the rims range in diameter from 2.8 cm to 5 cm (see *fig. 9.41*). The only fragment of a neck measures 12.6 cm in length. These range in quality from low- to medium-quality glass, although one example with a shorter, straighter foot is of a higher quality, and some of the rims were rounded.

#### *Long neck with straight rim*

Unlike those described above, there were also some long, narrow necks with straight rims present in this assemblage, two plain and two with vertical ribbing. All of these examples have a yellowish tint, with a few small bubbles. The two undecorated rims are both roughly 1.8 to 1.9 mm thick and are 3 and 3.5 cm in diameter. The ribbed examples are of a similar thickness, but one had a rim diameter of 4 cm, while the other, which is missing its rim, has a neck diameter of 1.6 cm. The ribbing on the larger of the two is slightly spiralled at the rim.

#### *Long neck with flared rim*

A single example of a long bottle neck was found with a rim which appears to have been flared unevenly to one side, presumably for pouring. The neck has a diameter of 2.3 cm, however the rim diameter could not be determined due to its asymmetrical nature. The clear, colourless glass with which it was made contains some small and medium-sized bubbles, and is 1.9 mm thick at the rim. *Fig. 9.42*.

#### *Long-neck flasks*

Two additional bottles or flasks with long necks and flared or funnelled mouths and sloped shoulders have been found in this collection, although on a smaller scale than those long-necked bottles previously described, with a diameter of only 1.2-1.3 cm at the neck. Both of these are colourless, with few bubbles, and are roughly 0.8 mm thick. One of these also has the remains of a ring of the same colourless glass applied around in the neck, similar to several examples found on the Gnalić wreck, on which the rings were in fact the upper attachment for a small handle (Lazar and Willmott 2006: 55). Those from Gnalić were also found with a high, pedestal foot, similar to those described above; therefore, it is possible that the smaller of those feet might have equally belonged to a bottle or flask such as these. *Fig. 9.43*.

### *Small bell-shaped*

The smallest bottle in this collection has a low ring base 2.4 cm in diameter, forming the body into a bell shape 2.2 cm tall. The vessel was broken so that none of the neck remains, and the glass is badly weathered; however, it appears that it was made of clear, colourless glass, 1.4 mm thick. *Fig. 9.44.*

### *Filigrana*

A small fragment of the shoulder and part of the neck of a bottle or flask is worth mentioning for its *vetro a fili* decoration. The opaque, white canes with which it was decorated are grouped together in twos. From what remains, it appears that the body was fairly wide, forming a right angle with the neck, which was less than 2 cm in diameter at the shoulder.

### *Bulged neck*

The neck of one bottle in the collection had a large, rounded bulge just above the shoulder, which was the only part of the vessel which remains. The bottle was made of clear, almost colourless glass which ranges in thickness from 1.8mm on the shoulder to 2.6 mm towards the top of the neck. However, the fragment is too weathered to determine the quality of glass used. Other bottles with bulges above the shoulder include long-necked flasks with stepped or cupped rims found in Greece, although many of these bulges are more ring-shaped (see Antonaras 2003), or in the pinched bulges on the sprinklers found in the Gnalić wreck (Lazar and Willmott 2006: S17). *Fig. 9.45.*

### *Cupped rim*

The small, cupped rim with a diameter of 2.4 cm is all that remains of one bottle, made of slightly-greenish glass. The rim was thick, at 3.5 mm, while the neck was narrower (1.7 cm diameter) and thinner (2 mm thick). *Fig. 9.46.*

### *Bottle with funnel-shaped rim and globular body*

Two examples have been found with slightly funnel-shaped rims and short necks, one of these with the shoulder of a globular body, similar to a type identified by Luka Bekić throughout Dalmatia. The first of these, which includes part of its rounded shoulder, is perhaps more typical of this type, which has been generally dated to the second-half of the 16<sup>th</sup> century through the first-half of the 17<sup>th</sup> (Bekić 2014: 55). It was made of greenish-blue glass with some small and medium bubbles, and is much thicker at the rim (2.6 mm) than on the shoulder (1.1 mm). It has a diameter of 6.6 cm at the rim, which has not been fire-rounded (see *fig. 9.47*). The second example, which is the only glass artefact from the Barone Fortress excavation to be mentioned in this study, is probably a later example of this shape, judging by its thickness which varies

from 3.5 to 4 mm, and its dark-green colour (see *fig. 9.48*). Its rim, which measures 5.2 cm in diameter, was roughly cut, although the glass itself contained relatively few bubbles.

#### *Ring rim*

One bottle has been found with a thick ring applied just below the rim (known as a 'string finish'), all in clear, colourless glass; however, the severe weathering of the artefact has made it impossible to determine the quality of the glass. Applied bands such as these are frequently seen on wine bottles produced in the late-17<sup>th</sup> through 18<sup>th</sup> centuries, although these are typically manufactured in brown or green glass. At least one colourless example, however, has been discovered at Veštar near Rovinj (Bekić 2014: 74). The bottle in question here has a rim which is 1.9 cm in diameter and 3 mm thick, and a neck with tapers outward slightly as it descends, which was 1.6 mm thick. The ring, which was unevenly applied, was approximately 4.7 mm thick. *Fig. 9.49*.

#### *Skittle-shaped rim*

The collection contains a single example of a bluish-green bottle with a short, skittle-shaped rim and neck, which formed a near-right angle with the shoulder, of which only a small portion remains. The diameter of this roughly-cut rim is 2.1 cm, while the total height of this vessel is equally 2.1 cm. The rim is also considerably thicker than the rest of the vessel, at 3.1 mm as opposed to 1.4 mm. Although little of the shoulder remains, it appears that it was fairly narrow, and may have been square or rectangular in profile (see *fig. 9.50*). However, this neck is much shorter than the bluish-green, rectangular bottles found in Trogir, Pula, Rovinj, and the Drevine wreck.

#### *Cylindrical rim*

A bottle made of thick, green glass was survived by a small fragment of its straight-sided rim. The glass at the rim is 7.4 mm thick, and it measured 3.5 cm in diameter. This rim was cut and not rounded.

#### *Spout*

A single long, narrow spout was found within the collection, made of bluish-green glass 1.9 mm thick. The rim has been lost, but that which remains appears to have been flattened into an oval shape parallel to where the wall of the vessel would have been. The widest point, near where it would have attached to the vessel, was at least 2.2 cm wide, and narrowed to 6.7 mm at the breaking point. In total, this measured 4.8 cm long, and was fairly vertical, but it may be assumed that the spout would have then curved outward away from the vessel.

## **Lamp**

This assemblage includes the base of a single large biconical lamp, with a prominent kick and an applied ring on the underside of the base. Unlike the other examples found in the study area, however, this was produced in clear, colourless glass, with a 3 mm thick, dark blue ring, 6 cm in diameter, applied to the base. The lamp was further decorated with shallow ribbing on its 1.2 mm thick walls, which contain rather few small and medium bubbles. There was a small pontil mark under the kick. *Figs. 9.51 and 9.52.*

## **Other**

### *Lid*

An 8 cm diameter, fire-rounded rim with a folded ring 2.5 cm below the rim was found which would have belonged to a lid. This was made of slightly greenish-blue glass 1.7 mm thick, with some small bubbles within it. Only a small portion of the wall remains on the side of the fold opposite the rim, and therefore it is difficult to determine what shape the object would have had; however, it appears that it may have curved inward, which would support the labelling of this as a lid, rather than the vessel itself. *Fig. 9.53.*

### *Large ovoid bottle or jar*

One very large bottle or jar in this collection was made of very thick (approx. 5-7 mm) yellowish-green glass which contains several small and large bubbles. Its oval base measures 9.1 cm at its widest, while its very large mouth is 11 cm in diameter. Due to its size and shape, it is likely that this object was not meant for table use, and was instead intended to act as a storage vessel from which smaller vessels might be filled. *Fig. 9.54.*

### *Pinched neck vessel*

A small fragment of light green glass was found, measuring between 1.6 and 2.5 mm thick, which was pinched forming an hourglass shape. On either side of this pinch, the diameter measured 2.9 cm. This may have formed the neck of a bottle or another similar vessel. *Fig. 9.55.*

### *Handles*

Four thin, clear, colourless glass handles have been found detached from their vessels. Three of these were curved and could have been small, ear-shaped handles; of these, one was flattened and crimped. The fourth example of this was longer with a shallower curve, and could have belonged to a larger vessel such as a flask. The smallest measures 3.8 mm thick, while the largest, the crimped example, is 7.9 mm thick. *Fig. 9.56.*

## Unidentified

This collection also contains several fragments which unfortunately were not diagnostic in terms of their form, but were otherwise notable for their decoration.

### *Folded edges*

Three different folded edges are worth describing due to their decoration, despite the fact that their original form is difficult to ascertain. All of these edges are folded over outwards, similar to a vase on the Koločep wreck.

The first of these is a 2 cm tall fragment of clear, colourless glass decorated with spiralling opaque canes, alternating two white and one medium blue, spaced tightly together to form a solid layer. It appears that this was made of relatively fine glass, 1.4 mm thick even with the canes, which were well marvered. The rim would have measured roughly 10 cm in diameter, and appears to have been nearly cylindrical, with straight walls. Most known examples of *filigrana* glass with coloured canes come from the second half of the 16<sup>th</sup> century or later, although a few vessels from the first half of the century do exist (Tait 1991: 170-72). *Fig. 9.57.*

The second cylindrical rim was decorated quite differently, made of dark brownish-burgundy coloured glass swirled with veins of opaque white. The glass was 1.28 mm thick, and the rim would have measured approximately 7 cm in diameter. The National Museum of Zadar includes fragments of a *calcedonio* vase with a similar, outwardly-folded rim (Pešić 2006: 120), and it is possible that this object was of a similar shape with a similar purpose. A fragment from an unidentifiable object was amongst the late- and post-medieval finds at Split, made of wine-red glass with white threads marvered on and combed, possibly similar to this fragment (DeMaine 1979: M50). *Fig. 9.58.*

The final folded edge in this collection belonged to a differently-shaped vessel from the other two, although its decoration was similar to the first, with alternating three thin opaque white canes and one thick red cane. Like the first vessel, this was also well marvered and very fine, measuring 1.6 mm thick. Unlike that other example, however, the diameter of the folded edge would have measured 8 cm, with walls that curved inwards, which would have created a splayed shape to the rim, similar to the bowls and lamps of the Koločep wreck. *Fig. 9.59.*

### *A macchie decoration*

One of the decorated pieces of unidentifiable shape was a curved fragment of dark blue glass decorated with picked-up spots of red, light blue, green, and white glass, which were then stretched during blowing. This piece measured 4.5 cm in length and 3.2 cm in width, ranging in thickness between 2 and 3 mm. Similar decoration is seen on a small oval-shaped bottle from the Gnalić wreck (Lazar and Willmott 2006: 64). *Fig. 9.60.*

### *Coloured glass*

The collection contains a small fragment of a rim for an unknown vessel, made of transparent, medium blue glass with horizontally spiralling, mould-blown ribs (see *fig. 9.61*). This was made of fine glass, 1 mm thick with very few bubbles, with a fire-rounded rim which would have measured roughly 10 cm in diameter. A shallow, blue bowl with slanting ribs was found in a tomb at Novo Brdo, at the same level as a coin of Hungarian King Sigismund (1387-1437) (Zečević 2009: 415). Another fragment of medium blue glass was also found in Šibenik, this time without any visible mould-blown decoration and almost cylindrical walls. Like the other example, however, it was made of fine glass with few bubbles, with a 5 cm diameter fire-rounded rim .8 mm thick.

A slightly flared rim was found at Sv Mihovila made of transparent emerald green glass, 1.8 mm thick on the rounded rim. This rim would have measured 9 cm in diameter. Like the blue vessels, this appears to have been made of relatively high quality glass with few bubbles or imperfections visible in this small fragment. Similar emerald green glass can be observed on bowls in the Koločep assemblage. *Fig. 9.62*.

A single small fragment of opaque turquoise glass was also found, lighter in colour than the turquoise vessels on the Koločep wreck. It appears curved into a slight 's' shape, with an applied curved trail, 4.3 mm thick, of the same coloured glass on the outer surface. The wall of the vessel measured between 1.8 and 2.4 mm thick, but there was no remaining rim. *Fig. 9.63*.

Finally, two small fragments of thick, dark blue canes were found attached to very minimal amounts of clear, colourless glass. These blue canes were curved, with the colourless glass attached to the inside of this curve, the angle of which would have a diameter of 16 cm. These canes measured 9.2 mm thick, and the colourless glass to which they were attached was approximately 1.7 mm thick. *Fig. 9.64*.

### ***Flat Glass***

#### **Oculi**

An edge fragment of an oculus window pane was excavated from Sv Mihovila Fortress. This pane was made of light green glass, and had a diameter of 14 cm at its folded edge. Due to the nature of the manufacture of 'crown' glass, the thickness varies between the centre and the edges of the circle; in this case, the centre measures 3 mm thick, and the glass thins out to 1.3 mm at the edge. *Fig. 9.65*.

Another fragment of a possible oculus was also discovered at Sv Mihovila, this time made of clear, colourless glass. While this fragment lacks an edge, the great variation in thickness, from 0.7 to 3 mm, suggests it was also 'crown' glass rather than a piece of flat glass produced using another method. With no edge it is not possible to determine the diameter it once had, but it measured 7.7 cm in width. Both examples contained several small, medium, and large bubbles.

## *Canes*

Five unworked canes were discovered at Sv Mihovila: two in greenish-blue glass, one in bluish-green, one in light green, and one in colourless glass with a slight pinkish tint. Each of these was broken so their original lengths remain unknown, but they ranged between 2.7 and 10.3 cm in length, and ranged in diameter between 1.2 and 2.1 cm. All suffered from heavy weathering in the form of iridescence and white patches. *Fig. 9.66.*



## GLASS IN NORTHERN DALMATIA

Glass artefacts excavated from two very different settlements give some insight into the glass of both the late medieval and early modern periods in this region. The first location, Bribir, is now a small village located in the inland hills north of the Krka River, roughly 14 km from the town of Skradin. Due to its easily-defendable situation, as well as its strategic placement on a major road from Zadar to Knin, the town has been raised to a level of importance at various points in its history, including the Late Middle Ages (Milošević 2015: 1). This was the seat of the Šubićes, an influential Croatian noble family who reached the height of their power in the 14<sup>th</sup> century, and who ‘gave the city a special level of culture’ through the grand architecture and fine, imported material culture found in the town up until the Ottoman incursions of the early 16<sup>th</sup> century (Milošević 2015: 12-13). The assemblage of glass excavated from this area corresponds to this prosperous period in the town’s history, and breaks off at the point of Ottoman occupation. The second location to be discussed is, of course, the city of Zadar. As an especially prominent city during the early modern period, and as the current home of the Muzej antičkog stakla, Zadar’s collection of post-medieval glass is especially rich and varied, dating from the late medieval period to the 17<sup>th</sup> century. Excavations which produced glass objects in Zadar were mostly at ecclesiastical sites, particularly the church of Sv Šime and the monastery of Sv Grisogon, as well as the forum and the intersection of Široka Ulica and Ulica Šimuna Kožičića Benje (Pešić 2006: 115). Glass was found in Bribir at the medieval houses north of the modern cemetery, a tower in the area of Dol, and at the St Mary monastery (Delonga 1996: 69). Although there are a few types of vessels which have been found in both locations, the assemblage from Bribir is in general more consistent with assemblages found in the inner Balkans, while Zadar’s collection exhibits a wide array of styles popularised by Venice.

Bribir’s collection contained a full range of pruned beakers, from early colourless or yellowish beakers with small, pointed prunts, to later versions of the *krautstrunk* type with wide, flatter prunts in either colourless or light blue-green glass (Delonga 1988: Tab. I-V). Most of these had cupped rims and crimped rings applied to the feet; however, one appears to have had a plain ring on the foot, while another was of a truncated-conical shape with small, pointed prunts and a self-coloured trail below the rim. Several others, with cupped rims, had a trail of either the same colour or cobalt blue applied below the rim.

Blue trails were also applied to other types of beakers, particularly other cupped-rim beakers made of clear, colourless or near-colourless glass found in Bribir (Delonga 1988: Tab. VI-IX). These trails were applied on the rim, although a few examples had multiple trails applied horizontally below the rim as well. Some of these had vertical ribbing on the walls of the beaker, although a few were also plain, similar to the one found in Šibenik. Rings were applied around the feet, and were either plain or crimped. A drinking vessel with an applied blue thread was also found in Zadar (Pešić 2006: Fig. 8). This vessel also had *mezza stampatura* vertical ribbing which terminated below the applied thread; however, it appears to have been of

a truncated-conical shape, and featured a pattern of gilded lines, semi-circles, and arches at the rim. Another, simpler beaker was found with an engraved, gilded pattern, and it is worth noting that both of these were found at the church of Sv Šime (Pešić 2006: 118).

The collection at Zadar also contained several plain beakers. Although one example of a colourless, cupped-rimmed beaker with vertical ribbing and a crimped ring around the foot was found at Sv Šime (Pešić 2006: Fig. 7), a far greater number of simple, truncated-conical beakers of the type typical of the 14<sup>th</sup> to 16<sup>th</sup> centuries were found. Finally, a bluish-coloured beaker with a crimped-ring foot was found in the same location, which was given the date of 14<sup>th</sup> or 15<sup>th</sup> century (Pešić 2006: Fig. 6).

Keeping with trends coming out of Venice, drinking vessels used in Zadar during the 16<sup>th</sup> and 17<sup>th</sup> centuries included a great variety of goblets, none of which appear to have been found in Bribir. Tall, narrow, hollow-footed goblets, with or without a merese were found in significant numbers at St Grisogon, which were available with either tall, narrow cups and wide, curved cups (Pešić 2006: Fig. 2). One example, which featured a reel-shaped merese, had a large cup with prominent, widely-spaced vertical ribs on the curved lower half, and an upper half which had tall, straight walls (Pešić 2006: Fig. 3). Another such goblet found in Pakoštane (located between Zadar and Šibenik), this time without a merese, featured a cup decorated with mould-blown gadrooning and diamonds. This was made of slightly pinkish glass, and was dated to the 16<sup>th</sup> century (Bekić 2014: no. 188). Baluster stems were also frequently found in St Grisogon, both hollow and solid, and single or double (Pešić 2006: Fig. 1). Lastly, four lion-mask stems were found in various locations around Zadar: two at the church of St Mary, one at the church of St Donat, and one in the forum (Pešić 2006: Fig. 4). These appear to have each been made from a different mould.

No recognisable bowls were found in Bribir; however, a few very notable pieces were found in Zadar. A group of bowls from St Grisogon was similar to several others found in this study area. These were decorated with thick, opaque white trails—in one instance, these trails were applied radially from the kick on the outer surface of the hemispherical bowl (remaining unmarvered), while on others a trail was applied to the rim, either on an otherwise plain bowl, or on a bowl decorated with mould-blown, diamond-shaped bumps. It has been suggested that these 16<sup>th</sup> or 17<sup>th</sup> century vessels could have been the products of non-Venetian artisanal centres, due to the uneven application of the white trails and the poorer quality of the glass (Pešić 2006: 120). Nevertheless, a few much higher quality vessels were also discovered. A vase also found at St Grisogon was made of thick *calcedonio* of green, blue, and brown shades, which had a thickened rim and a globular body (Pešić 2006: Fig. 16). Perhaps the most illustrious object, though, was a bowl found at Sv Šime with an applied ring foot and decorated in the *reticello* technique (Pešić 2006: Fig. 13).

Both collections included the bases of *inghistere* bottles, while both the monastery of St Grisogon and the church of Sv Šime included several necks and rims which may have belonged

to this type of bottle (Delonga 1988: Tab. XII; Pešić 2006: Fig. 9). These rims were either straight, tapered, or funnel-shaped, some with a small bulge on the neck, and some with spiralled or vertical ribbing; all, though, had very long, narrow necks (Pešić 2006: Fig. 11 and 12). A funnel-shaped rim with a bulge on the long neck of a bottle made of clear, colourless glass was also excavated at Pakoštane (Bekić 2014: no. 187). Another bottle fragment was also found at Sv Šime, this one made of light blue glass, with a small, cupped rim, and an angular bulge on the neck, a type which was found in the 11<sup>th</sup> through 15<sup>th</sup> centuries (Pešić 2006: 118). Three very small, narrow spouts from unknown bottles were discovered at St Grisogon: one of blue glass, and the other two of clear, colourless glass (Pešić 2006: Fig. 17). In Bribir, on the other hand, fragments of biconical bottles were discovered. These were made of thick yellowish glass, with a ribbon of glass applied to the neck and folded feet (Delonga 1988: Tab. XIII and XIV). Bottles from the late 17<sup>th</sup> or 18<sup>th</sup> century were discovered in Kožino, 9 km northwest of Zadar. These included the rim and long neck of a cylindrical bottle with a sloping shoulder made of olive-brown glass with a flattened ring applied around the cut rim, as well as a tall, narrow, square-based bottle made of greenish-blue glass similar to those found in the Drevine wreck (Bekić 2014: nos. 197 and 198). It is interesting to note that on the nearby Otok Ošljak the base and body of a similarly shaped and coloured bottle was discovered with a round stamp on its shoulder. This bore the mark of a crowned, double-headed Austrian eagle and the words 'FABB. MARASCHINO M. MAGAZZIN, ZARA', one of the many companies producing maraschino liqueur in the city during the 19<sup>th</sup> century (Bekić 2014: 33); however, two centuries earlier Fortis also mentions the growing of the maraska cherries in Vodice, and their distillation in both Zadar and Šibenik (Fortis 1778: 151), so perhaps other earlier bottles excavated in the region had a similar purpose. Finally, a light bluish-green bottle with a funnel-shaped rim with an applied white trail was discovered at Pirovac, 26 km northwest of Šibenik (Bekić 2014: no. 191), while two cylindrical-necked bottles with an opaque white trail around the rim (one made of greenish glass and one greyish) and a bottle with a short neck and a funnel-shaped rim were perhaps found near the island of Silba, although this is uncertain (Glušćević 2006: 12).

Both Zadar and Bribir excavations also produced fragments of oculi from windows. In Zadar, several were found at St Grisogon, while the single fragment from Bribir was unearthed in Dol, in the large western rooms of the monastery (Pešić 2006: Fig. 18; Delonga 1988: Tab. XV no. 2). Finally, a small handle made of clear, colourless glass was discovered in the apse of the Church of St Mary in the Dol area, which would have once belonged to a hanging lamp (Delonga 1988: Tab. XV no. 1).

Excavations at Zadar and Bribir in particular have given insight into the types of glass used at wealthy and religious sites in Northern Dalmatia at similar periods. While there were a few types of objects that were utilised at both locations, such as the *inghistere* bottles, the significant number of cupped-rimmed beakers and *krautstrunk* beakers at Bribir make this assemblage more akin to collections found in Serbia, Bosnia and Eastern Croatia, to be

discussed in Chapter XII. The greatest difference, however, is perhaps due to the circumstances of the 16<sup>th</sup> century. Zadar continued to grow and thrive as a city on the coast under Venetian rule, while Bribir, in the border area which was eventually taken by the Ottomans at this time, was in a much more precarious position, which would explain the lack of glass from this century.

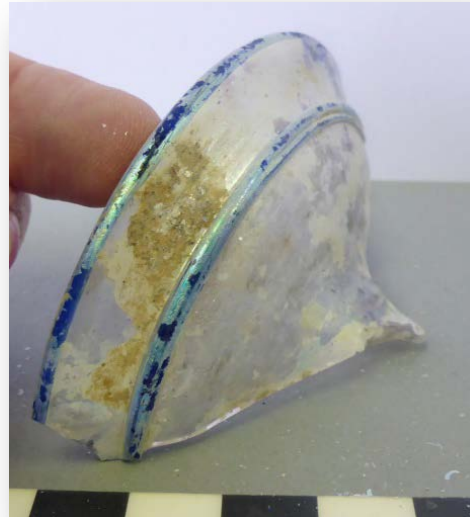


**Figure 9.1**

Crimped-ring-base beaker.

H: 1.3 cm

D: 4.1 cm (base)



**Figure 9.2**

Cupped-rim beaker.

H: 3.4 cm

D: 8.0 cm (rim)



**Figure 9.3**

Truncated-conical beakers.

H: 3.2 cm (tallest); D: 4.8-6.4 cm



**Figure 9.4**

Cylindrical beaker.

H: 3.2 cm

D: 6.6 cm (base)



**Figure 9.5**

*Mezza-stampatura* beaker.

H: 4.73 cm

W: 3.84 cm

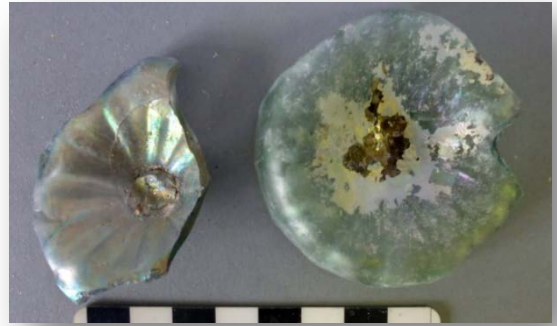
D: 9 cm? (rim)



**Figure 9.6**

Skittle-shaped beakers.

H: 8.77 cm (tallest)  
D: 6.47-8.2 cm (base)



**Figure 9.7**

Mould-blown beakers, Type I.

H: 1.44 cm (tallest)  
D: 5.05 cm (base)



**Figure 9.8**

Mould-blown beaker, Type II.

H: 1.25 cm  
W: 5.4 cm  
D: 6 cm? (base)



**Figure 9.9**

Mould-blown beaker, Type III.

H: 2.59 cm  
D: 6 cm (rim)



**Figure 9.10**

Mould-blown ribbed potash beaker.

H: 2.51 cm  
D: 6 cm (base)



**Figure 9.11**

Octagonal potash beaker.

H: 3.57 cm  
D: 6 cm (base)



**Figure 9.12**

Tall, hollow, narrow footed goblet without merese.

H: 4.75 cm (tallest)



**Figure 9.13**

Tall, hollow, narrow footed goblet with reel-shaped merese.

H: 6.17 cm (tallest)  
D: 6.61-7.11 cm (foot)



**Figure 9.14**

Tall, hollow, wide footed goblet.

H: 2.78 cm  
D: 6.74 cm (foot)



**Figure 9.15**

Flattened knob stem with curved cup.

H: 3.57 cm  
W: 2.35 cm (knop)



**Figure 9.16**

Solid inverse baluster stems.

H: 5.75 cm (tallest)  
W: 1.73-2.1 cm (stem)



**Figure 9.17**

Hollow inverse baluster stem.

H: 6.29 cm (tallest)  
W: 2.27-2.69 cm (stem)



**Figure 9.18**

Inverse baluster stem with moulded ribbing.

H: 5.3 cm  
W: 1.89 cm (stem)



**Figure 9.19**

Inverse baluster stem with knob.

H: 6.72 cm  
W: 1.84 cm (stem)

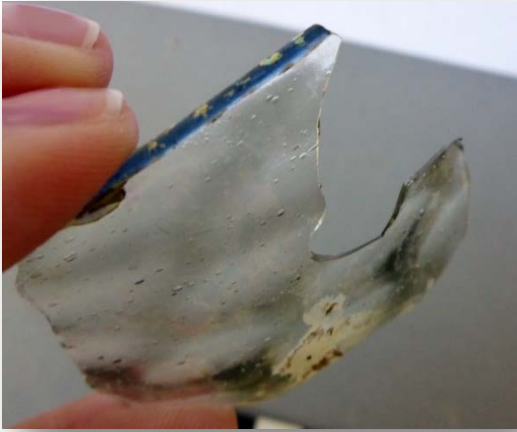


**Figure 9.20**

Refined-potash inverse baluster stem.

H: 8.72 cm  
W: 1.68 cm (stem)





**Figure 9.21**

Curved cup with moulded honeycomb pattern and applied blue trail.

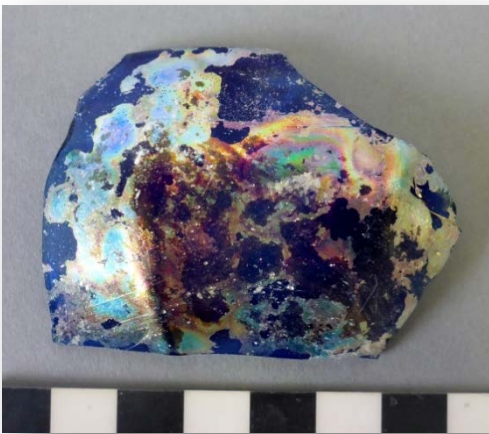
H: 4.07 cm  
D: 9 cm



**Figure 9.22**

Conical cup.

H: 4.14 cm  
W: 5.62 cm



**Figure 9.23**

*Mezza stampatura* cup.

H: 4.43 cm  
W: 6.07 cm



**Figure 9.24**

*Mezza stampatura* cup.

H: 5.84 cm  
D: 12 cm (rim)



**Figure 9.25**

*Mezza stampatura* cup with applied trail.

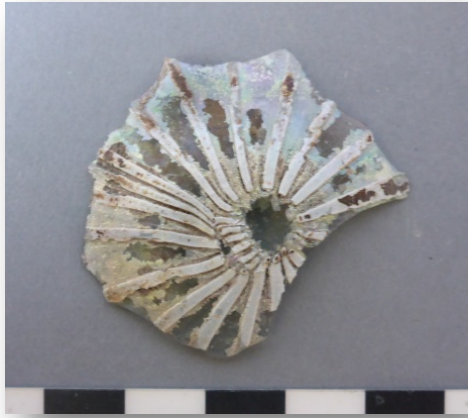
H: 4.65 cm  
W: 2.78 cm



**Figure 9.26**

*Mezza stampatura* cup with applied blue trail.

H: 4.63 cm  
W: 3.02 cm



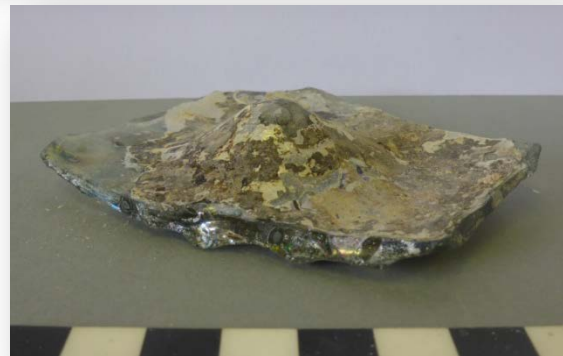
**Figure 9.27**  
 Filigrana cup.  
 W: 3.5 cm



**Figure 9.28**  
 Curved goblet cups with applied canes.  
 W: 3.95-4.68 cm



**Figure 9.29**  
 Four partial lion-mask stems.  
 H: 3.51 (tallest)  
 D: 2.23-2.72 cm (stem gadroons)



**Figure 9.30**  
 Hemispherical bowl with mould-blown raised diamond pattern.

W: 9.1 cm  
 215



**Figure 9.31**

Curved rim with moulded diamond-shaped pattern and applied opaque white trail.

H: 3.9 cm

D: 10 cm (rim)



**Figure 9.32**

Bowl with ribbon-like foot.

H: 0.7 cm

D: 6 cm? (applied ring foot)



**Figure 9.33**

Bowl with applied ring foot, decorated with *vetro a fili* and *vetro a retorti canes*.

H: 1 cm

D: 4.7 cm (applied ring foot)



**Figure 9.35**

Bowl with pedestal foot, made of one gather of glass.

H: 2.2 cm

D: 9.6 cm (foot)



**Figure 9.34**

Bowls with applied pedestal feet.

H: 1.3-2.1 cm (feet)

D: 7.3-10 cm (feet)



**Figure 9.36**

Millefiori bowl with applied trefoil feet.

H: 2.1 cm

D: 3.1 cm (feet)



**Figure 9.37**

Millefiori bowl with applied trefoil feet. Found in Cyprus. Currently held by the British Museum (reg. no. 1872,0726.13).



**Figure 9.38**

Low-footed bottle, Type I.

H: 3.3 cm (tallest)

D: 4-5.7 cm (base)



**Figure 9.39**

Low-footed bottle, Type II.

H: 3.9 cm

D: 9.2 cm (base)



**Figure 9.40**

Bottles with tall feet, Types I and II.

Type I

H: 6.3 cm (tallest)

D: 8.8 cm (largest)

Type II

H: 3.9 cm (tallest)

D: 4.2-10 cm

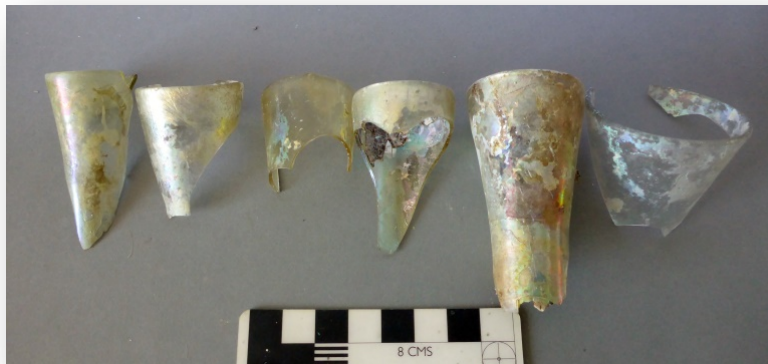


**Figure 9.42**

Flared rim.

H: 5.9 cm

W: 2.3 cm (neck)



**Figure 9.41**

Slightly tapered bottle rims.

H: 7 cm (longest)

D: 2.8-5 cm (rim)



**Figure 9.43**

Long neck flask with ring from handle.

H: 4.2 cm

W: 2.8 cm

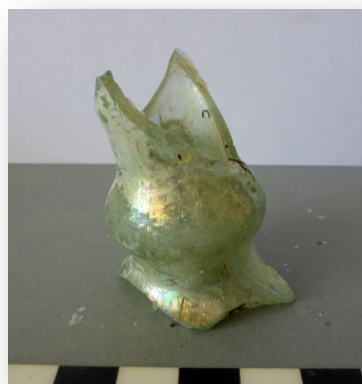


**Figure 9.44**

Small bell-shaped bottle.

H: 2.2 cm

D: 2.4 cm (base)



**Figure 9.45**

Bottle with bulged neck.

H: 4.8 cm

W: 3.3 cm (bulge)



**Figure 9.46**

Cupped-rim bottle.

H: 2.4 cm

D: 2.4 cm



**Figure 9.47**

Bottle with flared rim and short neck.

H: 5.2 cm

D: 6.6 cm (rim)



**Figure 9.48**

Bottle with flared rim and short neck.

H: 3.3 cm

D: 5.2 cm (rim)



**Figure 9.50**

Bottle with skittle-shaped rim.

H: 2.1 cm

D: 2.1 cm (rim)

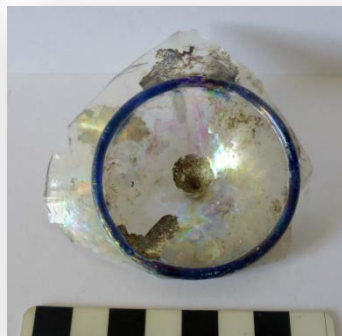


**Figure 9.49**

Bottle rim with applied ring.

H: 3.6 cm

D: 1.9 cm (rim)



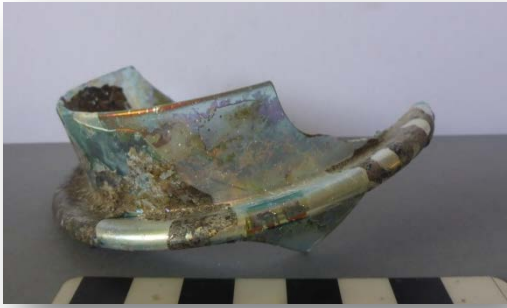
**Figures 9.51 and 9.52**

Lamp with applied blue ring foot.

H: 1.8 cm

D: 6 cm (ring foot)





**Figure 9.53**

Jar or lid.

H: 4 cm

D: 8 cm (rim)



**Figure 9.54**

Bottle or jar rim.

H: 5 cm (rim)

D: 11 cm (rim)



**Figure 9.55**

Pinched necked vessel.

H: 4.7 cm

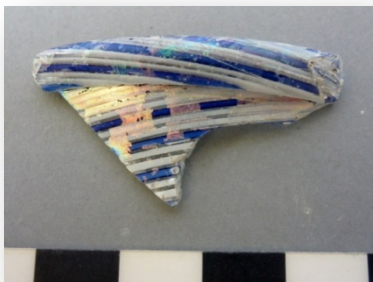
W: 2.9 cm



**Figure 9.56**

Handles.

H: 3-4.6 cm



**Figure 9.57**

Folded rim, Type I.

H: 2 cm

D: 10 cm (rim)



**Figure 9.58**

Folded rims, Type II.

H: 1.9 cm

D: 7 cm (rim)



**Figure 9.59**

Folded rims, Type III.

H: 1.4 cm

D: 8 cm (rim)



**Figure 9.60**

Glass with picked-up or 'blobbed' decoration.

H: 4.5 cm

W: 3.2 cm



**Figure 9.61**

Blue rim with spiralled ribbing.

H: 1.9 cm  
D: 100 cm (rim)



**Figure 9.62**

Emerald green rim.

H: 2.1 cm  
D: 9 cm (rim)



**Figure 9.63**

Opaque turquoise glass.

H: 2.7 cm  
W: 2.2 cm



**Figure 9.64**

Blue canes on colourless glass.

H: 7.5 cm (total)  
W: 1 cm



**Figure 9.65**

Oculus.

D: 14 cm



**Figure 9.66**

Transparent, coloured canes.

H: 10.3 cm (longest)  
W: 1.2-2.1 cm





## X

# CENTRAL DALMATIA

Just south of Šibenik, the Dalmatian coast cuts almost straight eastward, then slowly curves back to its generally northwest-southeast angle. It is here that one finds two of the larger islands in the eastern Adriatic, Brač and Hvar, but also smaller islands including Vis and Šolta. The most important city on this stretch of coast is Split, the city built on the ruins of Diocletian's palace and established as Venice's key to the Balkan caravan routes in the late 16<sup>th</sup> century, bypassing the more treacherous, pirate-infested waters near Gabela (Faroqhi 2014: 79-81). By land, one could travel from Split inland towards Livno and Konjić in Bosnia, and from there split off onto one of the many roads that spread out like a web over the Central Balkans. One could also, however, travel by land closer to the coast on a road which eventually led to Dubrovnik, but from which one could also veer off onto the road along the Neretva towards Mostar (Carter 1972: 137). However, Split was not the only settlement in Dalmatia to benefit economically from relations with Venice. The nearby town of Trogir had a rich economy, evidenced by many important works of art and architecture, during the early modern period.

### TROGIR/TRAU

Trogir, also known to medieval and early modern Venetians as *Trau*, developed from the ancient Greek colony of Tragurion, a Classical tradition which had a 'long-term influence on the spiritual life of the town in later periods (Jović Gazić 2012: 174). The core of the city was established on a small island located roughly 15 km west of Split by sea, or 30 km via the modern road (see *map 10.1*). This island is separated from the mainland by a channel only 25 m wide, connected then, as it is now, by a small bridge (see *map 10.2*). It was also connected by bridge to the larger island of Čiovo to the south. During George Wheler's (1682: 22) visit in the 17<sup>th</sup> century, the bridge between the city and the mainland was made of wood, while the one between the city and the island which he knew by the Italian name *Bua* was made of stone. Alberto Fortis (1778: 166), a Venetian naturalist, visited Trogir in the mid-18<sup>th</sup> century and wrote of it:

'though not a city considerable for the extent of its walls, or the number of its inhabitants, yet it is famous on account of the antiquity of its foundation, the learned men it has produced, and for the spirit of concord which reigns among its citizens.'

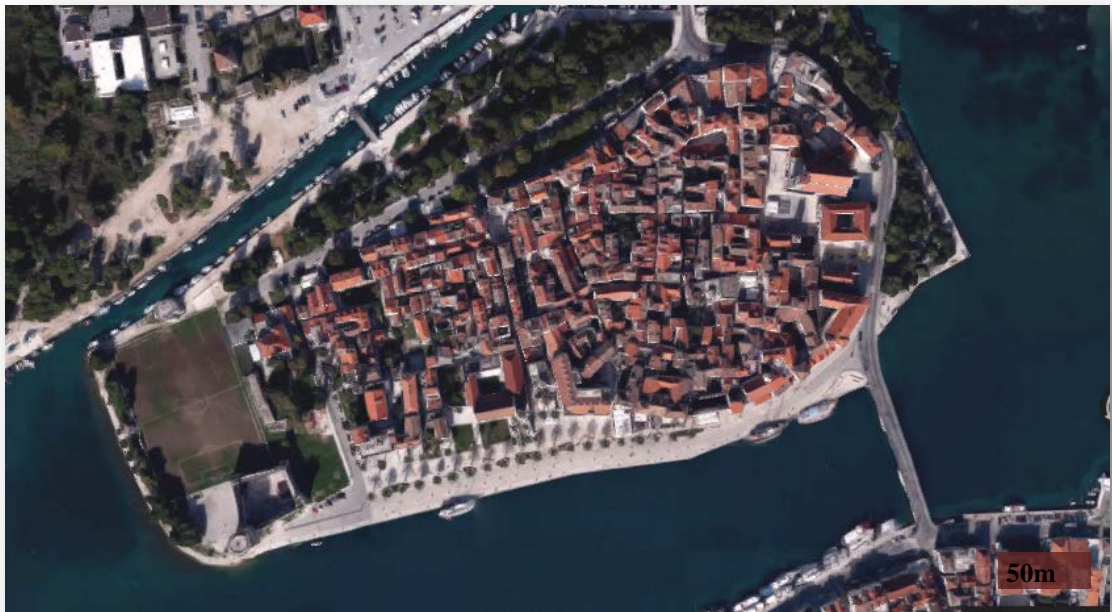
Indeed, although it was never a large city, boasting only 2,000-3,000 inhabitants in the Middle Ages, the grand architecture of its cathedral and its amenities, including a pharmacy mentioned as early as 1271 and thus the first in the region (Gruber and Lipozenčić 2010: 235), speak to the city's wealth and eminence. Unlike many other Dalmatian towns, Trogir was left relatively unaffected by the Avar and Slavic invasions during the 7<sup>th</sup> century. This allowed the town's classical heritage to further influence the development of the city, despite the fact that little evidence of classical antiquity is currently visible in the city, and that the city grew to be far more prominent in the Middle Ages than it ever had been under Greek or Roman rule (Jović Gazić 2012: 174). Between the 9<sup>th</sup> and 14<sup>th</sup> centuries, the city passed from Byzantine, to Venetian, to Hungarian rule, with another brief Venetian occupation at the beginning of the 14<sup>th</sup> century. It finally succumbed to Venetian authority in 1420, as it remained until 1797, when it was passed to the Habsburg Empire. During the period between the 13<sup>th</sup> and 16<sup>th</sup> centuries, the city undertook extensive building and renovation projects, including the cathedral, the main city square, and the Kamerlengo Fortress. The heavy influence of the Italian Renaissance is particularly evident in Trogir's cathedral, one of the most notable Renaissance monuments in Dalmatia (Guldescu 1964: 288). Humanism also flourished in the city during this time, attested to by the fact that the Petronius Codex, known as the Codex Traguriensis, was discovered in the possession of the local Cippicus family in the mid-16<sup>th</sup> century (Lučin 2014:179), and many well-educated visitors were drawn to the city in hopes of seeing it (Fortis 1778: 167; Wheler 1682: 23).

The majority of archaeological excavations took place between the mid-1980s and late 1990s, and focused primarily around Sv Ivan Cathedral (also known as Sv Lovro) and the Radovanov Trg (Radovan Square). However, other excavations which have produced glass finds include those at Kuća Berislavić (Kuća meaning 'house'), Kuća Lekaj, the Kamerlengo Fortress, and the Banić-Apoteka. Artefacts are now under the care of the Muzej grada Trogira. This is a greater variety in type of excavated site than those undertaken in the other cities featured in this research. Unfortunately, the excavation records for several of these artefacts have been lost, and therefore their exact location within the city remains unknown, making it difficult to accurately compare the types of glass discovered at each site in a meaningful way.

Excavations within the walled city have produced glass which is representative of changes within both Trogir and the rest of Mediterranean Europe. A transition is witnessed in a shift from unrefined potash glass and glass decorated with prunts and blue trails (both popular throughout the Balkans, Switzerland, southern Germany, and northern Italy) to Venetian and *façon de Venice cristallo*, and eventually to refined potash glass coming out of Bohemia. However, there also seem to be a few vessel shapes that remained common in both coloured and colourless glass, and decorative styles which transcend object types, suggesting some amount of overlap and continuity, as can be witnessed in other parts of the study region.



**Map 10.1.** Trogir and the surrounding area.



**Map 10.2.** Trogir's historic centre, a UNESCO World Heritage Site. The mainland is seen opposite a narrow channel to the northeast of the island, while a small part of the larger island of Čiovo can be seen in the lower right corner of the map.

## ***Vessels***

Trogir's glass assemblage contains fragments of a large and varied selection of vessels, representative of the wide range of quality and style of glass objects available to the city's inhabitants during the late medieval and early modern periods. In general, however, a large portion of the glass appears to have been of medium or higher quality, although the few decorated pieces within the collection are not of the highest calibre. Types of decoration which have been preserved on these fragments include mould-blown patterns and applied trails, canes, and prunts. The vast majority of the glass is clear, colourless, soda-rich glass; however, there are a few examples of soda-rich glass which is dark blue in colour, and a similarly limited number of refined-potash glass fragments.

## **Beakers**

At least 25 beakers have been excavated from various locations within Trogir. Besides a few prunted examples, the majority of these beakers display very few decorative elements, although this is not to discount the fact that such decoration could have been lost. However, most of these vessels can be considered to have been a simpler, more everyday choice for drinking than the goblets to be described later in this chapter.

### *Prunted vessels*

Three different types of prunts can be identified within this collection, which roughly correspond to different time periods and perhaps different shapes of vessels. All of these were excavated from the city square. The oldest of these types of prunts can be seen on three separate fragments, made in colourless, light yellow, and smoky-yellow glass, each with small, snail-like prunts applied in the same colour as the rest of their respective vessel. These prunts range in diameter from 7.4 to 8 mm, and have been cut to about 4 mm, while the walls of the vessels varied in thickness from 0.9 to 1.4 mm, all with small bubbles (see *fig. 10.1*). The second type is represented by a single prunt, which, like the wall of the vessel to which it was attached, was made in slightly yellowish glass. This was a much larger prunt, with a diameter of about 1.9 cm, and was cut at 9.9 mm so that it points straight out from the wall of the vessel, which was 1 mm thick (see *fig. 10.2*). Vessels from Germany, Switzerland, and Italy with similarly-shaped prunts are frequently dated between the 13<sup>th</sup> and 14<sup>th</sup> centuries (see Whitehouse 2010, *figs. 21-29*). However, this is the only prunt of this shape found in the study area.

These early incarnations eventually evolved into the later *krautstrunk* or *berkemeyer* vessels. This is seen in a single example from Trogir, made of bluish-green glass, similar to those seen in Šibenik and on the Kačol-Rogoznica wreck (see *fig. 10.3*). The example from Trogir is attached to the wall of a vessel 1.7 mm thick, with relatively few small bubbles.

#### *Simple, soda-rich beakers*

At least 15 bases and partial walls of plain beakers made of colourless, or nearly colourless, glass were found in Trogir, mostly at the city square and a few at A. Dimbeg-Gradska. The bases of these range in diameter from 5 to 6 cm, and in thickness from 0.7 mm up to 2.9 mm at the kick. Only two wall fragments remain, which both appear to be fairly cylindrical in shape. The tallest of these fragments is 7.2 cm; however, the rim is absent. Some examples may have also had a slightly truncated-conical shape. While this type of beaker was being produced in Italy as early as the 13<sup>th</sup> century, the low, round kick on most of these suggest they date from the later period of this type's popularity, up until the 17<sup>th</sup> century (Lazar and Willmott 2006: 26). *Fig. 10.4.*

#### *Beakers with blue trail*

The bases described above showed no signs of any sort of applied or mould-blown embellishments, which, of course, is not to say that their rims were not decorated in some fashion; however, this may have been more common in the 14<sup>th</sup> and 15<sup>th</sup> centuries. Nevertheless, there are two examples within this collection, found in the city square and in the Palača Statileo, which have had a dark blue trail applied to the rim. These rims belonged to truncated-conical beakers which have rim diameters of 7 and 8 cm, made of clear, colourless glass measuring 0.7 and 1.1 mm thick respectively. Both trails measure roughly 1.3 mm thick, and both beakers contain some small bubbles. *Fig. 10.5.*

#### *Beaker with folded, low-ring foot*

A single example of a small beaker with a low, folded ring foot was excavated from the city square. This foot was formed from one piece, similar to the folded-footed bottles found in Šibenik but on a smaller scale, with a base diameter of 4.7 cm on the outside of the ring. Only a very small amount of the walls remain, which appear to have been vertical at least at the base, which had a diameter of 3.4 cm. *Fig. 10.6.*

#### *Mould-blown beakers*

The collection contains three fragments of mould-blown beakers found in the city square: one base and two different rims. The base was made of light olive green glass with a few small bubbles, decorated with teardrop-shaped bosses circling the underside of the kick (which displayed a rough pontil mark), and what appear to be a pattern of rounded diamonds in relief continuing up the minimal amount of wall that remained. This was similar to the example found in the Kačol-Rogoznica wreck, although less complete. Therefore, it is difficult to determine what its overall dimensions might have been; the base diameter may have been in the vicinity of 6 cm. *Fig. 10.7.*

Like the rim of a mould-blown beaker found in Šibenik, the two rims found in Trogir feature mould-blown, lozenge-shaped bumps which terminate just below the rim. These have also both been made in coloured glass with some small and medium bubbles: the first in light, slightly bluish-green, the second in greenish-blue. However, the bosses on both of these are more rounded and less pronounced than the Šibenik example, and indeed, the raised lozenges on the second of these two rims are very shallow and almost imperceptible due to the heavy weathering this fragment has endured. In addition, this second fragment has been further decorated with an opaque white trail applied on top of the rim. The first measures 1.3 mm thick, with a rim diameter of 6 cm, while the second is 1.7 mm thick, with a rim diameter of 7 cm. *Fig. 10.8.*

#### *Simple refined-potash glass beakers*

A plain, refined-potash glass beaker was found at the Palača Statileo made of clear, colourless glass. This example has cylindrical walls 2.3 mm thick, and a thick (9 mm) base with no kick, although this is somewhat uneven and not entirely flat. Thick bases such as this can be seen in beakers found in Osijek, which would date it to the late-17<sup>th</sup> to 18<sup>th</sup> century, and while this example does not have any visible bubbles or blemishes, it appears to be of a slightly lesser quality in regards to the symmetry of the base, which measures 6.8 cm in diameter.

A smaller vessel was also discovered at the Banić-Apoteka, measuring only 4.2 cm in diameter, with walls 1.8 mm thick. Again, this vessel has a flat base with no kick and cylindrical walls, although this example was slightly pinched inward just above the base. The glass is also more flawed, with a few medium-sized bubbles. As this vessel was found at the apothecary's, it is possible it held a purpose other than for drinking.

#### *Beaker with ring base*

Another small beaker from the city square, 4.4 cm in diameter at the base, was pinched around the base to form a sort of ring around the foot, which was otherwise flat like the other examples. Unlike the other late-period potash glass beakers, however, this was made of slightly yellowish glass, 1.6 mm thick, with some small and medium bubbles, and one large bubble in the base.

*Fig. 10.9.*

Another example was found of clear, colourless glass, with a hollow, circular folded ring on the foot, 4 cm in diameter. The base of this vessel was not as evenly flattened, though it did not appear to have had a kick. Only a very small amount of the walls remained, which appear to have been cylindrical at the base.

#### *Skittle-shaped beakers*

A greyish coloured, skittle-shaped beaker was found in an unknown context which appears similar to examples found in Šibenik and Pula (Bekić 2014: 44). Only a small fragment remains

of this example, which seems to have had a base diameter of perhaps 8 cm, and walls which were 1.2 mm thick. The base has been pushed in and is fairly high and rounded, forming a small, open pocket in the corner between the inside of the walls and base. *Fig. 10.10.*

Another, slightly different, example was found at the Sv Ivan excavation, made of clear, colourless, refined-potash glass. While it has an 8 cm base diameter and a similarly tapering profile (although slightly less pronounced), the base is quite thick and does not feature the pushed-in base seen on other examples found here or elsewhere in the study area, suggesting that it was perhaps a somewhat later incarnation of the shape. Its walls are 1.3 mm thick, and contained two medium bubbles. *Fig. 10.11.*

## **Goblets**

At least 11 different goblets can be identified from Trogir which include both Venetian-style soda-ash glass and refined-potash glass examples. These goblets illustrate the wide variety of cup shapes available during the period, most of which were attached to a separate stem, none of which remain attached; however, two lion-mask stems were found, as were seven low, plain feet, again without a stem still attached (although a few have a small, rounded knop in between the merese and the rest of the stem). This collection contains only one example of a goblet with a tall, narrow, hollow foot.

### *Solid, plain-stemmed goblet with curved cup*

This goblet, with a solid, plain stem and a small fragment of a curved cup and plain, low foot, is unlike the rest of the goblets in this collection in both its colour and its form. This was made of green glass with a few small bubbles. The stem was long and narrow, 6.7 mm thick, and was attached to the cup with a thick merese, and by a slightly smaller one to the foot. A similar stem was discovered at Veštar near Rovinj, which Luka Bekić (2014: cat. no. 88) has attributed to perhaps the 16<sup>th</sup> century. *Fig. 10.12.*

### *Flared cup for tall, narrow, hollow foot*

All that remains of a single goblet which would have had a tall, narrow, hollow foot is the flared cup, attached to a small merese. This was made of slightly greyish glass, 0.7 mm thick, which is decorated with vertical ribbing on the inner surface. A similarly-decorated cup on a tall, narrow, hollow foot can be seen on an example from Pula, although that one had a much more pronounced ring-shaped merese (Bekić 2014: cat. no. 6). This goblet from the city square has a few small bubbles, but is badly pitted so that any other defects cannot be ascertained. *Fig. 10.13.*

### *Curved cups*

Three examples of curved cups with a small amount of a separate stem still attached to the merese were found at the city square. One of these was made of greyish glass, while the other



two are colourless, all of which are roughly 1 mm thick. The greyish cup has a few small bubbles but has no signs of weathering; on the other hand, the two colourless examples were badly weathered with iridescence and pitting. The small amount of stem below the merese is plain, and thus may have been a reel-shaped merese to be attached to stem, such as a lion-mask or a baluster, or else to a tall, hollow foot. *Fig. 10.14.*

#### *Cylindrical cup*

A single cylindrical cup was found at the Kuća Berislavić, attached to a reel-shaped merese which terminated in a rounded knop. The base of this cup forms a right angle with the walls, in contrast to the conical or curved cups seen in the rest of this collection. This was made of very fine clear, colourless glass, 0.5 mm thick with only a few small bubbles visible. The fire-rounded rim would have had a diameter of roughly 4.5 cm. This is a fairly small cup, measuring 5.8 cm tall with the merese. *Fig. 10.15.*

#### *Conical cup*

A small fragment of a conical cup was found at the city square excavations, made of clear, colourless glass 1.2 mm thick, and attached to its merese and a very minimal amount of its stem. This is similar in shape to a goblet cup from Šibenik, although on this example the merese has not been squared off. The glass from which this goblet was made contained a few small bubbles. *Fig. 10.16.*

#### *Lion-Mask stems*

Two complete lion masks were discovered in the city square excavations, one with a small portion of the goblet's foot, which once had a 6.8 cm in diameter, and the other with a small amount of a curved cup. The first was made of greyish glass, and while the second is more completely colourless, it has also suffered significantly more weathering, which has made it difficult to discern the quality of both the glass and the moulded decoration. Different numbers of lower gadroons, however, reveal that these were made with two different moulds. The lion mask on the first stem has very well-defined features and the mould seam is well hidden. The glass of its foot was 0.8 mm thick and contained several small bubbles. *Fig. 10.17.*

#### *Fluted cup*

Only the base of the cup and a small amount of the stem remain of a goblet which had a fluted cup and a thin, presumably solid stem. The stem was drawn from the bottom of the cup, rather than being a separate piece attached by a merese. *Fig. 10.18.*

### *Refined-Potash goblets*

This collection also contains fragments of goblets made of refined-potash glass, most likely produced in Bohemia or elsewhere in Central Europe. The first example is made up of a slightly-stepped foot 5.5 cm in diameter, a plain, straight, solid stem 1 cm thick, and part of a slightly curved cup (see *fig. 10.19*). There is no merese or other joining marks between the three parts of the goblet, and the glass is clear, colourless, and free of bubbles. The second goblet was represented solely by its foot and a small part of its stem. This is comparable in shape and size to the first example. However, it contained a large bubble on the edge of the base, as well as a bubble in the bottom of the stem. Both of these goblets were produced in the later end of the period in question, most likely from the late-17<sup>th</sup> or early-18<sup>th</sup> century, similar to goblets found in Osijek in eastern Croatia.

### **Bowls**

#### *Applied crimped-ring base*

Two bowls excavated in the city square were embellished with wide, shallow ribbing and an applied crimped ring base. The first example was made of yellowish glass, while the second is light blue; however, both applied rings are roughly 8 cm in diameter. The ribbing on the blue bowl is slightly shallower, while the yellow bowl's ribbing is more pronounced. Both were made with glass containing some small bubbles, and a few medium bubbles. *Fig. 10.20*.

#### *Bowl with low, folded ring foot*

A small, folded ring foot measuring 5 cm in diameter was found at Sv Ivan attached to a small part of the wall of the vessel which appears to have been spherical, made of greyish glass with some small and medium bubbles. Like several bottles and other vessels in the region, this was made of a single piece, and it is possible that this was, instead, a bottle, flask, or tankard; however, unlike those examples presented elsewhere, this does not have a high, kicked-in base, which is instead slightly pushed in and evenly rounded. *Fig. 10.21*.

#### *Bowls with applied pedestal feet*

At least seven of the bowls in this collection have applied pedestal-like feet, similar to those found in Šibenik and on the Gnalić wreck. These were discovered in the city square and Sv Ivan excavations, and are mostly clear and colourless, although a few of the examples have a slight grey or light green tint. Most of these pedestal feet are between 7 and 8 cm in diameter, and none greater than 9 cm. Their height, however, varies between 1.4 and 2 cm. On those few examples with a small part of the bowl still attached, there is no kick added to the base of the bowl, and the glass of the bowls' walls varies in thickness between 0.5 and 0.8 mm. *Fig. 10.22*.

### *Hemispherical bowl*

There was only a single example of a hemispherical bowl found at the city square in Trogir, which was decorated with alternating opaque white canes and twisted white and colourless *retorti* canes radiating from the centre. Of these *retorti* canes some are tightly twisted while others are looser, yet they were not placed in any discernible pattern on the vessel. These were left unmarvered on the outer surface of the bowl. The underside of the 1.2 cm tall kick displayed a rough pontil mark. Only the base of the bowl remains so that the total diameter is indeterminate, but the fragment measured 6.8 cm wide. A hemispherical bowl found in the monastery of Sv Grisogon in Zadar was also decorated with opaque white canes which were left unmarvered, although it did not have any twisted canes. The walls of this bowl, however, are more intact, and show that the canes spread straight from the centre and then spiralled abruptly to the right towards the rim (Pešić 2006: 120). Another hemispherical bowl from Concordia-Sagittaria, dated to the first half of the 16<sup>th</sup> century (Cozza 2010: cat. no. I.6.), was decorated with alternating opaque white and twisted canes; however, the twisted canes were more uniformly twisted and much wider than both the corresponding white canes and those found on the example from Trogir. In addition, these appear to have been marvered. The lesser quality of the Trogir bowl suggests that it perhaps came from a workshop outside of Venice, and perhaps from a later date. *Fig. 10.23.*

### *Mould-blown bowls*

The city square excavations produced rim fragments of two different bowls decorated with mould-blown bumps. Like those rims found in Šibenik, it is unknown whether these were hemispherical bowls, or if they had some sort of applied or folded foot. However, their decoration is worth documentation. The first is similar to examples found elsewhere in the study area, made of clear, colourless glass containing a few medium-sized bubbles, decorated with a pattern of rounded lozenges in relief. It was further embellished with an opaque white trail around on the rim. As very little of the rim remains, it is difficult to accurately determine the diameter of the rim, which may have been approximately 13 cm.

The second bowl, on the other hand, while similar to other bowls in the area in its moulded decoration, is otherwise unique due to its dark blue colour. Like the colourless moulded bowl described above, the fire-rounded rim of this blue bowl had a diameter of roughly 13 cm. However, the moulded bosses on the outer surface of this vessel are smaller and oval in shape, but again are longer horizontally than vertically. The glass from which it was made is approximately 1 mm thick, and contains some small bubbles. *Fig. 10.24.*

### *Ring-footed saucers*

This collection contains the bases of three saucers with pinched-ring feet: two in colourless glass, and one in light bluish-green. All three were shallow vessels, with small feet 4 cm in

diameter and walls 1.2 to 1.3 mm thick. None of these has a kick, and the inner surfaces of these bowls are fairly flat, potentially for use with a small cup. *Fig. 10.25.*

### **Lid**

The city square excavations produced a single solid stem, perhaps from a lid. This was made of clear, colourless glass now badly weathered, 4.1 cm tall. The stem had a small, flattened knob on top, which was 1.9 cm in diameter. Below this, the stem had been slightly flattened on two sides, forming it into an elliptical shape. However, it is possible that this was instead a stem from a goblet, similar to one with a trumpet-shaped cup from a shipwreck at Sv Katarina near Rovinj (Glušćević 2006: 11). *Fig. 10.26.*

### *Ribbed lid*

This lid, which came from an unknown excavation in Trogir, was given wide-set, mould-blown ribs on the top half of the dome, and a 4.7 mm thick applied trail made of the same clear, colourless glass as the rest of the vessel. Unlike goblets and beakers with *mezza stampatura* decoration, such as the ones found at Šibenik, this trail has been applied over the top of the ribs, causing the trail to ripple as it circles the vessel, as can be observed on the Cypriot bowl described in the previous chapter. The glass on this object is also quite thick overall, at about 2.3 mm, but does not contain any visible bubbles or other imperfections within the glass itself. *Fig. 10.27 and Plate 14.c.*

### **Vases**

This collection contains the remnants of three possible vases, all of which were made in styles or with decorations characteristic of the 16<sup>th</sup> or early 17<sup>th</sup> centuries. It is possible that these fragments came from other types of vessels rather than vases; however, all three are representative of slightly more elaborate fashions coming out of Venice which might also be within the reach of the bourgeoisie.

### *Wide-mouthed vase*

One group of fragments which might have been classified as a vase is the out-splayed rim of a vessel made of clear, colourless glass with a thick, twisted filigrana cane applied to the edge of the rim. This is a clear, colourless cane, with a cluster of three very thin, opaque white canes and a single opaque white cane, which form a pattern when twisted. Unfortunately, the rim is the only portion of the vessel that remains, so the exact shape of its body is uncertain. However, this was the rim of a wide-mouthed vessel, 14.5 cm in diameter (see *fig. 10.28*). Although it was given additional ornamentation, suggesting that it was a decorative item rather than purely utilitarian, the glass contained several small bubbles, and the white canes were left unmarvered.

Additionally, the widely out-splayed rim of this vessel and the next could have come from large *cesendelli* lamps. *Plate 14.b*.

A second vessel with a wide, out-splayed rim was also decorated with opaque white canes. In this instance, 10 parallel trails were applied below the rim, gradually placed further apart moving down the vessel. This appears to have been slightly larger than the first example, with a rim diameter of 16 cm, and contains fewer bubbles. Again, however, the overall shape of the vessel is unknown. *Fig. 10.29*.

### *Spout*

A single spout was found in Trogir, most likely belonging to a vase similar to that found in the Gnalić wreck. (Lazar and Willmott 2006: Plate 15). This was made of clear, colourless glass with tight ribbing running the length of the spout. A colourless trail was applied to the narrow, oval-shaped rim, which was otherwise left unrounded. *Fig. 10.30*.

### **Bottles**

The Muzej grada Trogira contains fragments of bottles spanning both the late medieval and early modern periods. Earlier bottles mostly likely came from Venice or Dubrovnik, while later bottles may have come from further reaches of Western Europe.

### *Long neck with spiralled ribbing*

Only a small neck fragment remains of a bottle decorated with spiralling tight ribbing, with no rim and only a gentle slope towards the missing shoulder. This was made of fine clear, colourless glass 1.1 mm thick with almost no bubbles, with a diameter of 2.6 cm. *Fig. 10.31*.

Three very small fragments of another bottle decorated with spiralling ribbing were also discovered, but this time made of medium blue glass. These ribs are not as tightly twisted as the other example, although the neck seems to have been of a similar diameter at 2.1 cm. Again the glass is quite fine at 1 mm thick, with very few bubbles. *Fig. 10.32*.

### *Straight rim with vertical ribbing*

Two other small fragments of bottles were found with mould-blown ribbing. In this case, however, the ribs were vertical, although they do curve slightly at the rim. One was made of glass with a slight yellowish tint, while the other was slightly bluish. Their rims measure 4.5 and 5 cm in diameter.

### *Biconical flask*

Another bottle in the collection was made of brownish-yellow glass, shaped into a long neck which flared outwards to form a wide body. A wide, curled ribbon of the same colour was applied around the neck, which is 3.2 cm in diameter at the point of breaking (see *fig. 10.33*).

Such ribbons, either self-coloured or blue, were frequently added to biconical bottles such as those seen in Ljubljana (Kos 2007: Cat. no. 220), Bribir (Delonga 1988: Tabs. XIII and XIV), Varaždin (Šimek 2010: Fig. 2), and Prijepolje (Han 1981b: Tab. V no. 2). This type of bottle is unusual for the coastal area, and is part of a 'late Gothic' style typical of Central Europe; thus, it is found more frequently throughout Serbia and Slovenia than it is in Dalmatia. While these bottles were also popular in the Rhineland, the bottles found in the Balkans differ in style and glass quality, and are more akin to bottles also found in Hungary (Han 1975: 124), where they were in use perhaps as early as the mid-13<sup>th</sup> century, albeit in a slightly different form. This bottle from Trogir is more reminiscent of those from Budapest dated from the 14<sup>th</sup>-16<sup>th</sup> (Holl-Gyürky 1986: 74); and, indeed, many of those found in Ljubljana have been dated to the first half of the 16<sup>th</sup> century (Kos 2007: 90). As this bottle would be a rather uncommon find for its location, it would not be amiss to consider that this was instead another type of bottle or even a vase, since multiple vases on the Gnalić wreck can be seen to have long, narrow necks decorated with a curled ribbon (Lazar and Willmott 2006: Plates 14-16). However, the colour of the glass suggests that Murano was not the origin of this vessel. Dubrovnik, or perhaps even Ljubljana, might be more appropriate workshops to look to in determining its provenance.

#### *Flask with folded foot*

At least three examples of bases similar to flasks found on the Gnalić wreck (Lazar and Willmott 2006: cat. no. S18) were found in the city square and Sv Ivan excavations. Each of these is a slightly different shade: one with a pale green tint, one grey, and one colourless. Unlike the pedestal-footed bowls, the bases of these bottles have a high but rounded kick, and globular bodies. Their base diameters are again smaller than the first type, between 5.5 and 6.1 cm. The glass from which these bottles were made contains some small and medium bubbles, and is between 0.8 and 1.0 mm thick on the walls of the body. *Fig. 10.34.*

#### *Inghistere*

The single example of an *inghistere* type folded base was made of glass 1.9 mm thick with a slight yellowish tint. Its base diameter was roughly 10 cm, and what remains of the foot was 2.2 cm tall. Like other examples of this type, this foot slopes outwards towards its folded edge.

Other fragments from the city square excavations include a long neck with a funnel-shaped rim and a corresponding tall, pointed kick, although the shape of the base is unknown. These fragments were made of slightly yellowish glass containing some small bubbles, ranging in thickness from 0.5 mm at the neck and 2.7 mm thick at the fire-rounded rim, which measures 5.4 cm in diameter. The remnant part of the neck measures 10.1 cm in length, and was embellished by a pinched band forming a pointed, bulging ring just below the funnel of the rim (see *fig. 10.35*). A similar bottle of clear, colourless glass, complete with the pinched band, was found at Veli Škoj near Pakoštane (Bekić 2014: 28), as was another example found at Sv

Krševan (Grisogono) in Zadar (Pešić 2006: 119). An additional, small fragment of a similarly shaped rim was also found in the city square, again made of slightly yellowish glass, but with small and medium bubbles. This example is 6 cm in diameter, and 1.6 mm thick at the fire-rounded rim. However, as the rim is all that remains, it is unknown whether this had a similar bulge on the neck.

#### *Funnel-shaped rim, short neck*

Bottles with short necks and funnel-shaped rims are the most numerous type of bottle in this collection, which is also the one of the highest known concentrations of them in Dalmatia. Seven individual rims were found, which can be divided into two groups: those without any decoration, and those with an applied white trail on the rim.

Only two bottles were found without an applied trail on the rim, which are also the two most complete examples of this type. Both were made of naturally-coloured glass: one in blue-green, and the other in pale aquamarine. The first has a rim diameter of 4 cm, while the second is only slightly larger at 4.5 cm. Both have a short, but defined, neck, and rounded shoulders which extended horizontally from the bottom of the neck. The shape of the rest of the body on both bottles is uncertain, but it is possible that it was square, similar to other bottles found in the region. *Fig. 10.36.*

Amongst the rest of the rims, two were made of light green glass (see *fig. 10.37*), while three are colourless (see *fig. 10.38*), all with a thick, opaque white trail around the rim. These rims range in diameter from 5 to 8 cm. While it might be assumed that the colourless examples would have been of a higher quality, the trail on one rim was applied in a very sloppy manner, while the rim glass of another was full of several small bubbles.

#### *Square bottles with skittle-shaped necks*

Fragments of at least three different square, skittle-necked bottles were found at the Kuća Berislavić, the city square, and the Juzni Bedemi (the southern walls). Each of these was made of bluish-green glass, corresponding with a group of bottles typified by those found on the late-17<sup>th</sup> century Drevine wreck. Their rims are each roughly 2.4 cm in diameter, all cut or else very roughly rounded, and all pinched inwards before tapering outwards again towards the shoulder. These rims are all thickened and uneven, between 3.4 and 5.0 mm thick, while the walls are roughly 2.1 mm thick. The middle portion of the bodies of each of these bottles has been lost, but parts of at least three separate bases were found as well. The glass at the base was approximately 4.8 mm thick, which was pushed up and rounded. At least one of these was left with a rough pontil mark, while another's had been smoothed. *Fig. 10.39.* This assemblage also contains one small corner fragment of a square-shaped bottle made of thick clear, colourless glass. However, its overall dimensions are unascertainable.

### *Skittle-shaped neck*

In addition to the group of bluish-green, square-bodied bottles with skittle-shaped necks, there were four more necks of a similar shape made of different colours of glass, but the bodies of which remain unknown. While it is possible that these rims may have had longer necks, the thick, chunky glass (2.3 to 3 mm thick at the rim) from which three of these were made appears more akin to the short-necked square bottles than to the earlier *inghistere* bottles with longer necks and tapered rims, such as those found in Šibenik. These three bottles were made of yellowish glass filled with small and medium-sized bubbles. Their rim diameters are between 2.9 and 4.0 cm, and have been roughly cut and left unrounded. *Fig. 10.40.*

The fourth bottle does include a small portion of its shoulder, but also differs from the other examples in that it was made of clear, colourless glass, and like many other bottles from Trogir, it was decorated with an opaque white trail on the rim. Like the other bottles of this shape, however, its rim is 2.3 mm thick and measures 4 cm in diameter. A bottle similar in shape and decoration, but not in colour, was found at Veštar near Rovinj, this one made of olive green glass. This example, however, illustrates that this decorative trend of white-trailed rims expanded beyond the short-necked, funnel-shaped rims that are so prevalent in the region. *Fig. 10.41.*

### *Pinched spout rim*

Only a very small fragment of this rim remains (see *fig. 10.42*). However, enough has been preserved to see that the rim was pinched to form a small spout, and that this rim was decorated with an opaque white trail, which winds around the rim at least eight times. This trail is evenly spaced as it winds down the rim, although its thickness varies. Nevertheless, an example of a spout-rimmed bottle with similar decoration is known from Dubrovnik (Topić 2015: Fig. 1 no. 60).

### *Bottle with ring on neck*

One of the latest bottles in this collection, from the 18<sup>th</sup> century or later, was made of olive-brown glass with a cylindrical body, a sloping shoulder, and a slightly tapered rim with a flattened ring, or string finish, just below it. The central portion of the body is missing, but the base would have measured 7.6 cm in diameter, while the rim measures 3.1 cm in diameter.

## **Lamps**

The two types of lamps found in Trogir came from either end of the chronological spectrum of this study, and would have been used in quite different contexts.



### *Biconical lamps*

This collection contains two separate fragments of yellow glass that may have come from lamps in the style typically associated with late-medieval mosque lamps in Syria and Egypt. The first fragment, excavated at the city square, came from a truncated-conical rim, which would have measured 12 cm in diameter, and which was decorated with two parallel, thin blue threads applied horizontally roughly 4 cm below the rim (see *fig. 10.44*). This glass is very thin and well-preserved, but contains several small bubbles. An 'Islamic type' lamp found in Ragogna near Udine was also decorated with blue trails near its truncated-conical rim; however, this example was produced in green glass (Siena and Zuech 2000: 244).

The second example is a base fragment found in the Kamerlengo fortress. This was again made of yellow glass, with a high kick and an applied ring of the same colour under the base. Similar lamps dated to the 14<sup>th</sup> or 15<sup>th</sup> centuries, in both yellow and colourless glass, were found in the church of St. Sergius on Koločep, presumed to be the products of the Dubrovnik glassworks (Han 1981: Tab. II no. 4 and Tab. III no. 6).

An additional base was also excavated at an unknown location in the city. This was made of clear, colourless glass with wide, shallow, mould-blown ribbing. The base has two colourless rings, side by side, applied to the base surrounding the kick. This is of a similar size as the other base, with a ring diameter of between 8 and 9 cm. The example from Šibenik also had mould-blown ribbing on clear, colourless glass.

### *Peg lamp*

The second type of lamp was made of brownish glass, and would have consisted of a hollow ball of glass with a small, circular opening, attached to a hollow, unevenly cylindrical stem 1.5 cm thick (see *fig. 10.45*). Only this stem and part of the body remain. Similar 'peg' lamps held by the Corning Museum of Glass are dated to the 18<sup>th</sup> and 19<sup>th</sup> centuries (for example, see object number 54.3.7).

### **Unknown**

Two small fragments from the same vessel are noteworthy for their decoration, even if the overall form of the vessel is unknown. This was made of dark maroon-coloured glass, which was then decorated with splashed spots of opaque white. The glass contains a few small bubbles. *Fig. 10.46*.

### ***Flat Glass***

#### **Oculi**

Only a single fragment of an oculus was discovered at the Kuća Berislavić, made of light green glass containing very few bubbles. The glass measures 2.9 mm thick in the centre, and 1.4 mm

towards the edge of the circle. This fragment includes part of the window's folded edge, which would have once measured 11 cm in diameter. *Fig. 10.47.*

### **Other**

Another fragment of flat glass was found in the city square, this time made of clear, colourless glass which was not produced using the crown technique. This measures 5.4 by 3.9 cm, and is evenly 1.7 mm thick throughout. It appears this glass was cast—it also contained several small bubbles, yet unlike those found in crown glass, these bubbles were not distorted through stretching. Both surfaces were very smooth.

Finally, four small fragments of dark blue, flat glass were excavated from the city square and Sv Ivan (see *fig. 10.48*). None of these fragments is greater than 4.2 cm in length or 3 cm in width, and they vary between each other in thickness from 1.5 to 2.2 mm, although each fragment is evenly thick. These fragments contain no bubbles, and are very even and smooth. Each also has at least one cut edge remaining. It is possible that these served a similar purpose to fragments found on the Drevine wreck, as panels on a mirror frame or some other form of furniture. Or, they could have been window spacers between oculi, similar to several coloured pieces of glass found at the Dubrovnik Cathedral (see Chapter 11).

### ***Cane***

This collection contains only a single complex cane which was found at the Sv Ivan excavations. The fragment, made up of an opaque white cane surrounded by clear, colourless canes, is 5.6 cm long and 6 mm thick. The white cane in the centre measures approximately 0.8 mm thick. Like other cane fragments found in the region, it is possible that this was meant to have been used in the small-scale manufacture of beads, or else might have been added to a vessel for decoration after production.

## GLASS IN CENTRAL DALMATIA

Despite its small size, the glass finds of Trogir are illustrative of a city with wealth and connections. Although the channels between the city and the mainland and between the city and Čiovo are narrow, draw-bridges allowed small barks to pass through and seek shelter on their way from Zadar to Split (Fortis 1778: 167). This assemblage provides information about the wide array of glass goods which were used in a prosperous part of Central Dalmatia, which is particularly useful in filling gaps left in the timeline of material culture in the rest of the region. Split's pre-eminence within Venice's Dalmatian colonies as a key port would have made its citizens highly likely to have indulged in the luxury material goods which passed through the city as part of the trade in which they participated by land and by sea. However, there appears to be a lack of published material regarding glass excavated there which can be dated to after the 16<sup>th</sup> century. This is most likely due to either poor preservation, excavation methods which favoured earlier periods, or the personal preferences of those researching in the region.

The most prominent settlement in central Dalmatia is undoubtedly Split, a city of note in both the early modern period and the modern for its economically advantageous position and its wealth of archaeological material. It is, in fact, this overabundance of historical and archaeological worth that has shaped the growth of the city in the last two centuries, which has, in turn, shaped the way in which the early modern period has been valued and studied. Recurrent political upheavals have each brought with them new priorities in regards to urban planning, particularly in the treatment of the Split's ancient past and its place in the city's future expansion. The preservation and glorification of the city's ancient and medieval core, built within the confines of Diocletian's 4<sup>th</sup> century palace, came to the forefront of urban planning discourse in the 19<sup>th</sup> century. Subsequent generations have struggled to reconcile the desire to display the well-ordered avenues and grandiose monuments of the Roman period with the wants and needs of the growing modern population. After 1979, with the inscription of Split's historical nucleus as a UNESCO site, conservation efforts were put to the forefront of the city's concerns (Grgić 2012: 171). Nevertheless many of these policies, whether the result of urban planning or conservation needs, came at the expense of the medieval infrastructure which had developed organically within the city/palace walls. Medieval structures which were incompatible with modern living standards have been demolished, and as a result, the city centre is now more akin to how it would have appeared in the 10<sup>th</sup> century (McNally 1975: 258). Already in 1983, Ivan Zaknic (1983: 24) warned against viewing the medieval and post-medieval city as an 'obstacle' towards the goal of classical antiquity, as this would create the risk that 'contributions made by subsequent cultures are neglected, their vernacular judged to be without any historical value'.

Regardless of the restrictions encountered in the study of later material culture in Split, the joint American-Yugoslav excavations of the 1970s produced a sizeable assemblage of glass dated to the 14<sup>th</sup> and 15<sup>th</sup> centuries. Other parts of the region also seem to have had access to of

a similar quality during the late Middle Ages. A contemporary, albeit smaller, collection was excavated from the church of Sv Vid in Vid, a small agricultural village located a mere kilometre from the modern-day Croatia-Bosnia border near the towns of Metković in Croatia, and Gabela in Bosnia. Despite differences in location and size, some parallels can be seen between the two assemblages, particularly in the use of optic moulds and blue threads for decorating the glass artefacts. This may be due to the fact that Vid's was an ecclesiastical site, which may have provided its clergy or patrons with the wealth and connections needed for access to these goods, most likely imported from Venice or Dubrovnik. If a rifted socio-economic divide between city and hinterland was reflected in material culture consumption in later years this is as of yet uncertain, but probable.

Beakers from both locations include examples decorated with mould-blown circular depressions and cupped-rim beakers with vertical ribbing. Both sites have two optic-blown beakers dated by analogy and, in the case of one example from Split by its discovery near some diagnostic ceramics, to the late 14<sup>th</sup> century (DeMaine 1979: M1 and M2; Buljević 1998: cat. no. 1 and 2). These were made of nearly-colourless or slightly bluish glass. Such *gambassini* were also found in Dubrovnik (exhibit). The two sites also produced beaker bases embellished with applied, crimped rings. Those examples from Vid belonged to several cupped-rim beakers made of colourless or nearly-colourless glass, many of which were decorated with either a single or multiple blue threads on or near the rim (Buljević 1998: cat. nos. 5-23, 40-46). Split's collection also contains at least one example of a cupped-rim beaker with prominent vertical ribs, although this specimen has a self-coloured thread applied below the missing rim (DeMaine 1979: M3). This collection did contain, however, six possible bowls of differing profiles decorated with multiple blue threads (DeMaine 1979: M25-M30). These, like other examples from the region, are roughly dated to the late-14<sup>th</sup> or early-15<sup>th</sup> centuries. Crimped-ring bases from Split could have also come from vessels with large, flat prunts—perhaps *krautstrunk*—which were found in small fragments in multiple contexts. Most were found in contexts dating to before 1420, but at least one was found in a post-medieval context, which indicates the style continued at least a century longer in the region, as it also did north of the Alps (DeMaine 1979: M7-M11). Two prunted fragments were also discovered in Vid. One of these was made of blue-green glass similar to those found in Dalmatia and the Rogoznica wreck, while the other was nearly colourless, more alike to those from Belgrade (Buljević 1998: cat. no. 52 and 53). Split's collection also contained a kicked-base beaker with spiralling ribbing and a blue thread applied to the rim (DeMaine 1979: M25), as well as five plain beakers with kicked bases and straight sides. Four have been dated to the 14<sup>th</sup> or 15<sup>th</sup> centuries, while the final vessel came perhaps from the 16<sup>th</sup> century (DeMaine 1979: M12-16). Vid's collection contained four such beakers—three of nearly-colourless glass, and one made of bright green glass (although this might equally have belonged to a bottle) (Buljević 1998: cat. no. 47-50).

The only late-medieval or post-medieval goblet in either collection was found in Split, and has been dated to the 14<sup>th</sup> or 15<sup>th</sup> centuries (DeMaine 1979: M48). Made of cobalt-blue glass, the cup was decorated with shallow ribbing, while the thick, solid stem, which tapers outwards to form the absent foot, has been ornamented with a ribbon wrapped around the middle of it. This has been compared to an unpublished fragment from Lucera (DeMaine 1979: 130), although 15<sup>th</sup>-century stems with an applied wavy trail applied around the middle have also been excavated at Venice, including one example with three wavy blue trails applied to a clear, colourless stem (Minini 2010: cat. no. I.14a-c)

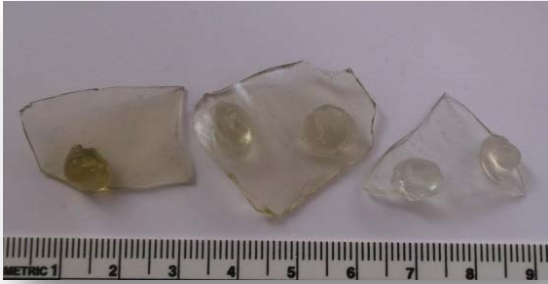
Several of the bottles found in Split were decorated with spiralled ribbing on a slightly tapered or flared rim and neck (DeMaine 1979: M32-M34, M36-M37). Interestingly, one of the ribbed bottle necks (M34) was made of cobalt-blue glass, similar to the one found in Trogir. These were most likely from *inghistere* type bottles, which is in accordance with eight tall, folded-foot bases which were also found in 14<sup>th</sup> to early 15<sup>th</sup> century contexts (DeMaine 1979: M38-M44, and uncatalogued). A single long bottle neck, likely from an *inghistere*, was found in Vid, but without any ribbing (Buljević 1998: cat. no. 53). An additional base was found in Split with no foot, but with wide ribs. Finally, a very unusual footed bottle was also found with a tall, applied ring foot made of wine-red glass, attached to the kicked bottom of the body of the vessel, made of 'sapphire' coloured glass (DeMaine 1979: M35). An opaque white trail has been applied around the bottom edge. This has been likened to a fragment from Durham Castle dated to between the 8<sup>th</sup> and 13<sup>th</sup> centuries, although DeMaine is inclined to believe that Split's example is slightly later, due to the fact that it was found underneath a collapsed masonry block decorated with a fresco dated to between 1325 and 1425 (DeMaine 1979: 129).

Both sites produced biconical hanging lamps, of the type typically associated with Syria and Egypt. The one example from Split was made of pale green glass with a self-coloured handle (DeMaine 1979: M49). Unlike those found in Trogir and Šibenik, this specimen had a low, folded ring foot, rather than an attached ring. Only one lamp base from Vid has survived which was made of colourless glass with a light-brown tinge, and does not appear to have had any sort of foot (Buljević 1998: cat. no. 57). Part of the wall of a globular lamp body was also made of slightly-brownish glass, with a round, self-coloured handle attached (Buljević 1998: cat. no. 58). The slightly-flared rim of another lamp made of green glass was also found in Vid (Buljević 1998: cat. no. 59a-c). On this lamp, however, the handle was attached to the rim.

Additional glass fragments of indeterminate shape were found in both locations, most notably a piece in Split made of 'wine-red' glass, with marvered white canes which had been combed (DeMaine 1979: M50). Finally, a fragment of a single oculus was excavated from Split (DeMaine 1979: M53). This was made of light green glass, and the edge was folded.

By the time Alberto Fortis (1778: 308-309) arrived in the Neretva region of Dalmatia, Vid had been reduced to a 'poor hamlet', and it, like the rest of the area was inhabited by predominantly

Greek Orthodox Morlacchi settlers who lived in houses built from the spoils of ancient monuments and who suffered infirmaries caused by drinking the brackish water of the delta. The village was also near the notoriously dangerous trade route which ran through Gabela. It is therefore likely that glass was rarely used in the village during the early modern period, except for, perhaps, within the church. Split, on the other hand, became an important port which linked the inland Balkans with the Adriatic and the rest of Europe. It is possible that the inhabitants of Split would have possessed an even wider array of glass objects of different styles than those found in Trogir, due to the comings and goings of a far greater number of people and their merchandise. It is unfortunate that more has not been published on the post-medieval glass of Split.



**Figure 10.1**

Small coiled prunts.

W: 3 cm (widest)



**Figure 10.2**

Small pointed prunt.

W: 3.5 cm



**Figure 10.3**

Large flat prunt.

W: 2.5 cm



**Figure 10.4**

Simple soda-rich beakers.

D: 5-6 cm (base)



**Figure 10.5**

Beaker with blue trail.

H: 3 cm

D: 7-8 cm (rim)



**Figure 10.6**

Beaker with folded ring base.

H: 1.5 cm

D: 4.7 cm (base)



**Figure 10.7**

Mould-blown beaker base.

H: 1.3 cm

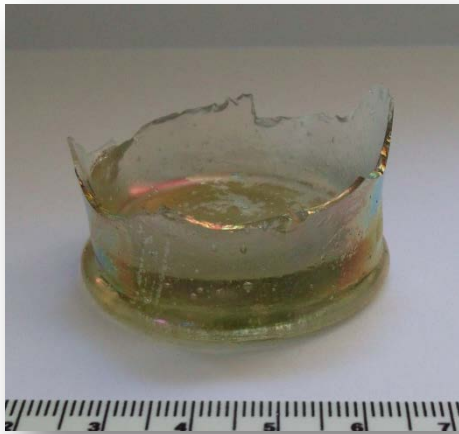


**Figure 10.8**

Mould-blown beaker rim.

H: 3.1 cm

D: 6-7 cm (rim)



**Figure 10.9**

Beaker with ring base.

H: 2.5 cm

D: 4.4 cm (base)

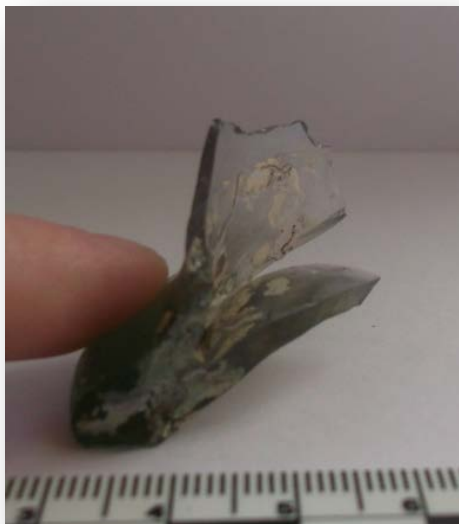


**Figure 10.12**

Plain goblet stem.

H: 5.6 cm

W: 0.7 cm (stem)



**Figure 10.10**

Skittle-shaped beaker, Type I.

H: 2.5 cm

D: 8 cm? (base)



**Figure 10.13**

Flared goblet cup with ribbing.

H: 3.1 cm

W: 1.5 cm (stem)



**Figure 10.11**

Skittle-shaped beaker, Type II.

H: 2.7 cm

D: 8 cm (base)



**Figure 10.14**

Curved goblet cups.

H: 3.4 cm (tallest)





**Figure 10.15**

Cylindrical goblet cup.

H: 5.8 cm

D: 4.5 cm (rim)



**Figure 10.16**

Conical goblet cup.

H: 2.8 cm



**Figure 10.17**

Lion mask stems

H: 6.7 cm (tallest)

D: 6.8 cm (foot)



**Figure 10.18**

Fluted goblet cup.

H: 3.5 cm



**Figure 10.19**

Plain-stemmed refined-potash goblet.

H: 6.3 cm

D: 5.5 cm (base)



**Figure 10.20**

Bowls with crimped-ring base.

H: 2.9 cm

D: 8 cm? (ring base)



**Figure 10.21**

Bowl with folded foot.

H: 1 cm

D: 5 cm (foot)



**Figure 10.22**

Bowls with applied raised feet.

H: 2.6 cm (tallest)

D: 7-9cm (foot)



**Figure 10.23**

Hemispherical bowl.

H: 1.2 cm

W: 6.8 cm



**Figure 10.24**

Bowl with all-over moulded decoration

H: 2.2 cm

D: 13 cm (rim)



**Figure 10.25**

Small saucer with pinched ring foot.

H: 1.4 cm

D: 4 cm (foot)



**Figure 10.26**

Solid stem.

H: 4.1 cm



**Figure 10.27**

Lid with ribs.

H: 3.4 cm

D: 6 cm? (rim)

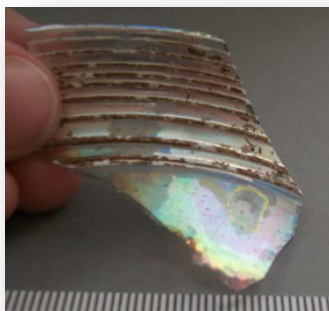


**Figure 10.28**

Vase rim, Type I.

H: 1.7 cm

D: 14.5 cm



**Figure 10.29**

Vase rim, Type II.

H: 2 cm

D: 16 cm? (rim)



**Figure 10.30**

Vase spout.

H: 8 cm

W: 3 cm



**Figure 10.31**

Bottle with long, ribbed neck, Type I.

H: 6 cm  
W: 4.3 cm



**Figure 10.32**

Bottle with long, ribbed neck, Type II.

H: 2.9 cm  
W: 2.1 cm



**Figure 10.33**

Neck of biconical bottle.

H: 4.6 cm  
W: 3.2 cm (neck)



**Figure 10.34**

Flask with tall folded foot.

H: 3.3 cm (tallest)  
D: 5.5-6.1 cm (foot)

**Figure 10.35**

*Inghistera*.

H: 10.1 cm (rim and neck)  
D: 5.4 cm (rim)





**Figure 10.36**

Bottle with funnel-shaped rim and short neck, undecorated.

H: 3.2 cm  
D: 4.6 cm (rim)



**Figure 10.37**

Green bottle with funnel-shaped rim with white trail.

H: 2.7 cm (tallest)  
D: 5-8 cm (rim)



**Figure 10.38**

Colourless bottle with funnel-shaped rim and white trail.

H: 2.6 cm (tallest)  
D: 5-7 cm (rim)



**Figure 10.39**

Tall square bottle with skittle-shaped rim.

H: 11.5 cm (tallest)  
D: 2.4 cm (rim)



**Figure 10.40**

Skittle-shaped rim.

H: 5 cm (tallest)  
D: 2.6-4 cm (rim)



**Figure 10.41**

Skittle-shaped rim with white trail.

H: 5.3 cm  
D: 4 cm (rim)



**Figure 10.42**

Spouted rim.

H: 1.8 cm  
W: 1.2 cm



**Figure 10.44**

Biconical lamp rim.

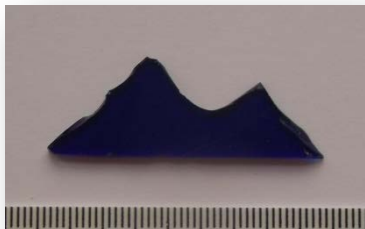
H: 4.6 cm  
D: 12 cm (rim)



**Figure 10.46**

Vessel with splashed decoration.

H: 2.13 cm  
W: 3.7 cm



**Figure 10.48**

Blue flat glass.

H: 1.6 cm  
W: 4.2 cm

**Figure 10.43**

Bottle with string finish.

D: 3.1 cm (rim)  
D: 7.6 cm (base)



**Figure 10.45**

Peg lamp.

H: 4.3 cm  
W: 1.5 cm (stem)



**Figure 10.47**

Oculus.

D: 11 cm



## XI

# THE REPUBLIC OF RAGUSA AND VENETIAN ALBANIA

The final coastal region to be examined in this thesis extends from the Pelješac peninsula south through the rest of the territories which once made up the Republic of Ragusa, and into ‘Venetian Albania’ or modern-day Montenegro, with a brief mention of Venice’s holding at Butrint near the Strait of Corfu (see *map 11.1*). Southern Dalmatia, particularly the area surrounding Dubrovnik, had become increasingly disconnected from the northern part of the coast beginning around 1030 with the loss of the early Venetian territories there (Krekić 1995: 322). Yet there appears to have still been some confraternity amongst the people of the Adriatic coast, at least when away from home. Immigrants from Venetian Albania who came to reside in Venice appear to have been, in general, regularly involved in the Catholic life in the city, and while they frequently associated on an everyday basis with other immigrants from their home city or other cities from the region, they also formed close ties with members of the large immigrant community hailing from different parts of the Adriatic coast, such as Venetian Dalmatia and Ragusa (Čoralić 2007: 101-102). Similarities between this region and the rest of the Dalmatian coast can also be witnessed in the glass from excavations in Dubrovnik and the surrounding area. This is, of course, in no small part due to the prolific glass industry operating in the city in the 15<sup>th</sup> and 16<sup>th</sup> centuries.

In spite of the thorough archival research undertaken by Verena Han throughout the 1970s and ‘80s, very little has been published on the archaeological evidence from excavations undertaken in the city since that time; fortunately, this dearth of information is being rectified by Nikolina Topić’s 2017 exhibition of excavated materials at the Dom Marina Držića, *U Traganju Za Renasansom*, and subsequently her upcoming publications. A few objects from the surrounding Ragusan territories, such as Orebić, the islands of Mljet, Koločep, Lopud, and Šipan, and Dunave have also been included in Topić’s and Han’s publications. In Montenegro, the extensive excavations at Stari Bar have produced a wealth of material culture finds, including an assemblage of glass, as have excavations at Kotor. Post-Roman glass found in Albania is almost non-existent in easily-accessible publications, except in archival resources studied by Han (1981: 195)—even then, she admitted that ‘the whole of Albania represents a terra incognita for glass historians’—and a few post-medieval artefacts from recent excavations at Butrint National Park. Even then, these glass artefacts are surprisingly rare in Butrint,



although these few identified pieces are worth noting in relation to other finds from the region. However underrepresented it may currently be, the Southern Adriatic is particularly worthy of further study due to the glassmaking tradition in Dubrovnik, the trade networks linking across the sea to cities like Bari, and the sustained Ottoman presence on the coast. This chapter will serve as a brief survey of published materials, taking into consideration that due to the lack of easily-accessible museum collections this region will be presented in far less detail than the northern half of the coast.

However, the glass fragments which have been documented in the southern Adriatic reveal the expansive trade networks to which these towns were linked, which reached across both the Adriatic and the Mediterranean. Late-medieval bottles and drinking vessels illustrate connections with the wider Byzantine world and the Islamic world beyond that. Vessels and window glass from the 15<sup>th</sup> and 16<sup>th</sup> centuries show that in addition to the noticeable presence of Venetian imports, the glass industry in Dubrovnik was highly productive, and indeed was the result of trade relationships with the varied and far-flung suppliers of their raw materials.

Most of the different types of beakers found in the southern Adriatic are analogous to those found elsewhere along the coast. Various types and phases of pruned beakers can be observed in the region: the earlier phase, typical of the 13<sup>th</sup> through 15<sup>th</sup> centuries and characterised by small, snail-like prunts made of colourless, yellow, or yellowish-green glass have been found at Kotor (Križanac 2001: 79) and at Stari Bar (Ferri 2008: 62); beakers from a similar period with larger prunts, again made of greenish-yellow, yellowish, or greyish glass, were discovered in Kotor (Križanac 2001: 79), Stari Bar (with applied base-rings which were smooth in older examples, and crimped in later versions) (Ferri, Garavello, and Sabbionesi 2013: 139), Orebić (Fisković 1979: fig. 1), and the Sokol Fortress at Konavle (Topić et al 2016: no. 37); and bluish-green or greenish-blue, large, flat pruned *krautstrunk*-style beakers of the 14<sup>th</sup> or 15<sup>th</sup> century to 17<sup>th</sup> century were excavated at the Sokol Fortress (Topić et al 2016: no. 11) and Stari Bar (Ferri, Garavello, and Sabbionesi 2013: fig. 5.58.3). In Stari Bar, these pruned beakers were frequently found alongside beakers with prominent vertical ribs on the lower half of the walls (Ferri, Garavello, and Sabbionesi 2013: 139). An example of this was also found in Kotor (Križanac 2001: no. 69). In addition, five beakers were also found in Kotor with shallower ribbing with analogies in France and Tarquinia from the 14<sup>th</sup> century; interestingly, one was made of blue glass and another of violet-red, while the rest were in more common yellowish-green or greenish hues (Križanac 2001: 80). *Bicchieri gambassini* beakers with mould-blown recessed shapes—such as ovals, diamonds, lozenges, and honey-comb patterns—were found in Kotor (Križanac 2001: 80), Stari Bar (Ferri 2008: 60), and in the Dubrovnik area (Topić 2017: 35). As in other locations around the Balkans, blue trails were applied to some of these *bicchieri gambassini* in Lopud Otok near Dubrovnik (Han 1981b: Tab. II fig. 2) and Kotor (Križanac 2001: 80), some of the beakers with prominent vertical ribs in Stari Bar (Ferri 2008: 60), and

rims of various shapes in Dubrovnik (Topić 2017: 33). Undecorated truncated conical beakers were in use all over the region and would have been found throughout the late medieval and early modern periods (Križanac 2001: 80; Ferri 2011: fig. 5.9.1; Topić 2017: 29). A particularly large collection of optic-blown vessels with lozenge, rhomboid, circular, or drop-shaped bumps dated from the 14<sup>th</sup> to 17<sup>th</sup> centuries was discovered at the Sokol Fortress (Topić 2017: 37). Finally, heavier, most likely potash-rich glass from Central or Northern Europe was used for flat-bottomed circular or octagonal beakers of the 18<sup>th</sup> century found in Stari Bar (Ferri, Garavello, and Sabbionesi 2013: 146).

Stemmed goblets were not abundant in Kotor, consisting of only two Byzantine-style examples from the late medieval period made of green and blue-green glass (Križanac 2001: 81). Goblets of the 16<sup>th</sup> and 17<sup>th</sup> centuries, similar to those found throughout the rest of the coast, were more numerous in Stari Bar and Dubrovnik, where varieties included plain solid stems (with large mereses), lion-mask stems, baluster stems (solid and hollow), and hollow feet with or without a reel-shaped merese (Topić 2017: 55; Ferri 2008: 62). In addition, a few examples of large stemmed vessels with very shallow cups were also found in Dubrovnik which may have belonged to tazze (Topić 2017: 59). Unlike the rest of the study area, however, both Stari Bar and the Monastery of St Mary of Kaštel in Dubrovnik produced examples of goblets with dark blue feet and stems with moulded ridges. Those found in Stari Bar featured unmoulded, colourless cups, while the example known from Dubrovnik (dated to the early 16<sup>th</sup> century) was broken off at the top of the stem and so the cup colour and shape is indeterminate (Ferri 2011: 89; Topić et al 2016: no. 63). A few other examples of cups have been found in Stari Bar as well, including ones with mould-blown honeycomb patterns and blue trails applied to the rim (Ferri, Garavello, and Sabbionesi 2013: 5.58.4). Cups found in Dubrovnik were moulded in drop or circular shapes, in addition to plain ones (Topić 2017: 30-31). A late 17<sup>th</sup> or early 18<sup>th</sup>-century example of a moulded cup (Ferri, Garavello, and Sabbionesi 2013: fig. 5.62.4) was found in Stari Bar with thick gadroons on the base of the cup was similar, perhaps, to the unidentifiable vessel discussed in the Belgrade collection in the following chapter. This was attached to the upper portion of a thick, solid stem, yet not enough of this remains to determine the overall shape of the vessel. Although it may have once been a tall goblet, it may have also been akin to the heavy bases and short stems of 'jelly glasses' corresponding to the same period, which were also discovered in the city (Ferri, Garavello, and Sabbionesi 2013: fig. 5.62.5-7). Unlike those found in Belgrade and Osijek, these were recovered in association with small looped handles which would have been attached to the vessels. Margherita Ferri (2013: 146) has therefore suggested that while these vessels might have been used for toasting at dinners in the country from which they were imported (most likely Great Britain), the handles imply that they may have been used for consuming hot beverages in Stari Bar.

The bowls found in the vicinity of Dubrovnik illustrate the great variety of styles offered, including bowls with mould-blown rhomboid bumps with white trails applied to the

rims, mould-blown spiralled ribbing, an example made of cobalt-blue glass found at Sokol Fortress, and bowls with spiralling white filigree threads radiating from the centre of the bowl's underside. These might be hemispherical bowls, bowls with applied ring feet, or bowls with applied pedestal feet. One particularly interesting example of a bowl decorated *a retorti* included green and blue threads in addition to the more common white (Topić 2017: 37-41). Pedestal-footed vessels which may have been bowls, or perhaps bottles with no kick, were also found at Stari Bar (Ferri 2011: 5.8.5-6).

Bottles appear to have been imported from a wide variety of sources, beginning in the late Middle Ages. Excavations at the Monastery of St Mary of Kaštel (Topić et al 2016: nos. 5, 26), Kotor (Križanac 2001: nos. 5-16), and Stari Bar (Ferri, Garavello, and Sabbionesi 2013: 5.57.5) all produced examples of small bottles decorated with marvered festoons, a style of decoration found on bottles from the Islamic Levant during the 12<sup>th</sup> through 14<sup>th</sup> centuries (Carboni 2001:291). Biconical bottles were found at Stari Bar (Ferri, Garavello, and Sabbionesi 2013: fig. 5.60.2), but are not readily apparent at any of the other sites. *Inghistere*, on the other hand, were plentiful throughout the region as evidenced by a number of pedestal-footed globular bodies and long necks of various types found in Kotor (Križanac 2001: figs. 33-53), Stari Bar (Ferri 2011: fig. 5.10.2-3), Sokol Fortress of Konavle, the Monastery of St Mary of Kaštel (Topić 2017: 41), and Lezha in Albania (Šmit et al 2009: fig. 1). Like in other regions, these necks were available with either straight or funnel-shaped rims, with or without mould-blown ribbing, which could be vertical or spiralling. Some might also have a small, ring-shaped bulge below the rim. These were made of either colourless glass, nearly-colourless with a greenish tint, or more vividly greenish-blue glass. In Kotor, seven bottles with similar pedestal feet were also found with thin spouts, made of green or slightly greenish glass. As similar spouted bottles were also found in sacristies in Murano, Križanac has suggested a religious purpose for these artefacts, such as for baptisms, or in pairs with *inghistere* for water and wine (Križanac 2001: 78).

Another type of bottle with a similarly long neck (with a straight rim) and spiralled ribbing was also found in Kotor, but this time with a ring-shaped base rather than a pedestal foot similar to some 15<sup>th</sup> century examples in the central Balkans (Križanac 2001: 78). A similar foot with spiralled ribbing was also found in Stari Bar (Ferri 2011: fig. 5.8.1). Excavations at Stari Bar additionally produced pedestal-footed bottles with a small ring applied to the neck similar to those found on the Gnalić wreck (Ferri 2011: 88). Another late 16<sup>th</sup> or early 17<sup>th</sup>-century rim was found at the Monastery of St Mary of Kaštel. This was the trefoil-shaped rim of a jug made of colourless glass, with an opaque white trail applied to the rim which circled closely down the rim several times to the top of the neck. A similar rim made of green glass, along with a handle which may have belonged to the same jug, was discovered at the Sokol Fortress (Topić 2017: 43). Finally, some non-Venetian bottles from the later end of the study period were excavated in Stari Bar. These include a bottle with a short neck and an opaque white thread applied to a

funnel-shaped rim, of the type found elsewhere along the coast, and bottles with hexagonal bases, comparable to those in Belgrade (Ferri, Garavello, and Sabbionesi 2013: 144).

Another example of a green bottle with an opaque white trail applied to the rim was also found at the Triangular Fortress of Butrint; however, the rim was skittle-shaped, rather than funnel shaped (personal communication, I. Parangoni 25/07/2014). A few rims of various other later bottles were also found there, including some with their rims flattened outward and some with a flattened ring applied below a cut rim (Ferri, Garavello, and Sabbionesi 2013: fig. 5.61.1-2 and 5.62.1). Bottles from after the early 16<sup>th</sup> century would correspond to the point in Butrint's history when the lower town was virtually abandoned, the population instead transferring to the Triangular Fortress, as the settlement became focused more on guarding the Strait of Corfu rather than on trade (Vroom 2006: 235; Crowson 2007: 15). It would not be surprising if little glass was discovered dated after this period however—after Ali Pasha took control of Butrint, he turned his attentions towards inland networks of communication and cut off ties with the sea routes (Carvajal, Palanco, and Molla 2010).

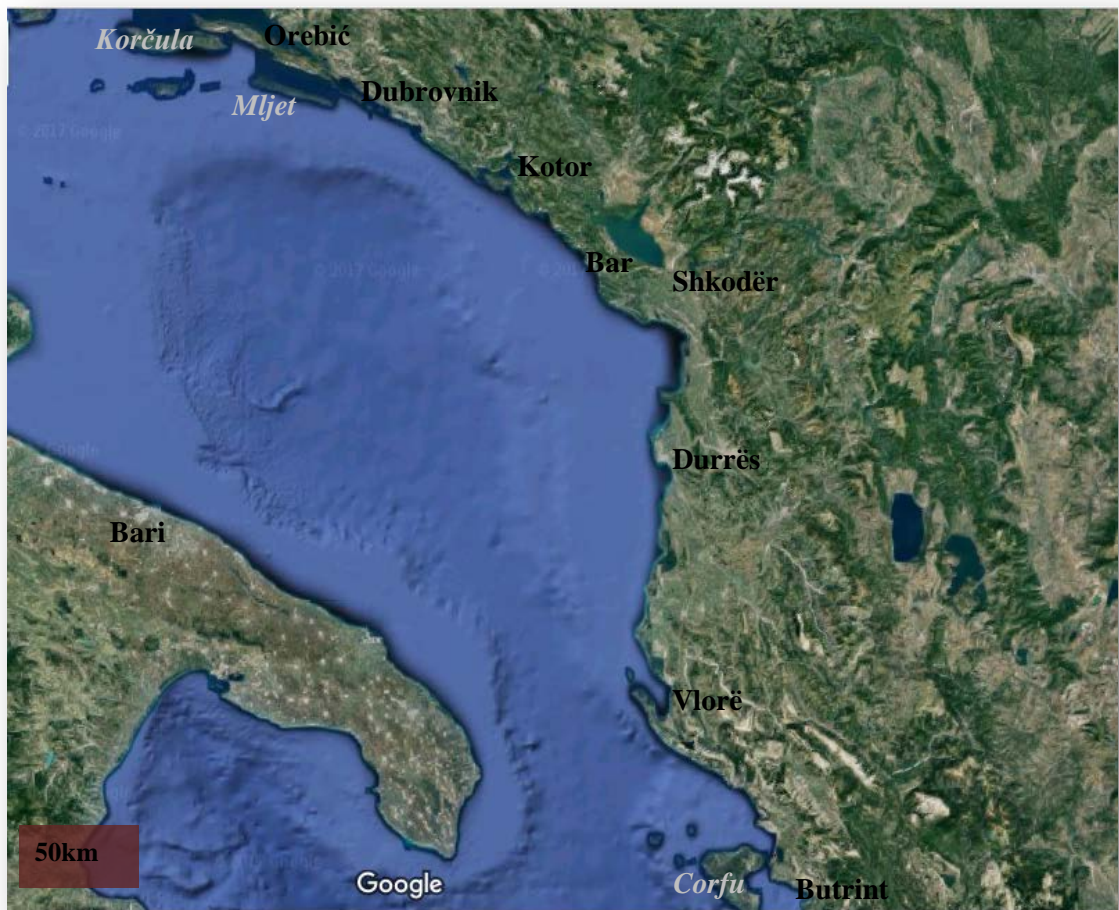
Lamps make up an especially important assemblage, perhaps more so than in any other region in the study area. A few bell-shaped lamps were found in Kotor (Križanac 2001: figs. 94-96). However, much more sizable numbers of biconical lamps were discovered. Numerous fragments of rims, bases, and handles were excavated in the Church of St Sergius on Koločep (Han 1981: II.4-5, III.1-6, IV.1,4-8). These were made of either colourless or yellowish glass, and some had either self-coloured or blue applied horizontal trails near the rim. Lamps were also found in many locations around the city of Dubrovnik, in both religious and secular contexts (Topić 2017: 43). The lamps found in Kotor fit into two different size groups: eight larger ones, roughly 19 cm tall, and 14 smaller lamps, between 7 and 8 cm tall. These were made primarily of green, yellowish-green, or light brown glass, and nearly all were decorated in self-coloured or blue trails below the rim (Križanac 2001: 82). In Stari Bar, fragments of two biconical lamps, one with an applied blue trail, were discovered in 14<sup>th</sup> to 15<sup>th</sup> century contexts at the chapel of St Catherine, located over room 8b; interestingly none were found 'directly linked to the life of the church' (Ferri 2008:64).

Several glass beads were found in or near Dubrovnik, such as at the Monastery of St Mary in Kaštel, the Monastery of St Mary on Mljet, and the Church of St Stephen in Dubrovnik. Some of these made up complete or nearly complete rosaries, while others were found individually or in small clusters, suggesting that they had been paired with beads of other materials, such as wood or metal, which were not preserved. The majority were black, although some were red, blue, dark blue, and green. One notable black bead was further decorated with white circles, into which dots of light blue and red were applied (Topić 2017: 53).

Finally, many of these collections also contained fragments of window glass. Three oculi were found in Kotor: one slightly brownish oculus 10 cm in diameter, and two green oculi 4 cm in diameter (Križanac 2001: 82). A 14<sup>th</sup> or 15<sup>th</sup>-century crown glass fragment was found at

the Church of St Elia on Otok Lopud (Han 1981b: II.3), while oculi from the last decade of the 14<sup>th</sup> century were found at the Cathedral of St Blaisius in Ston (on the Pelješac peninsula), and fragments of the 15<sup>th</sup> or 16<sup>th</sup> century were found at the Monastery of St Mary on Mljet (Topić 2015). Numerous oculi were found throughout the city of Dubrovnik, as were polygonal panes of various colours and shapes used for stained glass windows (Topić 2017: 49). Oculi were made in an array of different colours, including colourless, purple, yellow, grey, and green (Topić 2015: 490). Window glass found in Star Bar appears to have been largely associated with the later, Ottoman period—a few examples of glazing from the 17<sup>th</sup> century, and considerably more from the 19<sup>th</sup> century. The fragments from the 17<sup>th</sup> century were especially small, and has not been indicated whether these were from crown glass or flat glass made using another method (Ferri 2008: 64).

Glass objects dating from the beginning and end of the study period are notable for the fact that they were imported—either from Venice, other Byzantine regions, or the Levant during the earlier period, or from Central Europe and Great Britain in the late 17<sup>th</sup> century and after. It is also possible that glass continued to be imported from Venice, or even foreign *façon de Venise* production centres, during the 15<sup>th</sup> through 17<sup>th</sup> centuries; however, it is perhaps more likely that this was produced locally in Ragusa during the height of their glassmaking industry. Elemental analysis of glass found in excavations in the Dubrovnik area shows that the raw materials used were less pure than the higher quality which might be assumed to have been used in Murano workshops; since archival records reveal that raw materials for Ragusan workshops were obtained from Albania, the Levant, Puglia and elsewhere in south Italy, and perhaps Spain, test results point towards Ragusa as the likely source of much of this glass (Topić et al 2016: 16). Stylistic differences, particularly noticeable in the various oculi found throughout the Dubrovnik environs, perhaps also give evidence to the numerous workshops which were operating in the city at the same time during the early modern period (Topić 2015: 495). The increasing amount of analysis on glass of the Dubrovnik region will be particularly important in the future for comparison as more museums around the Adriatic and Central Balkans are able to analyse their materials, which may help to further illustrate the full extent of Ragusan trade during the early modern period.



**Map 11.1.** Southern Dalmatia and the Montenegrin and Albanian coasts.



## **XII**

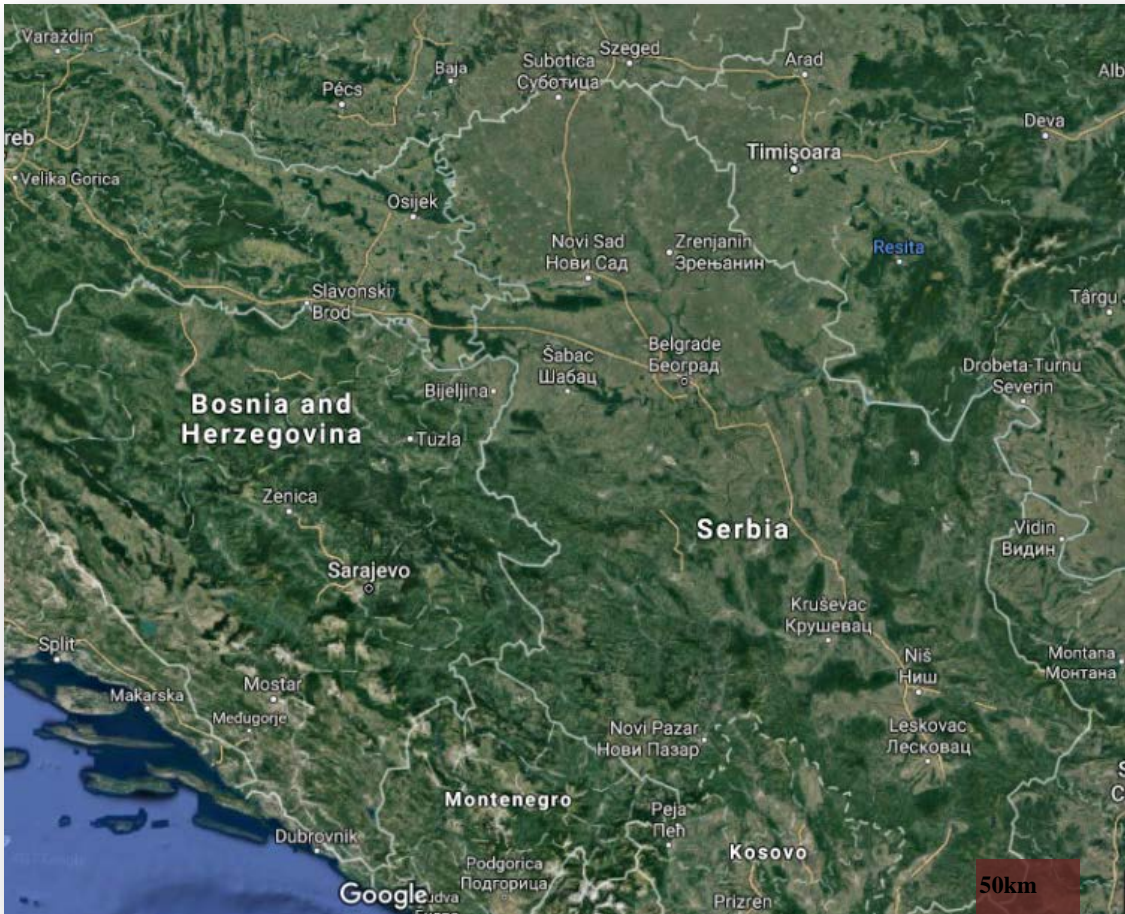
### **THE CENTRAL BALKANS**

Although one of the main purposes of this thesis is to examine the maritime trade routes utilised by the glass industry, it must not be forgotten that these sea paths were inexorably linked with the network of caravan roads which traversed the mountainous Balkan interior. As was discussed in Chapter III, the specific roads which were preferred, and the goods and resources which were traded via them, changed over the course of the medieval and early modern period. These changes can perhaps be seen through the types and quantities of glass excavated from this region.

#### **BELGRADE**

The glass excavated from Belgrade's Fortress comes from two distinct periods of glassmaking technology and fashion, separated by at least a century. A sizeable collection of glassware has been identified from the late 15<sup>th</sup> century, as has a similarly large assemblage from the late 17<sup>th</sup> and early 18<sup>th</sup> centuries; both are now managed by the Arheološki Institut in Belgrade. Both periods are represented by a wide variety of forms, with drinking vessels ranging in quality from middling to high, and bottles being of a slightly lesser quality. The 16<sup>th</sup> century, however, appears to be entirely absent from the range of vessels used in the fortress. A change of usage patterns within the fortress specifically could possibly account for the dearth of 16<sup>th</sup> century material. After all, this corresponds with the Ottoman conquest of 1521 and the expulsion of much of the population. The second period of glass use also aligns with two brief periods of Austrian rule: from 1688 to 1690, and again from 1717 to 1739. Evidence of the violence involved in these sieges and occupations can be witnessed in the melted and misshapen forms of several excavated glass vessels, many of which have been warped beyond recognition and thus have not been included in this report. This is particularly evident in those artefacts, primarily dated to the 15<sup>th</sup> century, found in the Donji Grad, which in 1690 was the site of a massive fire and subsequent explosion that followed a Turkish bomb hitting a tower and lighting fire to the gunpowder stored there. However, the lack of glass in the intermediate period may also be illustrative of broader trends in which the general public participated throughout the Central Balkans, as proposed by Verena Han (1975: 126).





**Map 12.1.**

Map of the inland Balkans, including Bosnia and Herzegovina, Serbia, Montenegro, and Kosovo.

## *Vessels*

### **Beakers**

Five different types of beakers can be identified belonging to the earlier period, and another five from the later. These include both plain, simple vessels and ones with added decoration. Those from the earlier period were most likely imported from Dubrovnik or another centre making Venetian-style glass, if not from Venice itself, whereas the later beakers were all from the Czech Republic or another Central European workshop which manufactured refined-potash glass.

#### *Truncated conical base*

Only one fragment from the late-15<sup>th</sup> century group is entirely unembellished in both form and decoration. This is a small piece of a clear, colourless base from a truncated-conical beaker, with walls 0.64 mm thick. While this may have had some form of decoration on or near the rim, this base's lack of folded or applied ring or mould-blown pattern makes it unlike any other example from this collection.

#### *Folded ring base*

Another beaker base from the early group was again made of thin, clear, colourless glass. However, this beaker has a folded ring base and a tall, pointed kick. This folded foot is 5.3 cm in diameter. None of the walls remain, but they appear to have once been much narrower than the diameter of the base, and most likely vertical. *Fig. 12.1.*

#### *Krautstrunk*

With at least eight examples, beakers with a cupped rim and a crimped, self-coloured ring applied around the base were the most prevalent type hailing from the late 15<sup>th</sup> century. As several wall fragments with attached prunts were also found either attached to the rims or separate, it can be assumed that these were types of *krautstrunk* beakers, rather than the ribbed, cupped-rim beakers typical of Bosnia and Hercegovina. One rim also features a self-coloured thread applied just below the cupped rim, in addition to having prunts. The bases are fairly uniform in diameter, from 4.2 to 4.7 cm. These range in colour from nearly colourless with a yellowish or greyish tinge to olive-green and olive-yellow. While all of the bases exhibit a prominent kick, some beakers have more barrel-shaped bodies, while others have slightly more vertical walls. Quality varies as well—the naturally-coloured vessels contain several small and medium-sized bubbles, and the decolourised ones have fewer. Some of the bases have more well-defined and evenly-spaced crimping on their applied rings, while other rings are only shallowly-crimped or are applied unevenly to the base of the vessel. Thicknesses also varies from 1.1 mm to 1.4 mm, with the colourless examples tending towards the lower end of this spectrum. This attests to the likelihood that these vessels originated from several different

workshops, if not different glassmaking centres. Both Murano and Dubrovnik were producing printed beakers under the name *gotti gropolosi* (Han 1981a: 205); however, there may have been a period of decreased glassmaking activities in Dubrovnik following the Ottoman conquest of Bosnia in the 1460s, when the city was also under threat (Han 1981b: 226). *Figs. 12.2 and 12.3.*

#### *Mezza stampatura beakers with applied trails*

Two beakers with straight walls were discovered in Belgrade with vertical ribbing which terminated below the rim, similar to those found in Šibenik or in Cividale del Friuli (Gasparetto 1975: Fig. 15). Both were made of clear, colourless glass, and both had a trail applied to the vessel wall in between the top of the ribs and the rim; however, one of these is self-coloured, while the other is light blue. The rim of the beaker with the colourless trail measures 7 cm in diameter and 1.9 mm thick. The rim of the blue-trailed beaker was too fragmented to determine the diameter, but the rim measures 1.3 mm thick. Bubbles were found in the glass of both vessels, particularly the blue-trailed beaker. Like those found elsewhere in the region, their overall form is uncertain, and could have included a foot to form it into a goblet. *Fig. 12.4.*

#### *Spiral ribbed beaker with applied blue trail*

The final beaker from the late 15<sup>th</sup> century was set apart from the rest of the group by its decoration. This rim came from a colourless vessel with spiralled ribbing with a clear blue trail, 1.5 mm thick, applied to the rim. This rim is approximately 8 cm in diameter, and while not much of the wall remains, it seems that the beaker would have had a simple cylindrical or truncated-conical shape. The glass appears to have been of a fairly high quality, being more perfectly colourless than other examples in this collection, and having no visible bubbles or other manufacturing flaws. *Fig. 12.5.*

#### *Cylindrical beaker*

Of the later beakers, only one was made of soda-rich glass rather than refined-potash glass. This is, however, one of the few that is partially complete from rim to base, and measures 6.1 cm tall, with a 6 cm diameter base. The rounded rim is 2 mm thick. The base exhibits a low kick, unlike the other plain beakers from the late 17<sup>th</sup> or early 18<sup>th</sup> century. Although the glass contains few bubbles, it does have a very slight yellowish hue, and a rough pontil mark underneath the kick. *Fig. 12.6.*

#### *Cylindrical/truncated conical beakers*

On the other hand, plain beakers with no kick made of refined potash glass are more numerous within the assemblage of later beakers. All save one of the eight plain beakers is colourless, while the last is slightly yellowish. These vary in diameter at the base from 4.2 to 5.5 cm, with

one large outlier measuring 7 cm. The smallest of these is also the only one partially complete from base to rim, which measures 6 cm tall, and 5.4 cm in diameter at the rim. This group of beakers might be further divided into those with thick walls (2 to 2.5 mm thick) and bases, and those with thinner walls (0.9 to 1.4 mm thick) and bases, which also are slightly less flat. As none of these cylindrical or truncated-conical beakers has any additional decoration, and several feature rough pontil marks and contain large bubbles, it might be inferred that these were used as everyday drinking vessels for certain inhabitants of the fortress. *Figs. 12.7 and 12.8.*

#### *Skittle-shaped beaker*

Another relatively plain beaker in this assemblage is slightly indented directly above the base, causing the walls of the vessel to curve into a slight skittle shape. However, this shape is not as pronounced as those examples seen in Šibenik or elsewhere in the study region. Additionally, this could be a bottle similar in shape to a group excavated in Osijek (MSO 154552-154556), although most of these bottles featured a pronounced kick. This beaker has a base diameter of 8.5 cm, and walls 3 mm thick, while the base is 6.7 mm thick and very marginally pushed up. It is perfectly colourless, with no visible bubbles or other imperfections. *Fig. 12.9.*

#### *Scalloped base*

The remaining beakers from the Belgrade Fortress were altered in their shape in some fashion. One of these beakers was blown in a mould to create wide ridges which gave it a scalloped footprint. Low arches were formed in between these ridges, and the upper part of the vessel's walls is smooth and round. This base would have been greater than 3.5 cm in diameter. The glass is colourless with no visible bubbles, and the pontil mark was smoothed. The collection from Osijek contains several different examples of scalloped beakers made in a wide range of moulds to produce a variety of styles (MSO 154362-154371), although only three exhibited low arches similar to this beaker (MSO 154374-154376). *Fig. 12.10.*

#### *Octagonal beakers*

More common, however, are beakers with eight sides, which number at least 11 within the assemblage. These vary in diameter at the base from 5 to 6.3 cm, and in thickness from 1 to 2.7 mm. Most of these have no decoration or at least no remaining decoration in their fragmented state. Two, however, have been given wheel-engraved ornamentation—one with rings and perhaps a sort of vegetal wreath, the other with small circles in a vertical line in between engraved arches. *Fig. 12.11.*

### **Goblets**

Beakers were by far the most numerous type of drinking vessel found within the Fortress, although a small number of various goblets were also excavated there. These appear in a

narrower range of forms, and like the later, refined-potash beakers, any additional decoration is limited to a single example of engraving.

#### *Hollow-footed goblet*

Only one goblet from the Belgrade Fortress is dated to the late 15<sup>th</sup> century. This fragment was heavily weathered, and the original colour of the glass is impossible to discern. Its folded foot measures 6.9 cm in diameter. *Fig. 12.12.*

#### *Low foot*

A single low foot from a goblet was made of refined-potash glass. This is similar to the feet of the jelly glasses found in Belgrade Fortress, which will be described in the next section; however, this example shows a breaking point with a much narrower stem (approximately 1.5 cm wide), akin to the goblet feet found in Osijek. This plain foot of clear, colourless glass is 4.4 cm in diameter, and contained only a few small bubbles. *Fig. 12.13.*

#### *Truncated-conical cups*

Three goblet cups made of refined potash glass are very similar to the plain beakers described above, differing from them only in that the bottom of their walls curve to form the base, and thus do not sit flatly like their beaker counterparts. These goblets are also slightly smaller, at 2.5 to 3.4 cm in diameter at the base, while the only rim fragment left on one of them measures 4.9 cm in diameter (see *fig. 12.14*). All three are made of colourless glass between 1.2 and 2.1 mm thick. One was also decorated with wheel-cut scene of a wavy line, perhaps representing water, below a building with pillars. An amorphous shape engraved above the building might have been a cloud, but the rest of the vessel has broken off at this point.

#### *Large ribbed cup*

A larger version of these goblet cups was blown in a mould to form complex vertical ribbing, which consists of groups of two tightly spaced, shallow ribs separated by deep, wide troughs. The diameter of the base was at least 4.7 cm, and its height was greater than 6.8 cm. Similar to the others, this was made of clear, colourless glass 1.5 mm thick which contained a few small bubbles. *Fig. 12.15.*

### **Tankards**

The single tankard rim within this assemblage came from the late 17<sup>th</sup> or early 18<sup>th</sup> century. A few small bubbles can be seen within the clear, colourless refined-potash glass. This vessel has a round, globular belly beneath a cylindrical, straight-walled rim, and was decorated with both mould-blown ribbing and wheel-engraved patterns. The ribs are only present on the belly and do not extend up onto the rim. These ribs are slightly tilted to the right, and the spaces in between

them form elongated ovals. Its rim measures 6 cm in diameter, and was engraved with undulating vines with berries, beneath a solid, straight line and a rippling line. *Fig. 12.16.*

Two late-17<sup>th</sup> century bases might have also belonged to round-bellied tankards. Both examples have folded feet pushed into the base to form a rounded dome with rough pontil marks on the underside. One was made of clear, colourless glass, while the other has a slightly bluish tint, but neither appears to have contained any bubbles or other imperfections. The diameter of these bases was at least 4.4 cm. It is possible that these bases could have belonged to another type of footed vessel, perhaps a bottle, yet the style of kick differs from that seen on most footed bottles or sprinklers from this later period. *Fig. 12.17.*

### **Jelly glasses**

The Northern and Central European influence on the fortress's early-18<sup>th</sup> century glassware is particularly evident in the presence of 15 jelly glasses, similar to those found in abundance in Osijek. Jelly glasses were popularised in the early 18<sup>th</sup> century for the serving of jellies or other desserts. While some jelly glasses elsewhere have separate, distinct stems, all of the examples found in the Belgrade Fortress have a low, plain, solid, pedestal-style foot. These jelly glasses can be divided into two broad types dependent on foot diameter, and further distinguished by type of cup; however, only a limited number of these glasses have enough of their cups remaining to be able to determine their shapes.

#### *Large jelly glasses*

Six of the jelly glasses in this collection have feet with diameters between 5.5 and 6.4 cm. All of these were made of clear, colourless glass. None save one of these has any sort of kick in the base of the cup; the exception has a prominent, rounded kick which takes up a significant amount of space in the bottom of the cup. For most of these vessels, the shape of the cup could not be determined. One has widely-spaced, very shallow vertical ribbing, while another may have had a multi-angled cup. *Fig. 12.18.*

#### *Small jelly glasses*

The remaining nine jelly glasses in this assemblage have foot diameters between 4 and 5 cm, again made of clear, colourless glass. One of these, like the single large example, has widely-spaced vertical ribbing, slightly more pronounced than seen on the other vessel. Another four glasses have angular cups: one with six sides, two with eight sides, and the final with an unknown number of sides. The only complete example of this set, with eight sides, measures 8.6 cm tall, with a rim diameter of 5.2 cm. This was one of only two jelly glasses to have any visible engraved decoration—each side forms a panel with a stemmed flower with four leaves and three petals. Beneath each flower is an arch. Two horizontal lines are engraved above the flowers, one on the rim, and one just above the flowers. In the middle of each panel, this second

line dips to form a small trough, in which sits a large oval. Between each panel, a vertical line of small dots in between two solid lines has been engraved. The other example of engraved decoration can be witnessed on the six-sided jelly glass, which was also the only one of the small glasses to have a small kick. Its cup appears to have been decorated with arches, vegetal ornamentation, and vertical dots; however, less of this cup remains intact, so the exact pattern cannot be determined. This glass has a few small bubbles, while the other decorated vessel has no visible imperfections. *Fig. 12.19.*

### **Spouts**

The late-15<sup>th</sup> century assemblage contains two spouts, both with only minimal fragments of the walls to which they were once attached. The first is 8.8 cm long and made of clear, colourless glass 0.9 mm thick on the wall of the vessel. This was embellished with a 3.8 mm blue trail applied unevenly to the opening of the spout. The second example is 9.9 cm long and made of glass with a slight yellowish tint, 0.7 mm thick on the wall. Its opening appears to have been cut or broken off without being fire-rounded. While the first spout is shaped to curve outward away from the body of the vessel, the second spout is curved at an awkward angle leaning sideways. This was most likely caused by later fire damage, as both of these spouts were excavated in the Donji Grad area. *Fig. 12.20.*

### **Lid**

The large, heavy knop from a lid was excavated dating from the early 18<sup>th</sup> century. This solid knop measures 2.7 cm in diameter, and while the top of this knop was smoothed, the knop is slightly lumpy and not perfectly spherical. Between the knop and the prominent merese is a small bulge. Very little of the rest of the lid remains, although it appears that it was slightly pushed in below the knop. *Fig. 12.21.*

### **Handle**

The collection contains one late-17<sup>th</sup> century handle, separate from the rest of its vessel. This small, ear-shaped handle was made of clear, colourless glass between 8.5 and 13.5 mm thick, and measured 3 cm tall. Where it was applied to the vessel it was folded over onto itself, before forming a loop and attaching again to the vessel below. *Fig. 12.22.*

### **Unknown vessel**

A single vessel base made of opaque white glass was discovered amongst the 15<sup>th</sup> century assemblage unearthed in the Donji Grad-Palata excavations. This vessel has a short, almost flat foot 6.3 cm in diameter, slightly pinched to form a faint ring. The base of the body has only a hint of a kick. Almost none of the walls of the vessel remain, although they appear to have been

spherical in shape, at least towards the base. Although this might have been a higher-quality item, the underside of the foot features a rough pontil mark. *Fig. 12.23.*

## **Bottles**

Like the rest of the vessel glass excavated from the Belgrade Fortress, bottles are divided between the late 15<sup>th</sup> century and the late 17<sup>th</sup>/early 18<sup>th</sup> centuries. However, a strong connection with Central Europe during the 15<sup>th</sup> century is more readily apparent amongst these bottles than it is in other forms of glassware, while bottles from the later period give evidence of even wider trade networks.

### *Biconical bottles*

Four low, folded bases of clear, colourless glass were found dated to the late 15<sup>th</sup> century (see *fig. 12. 24*). In addition, three long, narrow necks with thick colourless rings applied to their rims were found alongside two of these bases (see *fig. 12. 25*). These bases vary from 4 to 7 cm in diameter and walls between 0.5 and 1.9 mm thick, but all have very tall, pointed kicks. One of these examples appears to have a tall, slightly bulging lower half of its body. Unfortunately, fire damage has warped the remaining examples so that their original shapes cannot be ascertained. The rims vary in diameter from 2.7 to 3 cm, while their unevenly-applied rings range between 7.4 and 8.2 mm thick. Another fragmented early 15<sup>th</sup>-century biconical bottle was found in the necropolis of Mirijevo, on the outskirts of Belgrade (Han 1975: 123).

### *Cylindrical body with ribbing*

Another 15<sup>th</sup> century example is a single small, cylindrical bottle made of olive-brown glass with a long neck and rounded shoulder. This is one of the smallest bottles in the collection, as its body measured only 2.9 cm in diameter. The body of the vessel, just below the shoulder, has been dipped into a second gather of glass, and then decorated with spiralled ribbing. *Fig. 12.26.*

### *Large, multi-sided base*

One of the largest bottles from the early period was manufactured in vivid green glass containing several small to large bubbles and a rough pontil mark below the kick. It was too fragmented to determine the overall shape, but it appears to have had between six and eight sides. This base would have been greater than 17.3 cm at its widest.

### *Hexagonal bottle*

This bottle has a flat base and six-sided walls. The base measures 5.2 cm at its widest point, and the walls measure 3.8 mm thick. This, like most of the other vessels from the later period, is colourless, although it does contain a few small bubbles. *Fig. 12.27.*



### *Reel-shaped bottle with flattened rim*

The late 17<sup>th</sup>-century contexts produced another small bottle, this time made of pale bluish-green glass. The 2.9 cm diameter rim was left unrounded and was flared outwards and then flattened, rather unevenly. The neck is fairly straight and short above a sloping shoulder. The cylindrical body is reel-shaped, with two bulges at the top, and three narrower bulges at the bottom, which measure 4.9 cm in diameter. Its low kick features a rough pontil mark underneath, and the glass contains a few small bubbles. *Fig. 12.28.*

### *Large square bases*

Bottles with square bases feature prominently in this collection, and can be broadly divided into two sizes, all of which were found in late 17<sup>th</sup>-century or early 18<sup>th</sup>-century contexts. The larger of these bottles can be divided into five types based on their rims and necks, yet an additional five bases were found which cannot be matched with any one particular type. These were made of dark bluish-green and olive glass, and measure 10.6 to 12.5 cm wide on each side.

### *Large square bottles with tapered necks and funnel-shaped rims*

A large proportion of the later bottles in this collection have square bases, including three bottles from the late 17<sup>th</sup> century and one from the early 18<sup>th</sup> century made of light green or bluish-green glass. These bottles all have a funnel-shaped rim, a tapered neck, and sloping shoulder above a square-shaped body, between at least 9.3 and 13.5 cm wide. Each was dipped into a second gather of glass up to the bottom of the neck. One example was sharply pinched between the rim and the neck. An additional late 17<sup>th</sup>-century bottle of vivid green glass with a similar neck, but missing its rim, may have belonged to this type. *Fig. 29.*

### *Large square bottles with long necks*

Another type of square-based bottle in this collection can be seen in four bottles made of light blue or greenish-blue glass which display a very long, slightly tapered neck and a squared shoulder. Their rims, which were not fire-rounded, measure between 2.6 and 3.8 cm in diameter, while their square shoulders measure at least 8.1 cm wide. Like the other large, square bottles from this assemblage, these were also given a second layer of glass up to the top of the shoulder. *Fig. 12.30.*

### *Large square bottles with short necks and ring rims*

At least two of the larger square bottles from the later period were made in clear, colourless glass. These have square bodies at least 10 cm wide, squared shoulders, short, fairly straight necks, and rings of the same colourless glass applied to the rims, one 3.4 cm in diameter and the other 5.1 cm. Both rims are fairly uniformly circular, and neither contain many visible

imperfections. They appear to have been some of the few to not have been made using the half-post method. *Fig. 12.31.*

*Large square bottles with short tapered necks*

Two more large square bottles made of clear, colourless glass were made with short, tapered necks, their cut rims 3.5 cm in diameter. Their bodies, which measure at least 11 cm in width, were dipped into a second gather of glass up to the top of the squared shoulder. This second layer can also be observed in the very rough pontil mark left on the underside of the base of one of the bottles. *Fig. 12.32.*

*Large square bottle with very short neck*

One bottle from the late 17<sup>th</sup> century is also square in shape, but has a neck only 9 mm tall, and 2.6 cm in diameter. This appears to have been pinched at the base of the neck so that the rim flares slightly outward. The bottle has a squared shoulder, and a body that was at least 10.3 cm wide. The base was found separately from the top, and has a low kick with no pontil mark, although it does contain a few medium-sized bubbles. Unlike most of the rest of the large, square bottles from this assemblage, it was not made in the half-post method. It was also made of light greyish-purple glass. *Fig. 12.33.*

*Small square bases*

One of the most prolific types of bottles during the late 17<sup>th</sup> century and early 18<sup>th</sup> century were bottles with small, square bases in various shades of green, including bluish-green, greyish-green, and olive-green, ranging from pale to vivid in each hue. These most likely belonged to tall, narrow bottles similar to those described below; in addition to these, a further 19 bases were found, measuring between 43.6 and 7.5 cm wide per side, without any corresponding bodies or rims.

*Tall, narrow bottle with square base and flattened rim*

A number of different tall, narrow cuboid bottles dating from the early 18<sup>th</sup> century were found in Belgrade. Despite the variety seen here, none were found which matched the blue-green, skittle-necked bottles so prevalent along the Dalmatian coast. The first to be discussed has a similar bluish-green colouring, and is likewise tall and narrow—20.3 cm tall and 3.5 cm wide on each side of the base. However, unlike the Dalmatian examples, and indeed the rest of the tall, narrow bottles found in Belgrade, the shoulders are significantly slanted, the neck well-defined and cylindrical, and the rim flattened outward to almost a right angle with the neck. The underside of the base, which was only slightly pushed up, shows a prominent, rough pontil mark. *Fig. 12.34.*

*Tall, narrow bottle with square base and funnel-shaped rim*

The collection contains another bluish-green tall, narrow bottle with a square base; however, this differs from the above in that it has a squared shoulder, a defined, cylindrical neck, and a funnel-shaped rim. This bottle is missing its base, yet it appears that its walls may have bulged slightly between the shoulder and the base, perhaps tapering to allow for easy removal from a dip mould. The walls were slightly indented, forming a ridge at each corner. There is too much weathering on the bottle to assert for certain, but the thickness of the walls—2.3 mm thick, compared to the rim's 1.9 mm thickness—and a slight bump at the base of the neck suggests that this bottle may have been given a second gather of glass on its body. *Fig. 12.35.*

*Tall, narrow bottle with square base and tapered neck*

At least three tall, narrow bottles with tapered necks were made of dark green glass, while four bases, 4.2 to 4.3 cm wide on each side, were found separately made of the same green of glass. These all were discovered in a late 17<sup>th</sup>-century context. None has an intact rim, although it appears that the top of the neck flared outward towards the rim. These necks are less well-defined, and slope outwards to somewhat clumsily meet the shoulders. *Fig. 12.36.*

*Tall, narrow bottle with square base and cylindrical neck*

The final example of tall, narrow bottle in this collection is without both its rim and base, but is otherwise notable for the fact that it was made of clear, colourless glass. This had a cylindrical, defined neck and squared shoulders, and appears to have been dipped into a second gather of glass below the neck. The glass contained a few very large bubbles. *Fig. 12.37.*

*Cylindrical bases*

Fewer circular bases with straight walls, but otherwise missing their rims, were found in the Belgrade Fortress than square bases, and these were more varied in size—the smallest being 2.1 cm in diameter, two between 4 and 5 cm, one 6.2 cm, and three between 10.5 and 12.1 cm in diameter. These are all either olive green or blue-green in colour.

*Narrow bottles with skittle-shaped necks*

Two early 18<sup>th</sup>-century bottles appear to have been tall and narrow, but the shape of their bodies cannot be determined (see *fig. 12.38*). The first was made of very light greenish-blue glass, while the second is a darker shade. Both have very long, sloping shoulders, which pinch slightly inwards to form a vague neck below the tapered rim. In the darker of the two examples, this pinch is more prominent, making the rim slightly cupped in shape. This is the smaller of the two, with a rim diameter of 1.6 cm, the other measuring 2.2 cm in diameter. These rims appear cut and not fire-rounded. Long, sloping shoulders such as these can be seen in assemblages from Osijek, Smederevo (Cunjak 1998: T.XXXII.2), and Prague. The latter, which had a flattened-

down rim, was the product of the Dominican glasshouse in which it was found (Hejdová 1985: fig. 5.5).

*Bottle with long neck, cylindrical body, and flattened rim*

A single bottle in this assemblage was made of very pale yellowish-green glass, with a very long neck, sloping shoulders, and a cylindrical body, its base 5.2 cm in diameter. The rim was pushed down and out slightly, though not quite forming a right angle, and measured 1.4 cm in diameter. The kick on the base was low and asymmetrical. This was found in an early 18<sup>th</sup>-century context. *Fig. 12.39.*

*Bottle with long neck, cylindrical body, and tapered rim*

Another bottle with a long neck and cylindrical body from the early 18<sup>th</sup> century was made of light bluish-green glass. This is a larger bottle, its base measuring at least 8.5 cm in diameter. Its rim was also cut and slightly tapered, rather than flattened, and measures 3.1 cm in diameter. The glass contains some large bubbles, and the neck bulges and curves slightly, in a way that appears more accidental than intentional. *Fig. 12.40.*

*Cylindrical bottle with funnel-shaped rim*

Continuing this examination of cylindrical bottles, another was found in an 18<sup>th</sup>-century context with a short neck and funnel-shaped rim, made of glass with a very pale green tint. Its body measures 5.4 cm in diameter, and its rim is 1.9 cm. The neck is not well-defined, and slopes gently towards the rounded shoulder. *Fig. 12.41.*

*Large cylindrical bottle with cut rim*

Two larger cylindrical bottles were made with short necks and cut, very slightly tapered rims, one in green glass, the other in light bluish-green. The shoulders are rounded, and the walls of the body taper slightly inwards towards the base, measuring up to 11 cm in diameter at the shoulder, and 10 cm at the base. The glass contains a few medium and large bubbles, and was given a second gather of glass up to the bottom of the neck. A similar bottle, nearly complete and with a high, conical kick, was excavated in Ljubljana, but was dated to the early 16<sup>th</sup> century (Kos 2007: cat. no. 194). *Fig. 12.42.*

*Kuttrolf*

This collection contains at least five distinct *kuttrolf*-style bottles dating from the early 18<sup>th</sup> century. These more intricately-constructed bottles were made of light greenish-blue or bluish-green glass, with spouted rims, multi-chambered, twisted necks, and scalloped bases. An additional green-coloured, spouted rim was also found in an early 18<sup>th</sup>-century context, but as it is missing both a neck and a base, it cannot be determined whether this was indeed another

*kuttrolf*. Due to the colour and date of these bottles, it is most likely that they originated from a similar Central European location, rather than made in Venice for export as was known to happen.

The rim of each bottle is funnel-shaped and pinched to form a spout, and below this is a rounded bulge. Underneath this bulge, the neck has been blown into a mould to create four separate tubes in a square shape, which was subsequently twisted and bent into a curve. The body of the bottle is cylindrical, but was blown into a mould to create a scalloped footprint and vertical ridges around the body. The kicked bases have large, rough pontil marks visible. These vessels vary slightly in size, from 3.8 to 5.1 cm in diameter at the rim, and 8.9 to 9.9 cm at the base. *Figs. 12.43 and 12.44.*

#### *Bottle with long neck and tapered rim*

One bottle from the early 18<sup>th</sup> century has a tapered rim, 5.4 cm in diameter, and a long neck, with a rounded bulge in the midsection. This was made of glass with a very pale green hue. Very little of the bottle remains below the neck; however, it appears that the shoulder was sloped, and a bump on it suggests that it might have been made with the half-post technique, although not enough exists to determine this for certain. *Fig. 12.45.*

#### *Bottles with wide, outplayed rim*

Two grey-tinted, late 17<sup>th</sup>-century bottles in this collection have wide, flared rims and short necks; however, the shape of their bodies is unknown. Their rims measure up to 5.6 cm in diameter, and their necks are short and wide. It appears that their shoulders had been narrow and sloped slightly. Both contain small and large bubbles. *Fig. 12.46.*

#### *Bottles with narrow, flared rims*

Similar to those described above, nine bottles from the late 17<sup>th</sup> century, and one from the early 18<sup>th</sup> century, had short, pinched-in necks and flared rims. These rims are considerably narrower, however, measuring 2.2 to 2.8 cm in diameter. Some of these were pushed down flatter, while others were rather more funnel-shaped. Most of these appear to have had rounded shoulders, some narrower, others somewhat wider, suggesting perhaps a globular body. The bottles vary in colour: grey, pale green, pale olive, and pale bluish-green. *Fig. 12.47.*

#### *Bottle with long neck and flattened rim*

The rim and part of the neck is all that remains of a late 17<sup>th</sup>-century bottle made of dark bluish-green glass. The rim is relatively small, measuring 2.4 cm in diameter. This was pushed down slightly, but unevenly, so that half of the rim appears rounded from the side, while the other half is pointed. *Fig. 12.48.*

#### *Bottle with long neck and flattened rim*

One bottle from the early 18<sup>th</sup> century has a rim which was flattened to a 90 degree angle, and has a long, cylindrical neck which forms another near-right angle with the shoulder. This is made of light greenish-blue glass, which contains some small and medium bubbles which had been stretched in the neck. The rim is fairly even, and measures 2.7 cm in diameter. *Fig. 12.49.*

#### *Bottles with long necks and flattened rims*

Two more bottles in the collection have long necks and flattened rims, with unknown bodies. These date from the early 18<sup>th</sup> century, and are made of light greenish-blue glass. Their rims measure 2.9 cm in diameter. The rim of one was flattened to form a right angle, while the other forms a more obtuse angle. The necks are long and cylindrical, and appear to taper outwards towards the bottom. *Fig. 12.50.*

#### *Bottles with short necks and funnel-shaped rims*

Two late 17<sup>th</sup>-century bottles in this collection have funnel-shaped rims and sloping shoulders, although shape of the rest of the body is uncertain. Both are made of light green glass containing several small bubbles, with rims at least 3 cm in diameter. The short neck of one of these appears to have been twisted when it was formed. *Fig. 12.51.*

#### *Bottles with applied ring below rim*

On four bottles from the early 18<sup>th</sup> century, a self-coloured ring was applied just below the rim, sometimes known as a 'string rim'. This was frequently added to bottles containing wine, beer, or spirits, to allow a cork or other stopper to be tied down to the bottle. These four examples differ slightly from each other—two were made of green glass, one of brown, and one of olive green. The rims vary from funnel-shaped, to tapered, to straight, ranging from 2.5 to 3.1 cm in diameter, although all of the necks are long and narrow. On two of the bottles, the string ring was applied very unevenly, fluctuating in thickness and falling at a slight angle. On one of the straight-rimmed bottles, however, this ring is even and round, while on the funnel-shaped rim this ring has been pinched together to appear almost flat from the side. On the two most complete bottles, the bodies have been flattened on two parallel sides. They have also been dipped into a second gather of glass up to the base of the neck. The underside of the one remaining base has a rough pontil mark under the kick. *Figs. 12.52 and 12.53.*

#### *Bottle with oval-shaped base*

An early 18<sup>th</sup>-century bottle made of green glass was flattened on two parallel sides to form the base into an oval shape. The base measures 11.6 cm wide at its widest, and 8 cm at its narrowest. This has a low kick, and the pontil mark was smoothed off.

### *Footed sprinkler*

Two small vessels from the early 18<sup>th</sup> century have globular bodies and applied ring feet, one measuring 3.2 cm and the other 3.7 cm in diameter. The larger of the two was found alongside a fragment of its neck. What remains of the neck is long and narrow, only 1 cm in diameter, suggesting that it may have been a sprinkler. It appears that this may have had a wide bulge at one end, although whether this was at the top or the bottom of the neck is unknown. Both bottles are heavily weathered, but appear to have been light blue in colour. *Fig. 12.54.*

### *Bottle with long neck*

Finally, a small fragment of a long, straight neck was found in an early 18<sup>th</sup>-century context. While little remains of the vessel, it is noteworthy for its dark grey-blue colour. This neck measures 2.7 cm in diameter. *Fig. 12.55.*

### **Unknown**

Finally, the collection of the late 17<sup>th</sup> century from the Belgrade Fortress contains a small glass object of unknown overall shape and purpose (see *fig. 12.56*). This has been fashioned out of what appears to be greenish-blue glass. This object features 11 narrow gadroons in a circle, below a self-coloured applied thread. This sits below a possible cup, which flares outward to 4 cm in diameter at its folded rim. In the centre of the gadrooning, a small, round indentation has been pushed into the object, although not deep enough to reach through to the base, suggesting that something was once attached to the object at this point. This may have been a very small cup for some sort of stemmed drinking vessel, its size suggesting that it would have been more appropriate for spirits, such as rakija. Margherita Ferri has suggested a comparison between this and the cup of a small, stemmed vessel found in Stari Bar (2013: *fig. 5.62.4*), although as this Montenegrin example is missing its rim and most of the walls of the cup, it is difficult to equate these two with certainty. It is possible that this was an egg-cup or small salt cellar. It could have also been part of a candlestick. Eighteenth-century examples from Murano have similarly splayed rims or gadrooning at the base of the cup, above where it attaches to a thick stem (Dorigato 1981: *cat. nos. 106 and 107*).

### ***Flat Glass***

A large number of flat glass fragments were unearthed during the 2009 excavations, which produced most of the early 18<sup>th</sup>-century material culture in this collection. This assortment varies in colour from colourless to light blue and light green. Unfortunately, there was not enough time to analyse this material in adequate detail for the purposes of this thesis. All of the flat glass from the Belgrade Fortress, however, would make for an interesting and worthwhile study in the future.

Those fragments which were somewhat tinted light blue or green came from over a dozen different oculi. Later cast glass included some fragments with squared, cut edges, although most fragments were too small to determine overall dimensions. In addition, a few smaller pieces had been cut into triangles, some of which also appeared to have a small amount of backing attached, which had perhaps been a mirror. A small, mirrored piece such as this might have been part of a larger mirrored frame or some other form of furniture.

The glass objects from these two distinct periods in glass consumption in the Belgrade Fortress are the result of different networks of trade. The earlier period in the 15<sup>th</sup> century displays two different lines of communication: one coming from the coast, the glass having been transported from Dubrovnik (and most likely made there as well), and the other coming from perhaps the north or northwest, particularly several bottles with no analogies on the Dalmatian coast. The later period, however, is defined by a definite link to the glassmaking traditions and trade routes of Central and perhaps even Northern Europe. Since much of the population of Belgrade was displaced during the period of Ottoman occupation in the 16<sup>th</sup> century, it is possible that these new networks had little to do with the networks the city had prior to the Ottoman period, and were instead built from the exchange networks of the newer population. This more recent assemblage matches closely with another found in the region, just north of Belgrade in the Slavonian city of Osijek.



## OSIJEK

For the late 17<sup>th</sup> and early 18<sup>th</sup> century period, another incredibly rich assemblage of glass has been excavated in Osijek in eastern Croatia. Along with numerous ceramic finds which include Italian maiolica, Habaner faience, and fine wares from Kütahya and Persia, over two hundred glass artefacts were discovered in a well which had been covered up around 1753 when the kitchen of the Franciscan monastery was pulled down. Osijek had been conquered by Suleiman the Magnificent's army on their march through Europe in 1526 and the city, along with the surrounding countryside, were decimated (Guldescu 1970: 64). In 1687, the Habsburgs took possession of the area, and in their wake orders of Franciscans and Jesuits flocked to the city (Guldescu 1970: 260). The monastery was erected beginning in 1705 on the land of the former Emperor's Mosque, and expansion works in 1753 resulted in the demolition of the original kitchen (Grubišić 2007: 6).

The many glass artefacts which have been discovered here, and now housed in the Muzej Slavonije, are a valuable illustration of the forms and decorative styles which were being produced in Bohemia especially, but also Germany and perhaps even further north in Europe, during this time. These include intricately decorated objects of refined-potash glass, but also a number of bottles demonstrative of Central European manufacturing techniques and tastes and an occasional object of soda-rich glass.

### *Vessels*

#### **Beakers**

All of the beakers in this collection were made of refined-potash glass, either cylindrical or slightly truncated-conical in shape with a flat, usually quite thick, base. While some of these were left plain, many more were decorated, either with wheel-cut engravings or through blowing into an optic mould. Engraved motifs include geometric patterns, particularly ovals or circles, and vegetal patterns, although landscape and architectural scenes can also be seen on many.

Mould-blown vessels are mostly vertically ribbed, although in different variations. Some have rather faint ribbing which extends over the length of the wall. Others, however, have very prominent ribs, both closely and widely spaced, which terminate in arches below the rim. These arches can either be uniformly level, or else vary in level creating a wave-like pattern (Horvat and Biondić 2007: cat. nos. 1-43).

#### **Goblets**

Most of the goblets in this collection have solid, inverse baluster stems, albeit in several varieties: plain, with mould-blown twisted ribbing (either loosely or tightly twisted), or angular facets (Horvat and Biondić 2007: cat. nos. 58-78). Interestingly, a few of these were also

decorated with a coloured thread embedded in the centre of the clear, colourless stem. Their cups are all truncated-conical in shape, although some are more angular at the base while others are curved. Many of these are decorated with wheel-cut engravings of either vegetal motifs or geometric facets. Only a single goblet foot was discovered which was made of soda-rich glass in the *façon de Venise* style (Horvat and Biondić 2007: cat. no. 74).

### **Tankards**

Fragments of three handled, globular-bodied, cylindrical-rimmed tankards are also present in this collection, each one decorated in a different way (Horvat and Biondić 2007: cat. nos. 114-117). Two of these were made of clear, colourless glass, one plain, the other decorated with mould-blown ribbing and engraved vegetal motifs in each 'panel' between the ribs. The third tankard was produced in pale green glass, with slightly twisted mould-blown ribs.

### **Jelly glasses**

The assemblage of jelly glasses found in Osijek also display similar decorative treatment, including ribbing, both arched and extending the full cup, engraved, and plain. The feet of these vessels appear in two variants, low or slightly raised on a pedestal-like foot, while the cups were either truncated-conical or slightly flared in a tulip-like shape. It is thought that they were produced in either Bohemia or Germany (Horvat and Biondić 2007: cat. nos. 44-57).

### **Bottles**

Like many of the bottles found in Belgrade, most of the bottles in this collection were produced in the half-post method. These are thought to have been imported from Germany, Austria, and Belgium (Horvat and Biondić 2007: 284). A significant number of these are large, square-based bottles either with short necks with narrow rims, short necks with wider rims, or long necks (Horvat and Biondić 2007: cat. nos. 86-90, 99-103). These rims might be slightly flared or funnel-shaped, or they might be straight. In at least one example, the rim was pushed down flat to form a right angle with the neck. Although many of these bottles are various shades of green, several were also made in clear, colourless glass, including one which has been decorated with engraved scrollwork and vegetal motifs on the shoulder and also had a self-coloured ring below the rim.

Several cylindrical bottles were also found, with similar neck lengths. On one pale aquamarine-coloured bottle, a crimped self-coloured trail had been applied, spiralling down the length of the body (Horvat and Biondić 2007: cat. no. 91). A few other bottles have circular or oval bases, but more bulbous bodies, including one with a short neck and funnel-shaped rim made of opaque dark blue glass, and brown and green bottles long necks with a ring below the rim (Horvat and Biondić 2007: cat. nos. 92-95).

Like in Belgrade, several *kuttrolf* bottles with four twisted neck tubes and a spouted rim with a bulge underneath were found in various shades of green. Those bodies which were recovered are tall and cylindrical, with wide, deep vertical ridges running the length of the body. At least one other bottle was decorated with mould-blown ribbing, albeit much shallower. Only the neck and rim were found; however, the shape is unique in this collection, with a narrow, slightly flared rim and a long, bulging neck pinched at both the top and bottom (Horvat and Biondić 2007: cat. nos. 96-98).

A number of much smaller bottles, or vials, were also discovered in the well. Most of these appear to have been cylindrical in shape, either with a squared or sloping shoulder (Horvat and Biondić 2007: cat. nos. 107-109, 112-113). Many of their necks are short, with flared rims, a few of which have been flattened. One has a square footprint (Horvat and Biondić 2007: cat. no. 110). Two other bottles have folded, circular feet, with globular bodies, long straight necks, and slightly pushed-down rims (Horvat and Biondić 2007: cat. nos. 105-106). Another bottle is similar in its neck and rim, but its base is oval-shaped, and two opposite sides of the body have been flattened together (Horvat and Biondić 2007: cat. no. 111). A long-necked, flattened-body urinal made of light olive-green glass was found as well (Horvat and Biondić 2007: cat. no. 129).

Finally, this collection also contains spouted jugs, of a few different varieties. Each has an applied, raised pedestal foot, a globular body, a long neck, and an out-turned rim. The majority also have handles applied just below the rim and on the upper part of the body. One of these has a rim which was pinched to form a spout, and was decorated with engraved vegetal patterns. At least three others, instead, have long, curved spouts applied to the body, and were decorated with a wavy ring on the neck. All three are made of clear, colourless glass (albeit slightly yellowish in one instance), yet on one of these, the rings applied to the neck and to the rim of the spout are transparent dark blue, while the rings on the others (which also did not have ring still attached to the rim of the spout) are made of self-coloured glass. A few handled necks were found with no applied ring, but also without the rest of the body so that it is unknown whether or not they had an applied spout. The final example of spouted jug has an applied spout and a wavy ring applied to the neck. However, this does not have a handle and was made of opaque white glass decorated with blue spots. It is thought that these bottles were produced either in the Netherlands or Germany (Horvat and Biondić 2007: cat. nos. 119-123; Henkes 1994: cat. nos. 49.2-49.3).

## **Lids**

This collection contains the finials of at least three different lids. Two have been faceted to form a point, one of which contains twisted red threads embedded inside. This was attached to the top of a dome-shaped rib with arched ribbing, while the shape of the other lid is indeterminate (Horvat and Biondić 2007: cat. nos. 124-125).

The final possible lid was found alongside what may have been part of a stemmed bowl. The lid has been topped with an elaborate bit-work design of 'wings' and cross-hatch flattened disks applied to twisted canes containing red threads. Only a small part of the body of this piece remains, and thus the shape cannot be ascertained. The matching bowl, however, has wide, shallow mould-blown ribbing, with a spherical lower half of the body, which then flares outwards towards the now-absent rim. This is attached to a twisted knob containing a red thread (Horvat and Biondić 2007: cat. no. 126).

### ***Flat glass***

The glass panes from this collection have been cut into hexagons, along with smaller cut pieces meant to fit into the edges and corners of large window frames made up of many panes.

The collection excavated at Osijek is one of the most highly-ornamented within the study area, and gives a glimpse into a fairly well-off community with trade connections spanning Central and Northern Europe. Since these were excavated from a context with a known beginning and end date of use, these artefacts are particularly useful in dating Bohemian and German glass throughout the rest of the region.

## GLASS IN THE INLAND BALKANS

The 1960s through 1980s saw a large output of scholarly publications on the archaeological glass of the Central Balkans, most notably from the likes of Verena Han, Marian Wenzel, and Pavao Andjelić. The majority of this work, however, was focused on the medieval period, due either to a general dearth of early-modern glass in the region or the authors' personal preferences. The most prominent publications regarding 17<sup>th</sup> and 18<sup>th</sup> century glass are focused on the northern reaches of this region, particularly Osijek in the northeast and Ljubljana in the northwest. All throughout the inland Balkans, one can perceive a definite preference for styles which were prevalent in Central Europe. The influx of Saxon miners from the mid-13<sup>th</sup> century might also help to explain the presence of late-medieval Hungarian imports, or Venetian and Ragusan imports in styles comparable to those found in Central Europe (Ljubinkovic 1985: 191). Ljubljana and the surrounding area provide a particularly valuable insight into the material culture of early-modern Habsburg territories, due to the glassmaking factories located there. However, like Belgrade, much of the history and the glass of the rest of the inland Balkans is reflective of the transfer of power from Hungary to the Ottoman Empire and back again. Kojić and Wenzel (1967: 86) have noted the similarity between 14<sup>th</sup>- and 15<sup>th</sup>-century glass found in Hercegovina and Central Bosnia and that found at Novo Brdo. These Bosnian and Hercegovinan finds are generally clustered around the major trade routes leading inland from Dubrovnik (Kojić and Wenzel 1967: 88). Verena Han (1975: 125) has found numerous archival sources which provide substantial evidence that Dubrovnik was not only the intermediary in the transport of these glass objects from overseas, but was also the centre at which many of these goods were produced. For example, on the route which followed the Bojana River, records show that a cargo of glass was taken by robbers at the port town of Sv Srdj in 1412, presumably interrupting its journey to Novo Brdo or other cities in Kosovo or Serbia (Han 1981b: 85-6). These glass objects have since been found in many different types of contexts, but especially in religious sites. In Novo Brdo, glass was excavated in ecclesiastical contexts, at the Cathedral—which was subsequently converted into a mosque—and Saška Church. Glass was found in a Monastery in Mileševa, but also a necropolis in Kolovrat (Ljubinkovic 1985). The medieval Slavic custom of burying the dead with food and wine means that glass vessels are found in many graves (Kojić and Wenzel 1967: 76).

The drinking vessels of the late-medieval Central Balkans consist of a number of different types of beakers and very few stemmed goblets, trends which can be observed not only in Bosnia and Serbia, but in Germany, Bohemia, and Poland as well (Wenzel 1977: 71). Both smooth-walled and mould-blown (in a honeycomb pattern) truncated conical beakers with blue trails applied to the rims have been excavated at Varaždin, most likely dating from the late 15<sup>th</sup> century. (Šimek 2010: 315). In Novo Brdo, *gambassini* and ribbed beakers date to earliest phases of the Cathedral in the mid-14<sup>th</sup> century (Zečević 2012: 416). In Ljubljana, early 16<sup>th</sup>-

century truncated conical beakers have frequently been discovered with mould-blown ribbing, some with applied blue or self-coloured trails around the middle or rim (Kos 2007: 130-140).

The greatest numbers of cupped-rim beakers with applied blue trails have been found in the Central Balkans. Most were found in Bosnia, although some were also excavated from Serbia, such as two cupped-rim beakers with prominent vertical ribbing, crimped-ring bases, and blue trails on their rims, one with one trail, the other with five (Ljubinkovic 1985: figs. 2 and 3). Another was found in Gračanica in Kosovo, made of glass with a yellow tinge, with nine parallel dark blue threads applied to the cupped rim (Kojić and Wenzel 1967: 81). On a few examples, such as one from Stari Kakanj, the moulded ribs are slanted, rather than vertical, while a few have smooth walls with no ribbing, such as a beaker from the village of Zgošća just outside of Kakanj (Bikić 2006: fig. 3.1), and another in Kraljeva Sutjeska, where beakers with vertical ribs were also found (Wenzel 1977: 64). In Biskup, on the other hand, a beaker was found with a cupped rim, vertical ribs, and crimped-ring base similar to these, but had no applied rims and was made of a glass with a light purplish-brown colour (Kojić and Wenzel 1967: 80). This was the first of this type of beaker to be discovered, and thus these beakers are commonly referred to in reports as 'Biskup beakers'. The easternmost extent of this beaker's range appears to be Čačak in western Serbia (Han 1975: 124) and Novo Brdo (Zečević 2012: 416). Kojić and Wenzel (1967: 84) have suggested that the mid-15<sup>th</sup> century was the point when these vessels fell out of favour and were replaced by German-style *krautstrunk*.

Early coil-printed beakers were found at Mileševa and Kolovrat, dating from the 12<sup>th</sup> to 14<sup>th</sup> centuries (Ljubinkovic 1985: 189-190). A late 14<sup>th</sup>-century coil-printed beaker with a crimped-ring base and a large, cupped rim made of thin, yellow-brown glass was found perfectly preserved in a grave at Veličani in Hercegovina. This was discovered alongside a coin from Dubrovnik, and this evidence, along with the known ties between that city and the member of a prominent local family who was buried in that grave, have been cited as reasons to believe that Dubrovnik was the source of this vessel (Kojić and Wenzel 1967: 80). Other examples include fragments from Kruševac, Novo Brdo, Novi Pazar, Koriška Gora (Han 1975: 118-19), and Stalać (Han 1981b: Tab. VI fig. 4).

A number of *krautstrunk* were discovered in various contexts at the Cathedral in Novo Brdo, dated to the 15<sup>th</sup> century and made of greenish-blue, light yellowish-green, and brownish-yellow glass (Zečević 2012: 415). Early *krautstrunk* seem to have been less common in Bosnia, where their use was restricted only to the major, central castles and rather absent from the peripheries. This coincides with an overall decrease in luxury goods in Bosnia during the 15<sup>th</sup> century (Wenzel 1977: 67). In northern Croatia, a light smoky-yellow beaker was found in a 15<sup>th</sup> and 16<sup>th</sup> century context at Varaždin, while another was found at nearby Visoko (Šimek 2010: 316-17).

Later *krautstrunk* similar to those found in Germany have also been found in Bosnia, the earliest example most likely being the fragments found at Bobovac, which was destroyed by

Ottoman forces in 1463 (Kojić and Wenzel 1967: 83). Another later *krautstrunk*, dated to the late 16<sup>th</sup> or early 17<sup>th</sup> century, was made of clear, colourless glass with small, pointed prunts. This was used as a reliquary at the church in Log in Slovenia, a practice which can be observed in Germany, but not elsewhere in the central Balkans (Kojić and Wenzel 1967: 91). Another beaker reminiscent of Central European styles was found in Bobovac. This tall, cylindrical beaker with walls that taper inward slightly in the middle had a small handle applied below the rim and is thought to date to the 16<sup>th</sup> century (Han 1981b: Tab. XIII fig. 1). Interestingly, there may have been more overlap between these three types of prunted beakers in Ljubljana. Beakers in various shades of olive or colourless glass with a yellowish tinge (and at least two colourless examples with a blue trail applied below the rim) with small, coiled prunts are thought to date to from the second half of the 15<sup>th</sup> century through the first half of the 16<sup>th</sup>, while *krautstrunk* made of green, olive green, or bluish-green glass seem to have also been present in the early 16<sup>th</sup> century (Kos 2007: cat. nos. 109-129). By the 16<sup>th</sup> century, a number of *stanenglas* beakers, or tall, narrow beakers on a pedestal foot, made of greyish or pale olive-green glass, were in also use in the city (Kos 2007: cat. nos. 141-155).

Goblets are much rarer finds in this region, as are any other fragments of 16<sup>th</sup>-century Venetian-style glass. One 15<sup>th</sup>-century colourless, solid goblet stem from Trgovište was decorated with a ribbon applied horizontally around its midpoint, similar to an example made of blue glass found in Split (Han 1981b: Tab. XI figs. 3 and 4). Lion mask stem goblets are the only type which appear with any frequency, most notably at Varaždin (Šimek 2010: 317), which appear to have been produced from several different moulds. Unlike these stems, which were produced in near-colourless glass, a lion mask stem found at the Monastery in Peć (also known as Peja), Kosovo, was instead made of yellowish-green glass (Han 1981b: Tab. XV), while those found at Ljubljana were brownish-green or greenish, one of which had traces of gilding (Kos 2007: cat. nos. 92 and 99). A fragment of what appears to have been a goblet with a tall, hollow foot was excavated at Trgovište (Bikić 2006: fig.6.6). In Blagaj, a 16<sup>th</sup>-century tazza or salt-cellar with a tall, hollow foot was found made of brown glass, with vertical ribs on the foot and thick gadroons on the lower half of the cup (Han 1981b: Tab. X fig. 2). Excavations at Ljubljana have produced a considerable number (Kos 2007: cat. nos. 1-108), mostly consisting of tall, hollow-footed goblets—including those with no merese, flat mereses, reel-shaped mereses, and large, rounded knops—and lion-mask stems. The majority of these goblet cups were either conical or trumpet-shaped, the latter of which were usually attached to the stem by a reel-shaped merese. Some of these have been decorated with mould-blown ribbing on either the foot or the cup, and a few cups display other mould-blown patterns. At least one fragment of a tall, hollow foot was given opaque white canes applied vertically, while another cup was decorated with parallel horizontal bands of twisted and opaque white canes, placed above opaque white canes applied in a latticework pattern. Like most of the goblets in Ljubljana, these are thought to date from the early 16<sup>th</sup> century (Kos 2007: cat. nos. 101 and 33).

Two interesting bowls were discovered in Novo Brdo: the first was a shallow bowl made of blue glass with mould-blown slanted ribbing, while the second was a colourless bowl with mould-blown, prominent vertical ribbing *mezza stampatura*, with a self-coloured crimped ring applied to the base, and a blue trail applied above the ribbing (Zečević 2012: figs. 1.a and 1.b). Another *mezza-stampatura* bowl with a crimped-ring base and applied trails was found at S. Ariano in the Venetian Lagoon (Pause 2000: fig. 1.8), while a crimped-ring based bowl with applied blue trails but no moulded decoration was excavated at Southampton (Willmott 2009: GL32). One 15<sup>th</sup>-century bowl in Kraljeva Sutjeska had a low, applied pedestal foot (Bikić 2006: fig.4.4).

Of later, Venetian-style bowls, one notable artefact was discovered in the cemetery of St Peter's near Novi Pazar. This bowl was decorated with alternating twisted and opaque white canes applied vertically around the bowl, with an applied ring base (Han 1981b: Tab. XIV fig. 2). Another small bowl or cup of particular note was excavated at the Belgrade fortress which the author was unable to access in person. This had prominent, mould-blown vertical ribs and a tall, applied ring foot. Unusually, however, the main body of this bowl was first decorated with 'picked-up' pieces of coloured glass (Han 1985: fig. 1b). The ribs appear to terminate just below the rim of this curved bowl, similar to one found on the Koločep wreck. Another bowl from Smederevo had an all-over pattern of mould-blown diamond-shaped bumps and a twisted cane applied to the rim (Cunjak 1998: Ca. 28).

Bottles from this region display characteristics of the Venetian, albeit with some alterations, and Central European glassmaking traditions. There are many examples of *inghistere* in the Central Balkans, such as the spiral-ribbed elongated neck excavated in Smederevo, and the bulbous bodies found at Novo Brdo, Gradac, and Kastaljan (Han 1975: 119). A later example of a long-necked bottle with spiralled ribbing from the 16<sup>th</sup> century has been found in Trgovište in southern Serbia. This colourless bottle, however, does not have a tall, folded base, but instead has a tall, cylindrically shaped base which then bulges outward to form the bulbous body, matching two other bottles found in the Turkish cemetery in Athens (Han 1981b: Tab. XIII figs. 2 and 3), and another set of fragments in Smederevo (Cunjak 1998: T.XXV). A similar bottle from the second half of the 15<sup>th</sup> century was excavated at the Concordia Sagittaria in Venice (Cozza 2010: 85). This bottle had widely spaced vertical ribbing and a long neck with a ring-shaped bulge below the funnel-shaped rim. In Ljubljana, early 16<sup>th</sup>-century long neck fragments include one with a yellowish, tapered rim and vertical mould-blown ribbing, and a colourless neck with spiralling ribbing, with a blue thread trailed multiple times around the wide, funnel-shaped neck (Kos 2007: 199-200).

In Novo Brdo, biconical bottles and bottles with long necks and spiralled ribbing were also discovered (Zečević 2012: fig. 3.b and 3.c). Most biconical bottles found in Serbia were excavated from necropoli (Ljubinkovic 1985: 192), including the two folded middles of two pale green examples at Novi Pazar, and others at Vojka (near Stara Pazorva), Hinga (near



Subotica), and Bobovac (Han 1975: 124). Several 15<sup>th</sup>- or 16<sup>th</sup>-century examples made of clear, colourless glass were excavated at Varaždin in northern Croatia. While these bottles all conformed to the same shape, some were given additional ornamentation, in the form of wide, blue ribbons around the neck, or thick blue trails on the rim (Šimek 2010: fig. 2). A considerable number have also been excavated in Ljubljana made of olive-brown, olive-green, greyish, brownish, or yellowish glass, and ranging in diameter from 4.2 to 9 cm (Kos 2007: cat. nos. 219-232). Some of these have a self-coloured ribbon applied on the neck, although many others do not.

In addition to fragments from Smederevo (Cunjak 1998: T.XXXII.3 and 4), just east of Belgrade, a number of *kuttrolf* bottles have been found in the northern part of the region. In Varaždin, examples can be seen in colours ranging from nearly colourless to various shades of olive green, which were excavated from both Preradović Street and the defensive ditches outside the castle in the Stari Grad (Šimek 2010: figs. 5 and 6). Colourless and greyish-brown fragments of *kuttrolf* necks were excavated in Ljubljana, the latter of which had a pale blue trail wrapped three times around its quatrefoil rim (Kos 2007: cat. nos. 198 and 193).

There are a few types of bottles worth noting which diverge from the standard typology of the broader region. A pear-shaped bottle from Bobovac had a long neck, but a more tapered, rather than globular body, and a bulbous rim (Bikić 2006: fig.4.1). One often-referenced bottle, known as the Panik bottle, was a rather unique vessel with a bulbous, slightly tapered body with widely-spaced, prominent vertical ribbing, and neck with a bulge (Popović 1973: tab. XII fig. 2), similar to a neck fragment found in Studenica (Bikić 2006: 203). At the monastery of Peć/Peja, a flat bottle made of green glass has been dated to the 15<sup>th</sup> or 16<sup>th</sup> century. This was produced using the half-post method, with slanted ribbing on the thick body. While the rim is now missing, a large bulge can still be observed on the lower part of the neck, slightly above the curved shoulder (Han 1981b: Tab. X fig. 1). Two bottles from Ljubljana were given additional decoration: the first, a tapering cylindrical bottle with a short neck and flared rim made of colourless glass in the 16<sup>th</sup> century, was painted with parallel, vertical stripes of yellow enamel, while the second, a late 16<sup>th</sup>- or early 17<sup>th</sup>-century purplish-brown pocket flask with a tilting neck with several bulges, had several wavy opaque white trails marvered onto the surface (Kos 2007: cat. nos. 237 and 239). Another bottle from this city, a flat flask with a circular profile and a crimped-ring base, is unique for its vivid, opaque cornflower blue colour and pewter stopper clasp on the rim (Kos 2007: cat. no. 192).

Bell-shaped lamps were found at Novo Brdo (Zečević 2012: 417). In addition, the Cathedral at Novo Brdo contained fragments of a variety of different biconical and conical lamps, particularly in contexts associated to the 15<sup>th</sup> century (Zečević 2012: 415). 'Conical' or hemispherical lamps were found more frequently at the Saška Church, and appear to have been used from the 14<sup>th</sup> to the end of the 15<sup>th</sup> century. These lamps, which were suspended from two to four small handles, were common finds in Serbian churches and their associated cemeteries;

therefore, a local place of manufacture has been conjectured, with Novo Brdo offered as one such possibility, although without any conclusive evidence (Zečević 2012: 417).

Crown glass was 'widespread' in churches throughout the Central Balkans of the 14<sup>th</sup> and 15<sup>th</sup> centuries, and 'was one of the distinguishing marks of Balkan church architecture at this period' (Han 1975: 118). Oculi could be found in other contexts as well, such as in the case of 15<sup>th</sup> or early 16<sup>th</sup>-century examples discovered in a defensive ditch at Varaždin castle, which are thought to be of Hungarian manufacture, as several Hungarian masters were brought to the city during the 15<sup>th</sup> century (Šimek 2010: 319). Numerous 16<sup>th</sup>-century oculi fragments were found in Ljubljana, both with or without a folded edge, which were made with glass which was slightly yellowish, greyish, or various shades of olive (Kos 2007: cat. nos. 466-489). In addition, the collections at Ljubljana also contain several stained glass panes, as well as enamel-painted panes, depicting heraldic or biblical imagery (Kos 2007: cat. nos. 460-465).

Vesna Bikić (2006: 208) is of the opinion that the Central Balkans' reliance on Dubrovnik as an intermediary for the importation of goods meant that the region 'actually inherited the Venetian cultural model' at the end of the medieval and the beginning of the early modern period, due to the 'single, culturally identical form, systematically followed in all regions with which Venice and Dubrovnik were in trading contact'. Slovenia, with its prominent glassmaking centre in Ljubljana, perhaps more than anywhere else in this study region may represent the meeting point between two divergent glass producing and consuming practices, both Central European and Venetian (Kos and Žvanut 1994: 14). During the period of Ottoman occupation in much of the region, however, the types and quantities of imported glass evolved in accordance with the societal changes experienced beginning in the mid-15<sup>th</sup> century (Han 1975: 126). The importation of glass became irregular, and consisted almost solely of special requests or gifts to the sanjak-begs. While Ragusans or other merchant communities in Balkan urban centres might possess significant quantities of glassware or luxury European goods, their impact on the local community's consumption patterns has yet to be determined in full (Bikić 2006: 210).



**Fig. 12.1**

Folded ring base.

H: 2.5 cm  
D: 5.3 cm (base)



**Fig. 12.4**

*Mezza stampatura* beakers.

H: 7 cm (tallest)  
D: 7 cm (largest rim)



**Fig. 12.2**

*Krautstrunk* rims.

H: 3.4 cm (tallest)  
D: 7 cm (largest)



**Fig. 12.5**

Beaker with blue rim and ribbing.

H: 2.2 cm  
D: 8 cm (rim)



**Fig. 12.3**

*Krautstrunk* bases.

H: 3.2 cm (tallest)  
D: 4.7 cm (largest)



**Fig. 12.6**

Cylindrical soda-rich beaker.

H: 6.1 cm  
D: 6 cm (base)



**Fig. 12.7**

Truncated-conical beaker.

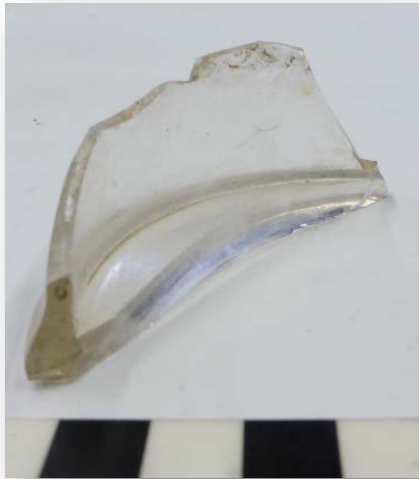
H: 6 cm (tallest)  
D: 4.2-5.4 cm (base)



**Fig. 12.8**

Cylindrical beakers.

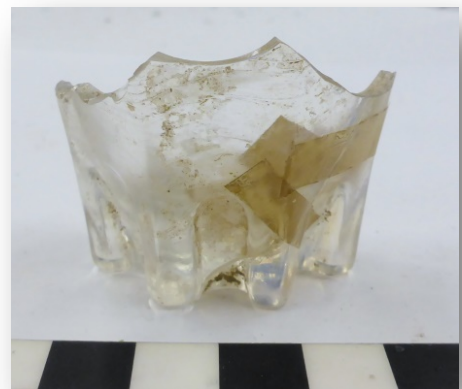
H: 4.6 cm (tallest)  
D: 4.3-5.5 cm (base)



**Fig. 12.9**

Skittle-shaped beaker.

H: 2.8 cm  
D: 8.5 cm (base)



**Fig. 12.10**

Beaker with scalloped base.

H: 3.8 cm  
D: 3.5 cm (base)



**Fig. 12.11**

Octagonal beaker.

H: 8.6 cm (tallest)  
D: 5-6.3 cm (base)



**Fig. 12.12**

Hollow goblet foot.

H: 3.1 cm  
D: 6.9 cm (foot)



**Fig. 12.13**

Goblet foot.

H: 1.2 cm  
D: 4.4 cm (foot)



**Fig. 12.14**

Truncated-conical goblet cups.

H: 5.9 cm (tallest)  
D: 2.5-3.4 cm (base)



**Fig. 12.15**

Ribbed goblet cup

H: 6.8 cm  
W: 4.7 cm



**Fig. 12.16**

Engraved tankard.

H: 8.1 cm  
D: 6 cm (rim)



**Fig. 12.17**

Tankard bases.

H: 2 cm  
D: 4.3 cm (foot)



**Fig. 12.18**

Large jelly glasses.

H: 5.2 cm (tallest)  
D: 5.8-6.4 cm (foot)



**Fig. 12.19**

Engraved jelly glass.

H: 4.9 cm  
D: 4.1 cm (foot)



**Fig. 12.20**

Spouts.

H: 9.9 cm (longest)



**Fig. 12.21**

Lid finial.

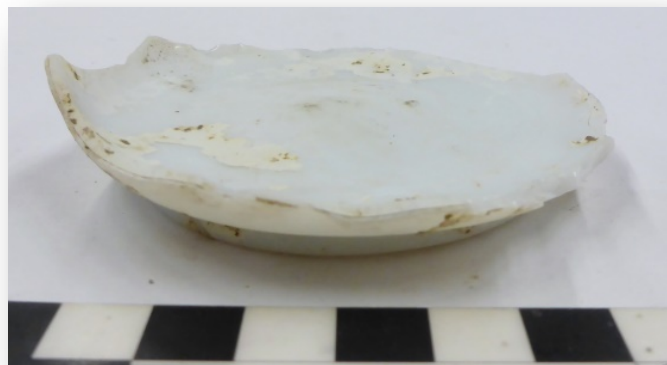
H: 4.3 cm



**Fig. 12.22**

Handle.

H: 3 cm



**Fig. 12.23**

Opaque white base.

H: 1.9 cm  
D: 6.3 cm (foot)



**Fig. 12.24**

Biconical bottle base.

H: 4.6 cm (tallest)  
D: 4-7 cm (foot)



**Fig. 12.25**

Biconical bottle rim.

H: 4.9 (tallest)  
D: 2.7-3 cm (rim)



**Fig. 12.26**

Cylindrical bottle with ribbing.

H: 5.1 cm  
W: 2.9 cm



**Fig. 12.27**

Hexagonal bottle.

W. 5.2 cm



**Fig. 12.28**

Reel-shaped bottle.

H: 6.4 cm  
D: 4.9 cm (base)  
D: 2.9 cm (rim)



**Fig. 12.29**

Square bottle with funnel-shaped rim and tapered neck.

H: 10 cm (tallest)  
D: 5.8 cm (rim)



**Fig. 12.30**

Large square bottle with long neck.

H: 15.3 (tallest)  
D: 2.6-3.8 cm (rim)



**Fig. 12.31**

Square bottle with ring rim.

H: 23 cm (tallest)  
D: 3.4-5.1 cm (rim)



**Fig. 12.32**

Square bottle with short tapered neck.

H: 6.6 cm (tallest)  
D: 3.5 cm (rim)



**Fig. 12.33**

Bottle with very short neck.

H: 1.4 cm  
D: 2.6 cm (rim)



**Fig. 12.34**

Tall square bottle with flattened rim.

H: 20.3 cm  
D: 2.1 cm (rim)



**Fig. 12.35**

Tall square bottle with funnel-shaped rim.

H: 17.3 cm  
D: 2.5 cm





**Fig. 12.36**

Tall square bottle with tapered neck.

H: 10.3 cm (tallest)  
D: 18.5 cm (neck)



**Fig. 12.37**

Tall square bottle with cylindrical neck.

H: 15.6 cm  
D: 2.1 cm (neck)



**Fig. 12.38**

Narrow bottles with skittle-shaped rims.

H: 5.5 cm (tallest)  
D: 1.7-2.2 cm (rim)



**Fig. 12.39**

Cylindrical bottle with long neck and flattened rim.

H: 6 cm  
D: 1.4 cm (rim)



**Fig. 12.40**

Cylindrical bottle with long neck and tapered rim.

H: 14.2 cm  
D: 3.1 cm (rim)

**Fig. 12.41**

Cylindrical bottle with funnel-shaped rim.

H: 5.1 cm  
D: 1.9 cm (rim)



**Fig. 12.42**

Cylindrical bottle with cut rim.

H: 19.2 cm (tallest)  
D: 1.9-2.1 cm (rim)



**Fig. 12.43**

*Kuttrolf* rims and necks.

H: 12.3 cm  
D: 3.8-5.1 cm (rim)



**Fig. 12.44**

*Kuttrolf* base.

H: 7.4 cm (tallest)  
D: 8.9-9.9 cm (base)





**Fig. 12.45**

Bottle with tapered rim and long neck with bulge.

H: 11.5 cm  
D: 5.4 cm (rim)



**Fig. 12.46**

Bottles with wide out-splayed rims.

H: 1.1 cm (tallest)  
D: 5.6 cm (rim)



**Fig. 12.47**

Bottles with narrow flared rims.

H: 5.5 cm (tallest)  
D: 2.2-2.8 cm (rim)



**Fig. 12.48**

Bottle with long neck and flattened rim.

H: 3.3 cm  
D: 2.4 cm (rim)



**Fig. 12.49**

Bottle with long neck and flattened rim.

H: 3.3 cm  
D: 2.7 cm (rim)



**Fig. 12.50**

Bottles with long necks and flattened rims.

H: 5.7 cm (tallest)  
D: 2.9 cm (rim)



**Fig. 12.51**

Bottles with short necks and flared rims

H: 3 cm (tallest)  
D: 3 cm (rim)



**Fig. 12.52**

Bottle with applied ring below rim.

H: 13 cm (tallest)  
D: 2.5-3.1 cm (rim)



**Fig. 12.53**

Bottles with applied ring below rim.

H: 13 cm (tallest)  
D: 2.5-3.1 cm (rim)



**Fig. 12.54**

Small sprinkler.

H: 5.5 cm  
D: 1 cm (neck)



**Fig. 12.55**

Blue neck.

H: 4.6 cm  
D: 2.7 cm (neck)



**Fig. 12.56**

Unknown object.

H: 3.9 cm  
D: 4 cm (rim)



**Fig. 12.57**

Flat glass.

9.7 cm x 5.6 cm x 5.6 cm



## XIII

# DISCUSSION AND CONCLUSIONS

Although by no means a complete account of archaeological glass from the entirety of the Western Balkans, the aim of the previous twelve chapters has been to not only present a detailed illustration of the glass finds of the region, but to also place these artefacts within their historical context. By doing this, considerably more information can be gleaned from each object, adding, in turn, to what is known about the post-medieval histories of the different towns, cities, and regions discussed here. The use of particular trade routes over time becomes more evident when looking at a specific type of luxury good, for example. This is especially apparent for the overland caravan roads, yet the importance of the maritime routes for each of the coastal cities is also further emphasised.

Because of the disparity in quality of information and detail given in published assemblages, combined with the lack of excavation reports for some sites, it is not possible at the moment to accurately discuss the quantities of each type of object in each location. In addition, this discussion is limited to those artefacts which have either been published in accessible forms, or else have been examined in person by the author. However, by studying the distribution of these artefacts, one can begin to make inferences regarding the trade routes on which these goods were transported.

### DISTRIBUTION OF GLASS IN THE WESTERN BALKANS

As the second half of this thesis has demonstrated, there is no one universal type or style of glass found throughout the Balkans, and indeed there can be a significant degree of variation not only between regions but also within regions, between coast and hinterland or city and village. By looking at the distribution of these objects across the Balkans, however, patterns can become apparent, revealing the different trade routes utilised at different times and for different products.

The three different types of pruned beakers present an interesting means for comparison between different periods of glass production and trade. Late-medieval beakers with small, coiled prunts dated to the 12<sup>th</sup>-14<sup>th</sup> centuries have been found in Slovenia, the Central Dalmatian Coast, the Montenegrin Coast, and in various locations inland in Bosnia and Serbia (see *map 13.1*). Beakers dated to the earlier part of this period would have been produced before glassworking was thought to have been established in Dubrovnik in the 14<sup>th</sup> century; thus Italy would be the most likely source of these vessels, corroborated by their presence throughout

Central Italy and their documentation in Venetian records of the 13<sup>th</sup> century. However, their concentration in Hercegovina and southern Serbia demonstrates that these vessels were still passing through Dubrovnik in order to reach their destination via the caravan roads, while roads further north seem to have not been used as much to transport this type of vessel. Fifteenth-century *krautstrunk* also appear to have been favoured on the central and southern end of the Adriatic coast, as well as in Slovenia (see *map 13.2*). These appear to have been nearly absent from Hercegovina and entirely absent from Bosnia, while their numbers have also dwindled in locations in Serbia and Kosovo as well. If these beakers were indeed produced in Dubrovnik, as some suppose (Han 1981a: 205), then this shows that while the roads leading directly from the city may have still been used, merchants were also sending their goods along the *via de Narente* to the north, as well as one of the roads to the south leaving from either Kotor or the Bojana. The presence of these vessels throughout Slovenia, before the founding of a glass industry in Ljubljana, suggests either their production in Venice or another northern glassmaking centre, or a wide distribution range by both sea and land for Dubrovnik glass. Finally, the later blue-green printed *krautstrunk* or *berkemeyer* goblets have been found as far north as the Istrian coast, as well as the Montenegrin coast, and are once again present in Bosnia (see *map 13.3*). In Serbia, however, the only examples have been found in the southwest, near the Kosovo border. This suggests that these vessels, most common in Germany and the Low Countries and perhaps produced in Ljubljana, were not coming through the same trade networks as the German and Central European wares which were brought into Belgrade and Osijek during this time. Instead, it appears that not only was the sea route an important path for these objects (corroborated by the Kačol-Rogoznica wreck), but also the northern caravan roads, rather than the southern ones.

Another type of beaker which seems to have been transported primarily on the northern, Neretva road is the cupped-rim beaker with blue trails (see *map 13.4*). While these were prevalent in Bosnia and Hercegovina in particular, they appear to be very concentrated around this road. Those which have been found in Dalmatia are only just to the north around Split and Šibenik, which could be reached by road from the mouth of the Neretva as well as by sea. Further inland the beakers are more widely dispersed, from Belgrade (also accessible via the Neretva road) in the north to Kosovo in the south, while none have been found in Montenegro. If these beakers were indeed produced in Dubrovnik as has been posited (Han 1975: 125), it is interesting that the northern road was so highly favoured. In addition, only destinations on the far end of the southern roads, rather than closer stops in Montenegro and southern Hercegovina, seem to have imported these objects. This may be due to either a very specific preference for these vessels in only certain areas, or it may mean that another provenance should be considered.

Other types of beakers seem to have been preferred much more on the coast rather than inland, including *gambassini* (early mould-blown beakers) and later vessels with all-over moulded decoration (see *maps 13.5 and 13.6*). Truncated-conical beakers are also more prevalent on the coast and Slovenia, while inland they appear in areas to the north (see *map 13.7*

and 13.8). While the Neretva road may have been used to transport these vessels in the early part of this period, later beakers might have been taken through Split instead.

Stemmed goblets also seem to follow this coastal trajectory. Lion-mask stems and hollow stems with large knobs have also been excavated in significant numbers throughout Slovenia, providing evidence of the *façon de Venise* products being produced and circulated from Ljubljana. Future research involving 3D scanning these lion-mask stems may help to map the distribution of goblets made from the same mould or perhaps even the movement of the actual moulds which were used as Venetian glassmakers emigrated and established themselves throughout Europe. On the other hand, the lack of stemmed goblets in the Central Balkans corresponds with the general dearth of glassware during the 16<sup>th</sup> and early 17<sup>th</sup> centuries. Although these areas were under Ottoman influence at the time, several goblets of various styles have been discovered in Stari Bar, also a part of the Ottoman Empire. Yet, this was also the only site near the coast where jelly glasses of the late 17<sup>th</sup> century have been found, perhaps illuminating a link with the material culture of the interior region, even after some of those cities came under Habsburg influence. *Maps 13.10-13.17.*

Bottles, too, illustrate the differences in material culture between the interior and the coast. Vessels from the earlier half of this period, particularly tall-footed *inghistere* and biconical bottles, have a wide distribution range throughout the Western Balkans (see *maps 13.18-13.20*). These *inghistere* have been excavated at sites from Istria in the north to northern Albania in the south, as well as in numerous locations in central Serbia. The second type of *inghistere* with low feet, however, are fewer in number and not as widely found. Biconical bottles have been found more sporadically across the Central Balkans and at fewer locations on the coast. However, these finds do illustrate the wider spread of this type of bottle than is traditionally assumed, as it is typically associated with Central European styles. This type's wide spread across Slovenia also attests to the longer period of production and use in Ljubljana and the surrounding area.

There is a much greater disparity between bottles of the later centuries of the early modern period, demonstrative of the different routes which these objects took before reaching their final destination. Bottles which circulated only on the coast include flasks with tall, folded feet similar to those found on the Gnalić wreck, bottles with funnel-shaped rims decorated with opaque white trails, and tall, square greenish-blue bottles with skittle-shaped rims (see *maps 13.21-13.23*). The first of these are less prevalent than the other types of bottles, and have only been identified in two places in Dalmatia and in Stari Bar. However, these demonstrate a use of bottle types being exported from Venice in the later half of this period.

The group of bottles with short necks and funnel-shaped or flared rims decorated with opaque white trails has been found in greater numbers along the coast. Luka Bekić (2014: 16-17) has suggested that these bottles might have been produced somewhere near the Adriatic, other than Venice. If this was indeed the case, one area to investigate in the future should



certainly be the northern region near the Kvarner Gulf, due to the high concentration of these bottles found both by Bekić and by this study. Although similar rims have been found further south, some, such as those found in Trogir, were made of clear, colourless glass rather than the bright green of those bottles found elsewhere, while others, such as the rim discovered in Butrint, have an altogether different shape, though they have the same bright green colouring and opaque white trail.

Tall, square-based greenish-blue bottles with skittle-shaped necks are especially concentrated around Zadar and the islands in its vicinity, although these bottles have also been found in Istria, Central Dalmatia, and on the Drevine wreck. From the late 18<sup>th</sup> century onwards, similar bottles were employed for packaging locally-produced maraschino liqueur, and those bottles bear the seals of the many different distilleries in the Zadar area. Although analogies may point to southern France as a possible producer of this type of bottle, the high number of bottles from the Zadar region in particular suggests that the bottles in question may have been used for a similar purpose, the style later adapted, standardised, and made locally. In the Central Balkans, on the other hand, *kuttrolf* have been found in many locations in what became Habsburg territory in northern Serbia, eastern Croatia, and Slovenia. While parts of the coast may have been importing bottles, with or without contents, from places other than Venice, none were coming from Germany or Central Europe. This is in contrast to the pruned beakers of the 16<sup>th</sup> and 17<sup>th</sup> centuries, which would have come from Ljubljana at the closest, or from as far away as Germany or the Low Countries. It would appear, then, that the German-style *kuttrolf* and other half-post bottles were traded primarily by land, rather than via the sea routes.

Bowls and their patterns of distribution are somewhat more difficult to discuss. Although the fragments of many decorated rims have been excavated around the study region, the shape of their base is for the most part unknown. Both footed and footless hemispherical types have been found consistently along the coast. Predictably, the bowl styles of the 16<sup>th</sup> and 17<sup>th</sup> centuries were generally lacking from the interior; however, unlike beakers or bottles, these do not appear to have been replaced by Bohemian versions. It could be that bowls made of other materials, such as ceramic, were preferred during this time.

Biconical lamps have also been excavated from a wide area in the Balkans. Although the more elaborately decorated versions of these lamps have commonly been associated with mosques in the Middle East, their discovery throughout Catholic Dalmatia and pre-Islamic, Orthodox Serbia should lead to a broader understanding of their use. This might mean a shared material culture of religious spaces between these three faiths, due to cross-cultural exchange throughout the Eastern Mediterranean and Mamluk influence on the early Venetian glass industry. At the very least, this should help illustrate that the general term 'mosque lamp' is not applicable for many lamps of this shape. Both Venice and Dubrovnik should be considered candidates for their place of manufacture.

The widespread use of oculi, on the other hand, is somewhat less surprising but is also less informative at the moment. As these window panes could have been produced in Venice, Dubrovnik, or even at a small, unknown local workshop, this is one type of glass which would benefit from future elemental analysis to determine their provenance. This work has been undertaken on a few specific assemblages, but the study of glass in the Balkans would benefit from a region-wide comparative survey.

## GLASS TRANSPORTED BY SEA

Although the previous section has drawn some conclusions regarding the various caravan routes across the Balkan interior and along the coast, this trade would not have been possible without the maritime trade networks which connected these roads and coastal towns with the rest of the Adriatic and with the rest of the world. The shipwreck assemblages discussed in Chapter VII have provided an invaluable insight into the types and quantities of glass transported along these networks. When looking at the patterns of glass consumption in the Adriatic port cities and the cities to which they were connected via the caravan network, it becomes apparent that scholars must consider not only the impact of the maritime routes on these settlements, but also the impact that these smaller cities and towns had on the paths which merchants and their ships chose to take. Most importantly, the narrative of East-West trade between Venice and Istanbul must expand to take into account the role these ports may have played as consumers and intermediaries for glass and other luxury goods. Only then can the provenance, trade, and use of the objects within these ships' cargos be more thoroughly examined.

In the case of the Gnalić cargo, it has been suggested that Murano was, in fact, not the provenance of all the recovered objects, and that other glassmaking centres such as Ljubljana and Dubrovnik or in other parts of Italy should be considered instead (Lazar and Willmott 2006: 73). However, the location of the ship's wreckage near the Dalmatian coast roughly halfway between Zadar and Šibenik would inspire additional questions if indeed this cargo was produced in a location other than Venice. A ship laden with glass from Dubrovnik would be travelling north along the coast in order to wreck near the island of Pašman, thus would most likely be bound for Habsburg-controlled coastal territories, as a shipment of glass of that size might have been more difficult to import into Venetian Dalmatia. Yet, would Ljubljana or Hall in Tirol have not been more convenient centres from which to import glass, particularly at a time when many places in Austria were attempting to produce their own quality Venetian-style glass? In addition, those with the means and a desire to own higher-quality glass than what local factories were able to produce were still importing from Venice itself, rather than looking further afield (Page 2004b: 60). Finally, the presence of metal objects from north of the Alps, most likely Habsburg territory, in the cargo (Stadler 2006: 109) suggests a northern port of departure.

In regards to a non-Venetian, northern Adriatic provenance or port of departure, the glass assemblage from Gnalić, particularly the higher-quality items, are rather unlike objects

excavated from the Ljubljana area, while finer post-medieval glass cannot be exactly linked to the Ljubljana glassworks and may, indeed, be Venetian imports. Indeed, much of the glass made for export from Ljubljana was transported on trade routes headed east and north to other parts of Central Europe (Page 2004b: 30), and thus reflects the preferred forms and styles of those regions.

Part of the argument against Murano as the production centre for all of the glass on board the Gnalić wreck is the variable quality of the glass and the lack of popular late 16<sup>th</sup>-century Venetian decorative motifs, such as *filigrana* glass. However, all but the highest-quality engraved glassware from this assemblage is comparable to glass excavated throughout the Dalmatian coast, both in their form and their quality. Elemental analysis of several examples from the Gnalić assemblage also points towards an Italian production centre. If we then assume that Murano was indeed the provenance of these objects, we accept a broader spectrum of the types and qualities of glass being produced there. It also means that the more important question to ask of the Gnalić wreck is not where the glass was made, but rather where it was meant to go. The ship would have stopped at other ports along the way, and it is possible that some of this cargo could have been offloaded in cities such as Split or elsewhere in the *stato da mar*. While not as much glass was travelling along the caravan roads to the interior at this point, the citizens of these coastal cities were still using fairly sizeable quantities of glass. Even if Istanbul was the destination for much of the glass, particularly the oculi (if they were indeed fulfilling the order for the sultan's harem), this does not mean that this was the *final* destination for all of it. While the wide range of glass types and styles on board the Gnalić wreck might be indicative of the cosmopolitan, multi-ethnic, and multi-religious nature of Istanbul, it is also possible that some of these goods were meant to be disseminated to other parts of the Ottoman Empire.

The Kačol-Rogoznica wreck is possibly one such example of the smaller-scale trade of glassware. It could be that these goods, or their contents in the case of the bottles, were either meant to be sold in a city like Šibenik, or were being taken from Šibenik (or another larger port) to a nearby town or island. Both Šibenik to the north of the wreck and Trogir to the south had large quantities of post-medieval glass and could have been the intended markets for these goods; equally, they could have been the intermediaries for glass produced elsewhere in the Adriatic. While these might have been the property of a merchant, it is also possible that a sailor was taking part in small-scale trade as well.

It is somewhat more difficult to make sense of the glass cargo from the Sv Pavao wreck, but these bottles present a particularly interesting line of inquiry which warrants further investigation. Part of the difficulty lies in a lack of analogous vessels excavated in Europe, or, if comparable bottles have been found, it is possible that they have been misidentified in the past. With further excavation in Istanbul, and more importantly, with further interest in Ottoman-period archaeology, hopefully more of these bottles may be found for comparison, shedding

light onto an otherwise enigmatic part of glassmaking history. Analogies should also be sought in other parts of the Ottoman Empire to determine the range of these bottles' exportation and perhaps to help determine what was being transported in these bottles.

The late 17<sup>th</sup>-century shipwreck at Drevine, on the other hand, was most likely travelling south towards parts of the Ottoman Empire or beyond. As the manufacturing of glass is thought to have dwindled and eventually ceased in Dubrovnik after the 16<sup>th</sup> century, it is unlikely that these objects were produced there. If they were made there, they would then be evidence of the final years of Ragusan glass production. The variable quality of the glass discovered at this wreck is a point of interest, perhaps related to the declining fortunes of *façon de Venise* glassmaking in this and other parts of Europe at the time. While a few fragments of highly valuable *vetri a serpenti* goblets were on board, most of the other goblets were much simpler in form and decoration, and were not perfectly colourless. Decorated vessels, such as the *cesendelli* lamps, were given applied *vetro a fili* decorations in a haphazard manner and again were not entirely colourless. Lower-quality decorated vessels might indicate that these were being targeted at a somewhat lower class of customer, who recognised the appeal of these styles, though they were slowly losing popularity amongst elites and in other parts of Europe. The presence of tall, square-based greenish-blue bottles with skittle-shaped necks on board the Drevine wreck is also a matter of note. If these bottles were produced in the Zadar area, or were in fact primarily used for transporting maraschino liqueur from Zadar, this could point to a wide range of distribution of this product; however, these bottles might have also been the personal belongings of sailors or passengers on board the ship, or they might have been transporting another type of liquid entirely.

The Koločep wreck has also presented scholars with an assemblage of decorated glass objects from the end of the 17<sup>th</sup> century. However, these have been decorated to a considerably higher quality, and represent the newer fashions for glassware being produced in Venice and elsewhere. Unlike the objects from the Drevine wreck, it is unlikely that these goods would have been destined for sale in Dalmatia. That being said, as the identified artefacts from this wreck were held in a private collection, it is unknown if there were ever any lesser-quality glass items on board which did not make it into this collection. The large quantities of glass panes which remained submerged attest to the diverse cargo carried on this merchant vessel.

## CHANGING CONSUMER PRACTICES

Although these shipwreck assemblages might provide insight into how glass goods were transported and traded throughout the Adriatic, they do not explain how these objects were used once they arrived at their destination. Again, the precise usage history for most of the artefacts here is unattainable, since in many cases the exact context in which they were found is unknown. However, by examining consumer habits and patterns in contemporary Italy and

Ottoman territories, it may be possible to interpret how these artefacts relate to the consumer practices of the early-modern Adriatic region.

As Chapter III aimed to demonstrate, economic and societal changes during the early modern period helped to restructure the market for material goods, particularly luxuries, and to create consumers who took a more active role in this market, driving change through their desire for goods which could help both individuals and groups shape their identities. Already in the early modern period, consumers in Italy (Goldthwaite 1993; Allerston 2007) and the Ottoman Empire (Karababa and Ger 2011; MacLean 2005) were influenced by humanist philosophy alongside an increasingly global trade which introduced numerous new exotic and novel commodities, developing a consumer mind-set which would eventually evolve into the consumer-driven world in which we live today. This, in turn, inspired new social practices for navigating and interacting within this world of material goods. Nevertheless, while one might observe in this period that the upper classes sought to ‘discriminate with some nicety between the noble and the ignoble in consumable goods’ (Veblen 1899: 57) and to assert their earned and rightful place amongst these *tasteful* goods through a refinement of carefully studied manners, the honour which they gained from such ownership came not from the intrinsic or monetary value of these objects, but instead from the social values placed on the items, through which the owner could attain virtue. Although the consumption of luxury goods was conspicuous, moral codes based on medieval religiosity and enforced by sumptuary laws were not immediately shaken. Consumers had to balance their desires for physical and social pleasure with both the moral policing of the state and their own personal ethics.

In Italy, and amongst Ottoman elites as well (MacLean 2005: 8), this compromise was achieved through the creation of magnificence and splendour as virtuous qualities obtained by owning fine goods or commissioning works of public art. Displays of wealth, such as banquets, were used for ‘strategic social purposes’ which had the power to not only maintain the social order between classes, but also to allow individuals of lower social standing to break through these ranks as well (Allerston 2007: 25-6). Within the subjugated classes of Ottoman society, another example of individual consumers negotiating their personal desires within the framework of morals set by the Orthodox Islamic Ottoman state can be seen in the case of coffee consumption. The ingestion of proscribed goods and the patronage of outlawed venues (the coffeehouse) could be justified through Sufism, which used the beverage for religious rituals, through lauding other more virtuous activities which took place at such venues (such as poetry readings), or through emphasising the supposed health benefits of coffee (Karababa and Ger 2011: 748-751). Thus, personal ethics were rewritten, no longer strictly conforming to medieval, state-imposed versions of morality and instead held in check by one’s peers through the adoption of ‘good manners’ and ‘good taste’. The cities of coastal Dalmatia, through their relationship with Venice and their key role in the trade of luxury goods between East and West, was in some ways part of this vanguard of modern consumer practices.

The Western Balkans, susceptible to political and cultural sway from both Venice and the Ottoman Empire, would have been aware of changing attitudes towards luxury consumption on either side of the border. Dalmatian coastal cities, as intermediaries in the trade of luxuries between Venice, the Ottoman Empire, and beyond, would have been made aware of the popular goods and fashions from abroad. Foreign dignitaries, such as Venetian governors or Ottoman ambassadors, would have also influenced the material culture amongst the highest ranks of Dalmatian society. Thus, there appears to have been a desire to emulate these consumer practices in Dalmatian coastal cities, albeit within the means offered to colonies more frequently afflicted with poverty and war than their colonial cores. Considering the divergent economic fortunes of Dalmatia's many cities and islands, determined by Venice's policies towards the particular industries of each settlement, it might be expected that glass quality would differ from location to location. Imported ceramics, for example, have been found in different styles and qualities depending on the specific circumstances of the island involved (Zglav-Martinac 2006: 138). In glass, on the other hand, a similar spectrum of glass quality and style is present in most of the locations which have produced post-15<sup>th</sup>-century glass in excavations. There is, of course, some disparity, such as between Dubrovnik, which as a glassmaking centre and important trade port had the greatest variety of styles and highest quality glassware found in the region, and Osor, which was in economic decline during much of the post-medieval period and has a far more limited assemblage. Nevertheless, the range which is observed in most of these settlements, from low-quality simple beakers up to decorated ornamental wares, suggests that glass was accessible and used by different socio-economic classes within the urban population.

However, economic constraints even amongst the higher levels of society are evident through the many artefacts decorated *a filigrana* and other higher-quality glassware which have been found throughout coastal Dalmatia and on some shipwrecks. These objects, while decorated, were often not as skilfully made as objects found elsewhere, or else displayed decorative styles which by that time were out of fashion in larger metropolises. This suggests an aspiration for fine, fashionable household items, although their owners might have to resort to acquiring these goods from other sources, such as Dubrovnik, or from less-accomplished Venetian masters. It is also possible that these higher-quality goods were made available outside of the most elite circles. Non-elites in Italy were utilising alternative methods for procuring luxury clothing and home goods, from pawnbrokers and auctions or through various credit arrangements (Hohti 2007: 252-53), and it is possible that Dalmatians of a comparable class standing could have used similar means to furnish their homes with desirable objects. Glass could also be purchased from individual sailors who sold small quantities of glass and other goods at the port, rather than from merchant shopfronts, thus perhaps providing another, cheaper method of acquiring glass. The association of Venetian culture with the highest, ruling classes in Dalmatia may have made such styles of glassware particularly appealing, especially for those with some wealth but no title attempting to integrate with such elites. While these

goods might not be of the highest quality, there appears to have been an acknowledgement of the fashions of European society and an effort, on the part of the owners of such items, to align themselves with this increasingly global world of material culture and perhaps even the societal values that this entailed.

This is particularly apparent during the 16<sup>th</sup> and 17<sup>th</sup> centuries, at the height of Venetian influence in Dalmatia and economic dominance in the Eastern Mediterranean. The waning of Venice's fortunes at the end of the period in question coincided with the usurpation of the luxury glass trade by Bohemia and eventually England. Although Venetian glassmakers attempted to maintain their supremacy with brightly coloured vessels manufactured in the late 17<sup>th</sup> and early 18<sup>th</sup> centuries, such as those found on the Koločep wreck, very few fragments of such artefacts are to be found in the coastal cities. Instead, other contemporary wrecks, Kačol-Rogoznica and Drevine, have produced glass vessels exhibiting Venetian styles which had since been replaced by new fashions created in Bohemian potash glass elsewhere in Europe and the rest of the world. While the loosening of Venice's grip on the region may have allowed glass from other centres to be imported, such as a few Bohemian potash-rich beakers and German-style *krautstrunk*, these appear to have been few in number, and in a far narrower breadth of forms and decorative styles than those found in Belgrade and Osijek, which were more closely connected to the burgeoning fashions of Central Europe. Dalmatia's link through Venice to the outside world had begun to stagnate.

Although more distinctly Balkan trends in glass form and style, such as cupped-rim beakers and early *krautstrunk*, could be seen during the late medieval period in both larger and smaller settlements, both on the coast and in the interior, this regional cohesion appears to have ended by the 16<sup>th</sup> century. Coastal cities and islands benefitted from regular contact to Venice through the trade of goods and ideas; on the other hand, settlements in the hinterland were subject to frequent Ottoman raids, disrupting the caravan routes from which these towns had once benefitted while also making life there dangerous and uncertain. Glass, therefore, may have been an impractical luxury for populations nearer the border, who might have to abandon their homes while fleeing the Ottomans or by order of the Venetians. In addition, these populations might not have felt the same desire to emulate Venetian culture as their urban compatriots. With further excavation both on the coast and in the hinterland, we might see further evidence of this growing rift between urban/coastal and rural/hinterland populations through glass artefacts and other forms of material culture.

## FINAL REMARKS

Glass, like other forms of luxury material culture, was able to convey social messages to those versed in the fashions and etiquette of that society, and marked the owner of these goods as a part of a particular circle to outsiders. Although Verena Han suggested that the lack of glass in the Central Balkans was due to a general difference in lifestyle practiced during the Ottoman

period (Han 1975: 126), this does not quite hold up when considering the sizeable quantities of Venetian glass discovered in Istanbul and further into the Ottoman Empire, and especially when considering the variety of glass excavated from Stari Bar. The diverse ethnic and cultural make-up of the pashas and other Ottoman officials would also indicate that a monolithic Ottoman culture of material consumption should not be assumed. This implies that rather than a change in lifestyle, it was the trade routes and the goods which travelled them that changed. The difficulties of the caravan road, both in the terrain and the dangers presented by rival armies and highway bandits, may have made these routes impractical for transporting glass for anyone but the wealthiest of consumers who might place a bespoke order directly with foreign glassmakers, or using an agent on the coast. Settlements nearer the coast, however, could continue to exploit these traditional routes either by sea or by coastal road. When glass began appearing in the Central Balkans in greater quantities again, these goods were brought from the north, rather than through previously used routes from the coast. This was to be expected, due to the occupation by Habsburg forces. This also corresponded to the ascendancy of Bohemian luxury glassware, along with the introduction of new forms of glassware (such as jelly glasses).

In Dalmatia, the growing divide in the fortunes and allegiances of the urban and rural populations, and between rich and poor within those communities, was in some ways manifested in the material culture of those groups. Although there was some hegemony in glass styles and forms throughout the western Balkans in the final years of the medieval period, the increasingly 'Venetian' fashions in glassware were not embraced equally in all places. In the cities of the Dalmatian coast, where these objects were most prevalent, the quality of the glass which has been discovered might also be indicative of the different socio-economic groups using these objects and their social aspirations. While there are a few notable pieces of particularly fine, elaborately decorated vessels, a large portion of the glass is of a middling quality, and although there are pieces amongst these which have been decorated in the prevailing styles being produced in Venice, this decoration has often been of a more substandard skill level. It could be that Venetian and *façon de Venise* objects from less-expensive production centres appealed to members of a growing merchant and artisan class, who were gaining wealth but who were excluded from the political and social spheres of the upper echelons of Venetian colonial society. These styles may have endured in this area even after they fell out of favour in other parts of Europe, as evidenced by comparing merchandise aboard the Drevine and Koločep wrecks.

The Dubrovnik archives contain records regarding 355 shipwrecks caused by bad weather or piracy in the 17<sup>th</sup> century alone (Radić Rossi 2012: 56); thus with further excavations, more information will one day come to light. If approached in a similar way as the subject matter of this thesis, future studies will add greatly to the study of post-medieval Dalmatian and Balkan history. As can be seen in the study of this period in Ireland, Scotland, and the Isle of Man, focusing on earlier prehistory has at times allowed nationalists to construct



a collective identity which was not marred by themes of foreign occupation, which dominate the study of more recent history (see Mytum 2017). Yet it has been the aim of this thesis to highlight the importance and agency of these smaller Dalmatian towns and cities in the trade and consumption of material culture at a period of time when the region was indeed under the control of foreign powers. Further work on the Central Balkans would also benefit the field of Ottoman studies as a whole. In Turkey, Ottoman studies has suffered from nationalist agendas as well, which again prefer to look at earlier periods of history in order to develop a narrative befitting the goal of creating a homogeneous Turkish history, which does not align with the multi-ethnic and multi-religious realities of the Ottoman Empire (Dikkaya 2017: 297). This thesis has attempted to illustrate not only this region's relationships with Istanbul and the rest of the Ottoman Empire, but also the changes in its relationships with its more direct neighbours. Overall, academic work on material culture in the early modern period should seek to understand how people used these goods to construct their own identities and make sense of the world around them. In this way, the use of glassware in Dalmatian coastal cities may be viewed as a conscious effort for certain citizens to align themselves with an increasingly defined sense of European urban culture, as they navigated the exchange of both goods and ideas with each other and with the rest of the world.

# **Distribution of Glass in the Western Balkans**

## **Language key**

Београд – Belgrade  
Bosna i Hercegovina – Bosnia and Hercegovina  
България – Bulgaria  
Crna Gora – Montenegro  
Hrvatska – Croatia  
Italia – Italy  
Kosovë/Косово – Kosovo  
Ниш – Niš  
Нови Сад – Novi Sad  
Република Македонија – Republic of Macedonia  
România – Romania  
Shqipëria – Albania  
Скопје – Skopje  
Slovenija – Slovenia  
Србија – Serbia  
Venezia – Venice

# Beakers

Map 13.1. Prunted Type I



Map 13.2. Pruned Type II



Map 13.3. Pruned Type III



Map 13.4. Cupped rim with blue trail



Map 13.5. Gambassini



Map 13.6. All-over moulded decoration

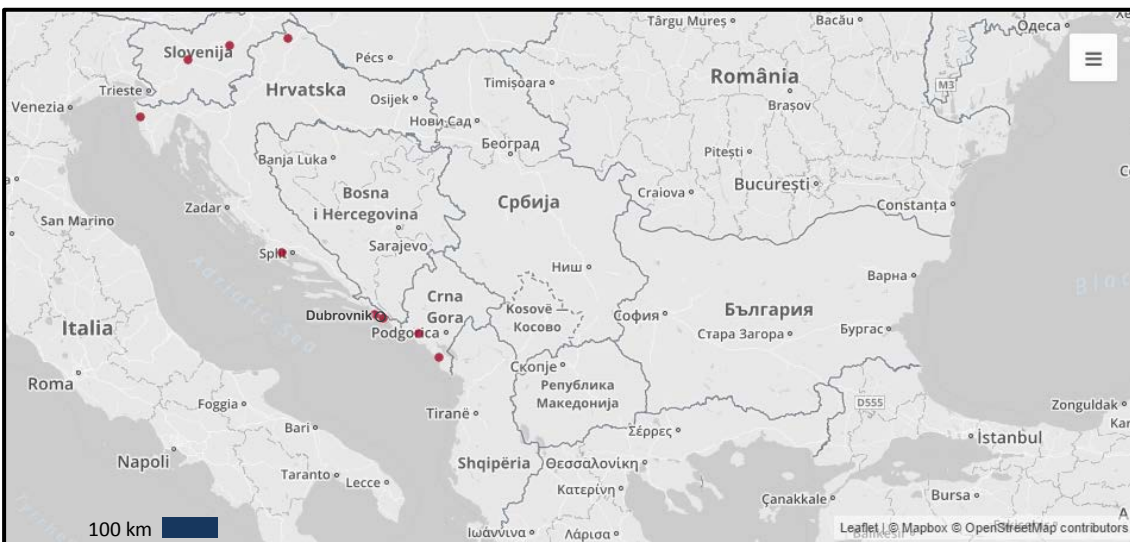


# Beakers

Map 13.7. Truncated-conical



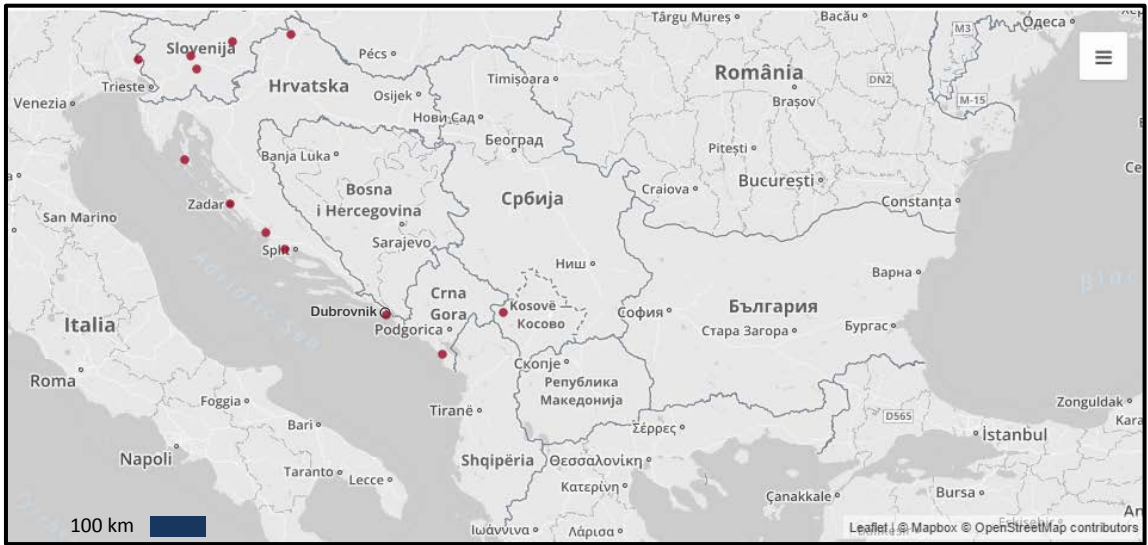
Map 13.8. Truncated-conical with blue trailed rim



Map 13.9. Refined-potash



Map 13.10. Lion-mask stem



Map 13.11. Hollow foot

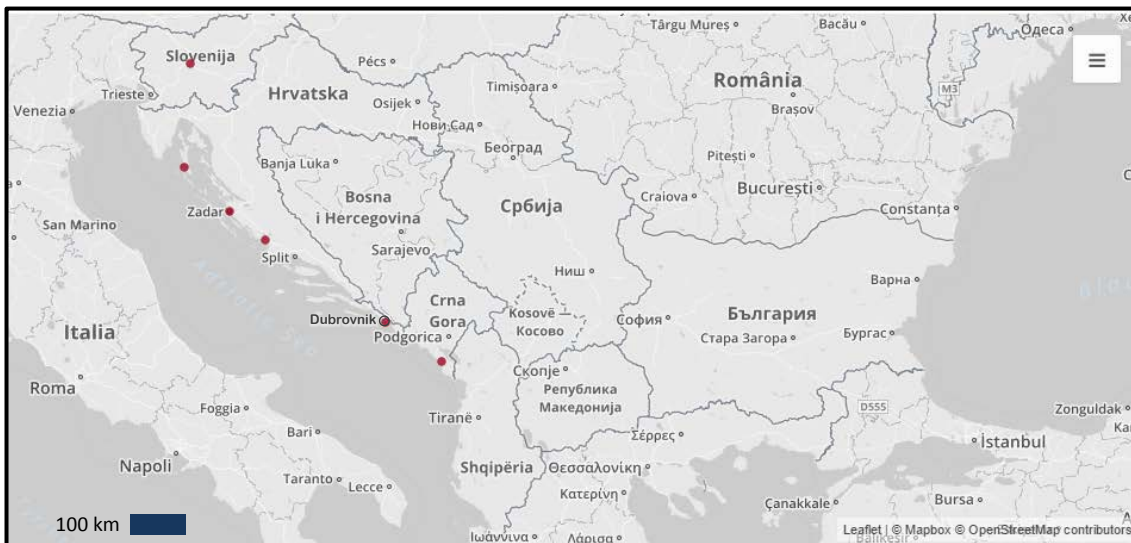


Map 13.12. Hollow foot with knop



# Goblets

Map 13.13. Hollow foot with reel-shaped merese



Map 13.14. Soda-rich hollow inverse baluster stem



Map 13.15. Soda-rich solid inverse baluster stem



**Map 13.16. Refined-potash solid inverse baluster stem**



**Map 13.17. Jelly glass**



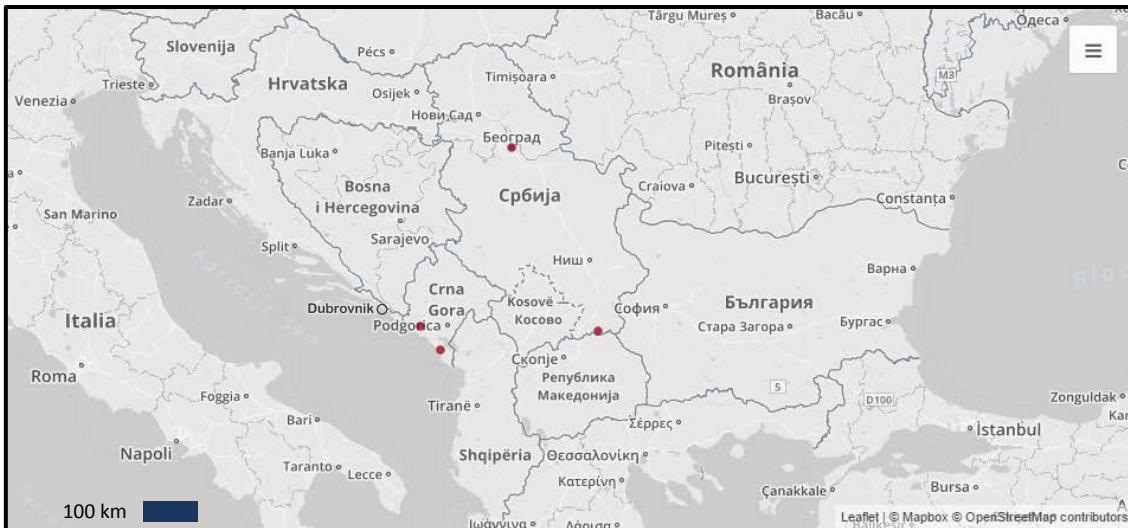


# Bottles

Map 13.18. *Inghistere* Type I



Map 13.19. *Inghistere* Type II



Map 13.20. *Biconical*



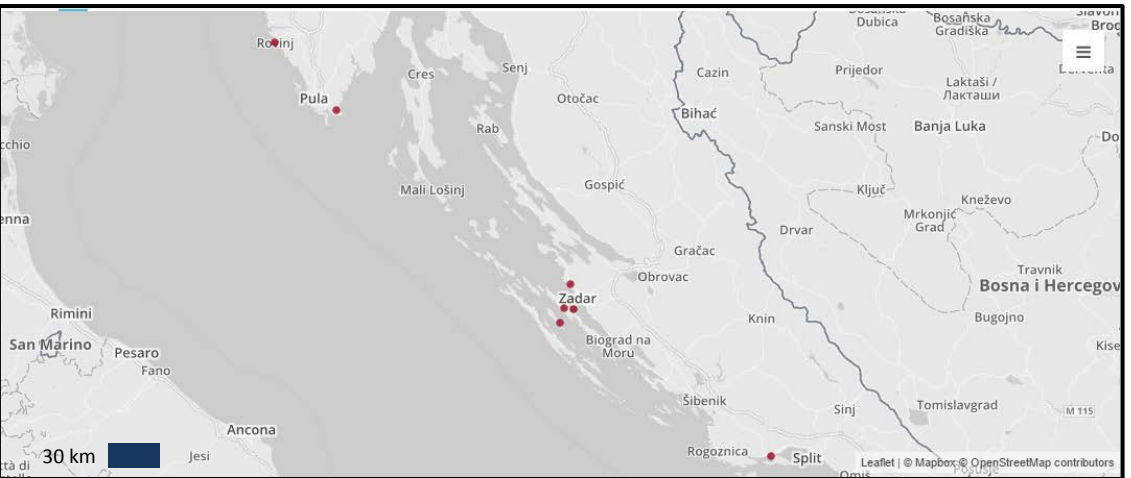
Map 13.21. Pedestal Base



Map 13.22. Opaque White Trail Rim



Map 13.23. Tall Square-Based with Skittle-Shaped Neck



# Bottles

Map 13.24. *Kuttrolf*



**Map 13.25. Crimped-ring base**



**Map 13.26. Hemispherical**



**Map 13.27. All-over moulded decoration**



# Bowls

Map 13.28. Pedestal base



Map 13.29. Bell-shaped



Map 13.30. Biconical



# Flat Glass

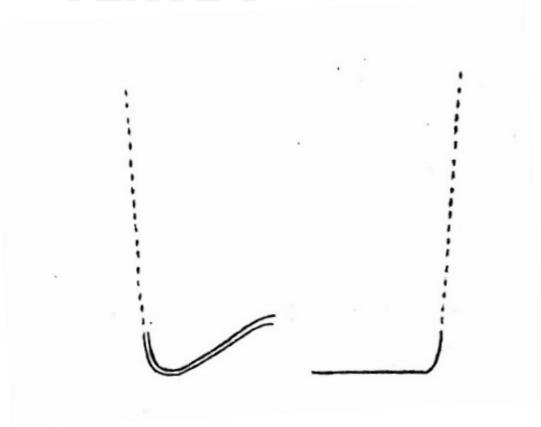
Map 13.31. Oculi



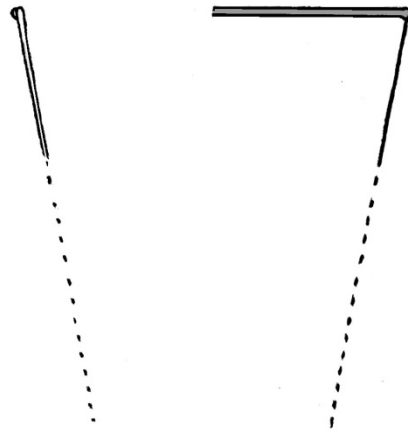
## **APPENDICES**



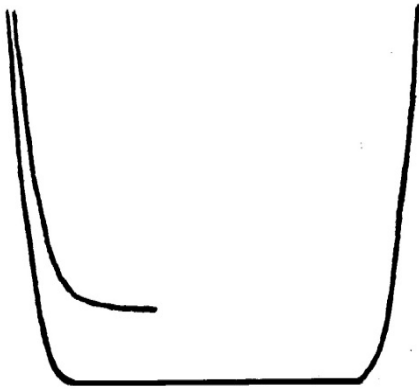
# PLATE 1



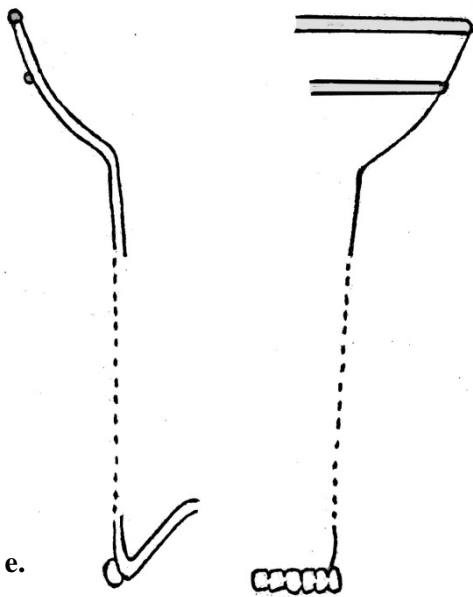
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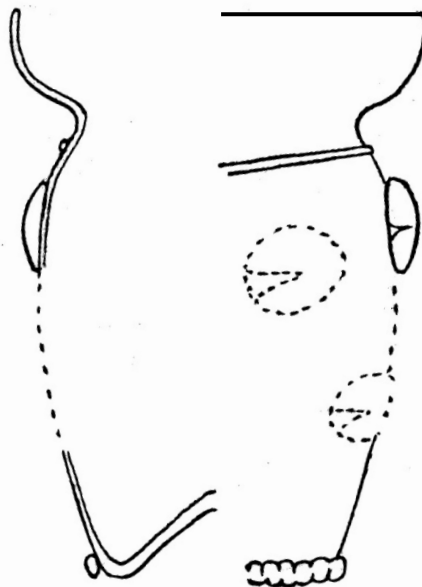
b.



c.



e.

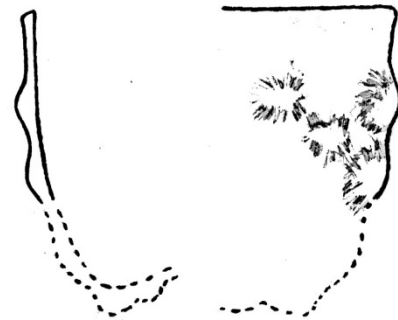


d.

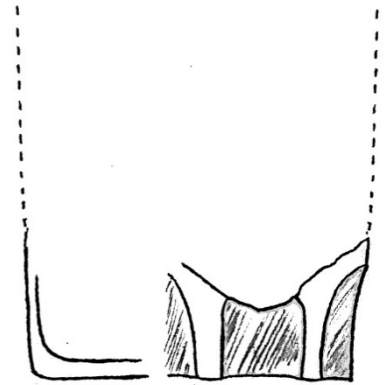
Beakers



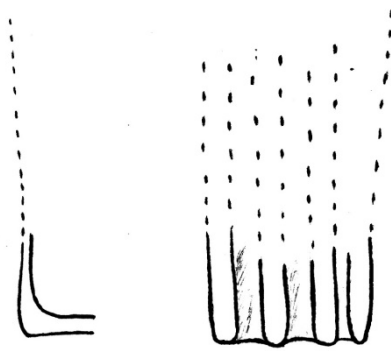
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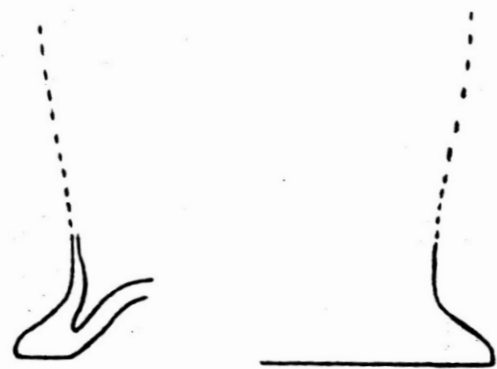
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**b.**



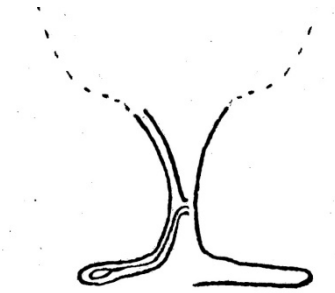
**c.**



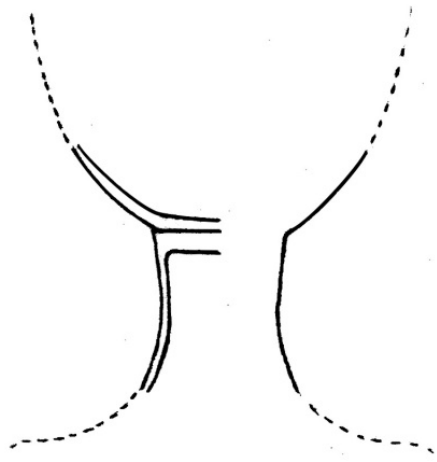
**d.**

**Beakers**

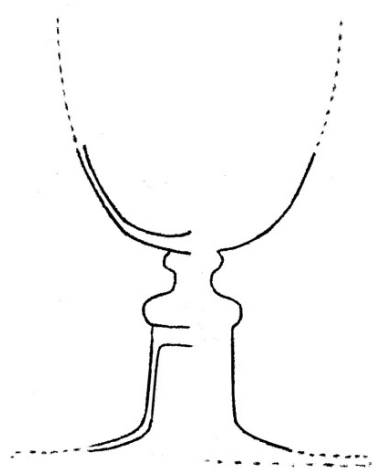
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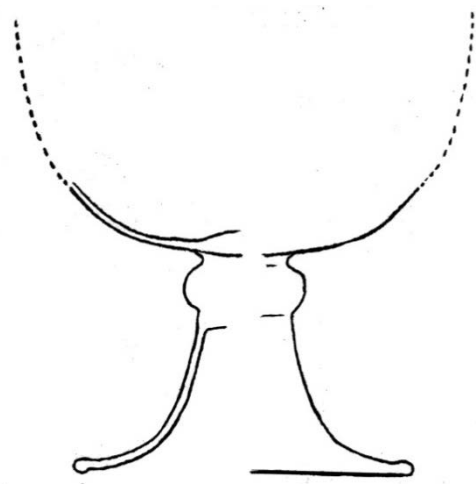
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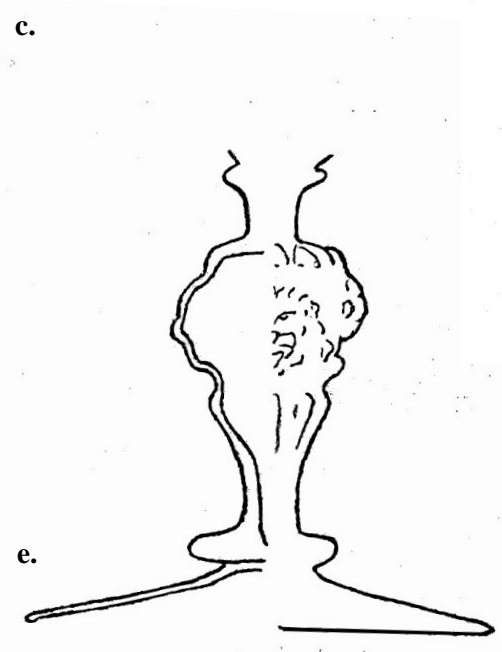
b.



c.



d.

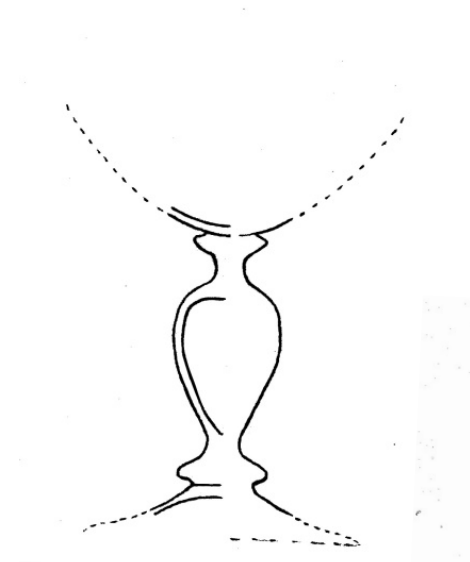


e.

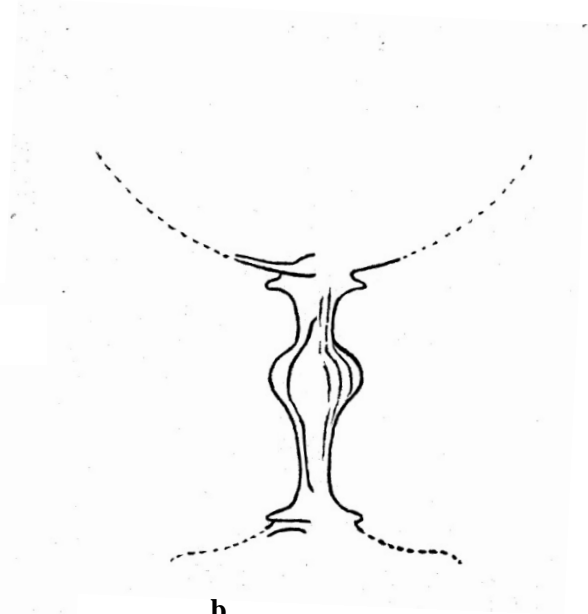


**Goblets**

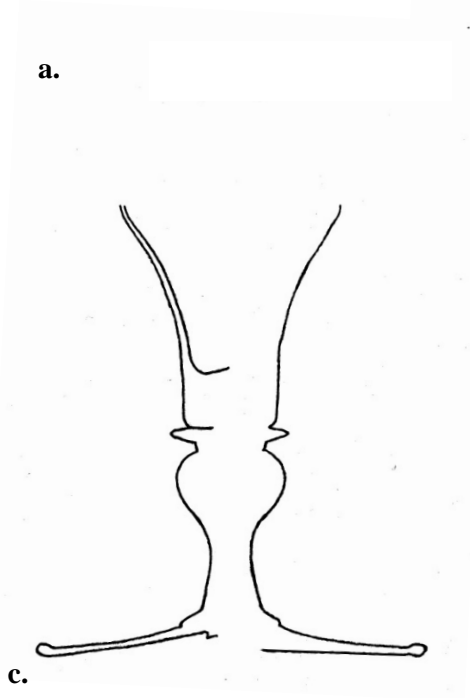
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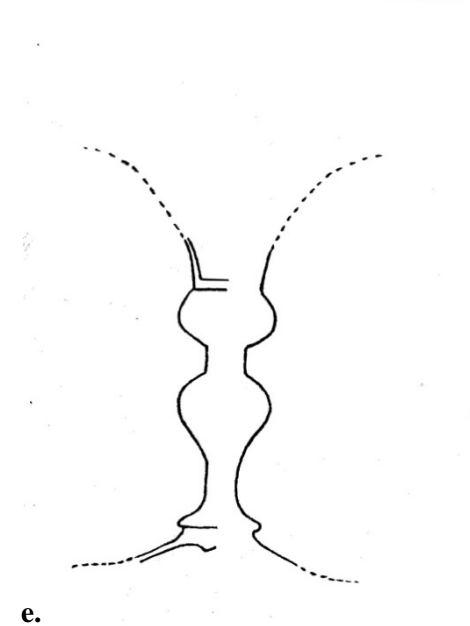
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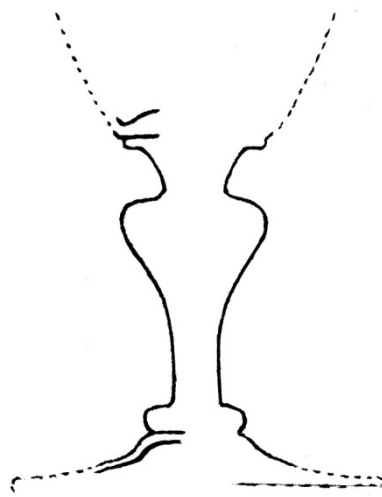
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**c.**



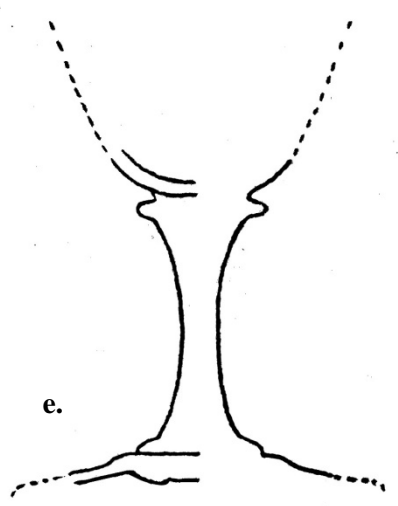
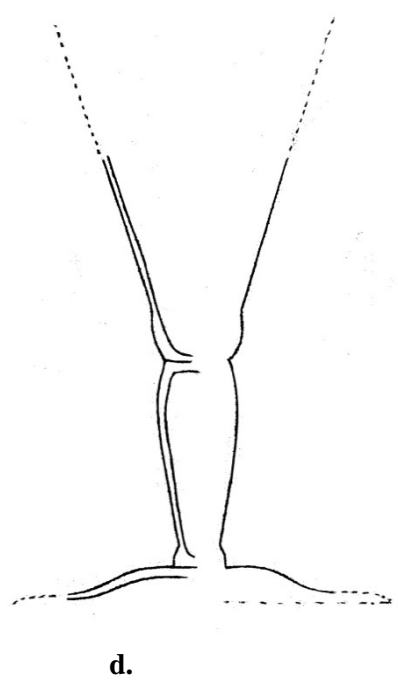
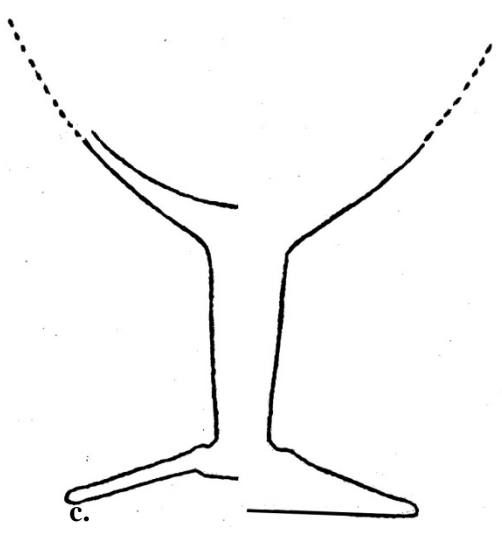
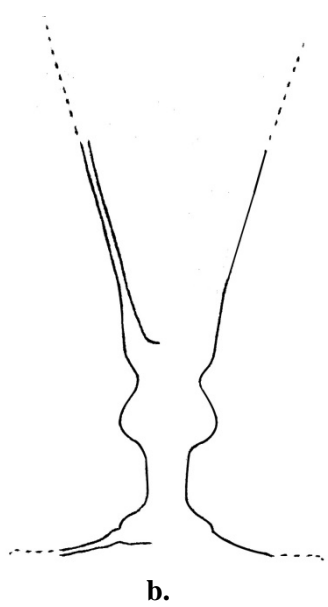
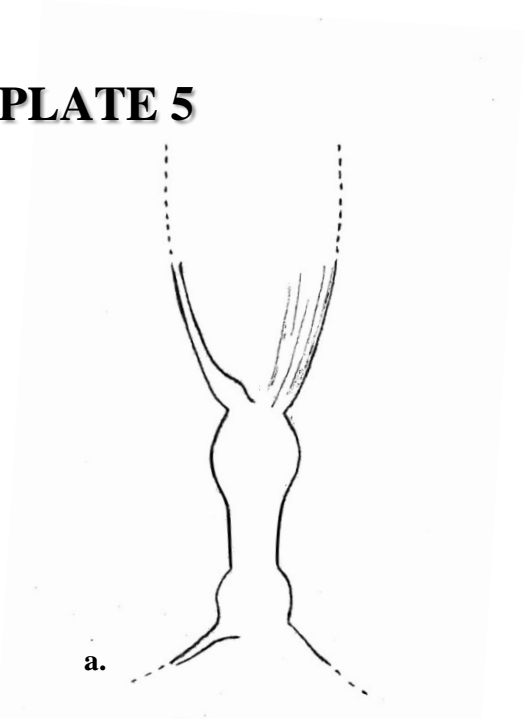
**e.**



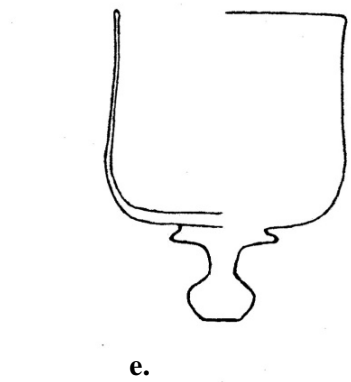
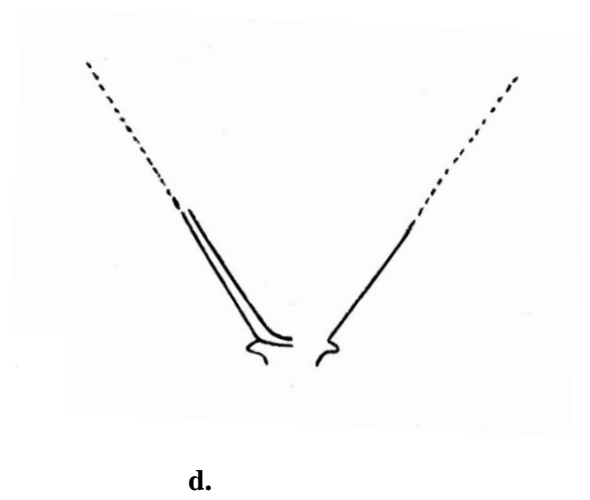
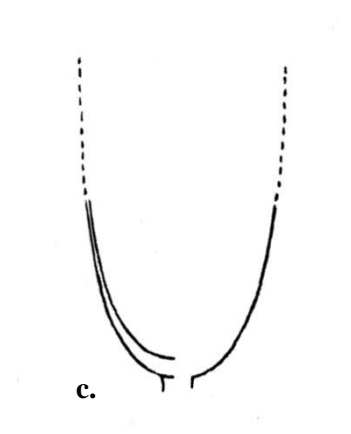
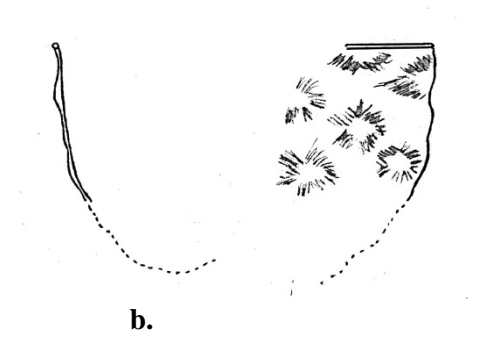
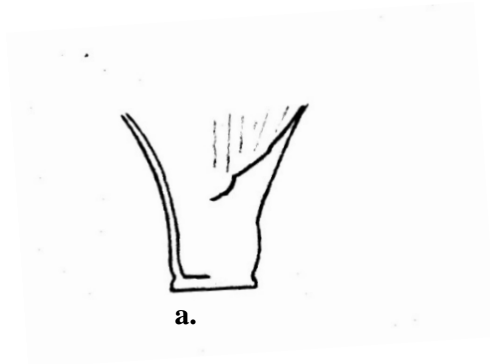
**d.**



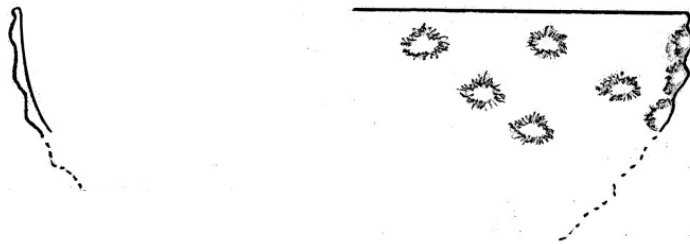
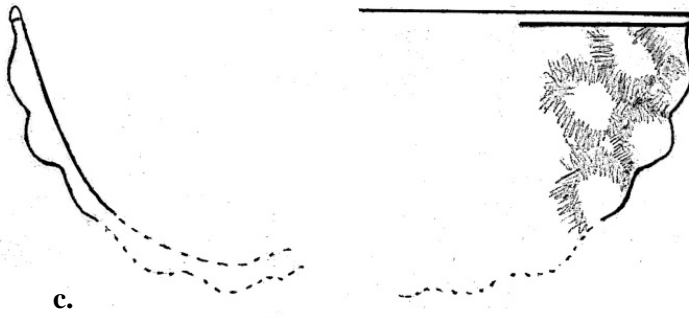
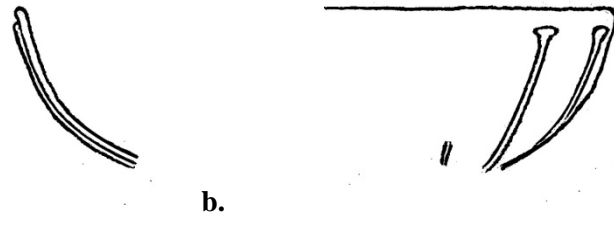
**PLATE 5**



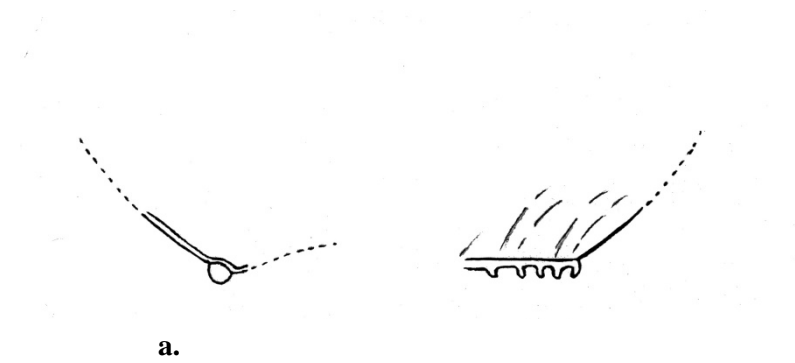
# PLATE 6



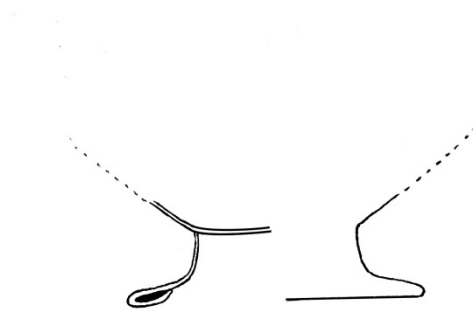
**PLATE 7**



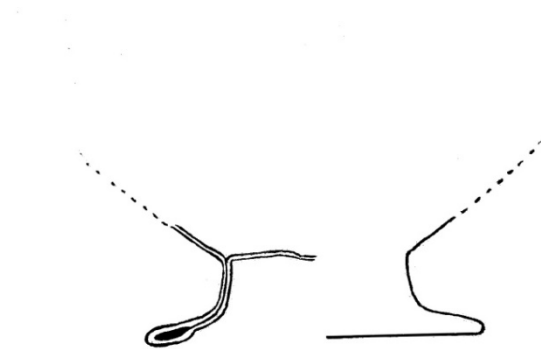
# PLATE 8



a.



b.

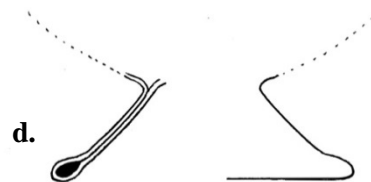
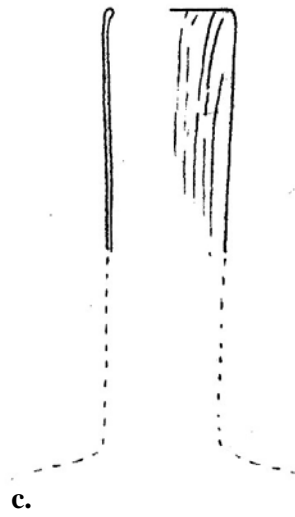
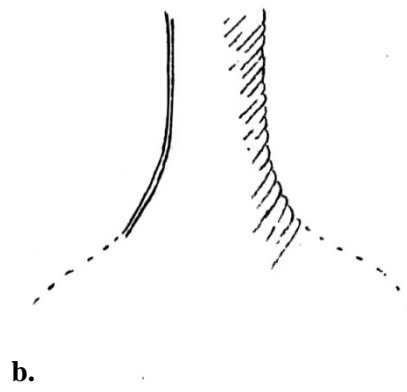
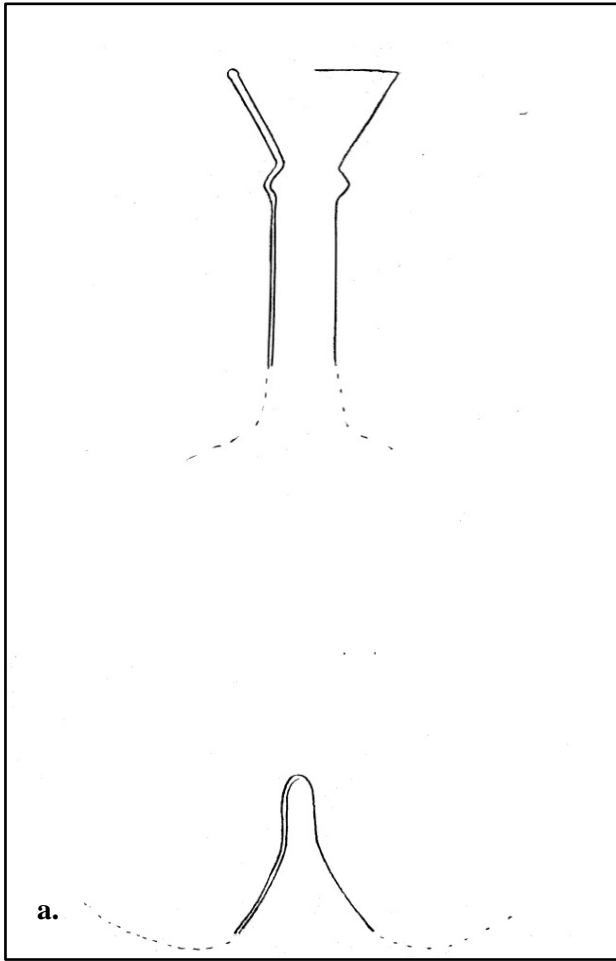


c.





# PLATE 9



# PLATE 10



Re-drawn from Han, 1981b.  
(Not to scale)

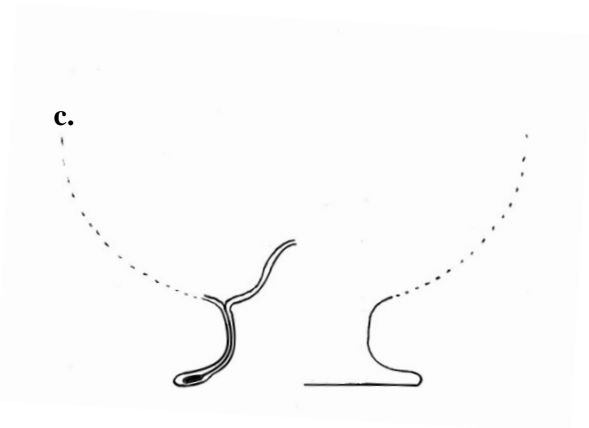
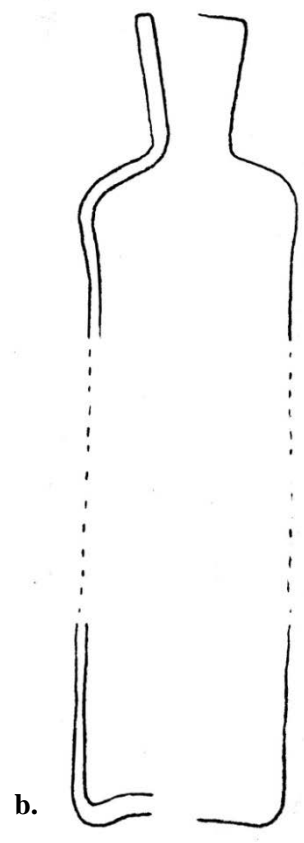
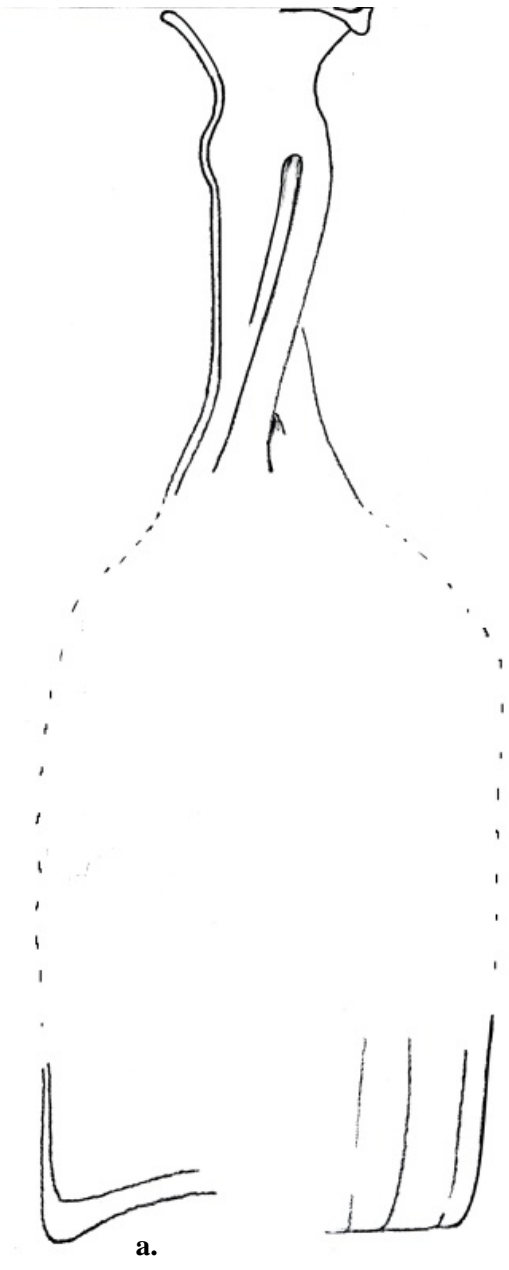
**a.**



**b.**

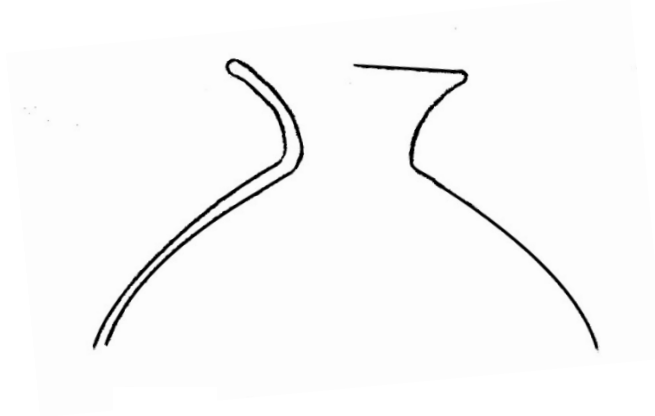


# PLATE 11

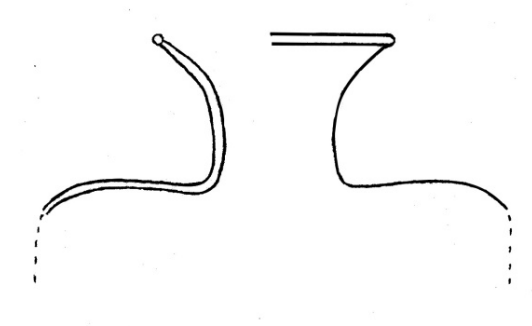


**Bottles**

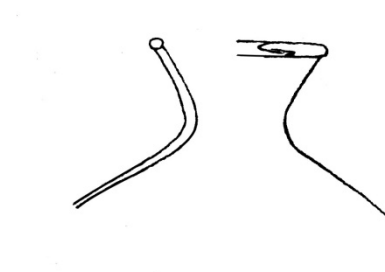
**PLATE 12**



**a.**



**b.**

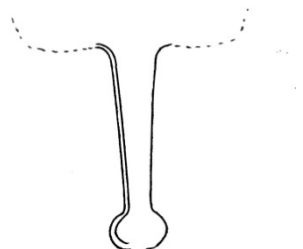


**c.**

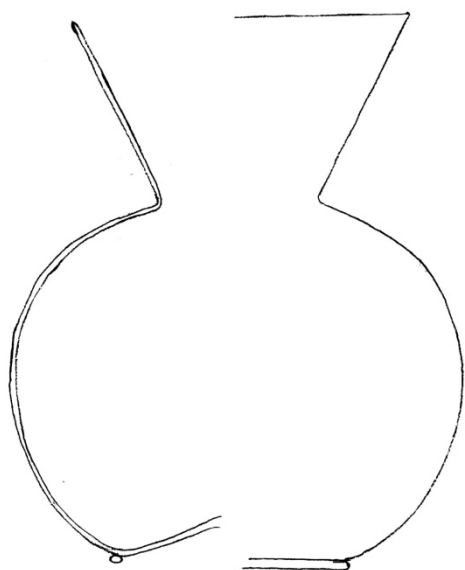


**Bottles**

# PLATE 13

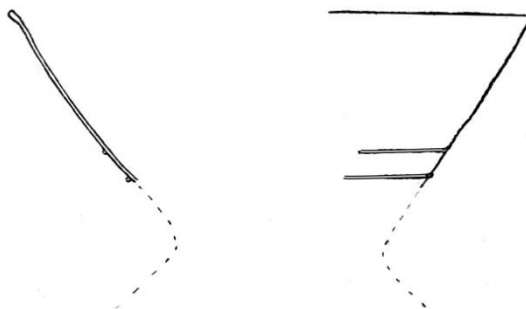


a.

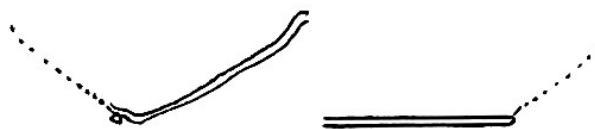


b.

(Reconstruction, not to scale)



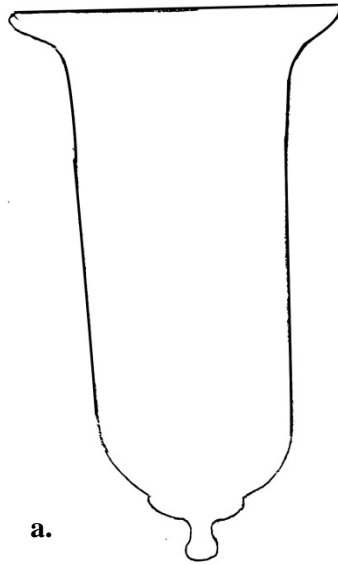
c.



d.



# PLATE 14

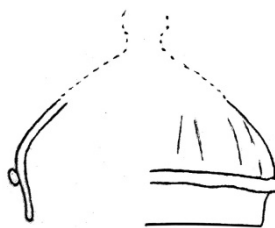


a.

(Reconstruction, not to scale)



b.



c.





## **PLACE NAME TRANSLATIONS**

<b>Name</b>	<b>Italian Name</b>
Bar	Antivari
Brač	Brazza
Cres	Cherso
Dubrovnik	Ragusa
Durrës	Durazzo
Herceg Novi	Castelnuovo
Hvar	Lesina
Korčula	Curzola
Kotor	Cattaro
Kvarner Gulf	Golfo del Quarnaro
Lošinj	Lussino
Osor	Ossero
Pag	Pago
Pula	Pola
Rijeka	Fiume
Senj	Segna
Shkodër	Scutari
Šibenik	Sebenico
Split	Spalato
Trogir	Trau
Ulcinj	Dulcigno
Vlorë	Valona
Zadar	Zara





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