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The Barbarian's Beverage: A History of Beer in Ancient Europe

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The Barbarian's Beverage

A HISTORY OF BEER IN ANCIENT EUROPE

Max Nelson

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A History of Beer in Ancient Europe

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PREFACE

This book is a revised version of my doctoral dissertation (defended at the University of British Columbia in 2001), and as such, has benefited from the help of a great many people. I would like to thank warmly Bob Todd for his patient and conscientious work supervising my thesis. Thanks are also due to Rob Cousland, Harry Edinger, Douglas Gerber, Phillip Harding, and Richard Unger for their careful scrutiny of, and acute observations on, the thesis, as well as Tony Barrett, Lisa Cooper, Chris Epplett, Crista McInnis, and Chris Morrissey for their various comments. Iain Hill, the brewmaster at the Yaletown brewpub and restaurant in Vancouver, has helped me in better understanding chemical and technological aspects of brewing. Correspondence with Eva Koch from the National Museum in Copenhagen, Denmark, Eleanor Irwin from the University of Toronto in Scarborough, Pat McGovern from the Museum of Archaeology and Anthropology at the University of Pennsylvania, Ruth Palmer of Ohio University, Hans-Peter Stika of the Universität, Hohenheim, and Lothar Schwinden of the Rheinisches Landesmuseum of Trier, has helped me on a number of issues. It would be too difficult to record my debts to all those who have inspired my work by raising a glass with me, but among those must be remembered Mike Bauer, Mike Borshuk, Jon Buss, Scott Dallimore, Patricia Fagan, Janet Lawrence, Sebastian Magierowski, Eric Marcuzzi, Michelle Murphy, Roland Ouellette, Andy Rodgers, Matt St. Amand, David and Michelle Smith, Rosanna Vitale, and especially Hannelore Steinke. Thank you also to Robert Weir for his photography and Eleanor Andrew for her drawings. Richard Stoneman has kindly encouraged my work while the two anonymous referees for this publication have made many improvements to my text, particularly in terms of my translations. I further gratefully acknowledge the financial assistance of the Izaak Walton Killam memorial fund and the Social Sciences and Humanities Research Council of Canada.

I have benefited especially from the collections at the libraries of the University of British Columbia, the University of Washington, and the University of Michigan, but also those at the University of Alberta, the University of Toronto, the University of Ottawa, the University of Windsor, the Catholic University of Leuven, Belgium, the Bodleian and Christ Church libraries in Oxford, and the

University of Heidelberg library. Also, visits to the Rheinisches Landesmuseum of Trier, Germany, the Musée Luxembourgeois in Arlon, Belgium, and the Jewish Museum in New York City proved valuable for this work. I cannot neglect to thank heartily the staff at the resource sharing services office at the Walter C. Koerner Library, University of British Columbia, for their tireless efforts in securing obscure works for my delectation.

I would like to dedicate this book to my father, Ralph Nelson, who has always proved to be a kind, generous, humble, moderate, and extremely wise teacher. I wish through this work to toast him with a pint of our foamy friend.

1

INTRODUCTION

Beer is at present the most consumed alcoholic beverage in the world, and is the most popular drink after water and tea. Yet throughout the world pints of ale and cans of lager are consumed with little thought of how such a beverage, made from malted cereals, hops, yeast, and water (and sometimes other ingredients as well) came to look and taste the way it does or even came to be thought of the way it does. It is my intention here to show that much of this was already formulated before AD 1000, and not in Egypt or Mesopotamia, but quite independently in Europe. But before embarking on our examination of the history of beer in ancient Europe it is important first to pause to understand what is meant by beer.

Beer and other alcoholic beverages

It was only during the course of the nineteenth century that it was discovered that yeast converts sugar into ethanol (or ethyl alcohol) and carbon dioxide, in the process known as fermentation. As we will see, the ancients did not have a proper understanding of any of these four products (yeast, sugar, ethanol, and carbon dioxide), although there is some evidence that at times it was known that yeast was necessary to make at least some intoxicating beverages. The ancients certainly did not know that sugar was the other essential ingredient; nevertheless, it is convenient for us to classify different types of fermented beverages of the ancients depending on the type of sugar which was to be converted, whether it was from sugar cane (sucrose), from milk (lactose), from fruits or honey (fructose and glucose), or from cereals (maltose). Cane sugar (extracted from the sap of a type of grass long cultivated in Asia) was practically unknown in ancient Europe, and those erudite Greek or Roman authors who did mention it as a foreign product tended to regard it as a type of honey found in a plant. Beverages of fermented milk (particularly equine milk) were known amongst peoples of eastern Europe and Asia, as we will see in Chapter 4. By far the most popular fermented beverages in ancient Europe were those made from fruits, from honey, or from malted cereal, that is, wine, mead, and beer, respectively (the process of malting, a necessary additional step in making beer

from cereals, will be explained in the following chapter). These designations are of course modern, and though ancients did differentiate drinks that were, for instance, grape-based from others that were honey-based or barley-based, it is fairly clear that there were no terms directly equivalent to our generic terms 'alcohol', 'wine', or 'beer'. It is only for the sake of convenience that I will use these terms, and without thereby implying that I am following ancient usage.[1]

What makes the situation even more complicated with regard to nomenclature is that the Europeans, from very early times, were particularly apt to make fermented beverages from a variety of sugars and thus for the most part there did not exist the rigid categories of alcoholic beverages so familiar to us today. Indeed, it seems to have been only under Roman influence that more rigid categorization of beverages came to be developed, as we will see in Chapter 6. We know of ancient European beverages combining various fruits, or fruits and honey, fruits and cereals, honey and cereals, or even fruits, honey, and cereals. Furthermore, numerous types of plants, spices, and other substances (such as narcotic drugs) could be added to the beverage before or after fermentation. The distinction between those substances which were meant to ferment and those simply added to, or macerated in, a fermented beverage for flavour can rarely be determined either from archaeological remains or from the information in our written sources. Thus there frequently remains confusion between, for instance, beer which was made from fermented cereals as well as fermented honey, and beer with honey added at the time of drinking.[2]

There is no doubt that in some ways there is a much greater variety of alcoholic beverages being commercially produced today than existed in antiquity, particularly since the process of distillation, though known in antiquity (it is first mentioned by Aristotle), was not used to produce alcoholic beverages until probably the twelfth century AD, as is generally agreed. However, the very lack of rigid categorization, as well as the absence of the need to make a beverage with a relatively consistent flavour (as manufacturers of brand name products must worry about today), meant that in antiquity there tended to be much more experimentation, and thus that there was indeed a fairly extensive range of intoxicating beverages being produced.[3]

Certainly then a history of only one sort of beverage, as narrowly conceived in contemporary terms, and confined only to ancient Europe, can only be offered as a treatment of a small portion of the complex traditions found among numerous different cultures. Although this study will have as its focus beer, other beverages (such as wine, mead, or cider), which certainly deserve their own histories, and which to some extent have been granted this by others, will be touched upon tangentially, when they intersect with the history of beer.

As implied above, by the term 'beer' I designate here any sort of maltose-based alcoholic beverage, whether or not the ingredients include other products (fermented or not). Thus I am speaking of a fermented drink made essentially from malted cereal, water, and yeast. Today commercially produced beers are almost ubiquitously made from malted barley (sometimes with the addition of

other cereals, malted or not, such as wheat or rye) as well as hops. As we will see, though barley was also in antiquity the most popular cereal from which beer was made, other cereals were sometimes used on their own (such as wheat or millet). Also, the use of hops in the brewing process, probably mainly for their preservative qualities, was a rather late innovation (which cannot be certainly dated to before the early ninth century AD), though numerous other ingredients were used in beer from very early times, probably mainly to enhance flavour. Commercially produced beer is now universally made by brewing malted cereals (that is by soaking them in boiling water), whereas some ancient cultures (particularly in the east) rather made it on the basis of loaves of malted bread. As I will argue in this book, though the earliest remains or literary attestations of beer come from outside Europe, it is in Europe that beer as we know it today originated, namely a brewed malt beverage made with hops. Indeed both the technique of brewing beer and that of adding hops to beer are arguably purely European innovations, and surprisingly enough, the history of both techniques has never been properly documented. It was also in Europe that beer was first stored in barrels.[4]

Beer and society

A history of beer must comprise much more than simply an account of the nature of the product itself and the technology surrounding its production. Eating and drinking, and even more particularly, the consumption of alcohol are usually very strongly embedded in socio-cultural ideologies since they tend in most societies not to be solitary activities but social ones performed in a social context. Even in the rare societies in which alcohol is known but abstained from, it still remains a societal concern and is never altogether ignored. Anthropological work has also revealed that there is a surprisingly great diversity in the various cultural ideologies concerning the consumption of alcohol.[5]

Since any person or group of people can be readily categorized as a follower of such an ideology or as a deviant, drinking becomes a marker of identity and alterity (or 'otherness'), establishing boundaries of inclusion and exclusion, both within a culture as well as between cultures. In this way cultures are not simply objectively identifiable groups of individuals, but self-identified groups which impose upon themselves markers of identity and alterity. Such markers are often reinforced with notions which do not reflect reality, and usually, though not inevitably, lead to presumptions of singularity and superiority.[6]

Already at the dawn of western literature, food and drink, as such basic and universal parts of all cultures, were, quite inevitably, considered a useful means of distinguishing and identifying individual cultures. This is already exemplified in the *Odyssey* (traditionally dated to the late eighth century BC) in Homer's treatment of the Cyclopes, the primitive one-eyed peoples who live on an island which is visited by Odysseus and his men on their travels back home

from the Trojan war. The Cyclopes are said to raise sheep and goats, and consume their flesh and the milk (which they are said specifically to drink straight, unlike the way the Greeks drink their wine, as we will see in the following chapter) as well as cheese provided by them; they also eat humans when they can. They do not work the land, and even though their island produces wild wheat, barley, and grapes, the Cyclopes do not eat grain or drink wine (as the Greeks do). After Homer, ancient ethnographers often used diet as a basic way to differentiate between cultures, also often presenting a dichotomy between primitive pastoral people who lived from meat (of their flocks, or from animals hunted, or at worst, even human flesh), milk, cheese, and butter, as well as beer, and the more civilized agrarian people who lived from bread and wine. The apogee of this ancient 'anthropological' tradition is to be found in the fourth book of the *Deipnosophists* (or 'dining scholars') of the third century AD author Athenaeus, which consists of a meticulous catalogue of the various eating and drinking customs of various peoples. In fact, if it were not for Athenaeus's diligence we would know precious little about Greek attitudes towards beer in classical times.[7]

Beer drinking in ancient Europe, as a mainly communal activity, was inevitably surrounded by complex notions and attitudes. However, for the most part the ideologies of the beer drinkers can no longer be recovered due to the lack of surviving evidence. Much of the very early history of beer in Europe can only be reconstructed from a few rare archaeological remains. From the seventh century BC on the story of European beers is told, ironically enough, almost entirely from those who did not drink beer, the Greeks and Romans. That they did not drink beer is strikingly anomalous; as far as we can tell all ancient peoples who cultivated cereals made and enjoyed beer. The possible reasons for, as well as legacy of this extraordinary exception will be carefully examined in the following chapters. In any case, Greek and Roman sources inevitably tell us as much, if not more, about their own prejudices than about the customs of foreigners. The beer drinkers themselves left us almost no written records until the fifth century AD, when the Roman Empire fell to the Germans and beer drinking again became widespread among all elements of society, especially due to the important influence of British and Irish monasticism (particularly under St Columban). By that point the beer drinkers, many of them having been integrated within the Roman Empire, had been influenced by Greek and Roman (and even Christian) drinking ideologies. But though the Greco-Roman stigma attached to the drink remained, the picture we gather from the beer drinkers themselves is much in keeping with the image of the 'barbarian' beer drinker formulated by Greeks and Romans.

I will argue that it was in Europe that our modern western attitudes to beer were formulated; the prejudiced treatment of beer by Greeks and Romans was highly influential, and it was with them that beer, once a drink for kings and subjects alike, became a second-class beverage, and it was with later Germans that beer came to be simultaneously thought of as a manly drink.

Modern scholarship on ancient European beer

The need for such an investigation as the present one need hardly be justified. It is true that there are innumerable works on beer varieties, beer tasting, the history of various breweries, and so forth, but reliable books on the general history of the beverage are far and few between. Although there has been a considerable amount of fine work on the history of beer in ancient Egypt and Mesopotamia, there has never been an attempt, scholarly or otherwise, to gather and analyse all the information on beer in ancient Europe, and there exists in fact a large amount of evidence of various kinds on the subject, some of which (such as work in the fields of archaeochemistry and palaeobotany) has only been coming to light in the last few decades.

Historians can rarely be trusted to provide a thoroughly accurate account of ancient beer, while experts on beer usually write about ancient history with disastrous results. And even those works which contain decent material on the history of beer in ancient Europe universally lack a foundation in the study of the whole corpus of primary material. Usually, they are based, at best, on a few fundamental sources which have been used and reused, and rather often perpetuate outright fantasies. In this study I strive for accuracy as well as a reasonable level of completeness (to claim to be able to gather all relevant sources or to exhaust the subject is ludicrous), and thus I have personally looked at all the primary material and have translated it myself from the original languages. A fuller account would surely contain a more detailed examination of the early medieval Celtic evidence and would continue with the evidence from Old Norse and from the vernacular Romance languages, but I have felt that all this is beyond my competence. I have attempted only to cover the evidence concerning beer in Europe from the beginning to roughly AD 1000, be it literary or archaeological, though for the most part I have refrained from highly detailed linguistic analyses or very technical examinations of beer production. I have tried to write a flowing historical narrative undisturbed by overly scholarly discussion, but I also wanted to scrupulously document all information given in extensive endnotes which can be consulted or ignored as the reader desires. I have limited my citation of modern, secondary sources only to those which have strong scholarly merit and I have on the whole thought it useless to cite scholarship only to reject it; if a work on the history of beer is not cited it is probably not because of my ignorance of it, but because I have not found it of high enough calibre to need to reckon with it. However, oversights or mistakes in a work of this scope are admittedly inevitable, and I can only beg the reader's indulgence.[8]

The first scholarly work on the history of beer in ancient Europe is that of Johann Heinrich Meibom (1638–1700). In 1668 he published *De cervisiis potibusque et ebriaminibus extra vinum aliis commentarius* (or 'A dissertation on beers and other inebriating drinks other than wine'). In his preface he mentions the works of previous scholars on beer, naming specifically (to give their Latinate

names) Antonius Gazius (1461–1528), Gulielmus Gratarolus (1516–1568), Thaddaeus Hegecius (1525–1600), and Martinus Schoockius (1614–1669). As he notes, their main concern was mainly with the medical uses of beer, and, one may add, they mainly wrote about beer in their own day without attempting a full history of the beverage. Meibom's collection of ancient Greek and Latin material is remarkably full and is especially valuable in recording opinions on the possible etymologies for ancient terms for beer, but it betrays a naive sense of chronology and lacks in-depth analysis.[9]

In 1750, a short work was printed at Oxford entitled *ΟΙΝΟΣ ΚΡΙΘΙΝΟΣ* ('barley wine') with the subtitle *A Dissertation Concerning the Origin and Antiquity of Barley Wine*. No author is indicated, but it is usually attributed to Benjamin Buckler (1718–1780) or else Samuel Rolleston (1702?–1766). No mention of Meibom is made and much of the same ground is trod, though not as carefully. In 1814, Christian Gottfried Gruner (1744–1815) appended to an edition of an ancient recipe for beer preserved in the works of Zosimus of Panopolis a brief and still valuable history of beer in antiquity.

In 1889, Charles Henry Cook (under the pseudonym John Bickerdyke) wrote the first popular history of beer in English, titled *The Curiosities of Ale and Beer: An Entertaining History*, in some ways a reaction to temperance advocates. It contains some interesting material, but presents the ancient material quite summarily, and often inaccurately. It has been followed by numerous other such works in English, such as John P. Arnold's *Origin and History of Beer and Brewing from Prehistoric Times to the Beginning of Brewing Science and Technology* of 1911, similarly prompted by an explicit agenda to praise beer as a 'harmless, wholesome and natural beverage' at a time of serious concerns with temperance. It is in the end an amateurish work and can be dismissed, as indeed can be all such works since written in the English language (such as Frank A. King's *Beer has a History* of 1950 and H. S. Corran's *History of Brewing* of 1975), which tend to quickly pass over the evidence for beer in ancient Europe, which is often presented imprecisely as well.[10]

The fullest general account of beer in antiquity remains that edited by H. Schulze-Besse in three volumes (appearing from 1926 to 1928), which is outdated and not always very scholarly. Recently there have been German collections of essays on various general aspects of beer in antiquity, but there remains, as I have said already, no comprehensive account of beer in Europe or of beer from the Greco-Roman perspective or among ancient Celts or Germans.[11]

Overview

A typical assessment of beer in ancient Europe takes little more than a paragraph (since the plethora of information on the subject is quite unknown to most) and runs usually somewhat as follows. Beer was first made in Mesopotamia or (a less usual candidate) Egypt, where it was the common drink for millennia. The Egyptians taught the Greeks and Romans the making of beer (just as they

taught them many other things), which was then passed on throughout Europe. The Greeks and Romans were wine drinkers but many also developed quite a taste for beer, most notably Julius Caesar (perhaps I may be allowed to intrude here, to note that there is no evidence whatsoever for this quite common assertion). And finally, though the ancient Celts and Germans were beer drinkers we really have little information about the beverage in Europe until the Middle Ages; monks are also usually known to have made important contributions.

Rather, beginning in Chapter 2 (Beer in the east and west), I will look at the first certain evidence for beer, which is from Mesopotamia, and then go on to argue that there has been a very long and rich tradition of making a variety of intoxicating beverages (including beer) in the west which developed independently of any traditions in the Near East or Egypt, and which may have begun as early as 3000 BC. I will examine both archeological evidence as well as the early Greek literary sources. I will conclude that the technique of brewing beer (rather than making it from malted loaves of bread) as passed on to us probably originated in Europe.

In Chapter 3 (The Greek prejudice against beer) I will examine the roots and causes of the Greek prejudice against beer. I will show that it is first manifested in Athenian authors (particularly dramatic authors) of the fifth century BC who speak of it as an effeminate drink of foreigners. Then I will try to explain why beer came to be thought of as inferior to wine by pointing out various ancient pseudo-scientific beliefs about alcohol, including the notion that wine is hot and manly while beer is cold and effeminate, and that wine is a pure beverage while beer is corrupted by the use of yeast.

In Chapter 4 (The two drinking ideologies of ancient Europe) I will show that Greeks made a distinction between their own drinking ideology, in which wine would be ideally drunk moderately, with that of others, who would use a variety of intoxicants, usually in an overindulgent manner (as best exemplified by the Scythians). The Greeks often explained such foreign drinking habits as due to environmental conditions quite beyond human control.

In Chapter 5 (The Celts and the great beer decline) I will show that the first beer drinkers to be affected by the Greek drinking ideology were the Celts who inhabited was is now France, Spain, Belgium, Germany, and Britain. Though they continued to drink beer, its importance declined and the Celts came to think of wine as a superior beverage, particularly as the Romans gained political and cultural hegemony over them.

In Chapter 6 (The Roman Empire and the rule of wine) I will look at how during the Empire the Romans still had to contend with the popularity of beer in the provinces, as is clear, for instance, in legal and medical works. I will also examine the various Christian notions of beer, including patristic attacks on the beverage in the Roman Church and the acceptance of the beverage within the Irish Church.

In Chapter 7 (Germanic Europe and the great beer revival) I will show how the Germanic takeover of Europe from the fifth century onward occasioned a

great beer revival. I will also demonstrate that the influence of monastic practice was crucial in the development of the beverage, particularly with regard to the use of hops, and that one of the great apogees in the history of beer, up to now quietly neglected, occurred during the reign of King Louis the Pious.

In conclusion I will show how our own notions about beer and wine have been formulated by an amalgam of European ideologies millennia old, and how the beverage we drink and love today is fundamentally that which evolved particularly among European peoples.

2

BEER IN THE EAST AND WEST

Origins

The early history of beer, as of any other alcoholic beverage, is of course shrouded in mystery, and goes back to a time long before humans wrote down their experiences. However, a logical scenario concerning the early discovery of fermented beverages can certainly be tentatively advanced.

Fruits often naturally ferment through the actions of wild yeast, and the resultant alcoholic mixtures are often sought out and enjoyed by animals. Pre-agricultural humans in various areas from the Neolithic period on surely similarly sought out such fermenting fruits and probably even collected wild fruits in the hopes that they would have an interesting physical effect (that is, be intoxicating) if left in the open air. Similarly, different peoples probably independently discovered that when honey and water or milk were left out they too could become intoxicating. Indeed most peoples who encountered the process of fermentation probably happily tried to reproduce it (without understanding it) with whatever readily available ingredients (that is sugars) were found to be able to ferment. Over time people probably learned which sources of sugar fermented in which environments tasted best and there arose people skilled in reproducing the best such drinks and foods.[1]

The problem in conceiving beer as having similar origins is that, unlike fruits which already contain the requisite sugars and water and only need yeast contact for fermentation, cereal's insoluble starches and sugars (that is polymers) must be converted into soluble starches and sugars, mainly maltose but also dextrose (that is monomers), through the actions of enzymes. Without this process of conversion, one would have a product with an extremely low alcohol content due to the small amount of fermentable sugar found in unprocessed cereal. There have been two main ways of processing cereal: masticating it, in which case the natural enzyme pyalin found in the saliva is used, or else malting it, in which case the enzyme diastase along with other enzymes formed from germinated cereal are used. For complete conversion, the added step of mashing, that is the heating (but not boiling) of the malt in water for a period of time, is essential.[2]

It is therefore hard to accept a scenario in which beer may have been accidentally discovered, as it could have been with fruit-, honey-, or milk-based alcoholic beverages, although it is certainly possible for beer to be naturally (that is, accidentally) produced, at least under very special circumstances. For instance, grains of cereal detached from the living plant may be soaked by rain (or unsown grains may be moistened because of poor storage conditions), may sprout, then be dried by the sun and then soaked again and finally be fermented spontaneously by wild yeast. And in fact it has been proposed that beer was discovered when some adventurous pre-agricultural man drank some such liquid. It has also been proposed that the earliest attempts at making beer involved using saliva for the cereal processing. However, others prefer to suggest that malting was a process developed by humans to make grains more palatable and nutritious, and more easily preserved in gruel or bread, and was then eventually found to be useful to make beer. Surely an understanding of the process of malting (or at least of conversion by mastication) was essential for the systematic production of beer, and its widespread use, as with that of wine, probably only developed after the invention of agriculture (around 8000 BC) or even after the invention of pottery (around 6000 BC).[3]

The cultivation of cereals, which first began in the Near East, may have been spurred on by a desire to have readily available cereals for beer making (rather than having to scavenge for wild cereals), though it is just as possible that bread making was the goal. Scholars on the whole tend to dismiss the theory that cultivation grew out of a thirst for beer. Nevertheless this is still often popularly taken for granted. The truth is that the early history of beer is unfortunately unrecoverable, since our first evidence for the beverage only comes millennia after the development of agriculture.[4]

Indeed it is now well known that certainly already by the beginning of the fourth millennium BC peoples both in Mesopotamia, the fertile region between the Tigris and Euphrates Rivers, and in Egypt, were making wine and beer. Our earliest evidence comes from two sites in the Zagros mountains in what is presently western Iran and once was Lower Mesopotamia. In Hajji Firuz Tepe vessels dating to around 5000 BC were found to contain the residue of what was probably grape juice and resin, pointing to the use there of a resinated wine like modern Greek retsina. In Godin Tepe, not only was possible wine residue found, but a pale yellowish residue in the grooves of a sherd from a vessel of a type linked with beer in the pictographic record, and dating from between 3500 and 2900 BC (when complex urban life was first beginning), was found to contain oxalate ion (probably calcium oxalate) in relatively large amounts within grooves on its inner surface, which is consistent with beer (see Figure 2.1). Also, carbonized six-row barley was found at the site. Similarly, a place for the production of beer as well as beer residue, dating to around 3500 to 3400 BC, has recently been discovered at Hieraconpolis in Upper Egypt. It is clear from an abundance of literary (and other) evidence that beer, made mainly from barley but also from wheat, as well as wine, continued to be produced in a great number

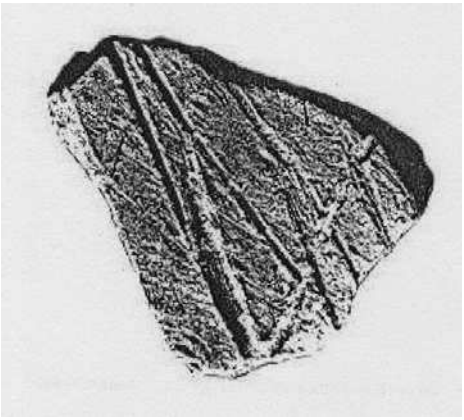


Figure 2.1 A sherd from Godin Tepe, Iran, from between 3500 and 2900 BC on which was discovered what might be the earliest known beer residue. By permission of *Nature* magazine.

of varieties in Mesopotamia, Egypt, and neighbouring areas and that they were drunk by people from all strata of society with meals as well as at purely convivial occasions. But a full account of this must be left to others, since, even though the earliest evidence for beer happens to be from the Near East, it is probable that different peoples independently discovered the fermentation of wild cereals, and thus that the technology of beer making did not come to Europe from the east. We can thus safely leave aside the history of beer in the east and focus our attention on the west.[5]

Prehistoric northern Europe

The supposition that the discovery of beer was made independently in prehistoric Europe seems to be confirmed by recent archaeological finds. Beginning in the third millennium BC clay vessels, so-called Baden and globular amphoras, corded ware, and bell beakers, were to be found throughout all of Europe, usually in sets. This is our first evidence for some sort of European drinking tradition which was spread far and wide. It is usually thought that this was a secular drinking tradition involving beer or mead, but chemical, botanical, and pollen analysis of vessels has gradually been forming a more complex picture of the beverages being consumed at this time.[6]

A good amount of evidence has been surfacing from various Neolithic and Bronze Age sites in Scotland from the early second millennium BC on (see map 1). On fragments of pottery that may be as old as about 3000 BC at the site of stone circles at Machrie Moor on the Isle of Arran in Scotland traces of cereals and honey among other organic materials were found, which may suggest that

they were used as containers for some type of beer. Other finds point to a variety of ingredients used for fermentation. Thus on fragments of grooved ware from Balfarg, Glenrothes, Fife, Scotland, dating to the third millennium BC there was found the residue of cereals, pollen, and meadowsweet, as well as henbane. This seems to point to a type of flavoured honey beer with potentially dangerously effects. Meadowsweet, a fragrant wild perennial plant with creamy white flowers and dark green leaves, common in meadows and damp areas in Europe, was perhaps used more for its preservative effects (as it has been used in brewing in more recent times) than its taste. It is perhaps mentioned as an additive to wine by later authors, but nowhere is it connected to beer in the ancient literary sources. On the other hand, henbane is a biennial plant found in dry soil, which is narcotic and can lead to convulsions, insanity, and death. However, the second century AD Greek author Plutarch in passing speaks of people 'throwing henbane into wine' thus producing a bitter flavour, and in the first century AD Pliny the Elder also spoke of its use in wine against asp poison. In one Late Old English magico-medical text written at sometime in the late tenth or early eleventh century AD the following recipe is found: 'A sleep-drink: radish, hemlock, wormwood, henbane; pound all the plants; place in ale; let stand one night; give it to be drunk.' This evidence, though very late, tends to show that rather than using henbane for its potential psychedelic effects, as some have suggested in the case of the Scottish find, it was used in beer as part of traditional medical lore; however, without providing proper quantities such a recipe could easily turn into a fatal drink rather than a simple sleep potion.[7]

Henbane found in Hochdorf, Germany from a much later period (around 600 to 400 BC) has also been thought to have been perhaps used as a beer additive; otherwise, mixed drinks of cereals, honey, and meadowsweet (with other ingredients) are well attested from elsewhere in Scotland as well as in Denmark. At Kinloch, on the Isle of Rhum (just south of the Isle of Skye) in Scotland, Neolithic pot sherds from around 2000 BC were found to contain the residue of mashed cereal straw, cereal-type pollen, meadowsweet, types of heather (including ling), and royal fern, thus most likely having come from a type of beer. In a cist burial (from around 1600 to 1500 BC) of a young woman at North Mains, Strathallan, Perthshire, in Scotland a beaker was found to contain traces of cereals along with meadowsweet. Similarly, in another Bronze Age cist burial of an older man from Ashgrove Farm, Methilhill, Fife, Scotland, remains of lime and meadowsweet pollen found in a beaker have been interpreted as having come from a mead or a honey beer made from lime honey and flavoured with flowers of meadowsweet. A similar find was made in a Bronze Age grave of a young woman in Egtved, southern Jutland, Denmark. A birch bark bucket was discovered containing traces of lime, meadowsweet and white clover pollen, wheat grains, sweet gale, cowberry, and cranberry. This was probably a beverage which included fermented honey, fermented wheat, and fermented berries.[8]

This evidence shows us how complex early prehistoric beverages were in northern Europe, since various sources of sugar were apparently fermented at

Map 1 Prehistoric sites in Scotland where evidence for beer may have been discovered.

the same time, with no regard to such neat categories as wine (fermented fruit drink), mead (fermented honey drink), or beer (fermented malted cereal drink) as we might have today, and even with the addition of such potentially harmful ingredients as henbane. More finds are being published all the time and no doubt in the coming years we will have a much better impression of the prehistoric drinking habits of northern Europeans. For now it seems quite certain from the early date of the finds as well as the general paucity of evidence for such mixed beverages in the east that the fabrication of these sorts of beverages was not passed on from the east but developed independently in Europe.[9]

Southern Europe

Recent finds from southern Europe also indicate the use of the same sort of mixed alcoholic drinks discovered in the north. It seems now fairly certain that the pre-Greek inhabitants of Crete, known to us as the Minoans (after the mythic King Minos), fermented barley as well as other substances. The indigenous script of the Minoans, Linear A, has not been fully deciphered and therefore we have no evidence of their beer drinking from the literary record. On the other hand, recent archaeochemical finds support the idea that they

drank some form of beer. The earliest possible evidence comes from the Early Minoan settlement of Myrtos in southern Crete, where two storage jars, dating to around 2200 BC, were found to contain a barley product which could have been beer. The evidence becomes stronger in Middle Minoan times, since in Apodoulou, Rethymnon, Crete a tripod cooking pot dating to around 1700 BC was found to contain phosphoric acid and dimethyl oxalate, which are consistent with beer making.[10]

Sir Arthur Evans, the first archaeologist of the Minoans, long ago proposed that during Late Minoan times Cretans (influenced by all things Egyptian) drank barley and millet beer before drinking wine. This idea was based on finds of barley and millet, as well as two small, high-spouted jugs which had depictions of three ears of barley in high relief. He also suggested that a jug which seemed to have a depiction of oats was used for oat beer. Recently, a number of Late Minoan vessels, especially from Chania, Crete, dating roughly from 1600 to 1200 BC, and from the cemetery at Armenoi, from the fourteenth century BC, were found to contain what was interpreted as a mixture of wine, barley beer, and mead. The finds, however, could also point to the successive use of these types of alcohol in the same vessels or to the use of alcoholic beverage made from fermented grapes, barley, and honey. This may be compared to the type of mixed beverages mentioned in Homer in the eighth century BC. In the *Iliad*, the wise Greek counsellor Nestor has a drink made from Pramnian wine with grated goat's milk cheese and sprinkled with white barley meal, and in the *Odyssey* the sorceress Circe makes for the Greeks the same drink with yellow honey in it as well. In these instances, however, it seems clear that the barley (or honey) is not actually fermented and that the drink is fundamentally grape-based (though we cannot be certain, I think, how Homer used the word *oinos*, usually straightforwardly translated as 'wine'). Similarly, the drink made by the goddess Demeter when, mourning the loss of her daughter Persephone, she refuses to drink wine (as recounted in the pseudo-Homeric *Hymn to Demeter*), though in part made up of cereal, should most likely be interpreted as a non-alcoholic mixture of water, meal, and soft mint, and not as a type of beer.[11]

It is generally accepted that Greeks (that is the Mycenaeans, named after their main city at the time, Mycenae) took over Crete from the Minoans in the fifteenth century BC and continued to rule there until the thirteenth century BC. There is a great deal of evidence for the large-scale use of wine at this time in the Mycenaean palaces in the form of administrative records in the Linear B script showing the assessment, collection, and distribution of the product. The name of Dionysus, the Greek god of intoxication, has also been found on two Linear B tablets (as *di-wo-nu-so*), in one case possibly connected to wine, and in the other to honey. This may show that Dionysus was connected to both wine and mead at this early time, but it must be said that though Homer speaks of Dionysus as 'the joy of mortals', he nowhere mentions his gifts; thus, as an ancient commentator rightly realized, Dionysus is not said by Homer to be the

'discoverer of wine'. Some scholars have even argued that Dionysus was a beer (or mead) god before being a wine god, but the evidence is too sparse on this point. He may just as well have been a god of indiscriminate intoxication from various ingredients.[12]

While wine (and Dionysus) is well attested in Linear B, there is no certain evidence for beer in the Mycenaean script (nor, for that matter, in Homer). Before Linear B was successfully deciphered, Evans suggested that a certain plant ideogram in Mycenaean texts represented some type of cereal (perhaps barley or millet), and that when found in conjunction with a bowl (symbolizing liquid) denoted a type of beer. However, Michael Ventris and John Chadwick, the decipherers of Linear B, have shown that this ideogram stood for a unit of olive oil. Nevertheless, there do exist two uncommon ideograms for liquid commodities in Linear B which have yet to be identified; one of these may be beer, as some scholars have suggested.[13]

It seems fairly certain that the Mycenaeans did not consume beer, at least in any great amount, but it may be that beer remained a beverage in Crete during their rule. In an Akkadian text from the royal palace of Ugarit (modern Ras Shamra, Syria) dating to the reign of Ammishtamru II (who ruled around 1250 BC), šikaru, possibly beer, is said to be imported from *Kabturi*, which is sometimes taken to refer to Crete.[14]

Thus we are possibly left with a shift in Crete (and Greece generally) from the drinking of fermented cereals (along with other fermented substances) in pre-Greek, Minoan times, to an at least partial exclusion of beer in Mycenaean times, to a full exclusion of beer in archaic and classical Greece, at which time, as we will see, beer was mentioned simply as a foreign beverage, first of Thracians, Paeonians, and Phrygians, then of Egyptians. One anonymous ancient Greek scholar claimed that Egyptians discovered beer before wine was discovered, but no surviving author says that Greeks (or Romans for that matter) drank beer before wine. The Greeks, however, did not think that they had always drunk wine, and in fact they thought of the use of wine as a fairly recent innovation. It was either thought that there were no fermented beverages before wine, or else that mead was drunk. The Greek philosopher Porphyry from the third century AD claimed, on the authority of 'Orpheus' (a mythic poet), that Zeus intoxicated Cronus with honey (that is, mead) since there was no wine at the time. The second century AD author Plutarch claimed that Jews used mead for their libations before wine was discovered. One ancient source even humorously stated that mead, then used by Illyrians, was once made among Greeks but that the recipe had been lost.[15]

Though we can certainly discount this explanation of why mead was no longer drunk by Greeks, these authorities may in fact be right that mead was known to Greeks before wine. The most telling clue is the fact that the Greek word for 'intoxicant' is *methu*, which likely meant mead; not only is the English word 'mead' related to *methu*, but in Sanskrit *madhu* means mead, leading back to a probable Indo-European root **médhu*. Though already in Homer *methu* is

equated with *oinos* (presumably wine), there are texts in which the two seem to be opposed, thus perhaps showing that the former retained at least occasionally its original meaning of mead.[16]

The picture sketched so far seems to contradict the theory that already in prehistoric times there were two general drinking traditions in Europe, a wine-drinking tradition in the south and a beer-drinking tradition in the north, as attested much later. This seems far too simplistic. Rather in both areas there was, no doubt, an ancient tradition of making and drinking fermented beverages, but the only thing ostensibly determining what was used in these beverages seems to have been the availability of fermentable products.[17]

The first mentions of beer in the west

If it seems quite clear archaeologically that the early Greeks were not (at least serious) beer drinkers, it also seems equally clear that the Greeks first connected beer drinking, as far as we can tell, with their barbaric neighbours to the north, the inhabitants of Thrace, including the Thracians proper and the Paeonians. This seems to have occurred in the seventh century BC when the Greeks first undertook colonizing trips to the area. Indeed the very association of beer specifically with foreign peoples beginning at this time tends to show that the Greeks had lost knowledge of the beverage.[18]

The earliest western reference to beer is a somewhat infelicitous one to be found in the remains of the poet Archilochus from Paros, a small island in the Greek Cyclades. Archilochus mentioned the earliest successful Greek settlement in Thrace (which has been confirmed archaeologically), undertaken by the inhabitants of the island of Thasos (itself colonized by the Parians) in the middle of the seventh century BC, evidently to exploit the gold and silver mines in Mount Pangaeus. Archilochus himself fought Thracians (from the Saian tribe) on the mainland before the middle of the seventh century BC, at which point he notoriously dropped his shield. He thus certainly had personal experience of the Thracians' culture, including their diet, and in fact he mentioned that he himself drank wine from Ismarus in Thrace, a local product already known to Homer (a later writer would even uncharitably refer to him as 'intoxicant-struck Archilochus'). In a fragmentary quotation from a poem preserved in the third century AD author Athenaeus, Archilochus implies that Thracians were also beer drinkers: '. . . just like a Thracian or Phrygian man sucked *brūtos* through a reed, and she was bent over working hard.' Athenaeus quotes this in explaining that 'barley wine', that is, beer, is called *brūtos*, though it should be noted that Archilochus himself does not here say that he is specifically speaking of a barley drink. Athenaeus leaves out part of the first line as well as the part of the poem preceding the simile. There can be little doubt, however, that this referred to a woman performing fellatio. This woman may have been a prostitute and perhaps was one of the daughters of a man named Lycambes, whose sexual adventures Archilochus described elsewhere in graphic detail.[19]

Archilochus may have been influenced by a connection of beer and sex which is found also in Mesopotamian depictions (some of which date to a thousand years earlier) in which a man has sex with a woman from behind while she is drinking with a straw. There is in fact much iconographic and archaeological evidence that in the Near East beer was drunk through clay, bone, or metal tubes with bone and metal strainers at the tips. Although such tubes have not been found in Thrace or Phrygia, sieve-spouted vessels have been found at least in the latter area. These are widely thought to be beer vessels, though no beer residue has yet been found in any of them. This notion seems to be further supported by finds from Gordion, the main city of ancient Phrygia. In the largest of the tombs in Gordion, dated to around 700 BC (and thus only of slightly earlier date than Archilochus) and generally identified as that of the fabled King Midas, the remains of wine, beer, and mead, like the mixtures found in northern Europe and in Crete, were discovered in bronze bucket-like vessels (known as *situlae*), one with a ram's head and one with a lion's head (see Figures 2.2 and 2.3).[20]

The practice of filtering beer was not only found in Mesopotamia in the east and Thrace and Phrygia in the west, but also in Armenia, located between these two regions. At one point during their difficult winter march in 401/400 BC, while fleeing the Persians, the Athenian general and historian Xenophon and his men reached a village in Armenia where they were amiably treated. Upon arriving they ate and drank with the head of the village and Xenophon describes in detail the beverage served to them:

> There was also wheat, barley, pulse, and barley wine in mixing bowls. The barley itself was on top, at lip-level, and in [the bowls] were reeds, some larger and some smaller, that did not have joints [literally, knees]. Whenever someone was thirsty he had to take these in his mouth to suck. And it was very strong [literally, unmixed] unless one poured in water. And the drink was very good to the one used to it.[21]

This is an important passage for many reasons. Xenophon says that the 'barley wine' was 'very unmixed', which must mean something like 'very strong', unless one poured in water. He further says that the beverage is to be found in 'mixing bowls', thus seeming to imply that the Armenians would in fact drink the beer mixed with water. As early as Homer, Greeks are found drinking their wine mixed with water, and various proportions were recommended by different authorities, though usually it was from one quarter to one third wine. Xenophon could have simply inadvertently used the Greek term 'mixing bowls' since he was accustomed to it in the Greek wine-drinking tradition, and the Armenians may have rather usually drunk their beer straight. In the first century AD the Roman author Pliny the Elder says at least of the Egyptians that 'they do not weaken [beer] through dilution as with wine'. In any case, in these bowls were

Figure 2.2 A ram's head vessel from what is generally identified a King Midas's tomb in Gordion, Turkey, from around 700 BC, perhaps used for a mixed beverage including barley. By permission of the University of Pennsylvania Museum of Archaeology and Anthropology.

Figure 2.3 A lion's head vessel from what is generally identified as King Midas's tomb in Gordion, Turkey, from around 700 BC, perhaps used for a mixed beverage including barley. By permission of the University of Pennsylvania Museum of Archaeology and Anthropology.

straws of various sizes without 'knees' (meaning without 'joints') through which the beer was sucked; this was presumably necessary because of residue (such as chaff) floating on top of the beverage. Finally, Xenophon is willing to concede that this beverage can be 'very good' once one is used to it. This is unique testimony; while many ancient Greek and Roman writers are willing to vilify beer as 'barbaric' without even trying it (as we will see in the following two chapters), Xenophon spoke of the product in a remarkably even-handed manner. Xenophon also related one other Armenian drinking tradition; when one of the Armenians toasted someone, he said, the Armenian would drag the person to a bowl where, lowering his head, he had to drink (presumably the beer, but it is not specified) like a bullock (perhaps by lapping it up?).[22]

Xenophon and his men in fact eventually arrived in Thrace as well, and at the court of King Seuthes 'they first greeted one another and tendered horns of wine in the Thracian fashion'. Similarly, later at a banquet put on by Seuthes horns of wine (no mention is made of beer) were passed to all, including Xenophon, and toasts were made to the King. Such horns, dating from the fifth

to the third century BC, have been found, made out of gold and silver and decorated with friezes and usually ending in animal heads or fore-parts (especially of horses), and from which the liquid is drunk from a hole in its pointed end. Many of these are clearly modelled on Persian examples. Rather than gold or silver vessels the native Thracian drinking custom was apparently to use vessels of horn or wood, as can be seen in a surviving account of the banquet given by the Thracian (and Getic) King Dromichaetes for the Macedonian Lysimachus in 292 BC. It seems that much later at least a combination of horn and metal was used for vessels since, after the conquest of the Dacians north of the Danube in AD 106, the Roman Emperor Trajan was said to have taken among the spoils gold and silver drinking cups and was also said to have specially dedicated to Zeus a particular gold-decorated horn of an aurochs (a now extinct species of cattle also known as the ure-ox) captured from the Getae, presumably a drinking vessel, and perhaps even that of the Dacian King Decebalus himself.[23]

While the Thracians might have followed the Near Eastern tradition of drinking their beer with straws, and also modelled their drinking horns on Near Eastern prototypes, the etymology of the term consistently used for their beer, *brūtos*, may point to them using their own particular way of making beer. It has been proposed that the term *brūtos* (and variants) stems from a Thracian word for beer derived from a recognizable Indo-European root (**bh(e)reu-* or **bh(e)rŭ-*, from which comes the English 'brew' and 'broth', and also perhaps 'bread', which somewhat confuses the issue, as we will see). The word would therefore mean 'that which is brewed', thus pointing to the method of beer making known best today in which malted cereal is heated in water and then the mixture, once cooled, is allowed to ferment. Although it is certainly not inconceivable that the Greeks borrowed a Thracian word to refer to a Thracian product, it is just as possible that *brūtos* is a Greek word formed from the very same Indo-European root. Whichever etymology is accepted, the Thracian or Greek, the circumstance in which the word came to be used in Greek was probably the first Greek encounter with the Thracians in the seventh century BC. Also there can be little doubt, from their early exclusive use of the term *brūtos* (and variants), that the Greeks first connected beer with the Thracians, and indeed this is the only word for beer found in Greek up to the late fourth century BC, after which it became obsolete. At that time, the Egyptians replaced the Thracians in Greek eyes as the beer drinkers *par excellence*, as we will see later in this chapter.[24]

Other ancient authors provide us with additional evidence concerning *brūtos*. The late fifth century BC Greek historian Hellanicus of Lesbos said that a certain people (the name has dropped out) 'drink *brūtos* [made] from rye, just as the Thracians from barley'. It may well be Phrygians who are referred to as having rye beer. It is unfortunate that Hellanicus's work on the customs of the barbarians, which we know dealt at least in part with Thracians, no longer survives. Another Greek author, Hecataeus of Miletus, in a work describing Europe from around 500 BC, says that barley *brūtos* was also found among the

Paeonians, a Thracian tribe which was pushed beyond Mount Athos when the Greeks founded the city of Abdera near Mount Pangaeus.[25]

Hecataeus further says that the Paeonians drink something called *parabiē*, which is made from millet and fleabane (*konuzē*). Presumably this is a type of beer, and it may demonstrate that the use of additives in beer, known from northern European finds, was popular also in Thrace. However, fleabane is nowhere else attested as a beer additive, though a Byzantine Greek source does speak of fleabane wine. The word for fleabane here has in fact been restored by modern editors, and is by no means certain; I may even be allowed to venture the guess that the beer was said to be made from millet and rice (*oruza*). This may seem an odd suggestion at first, but we now know from archaeological finds that this staple grain of Asia was occasionally found in the west, particularly in Germany, even though it was not cultivated in southern Europe. It was also often associated with millet by ancient authors. The Greek historian Herodotus's mention of a millet-like cereal in India from the fifth century BC is usually taken as the first extant Greek reference to rice and later, in the first century BC, Diodorus of Sicily mentions both Indian millet and rice. It may just be that the Paeonians, like the Indians, made a rice beer.[26]

The baked and the brewed

While beer was evidently first associated by Greeks with Thracians and Phrygians and other close northern neighbours, it became most associated with the Egyptians. Though strictly this takes us out of our purview, early Greek discussions of Egyptian beer, as we will see, can tell us something about beer in Europe.

Already around 500 BC, Hecataeus, in a work describing Asia (including Egypt), wrote that the Egyptians ate a type of bread called *cyllēstis* and ground barley to make a drink. Unfortunately, this testimony survives only in later quotations by Athenaeus (once to demonstrate the moderate eating and drinking habits of the Egyptians), who does not tell us if and what name Hecataeus gave to this drink. However, a very late Greek lexicon defines *zuthion* as 'a drink made from barley meal', just maybe glossing Hecataeus. Not long after Hecataeus wrote, Herodotus of Halicarnassus (often dubbed the 'father of history') mentioned that the Egyptians had the very same type of bread (which he specified was made from a type of wheat) as well as 'barley wine'. There is little doubt that Herodotus was at least in part dependent on Hecataeus. This is the only explicit reference to beer in Herodotus, but there may yet be another reference to this favourite of Egyptian beverages.[27]

Shortly before speaking of Egyptian barley beer, Herodotus says that the Egyptians regularly purge themselves. In a later passage he says that they also purge the stomachs of mummies and give a purgative as payment to pyramid-builders along with onions and garlic. In the last instance Herodotus is usually thought to be talking about radishes as the purgative, as was already proposed

in antiquity, but certainly beer, among other things, would also have been part of the wages. Evidence for the purgative spoken of as being beer can be found elsewhere. The Greek comic dramatist Aristophanes in his play *Peace* (performed in 421 BC) has his character Trygaeus rebuff various sellers of arms and armour once he has reinstalled the goddess Peace. When shown certain items, perhaps helmets or scabbards, he says that they should be sold to Egyptians as convenient 'to measure out laxative/purgative'. The prolific first century BC scholar Didymus believed that Aristophanes was here talking about Egyptian beer (which Didymus called *zūthos*). Furthermore, in the *Thesmophoriazusae* (performed in 411 BC) Aristophanes spoke of the Egyptian people as 'of the dark laxative/purgative' which was explained, perhaps again on the authority of Didymus, as a reference to barley drink. If correct, it would tend to show that Egyptian beer was considered dark; that Egyptian beer was considered a laxative is in fact further confirmed by a later Jewish source. Other types of laxatives/purgatives are given by late lexicographical sources, including a drink of cereal and water (beer?), a drink of water and salt, or vegetables like parsley, or a mix of suet and honey. There can be little doubt that Aristophanes was familiar with Herodotus's work, and it is certainly significant that in his *Danaids* he mentioned *cyllēstis* bread as well as sellers (presumably Egyptian) of laxative/purgative. It is quite probable that yet another author indebted to Hecataeus's reference to Egyptian barley beer was the fifth century BC Athenian dramatist Aeschylus, who mentioned Egyptian barley beer also in his play about the Danaids, his *Suppliants* (to be discussed further in the following chapter).[28]

None of the early Greek authors provide a name for Egyptian beer. Hecataeus simply mentions a barley drink, Herodotus speaks of a barley wine, and Aeschylus a barley intoxicant. This would tend to show that the Greeks did not have a name for the Egyptian product as they did for the Thracian one (though I have suggested the possibility that *zuthion* is a term that goes back to Hecataeus, whose account of Egyptian beer is fragmentary, unlike the case with the two other authors). It is in the late fourth century BC father of botany Theophrastus of Lesbos that terms are first certainly found. In his *Inquiry into Plants*, Theophrastus deals with those plants in Egypt found in water and then proceeds to those found in sandy regions near water, beginning with the *malinathallē* (a type of sedge), of which he says:

> In sandy places which are not far from the river, there grows under the earth that which is called *malinathallē*, round in shape, large like a medlar, without stone, and without bark. It sends out leaves from itself as from a galingale. Those from the country [in Egypt] collect these and boil them in *brūtos* [made] from barley, and it becomes very sweet. All use them as confections.

Here Theophrastus uses the word associated in earlier authors specifically with the beer of Thracians, Paeonians, or Phrygians of Egyptian beer, but clearly in

a generic sense. In another passage, however, Theophrastus gives us what seems to be the proper term for the Egyptian beverage when he speaks of 'those who make wines from barley and wheat and the so-called *zūthos* in Egypt'.[29]

This is the first attestation of the word *zūthos*, which would become the most popular Greek word for a type of beer. It is most often connected to Egyptian beer (as we will see) and is in fact the only specific word used of Egyptian beer in Greek. The word has been found nowhere in native Egyptian texts, which are rich in terminology for the beverage, and attempts at linking it to known Egyptian words have been rather unconvincing. Instead, it has long been thought that the word should be connected to the Greek verb *zeō*, meaning 'to boil or foam' and used to describe the process of fermentation; indeed from this verb comes the Greek word for yeast, *zumē*. This same construction can be found in Latin: from the verb *fervere* ('to boil') comes the word *fermentum*, which can mean both 'that which ferments' (that is, yeast) and 'that which is fermented' (that is, an intoxicant). And in fact, in one ancient glossary the Greek term *zuthion* is equated with the Latin term *fermentum*.[30]

Thus it must almost certainly be conceded that *zūthos* is a genuinely Greek word, which was originally applied to the Egyptian product, and that it meant 'that which is fermented' or 'that which is leavened'. This would contrast it with *brūtos*, which meant 'that which is brewed' (as we have seen), thus distinguishing two very different ways of making beer. Indeed, it is well attested that in the Near East beer was not made by brewing malted cereals but rather by soaking, and allowing to ferment, a sort of baked loaf made from malted cereal (either barley or wheat). This method is best known from the surviving Hymn to Ninkasi, a goddess of beer, which dates to around 1800 BC, and which provides a recipe of sorts. It has often been assumed that at the same time the Egyptians were also making beer in this manner since tomb paintings as well as reliefs, models, and statuettes, found from the height of the Old Kingdom period (around 2500 BC) onward seem to closely connect the process of baking and beer making. Recently, however, it has been argued that this sort of information is difficult to interpret, and that the best evidence comes from archaeochemical analysis. An analysis of the morphology of starch granules (marked with pits and channels by malting) in samples of ancient Egyptian beer residue, points to a deliberate germination of cereals (as would only be expected), a fermented mixture of coarsely ground, well-heated, cooked malt or grain along with unheated, uncooked malt, but no baked bread. Also possibly unsprouted cereal seems to have been used, both heated and not, which would provide more flavour. In this method, the malt would still be ground, but would be added directly to boiling water rather than baked into bread.[31]

It is thus quite possible that the Egyptians actually brewed beer, but the bulk of evidence points rather to baking. The first literary evidence, although quite late, also points to this. A very important recipe in Greek for Egyptian beer is preserved in the works of the early fourth century AD alchemist Zosimus of Panopolis, where it was clearly added by a later scribe. The recipe, to put it

simply, calls for barley to be soaked and germinated, then ground and made into loaves, which are leavened, heated, and crumbled into water, which could be heated (though not to a boil) for mashing. Once fermented, the beer is served after having been poured through a strainer. This exact same sort of beer (known as *bouza*, from which our word 'booze' comes) has still been made in Egypt (and surrounding areas) into modern times.[32]

Thus our evidence shows that the Europeans seem to have had a quite independent tradition of making beer, going back perhaps to as early as 3000 BC At first cereals were clearly often fermented with a variety of other products while later cereals (especially barley, but wheat, millet, and rye as well) were malted and brewed on their own to make beer. This beverage was made by various peoples in Europe, except, that is, for the Greeks. The Greeks, however, did know of the beer of their neighbours, though it is clear that they had no single term equivalent to our term 'beer', but rather distinguished between cereal beverages that were made by brewing malted cereal (*brūtos*) and those made from malted loaves (*zūthos*).

3

THE GREEK PREJUDICE AGAINST BEER

The roots of beer prejudice

As we have seen, beer as a drink of Thracians, Paeonians, and Phrygians was known to Greeks in the seventh century BC while in the fifth century BC it was further also known as a drink of Egyptians. There is no evidence that our earliest sources, Archilochus of Paros and Hecataeus of Miletus, thought negatively of beer, nor in fact can this be detected in Herodotus of Halicarnassus or Hellanicus of Lesbos, or in the fourth century BC in Theophrastus of Lesbos. And Xenophon of Athens is remarkably complimentary about the beer he tasted in Armenia. However, in the early fifth century BC we find our first attacks on beer, both the Thracian and Egyptian product, in the plays of the Athenian tragedian Aeschylus.

While Archilochus knew of both Thracian wine and beer already in the seventh century BC, Aeschylus seems rather to have thought of Thrace (known as 'rich in vines' by his contemporary poet Pindar of Thebes), at least at one time, as a beer-drinking place where wine, and its attendant rituals, were rejected. Aeschylus, who like Archilochus may have fought Thracians, wrote a tetralogy concerning the introduction of the cult of Dionysus (which included the consumption of wine) to Thrace, called the *Lycurgeia*. In the first play, *Edonians*, Lycurgus, King of the Thracian tribe of Edonians, rejects Dionysus and is in the end punished for it. From what little remains of it, it is clear at least that Lycurgus mocks Dionysus for his effeminate appearance. Presumably he also opposed wine; the poet Timon of Phlius (from the fourth and third centuries BC) for one says that Lycurgus killed the followers of Dionysus and 'threw out drinking horns and wine-filled cups'. Lycurgus, as in a version of the myth already attested in the second half of the fifth century BC, is probably temporarily driven mad (or made intoxicated) by Dionysus and kills or at least wounds his son Dryas with an axe, thinking that he is chopping down a vine branch (see Figure 3.1). At least this is the story as can be reconstructed from artistic depictions from around 450 BC on, quite possibly inspired by Aeschylus's play, as well as by later accounts. In attested versions of the myth there are various stories of Lycurgus's ultimate fate. Homer already knew Lycurgus, son

Figure 3.1 A gem depicting the beer drinker Lycurgus chopping down vines. By permission of the Kestner Museum, Hanover, Germany.

of Dryas, as the quintessential mortal man who dared to fight against the immortal gods. He drove Dionysus and his nurses away and was then punished by the gods by being blinded. In the first century BC Diodorus of Sicily says that Dionysus (here 'Osiris') slew Lycurgus 'the king of the barbarians', and had Maron supervise the cultivation of the vine in Thrace, which Dionysus had introduced. Though Homer made Maron the son of a certain Evanthes, the poet Hesiod (who wrote shortly after Homer) said that he was a descendant of

Dionysus, and some accounts even made him none other than Dionysus's son or grandson. Maron's Thracian wine was already mentioned by Homer, who said that Maron had given Odysseus twelve jars of dark, red, sweet, unmixed wine along with a silver mixing bowl; Maron himself mixed the wine at a rate of one portion wine to twenty water. Homer here attributes to a Thracian the Greek practice of mixing wine and water. Pliny the Elder claimed that in his day (in the first century AD) Thracian wine was still as strong and that it was usually mixed there at a rate of one portion wine to eight water. He also reported a story that Aristaeus the Thracian was the first to mix honey with wine. However, Plato spoke of Thracians drinking unmixed wine and similar evidence is found in the stories of Alcibiades drinking unmixed wine through Thracian influence.[1]

The first century BC historian Diodorus of Sicily reports that a number of people were opposed to Dionysus, especially since they felt that he had stolen their wives, and he says that they were all punished; he mentions Lycurgus, Pentheus the King of Thebes (in Greece), and also Myrrhanus the King of the Indians. The story of Lycurgus is in fact very similar to that of Pentheus. Aeschylus also wrote a play concerning Pentheus, but since it no longer survives our best evidence for this myth comes from the *Bacchae* of the late fifth century BC Athenian playwright Euripides. There Pentheus, just like Lycurgus, mocks Dionysus for his effeminate appearance, and later, as punishment for this, is even dressed as a woman by Dionysus before being killed by the female devotees of the god. More importantly, in this play Dionysus is thought of as the discoverer of wine who introduced mortals to it, giving both rich and poor pleasure and relief from pain. Pentheus, however, refuses to consider wine a positive gift of Dionysus, and he specifically does not like the Theban women conducting rites of the god with wine, which he believes will lead to debauchery. We can safely presume that Pentheus is not a wine drinker, but we do not learn whether he abstains altogether from intoxicating drinks or if he drinks some other type of intoxicant. Chances are that this would not be beer, though it has recently been suggested that residue found in vessels at Thebes, dating to the mid-thirteenth century BC, points to the use there of barley beer. The Pentheus story could conceivably be a reminiscence of the fact that there had been a time when the inhabitants of Thebes (or of Greece generally) were not wine drinkers.[2]

Concerning Lycurgus, however, we can be fairly certain that Aeschylus considered him a beer drinker. The scholar Athenaeus, after citing Archilochus's reference to *brūtos*, which he defines as 'barley wine' (as we have seen), explains that Aeschylus also called to mind the same drink in his *Lycurgus*, which was the fourth play (the satyr play) of his *Lycurgeia* tetralogy: 'And, after these things, he drank *brūtos* weakened by time and he boasted haughtily, considering this to be manliness.' There can be little doubt that the beer drinker here is Lycurgus, and that the speaker of these lines does not believe that beer drinking is in fact a manly activity. Here then the effeminate one is no longer Dionysus but Lycurgus. As the text stands in our manuscripts it is Lycurgus who is referred

to as being 'weakened by time', but with one letter change, this can be applied rather to the beer. An aged beer could possibly become weaker in terms of alcohol strength, but Aeschylus probably simply wanted to further emphasize Lycurgus's ridiculous boast: not only is drinking beer unmanly, but drinking aged or 'weakened' beer is even less so.[3]

This passage is our first Greek evidence for the rejection of beer as well as our first evidence that beer is thought of as antithetical to Dionysus, to whom only wine would be appropriate. Aeschylus himself had a strong connection to the god Dionysus. He had supposedly claimed that when he was young he once fell asleep looking at grapes in a field and Dionysus appeared to him and commanded him to write tragedy. Aeschylus heeded the god and in fact found writing tragedy quite easy. Many even said that he did his writing while intoxicated, no doubt on wine (as one ancient source specified), which he certainly would not attack the way he attacked beer, and that his plays were 'full of Dionysus'; indeed many of his plays did focus on the god.[4]

While Aeschylus worshipped Dionysus in his own way as the god exclusively of wine, other, later Greeks could think of Dionysus as the god of intoxication generally, including beer intoxication. The historian Diodorus of Sicily, agreeing with what Euripides had said, thought that Dionysus had discovered wine (when vines still simply grew wild) and taught its making to mankind. But Diodorus further said that there is no one who does not share in the gifts of the god Dionysus, since the barbarians, even though vines did not naturally grow in their lands because of the climate, were taught the making of good beer by the god, beer which could be just as nice smelling and strong as wine. Some centuries later, the Christian author Julius Africanus explained instead that barbarians had been abandoned by an angry Dionysus, who did not teach them viticulture, 'keeping for the Greek farmers alone the triumphs'. Both authors begin with the premise that beer is used where vines cannot grow, but whereas Diodorus takes both wine and beer to be gifts of the god, differing only in so far as climatic conditions would dictate which was to be made, Julius treats beer as nothing less than a punishment from Dionysus, while wine is a triumphant product.[5]

In relating the myth of the introduction of wine to Thrace, Aeschylus thus took the opportunity to denigrate beer, which he clearly considered the native drink of Thrace. At least by Archilochus's day, as we have seen, the Thracians had both beer and wine. We also know that at least by the fifth century BC the Thracians were worshipping Dionysus. Coins from the city of Maroneia (named after Maron) in Thrace show vines, grapes, and wine vessels already in the fifth century BC. Furthermore, Herodotus says that in his day the Thracians worshipped this god, along with Ares, god of war. Indeed, among them, he says, idleness was thought a noble activity, and war and plunder the noblest. Since their two main gods were those of intoxication and war, it is not surprising to hear in later accounts that the Thracians fought when they drank and drank when they went into battle. Herodotus also said that the Thracians had an oracle

of Dionysus in the highest mountains with a prophetess like the one at Delphi, while Euripides places 'the prophet of Bacchus' at Mount Pangaeus in Thrace, whose mines had already attracted the Greeks in Archilochus's day (indeed it would seem from the testimony of the mid-first century AD Roman geographer Mela that the worship of Dionysus in Thrace occurred mainly in the mountains). Furthermore, the Roman author Macrobius from the fourth century AD claims the Ligurians in Thrace had an oracle of Dionysus at which prophecies were made by drinking a great quantity of wine. Another source says rather that at an oracle of Dionysus in Thrace the priests would make predictions based on the flame which sprang forth when wine was poured on the altar.[6]

Macrobius further says, on the authority of Alexander Polyhistor (from the first century BC), that the Thracians call Dionysus (here 'Liber') 'Sebadius'. This is a reference to a deity usually called Sabazius or Sebazius in our sources, who is first attested in the fifth century BC. At the beginning of the comic poet Aristophanes's *Wasps*, two slaves are guarding a home and one of them speaks of a 'sleep from Sabazius' taking hold of him, while the other responds that he is experiencing the same. A commentator of unknown date says of this passage that the Thracians are the ones who call Dionysus 'Sabazius', thus confirming the report of Alexander Polyhistor. However, there are two problems with this assertion as far as it concerns Aristophanes's testimony. First, there is no evidence that Aristophanes made a link between Sabazius and Dionysus, though another commentator on our author claims that many (unidentified) comic writers identified Sabazius and Dionysus. If Aristophanes did in fact identify the two, his 'sleep from Sabazius' might be a reference to the grogginess brought on by intoxication. Second, there is no evidence that Aristophanes connected Sabazius with the Thracians. Aristophanes in fact elsewhere notes that Sabazius was a Phrygian god. Aristophanes also has the magistrate in his *Lysistrata* complain of 'thick Sabaziuses' (perhaps various or constant shouts of Sabazius or else many representations of the gods) and the first century BC Roman Cicero, who also identifies Sabazius and Dionysus, says that Aristophanes in fact wanted the worship of Sabazius stopped, and this may have been portrayed in his lost play *Seasons*. Nevertheless, there is some evidence that his cult persisted in Athens in the fourth century BC.[7]

Although our first certain evidence for the Thracian Dionysus being Sabazius is from the first century BC, it is quite possible that, just as Thracians and Phrygians shared in common the drinking of beer from straws, as Archilochus relates, they also shared the worship of Dionysus as Sabazius from an early time. Strabo (who wrote in the first century BC) at least says that Sabazius was Phrygian and that his rites resembled those for Dionysus (whom he clearly does not identify with Sabazius) among the Thracians, and he suggests that the Phrygians borrowed the rites from Thrace. In his argument, interestingly enough, he quotes from Aeschylus's *Edonians*, the first play of his Lycurgus cycle, showing the wild music of the followers of Dionysus as they arrive in Thrace. If it was the case that Thracians and Phrygians shared both beer and

Sabazius, it is tempting to think that worshippers of Sabazius drank beer. However, there is good evidence that at least by the time of the early Roman Empire Sabazius was worshipped with the drinking of wine. Throughout Europe hand-shaped carvings with various symbols (such as animals, plants, and instruments), some of which are inscribed with Sabazius's name, have been found. Some show grape clusters, some a large vessel which is probably a crater (that is, a vessel for the mixing of wine and water), some smaller vessels, perhaps wine cups, and one a ladle. Furthermore, two red terracotta craters, one with a depiction of a bunch of grapes, have been found in Pompeii with Sabazian designs. All this tends to show that at least under Roman influence Sabazius was worshipped with wine.[8]

However, we have evidence that may show that in later Roman times at least in Illyria (a region near Thrace), Sabazius was connected to beer. The historian Ammianus Marcelinus noted that when the Emperor Valens (see Figure 3.2), an uncultured Pannonian, was besieging Chalcedon during the campaigns of AD 365, the inhabitants within insulted him for his beer drinking: 'he was derisively addressed as *sabaiarius*. Now *sabaia* is a drink of the poorer in Illyricum, made from barley or wheat, changed into a liquid.' Ammianus does not explain the precise meaning of *sabaiarius*, but it presumably means either 'a drinker of *sabaia* beer' or 'a maker of *sabaia* beer'. Moreover, St Jerome, commenting on a passage in the *Septuagint*, says of a drink made from cereal and water, 'in the local vernacular and barbaric speech in the provinces of Dalmatia and Pannonia it is called *sabaium*'. Jerome, as a native of Dalmatia (from the city of Stridon), was certainly well acquainted with the local beer.[9]

It has been suggested that the original form of *sabaia* / *sabaium* was **sabaiam*, a word derived from the Indo-European **sab-* or **saub-* (found in English 'sap' and 'soup'). More importantly, it is quite possible that this word should be connected to Sabazius, and that Sabazius was therefore at least originally a beer god. Also, it is possible that an original Thraco-Phrygian deity of beer was identified with the deity of wine Dionysus. Diodorus of Sicily in fact says that some mythologists recounted that there were two Dionysi. The later one was the well-known Dionysus born of Zeus and Semele, but the earlier one was born of Zeus and Persephone and named Sabazius. He was worshipped at night and in secret with shameful rituals. However, Diodorus says nothing about him specifically being a beer god.[10]

Much later the Emperor Julian (who ruled from AD 361 to 363) jocularly wrote in a poem that there were in a sense two Dionysi, one a wine god and one a beer god:

> Who and from where are you Dionysus? Since, by the true Bacchus, I do not recognize you; I know only the son of Zeus. While he smells like nectar, you smell like a billy-goat [or spelt]. Can it be then that the Celts because of a lack of grapes made you from cereals? Therefore one should call you Demetrius [that is, born of Demeter

Figure 3.2 A coin of the beer-drinking Emperor Valens (who ruled from AD 364 to 378). From the author's collection. Photograph by Robert Weir.

> or born of two mothers], not Dionysus, rather wheat-born [than fire-born] and Bromus [that is, oats], not Bromius [that is, roarer or of the thunder].

This poem is regularly cited as the epitome of the negative view of beer in Greco-Roman antiquity. However, it is difficult here to gauge Julian's actual stance since he is being very playful in his use of punning. For example, *tragos* can mean both billy-goat and the cereal spelt, and thus the word lends itself perfectly to a joke about the goat-like smell of spelt beer; but this need not mean that beer was really foul smelling or that Julian thought so.[11]

As shown in passing in the last chapter, Aeschylus also mentioned Egyptian beer. In his *Suppliants* King Pelasgus of Argos grants protection to the daughters

of Danaus (the so-called Danaids), who have come to Argos from Egypt to escape marriage to their cousins, the sons of Aegyptus. When the sons of Aegyptus land in Argos in pursuit, they send a herald as their representative to force the Danaids to their ships. King Pelasgus sends off the herald with a threat of war and a final sneering remark about Egyptian unmanliness: 'But, truly, you will find that the dwellers of this land are men, not drinkers of the inebriant [made] from barley.' On the other hand, the Argives are said not to be women, and are said to be better fighters because of their better drink.[12]

The sort of attack on beer found in Aeschylus, our first beer basher, became, it seems, common in later dramatists also writing plays performed yearly at the great festival of Dionysus in Athens, and perhaps due to his influence. We know that the tragedian Sophocles also mentioned *brūtos* in his earliest play, *Triptolemus* (from around the mid-fifth century BC), but our surviving quotation is corrupt beyond repair; that he spoke of the beverage as not even fit for pigs is an interesting but unprovable restoration. However, there is better evidence from comic dramatists that the drinking of beer continued to be made fun of, particularly with regards to its effeminate qualities. Thus, Cratinus (from the fifth century BC) in his play *The Softies* (read 'pathics') wrote: 'to spin some *brutinē* Amorgan fabric within'. The original context for this quotation is entirely lost and it is quoted in a later lexicon simply to show the use of the word *brutinē*, which is explained in Cratinus's line as possibly referring both to a beverage (presumably the *brūtos* familiar to us) and to the thread produced by a certain bug (the *bruton*). Other sources show that there was a famous fine linen wear made in Amorgos, but this does not explain Cratinus's presumed allusion to beer. Cratinus was infamously fond of wine, and his personal predilection seems to have been central to his own brilliant *The Wine Flask* of 423 BC. It is possible that with this fondness for wine came a disdain for beer, and he may have followed Aeschylus in considering the latter effeminate, like silky fabrics.[13]

Furthermore, the comic poet Antiphanes (from the fourth century BC) wrote in his play *Asclepius*: 'He ground some small root and enticing her with the bait of a hollow and deep cup, he made the very long ago weakened, *brutikē* old woman drink this down.' This time our quotation is given in a discussion by Athenaeus of a certain vessel known as a *lepastē* and no explanation is given of the term *brutikē*. This would presumably mean 'drunk on *brūtos*', and the scene probably involved the healing god Asclepius (or else a male physician) attempting to help a weak, beer-sodden woman (from Thrace?) by giving her medicine in the type of cup she would normally drink her beer. Here too there seems to be an implication that beer causes weakness.[14]

Our evidence then tends to suggest that a prejudice against beer, particularly against its power to weaken and make effeminate, was an Athenian contribution, and one particularly passed along in the medium of dramas. But why did such a prejudice arise?

The causes of beer prejudice

A striking aspect of Aeschylus's attack on beer as an effeminate drink is that the Argives are spoken of as manly since they eat cereal rather than papyrus as the Egyptians did; thus, while a cereal-based beverage is thought of as effeminating, cereal itself is not, or at least cereal as eaten by the Greeks (that is, in bread or porridge form). Presumably there was something about the processing of the cereal in the manufacture of beer that was thought to produce negative qualities, while only positive qualities were thought to result from the processing of cereal in the manufacture of bread or porridge. That the association of beer with effeminacy, and thus the roots of beer prejudice, are due to the Greek understanding (or rather misunderstanding) of the way cereals were processed to make beer can already be deduced from the earliest Greek medical texts, those attributed to the late fifth century BC 'father of medicine' Hippocrates.[15]

It should be noted first, however, that beer seems to be entirely passed over in the Hippocratic corpus. In the Hippocratic work on harmful comestibles various types of wine, vinegar, and mead are discussed, but not beer. It was not until Galen commented on this work in the second century AD that beer and other alcohol beverages were added to this list (though he did not say anything of substance about beer in his commentary). In the first century AD, Erotianus, in a glossary of words in the Hippocratic corpus, did note that some took the word *muttōtos* to designate 'the so-called *zūthos*', but there is no evidence that Hippocrates himself (or his followers) did so. The term *muttōtos* was generally used to designate a dish made from various ingredients, such as cheese, honey, and garlic, and perhaps was likened to beer in that the latter could also be made with various ingredients. Hippocrates prescribes the use of *muttōtos* for hydropsia, for the lowering of the womb, and for a type of cataract, but there is no reason to assume in these cases a reference to beer.[16]

Even though beer is not mentioned in these early medical texts, they can still elucidate contemporary notions about its supposed effeminate qualities. In the Hippocratic work on diet (as well as in other Hippocratic works), four basic attributes of people and of comestibles are spoken of: hotness, coldness, dryness, and wetness. Wine is considered to be usually hot, though some varieties can be cold, a notion that would remain prevalent throughout antiquity. Cereals, on the other hand, are considered to be generally cold and wet, but their nature can change due to how they are prepared (for example, if baked in bread the quality of the cereal becomes hot). Since beer is not mentioned in the Hippocratic corpus we must turn to much later authors (beginning with Galen in the second century AD) to find out that beer in this sort of scheme is considered to be usually cold, though some varieties can be hot. It would seem then that it was believed that the way that cereals were processed to make beer did not alter their basic cold nature.[17]

On top of this, in the Hippocratic work on diet it is stated that males are naturally hotter and drier than females. It becomes clear then how wine, as a

generally hot substance, would be associated with males and manliness and how beer, as a generally cold substance, would be associated with females and effeminacy. Furthermore, there can be little doubt that the hot and the male were considered superior to the cold and the female. Although the theory of hot and cold substances is only first fully formulated in the Hippocratic writings the germ of this idea can be traced much further back in Greek literature. And so it is quite possible that it already influenced Aeschylus's notions about beer as an effeminate drink in the early fifth century BC.[18]

This sort of antithesis which contrasts beer and wine came about in part since the ancients, though they understood that many different types of beverages had the property of intoxicating the drinker, did not identify in them a common substance, ethyl alcohol. This is clear from the fact that there is no Greek or Roman word for 'alcohol' but only for 'intoxicant', which could describe non-alcoholic substances (such as drugs). It is further confirmed by the earliest text in the west which makes a comparison of wine and beer, Aristotle's *On Intoxication* (or *Symposium*).[19]

This work, ostensibly inspired by the brief foray into a discussion of intoxication of Aristotle's teacher Plato in his *Symposium* (to be touched upon in the next chapter), survives in less than a dozen citations and clearly originally dealt with the various aspects of the Athenian symposium (or drinking party), including the use of garlands, the types of food served, and especially drinking. Aristotle accepted the hot/cold and dry/wet theory, as can be seen in many of his works, and in his *On Intoxication* he suggested that old men are most susceptible to drunkenness, young men fairly susceptible, and women least so, due to the natural heat of each (the hotter being the more susceptible). This idea is followed up by others in Aristotle's school, who noted, for instance, the natural hotness of wine. More importantly for our purposes, Athenaeus quotes two related passages of Aristotle's *On Intoxication* having to do with beer, one of which only survives in the epitomized section of Athenaeus's work, and is thus less reliable. The more reliable quote runs:

> But a peculiar thing happens in the case of the [drink made] of barley, the so-called *pinon*. Under the influence of all other intoxicants, those who become intoxicated fall in all directions, sometimes to the left, or to the right, or onto their fronts, or onto their backs. But those who become intoxicated from *pinon* only fall onto their backs and lie flat.[20]

This passage (and those directly indebted to it) is the only place where the word *pinon* is found. Though Athenaeus takes it to be a synonym for 'barley wine' it is unclear whether Aristotle meant it this way or simply to designate a type of barley beer. Indeed, the etymology of *pinon* is rather problematic. Some have suggested a link with the Greek verb *pinō* ('drink'), in which case it would mean simply a 'drink' (compare the English, which, in the right context, implies

strictly an alcoholic drink), while others have considered it a cognate of Slavic *pivo* and Old Prussian *piwis*, both meaning 'beer'. It may not be far-fetched to consider it a Macedonian term, which Aristotle knew from his homeland, and perhaps one used to designate Thracian barley beer. In this case it would be genuinely synonymous with *brūtos* as Athenaeus thought. The political union of the Macedonians with the Thracian Odrysae from the fifth to the third century BC may well have provided an opportunity for Macedonians to be well introduced to Thracian beer, though certainly wine remained the drink of choice at the Macedonian court, as the countless stories of Alexander the Great's wine-imbibing adventures testify.[21]

The second quotation of Athenaeus from Aristotle runs:

> Those who become intoxicated from wine fall onto their faces, but those who have drunk the barleyed turn upside down on their heads [that is, fall flat onto their backs?], because, on the one hand, wine makes one heavy-headed, while, on the other, the barleyed is stupefying.

Aristotle here presents two categories of intoxicants, those which cause heavy-headedness and those that are stupefying. Aristotle says in his work on sleep that the opium poppy, mandrake, wine, and lolium cause 'heavy-headedness', that is, that they have a soporific effect; however, beer is the only intoxicant which Aristotle, in his surviving works, speaks of as 'stupefying'.[22]

These two passages, though obviously dealing with the same question of differences between various intoxicants, seem to be contradictory. The first passage implies that if one drank a lot of wine (among other drinks) one would fall in various ways (or every way), while the second passage states that wine makes one fall specifically onto one's face. Furthermore, the effect of the barley beer is described quite differently in both passages. In the first passage the beer drinkers 'fall onto their backs and lie flat' while in the second passage they 'turn upside down on their heads' (which is very difficult to construe).

What is clear, however, is that Aristotle does not classify wine and beer together as alcohol-based intoxicants, but rather classes wine with opium, mandrake, and lolium, and beer in a separate category. Aristotle's false categorization certainly had quite some influence. A number of his students followed him in writing works on intoxication, including his greatest pupil, Theophrastus. There is a story that when Aristotle was sick and was begged by his students to choose a successor, two candidates came to mind, Theophrastus of Lesbos and Eudemus of Rhodes. To tactfully explain his choice he asked for Rhodian and Lesbian wine to be brought to him and, after tasting each of them, he said that the Lesbian was better. Thus, shortly after he died, his disciples followed Aristotle's wish and recognized Theophrastus as his successor.[23]

Theophrastus indeed took up many of Aristotle's researches, and wrote on numerous topics, including also intoxication, though only a few citations now

survive from that work, and none of these refer to beer. However, as we have seen in the previous chapter, Theophrastus did mention Egyptian beer in his works on plants, and indeed, in his *On the Causes of Plants*, he shows how some flavours are obtained naturally while others are obtained by departing from the nature of the substance in question, saying: 'They even turn into drinkable juices some [products] which they have caused to depart from their nature and have somewhat rotted, such as those who make wines from barley and wheat and the so-called *zūthos* in Egypt.[24]

This exemplifies yet another Greek misconception concerning beer. Not only did the ancients not know that both beer and wine were alcoholic beverages, they also did not know that in both wine and beer this substance comes about through the interaction of yeast and sugar. Indeed it seems that they knew that yeast was needed for beer, but there is no evidence that they realized this concerning other alcoholic beverages, and in fact some evidence that they did not in the case of wine. Since the process of malting is basically a sprouting and killing of grains, the process of fermentation in beer was logically seen as a subsequent decomposition of the cereal. Thus Theophrastus speaks of beers as being made from cereal which has departed from its nature and has somewhat rotted, and many other Greek and Roman authors would later describe beer in the same way, as we will see. It is striking here that it was believed that beer had to decompose, that is be subject to yeast, while wine was not seen as arising in the same way (although, it must be said, there was a variety of wine known as 'rotten' which may indeed have been thought to be affected by yeast). This is almost certainly the case because, with the natural sugars in the grapes and the yeast present on the grape skins, there is no need to go through a process of growing then killing (that is, malting) or of 'decomposing' (that is, adding yeast or leavening) when making wine, as explained at the beginning of the last chapter. The second century AD Plutarch, speaking about why it was not permitted for a type of Roman priest of Jupiter known as a *Flamen Dialis* to touch flour or yeast (certainly a very ancient prohibition), explains that flour is a sort of liminal food, no longer a cereal and not yet bread, and in fact is in a way dead, having been ground, and no longer able to germinate. It is interesting that beer is made from cereal which in a sense has twice died, its germination having been terminated and it being further subsequently ground. Plutarch goes on to say:

> On the other hand, yeast itself also arises out of corruption and corrupts the dough when mixed [with it] since the dough becomes slack and inert and leavening [or fermentation] on the whole is similar to rotting. In any case, going too far, it completely sours and corrupts the flour.

It is quite possible that beer was often considered a drink inferior to wine precisely because the process of fermentation was misunderstood and because wine was thought to be unaffected by the 'corrupting' power of yeast.[25]

And thus the prejudice against beer first found in Aeschylus and much repeated throughout Greco-Roman antiquity can be seen to have had its causes in pseudo-scientific beliefs, based on distinguishing beer from wine, and attributing to beer a number of negative characteristics. This seems to explain why Greeks became the first cereal-growing peoples to shun beer.

4

THE TWO DRINKING IDEOLOGIES OF ANCIENT EUROPE

As we have seen, the Greeks considered wine and beer to be very different sorts of intoxicating substances. Wine was a pure, hot, manly beverage, which had its own particular effects on the drinker (heavy-headedness according to Aristotle) while beer was a corrupted, cold, effeminate beverage, which had different effects on the drinker (stupefaction according to Aristotle). But the typical Greek drinking ideology, at least as far as it can be reconstructed from the writings of elite Athenians of the fifth and fourth century BC, did not end with the supposition of the superiority of wine over beer. It also involved two other important notions: moderation and discrimination. And it was the philosopher Plato who was the first to clearly distinguish an Athenian drinking ideology from that of foreigners in terms of the first notion, that of moderation.

In Plato's last work, his *Laws*, three old men (an Athenian who is never named, a Cretan named Clinias, and a Spartan named Megillus) discuss the merits of the various laws of their native lands. Both the Cretan and Spartan believe that the main focus of the state must be victory in foreign wars, and thus their laws, intent on fostering courage, dictate that they abstain from pleasures and train their bodies in the resistance to pain. The Spartan further explains that his native legislation outlaws drinking parties (symposia) and drunkenness, even at festivals of Dionysus (the god of intoxication). The Athenian argues that it is more important for the state to ensure domestic peace, and that a more essential virtue than courage is temperance; he further adds that the forcible denial of pleasure means that when it will be encountered it will be harder to resist. Turning to the subject of intoxication, the Athenian, who later claims to have inquired into nearly all the different drinking customs of various peoples, says to the Spartan:

> I am not talking about the general drinking of wine or not, but about intoxication itself, whether it is right as the Scythians and Persians take it, and, further, the Carthaginians and Celts and Iberians and Thracians, all these being bellicose races, or as you [that is, the Spartans]. Since you, as you say, altogether hold off [from intoxication], while the Scythians and Thracians, both women

> and men, take all of it [that is, their drink] unmixed and pour it down over their clothes, and they consider the custom to be beautiful and pleasant.

The Athenian in the end goes on to praise as best the Athenian symposium, or drinking party, through which, if properly regulated by a sober leader (the symposiarch) with the moderate consumption of wine, people would be educated in temperance and in the mastery of pleasure and pain and desire. Indeed in Plato's earlier dialogue set at a symposium (and so titled) there is a brief discussion of drunkenness by the physician Eryximachus, who says that 'intoxication is harmful to people', after which all the other characters in the dialogue agree not to overindulge. Also, in his *Philebus* Plato has Socrates liken mixing water with wine with combining wisdom with pleasure. Later in the *Laws*, the Athenian further suggests that no one under eighteen drink wine, that no one under thirty become intoxicated, and that one may only be intoxicated after that at festivals of Dionysus.[1]

We find in Plato then the description of two very different drinking ideologies. First, there is the habit, best exemplified among Scythians and Thracians, of overindulgence, involving alcoholic drink not watered down as well as spilling. Second, there is the Greek ideal of moderation (to various degrees, including occasional regulated intoxication), as well as the acceptance of the control of the state over its citizens' drinking activities.

While Plato certainly cannot necessarily be thought of as representing the general opinion of Athenians (or Greeks) in his day, other sources demonstrate that distinctions were often made between two different drinking ideologies. For instance, the comic poet Alexis from about 300 BC (born in Thurii but later an Athenian citizen) says that the Greek way of drinking involves moderation, while 'the other way is drenching, not drinking'. Indeed, as early as the fifth century BC we hear specifically of 'barbarians' (a term popularized in tragedy and first applied to the Persians then later used more widely of all non-Greeks) overindulging in drink. In his *Acharnians*, the Athenian comic poet Aristophanes has the ambassador to the Persians say to the Athenian assembly that in Persia he was 'forced' to drink sweet unmixed wine at banquets from glass and gold cups 'because the barbarians consider men only those who are able to eat and drink a lot'. Manliness is thus connected with the amount one drinks; but as we have seen in the last chapter, manliness could also be connected to what one drinks. One of our best early sources for the supposed barbarian ideology comes from the Aristotelian philosopher Chamaeleon of Heraclea, who wrote in his *On Intoxication* that the practice of using large drinking cups was taken by Greeks from barbarians, who 'being deprived of education rush upon much wine'.[2]

Thus numerous ancient authors connected 'barbarians' with overindulgence and the use of a variety of intoxicants, clearly deeming their drinking habits inferior to their own. It is often thought that the Greek notion of barbarian immoderation was highly exaggerated, partly out of simple prejudice, and

partly from the common temptation, found among many societies, to focus on problem-drinking and the uncontrolled drinking behaviour of foreign peoples. In fact, as far as we can tell from much later sources written by the 'barbarians' themselves, heavy drinking was indeed common, as we will see in Chapter 7. And in fact Plato's distinction between the two European drinking ideologies cannot be attributed to simple Hellenic prejudice. In fact Plato had argued in his *Politics* that the simplistic Greek/barbarian antithesis was not logical since the barbarians were not all of one type. Similarly, the sophist Antiphon had noted that all humans are born the same, not born as Greeks or barbarians. But even if he did not subscribe to the Greek/barbarian antithesis, Plato seems to be drawing on another antithetical notion, that based on climatic considerations. Further on in the *Laws* the Athenian Stranger suggests that the climate of places determines whether better or worse men will be born there, and that the type of food produced in a place affects the bodies as well as the souls of men for good or evil. Thus northerners (including Thracians and Scythians) cannot help but be passionate and spirited, the easterners (Phoenicians and Egyptians) love money, and the Greeks love knowledge. Furthermore, in his *Timaeus* Plato has Critias report that the priests of Sais in Egypt declared that Athena had chosen the location for the Athenians since she noticed that due to the climate it would be a place where very wise men would be born. Aristotle would later say in his *Politics* that people from cold climates are courageous, but not very intelligent or skilful nor capable of ruling well; easterners are intelligent and skilful, but not courageous and not capable of ruling; Greeks however, because of their ideal geographic position, are courageous and intelligent and able to rule all peoples. And so, the poor northerners, living as they did in a colder climate, were inevitably passionate and aggressive, and could not help but be immoderate drinkers.[3]

Climate not only determined how one drank but also what one drank. Where grapes were not as abundant wine would have to be made from other fruits or even from cereals. Thus, the Athenians already in the fifth century BC knew that throughout the east peoples made wine from palm dates. Xenophon's troops when in the east drank this as their wine ration (just as in Armenia they drank beer, as we have seen in Chapter 2), but clearly Greeks would not have drunk this beverage normally. It was also known, for instance, that in north Africa the lotus or jujube fruit was used to make wine.[4]

The fifth century BC historian Herodotus, one of the earliest proponents of the environmental theory, had already explained beer drinking in Egypt in this way. He wrote that the Egyptians 'use wine made of barley since there are no vines in their country'. The usual approach by commentators on this passage has been either to vindicate Herodotus or to impugn the veracity of his statement. Usually Herodotus is said to be completely wrong, since vines did in fact grow in Egypt. Others excuse him by noting that he never visited the vine-growing districts of the Delta. Yet elsewhere Herodotus speaks of wine being used in Egypt, and he calls it specifically 'vine wine', as if to contrast it with his 'barley

wine'. The contradiction has been explained by suggesting that Herodotus thought that the grape wine in Egypt was imported or that Herodotus did know that vines grew in Egypt, and was simply saying that they did not grow in southern Egypt.[5]

The prevailing methodology has thus been to compare his text with archaeological or other literary sources in order to attempt to verify the veracity of his account. However, Herodotus can be understood without reference to any outside facts. Though in reality beer drinkers (from Egypt or elsewhere) on the whole made beer since cereals were readily available, Herodotus's perspective is rather that one makes beer since vines are unavailable. Herodotus assumes that if one were to have wine there would be no need for beer; therefore if one has beer one does not have wine. That the underlying notion involves the primacy of wine is betrayed by the fact that beer itself is here simply referred to as a type of wine, and Herodotus is the first author known to have called it such.

Herodotus, as vinocentric as he is, does not, at least explicitly, disparage beer, and he explains its use because of a purported fact concerning the environment: that vines do not grow in Egypt. Herodotus elsewhere says that because of the unique Egyptian climate, and the unique nature of the Nile, the Egyptians are the exact opposite of others; thus, for instance, in Egypt women urinate standing, while men squat. It is not careful anthropological observation that lies behind this kind of statement, but rather the assumed close connection between differences in environment and cultural alterity.[6]

Another culture which, for Herodotus, as well as others, exemplified 'the other' was that of the Scythians, the nomadic pastoralist peoples who roamed throughout the Eurasian steppe from the Black Sea region all the way to China. Indeed Thucydides, the great fifth century BC Athenian historian, considered the Scythians the least civilized of the Europeans, and in the Hippocratic work *On Airs, Waters, Places*, in which geography and climate are assumed to affect not only health and physique but also character, the Scythians, who figure prominently, are said to be stunted, moist and soft, infertile, effeminate, and diseased since they lived in a cold climate. And, as we saw, Plato cites the Scythians as his first example of overindulgers in drink, and other sources do the same.[7]

Our first reference to peoples who live north of the Black Sea (later to be identified as Scythians) is in Homer, who speaks of the Mare-milkers who drink mare's milk. In our first reference to Scythians, they are called milk-drinkers, and many later authors also give them this epithet. Herodotus also says that the Scythians are milk-drinkers and seems to speak of them making fermented milk by having blind slaves agitating mare's milk and curdling it. One Hippocratic work also discusses the Scythian practice of agitating mare's milk to make cheese, butter, and presumably also a fermented product. Herodotus further says that the Scythians make a drink from the fruit of the Pontic tree, a type of cherry, and milk, but again does not specify whether or not it is intoxicating.[8]

If there is some doubt about the prevalence of the drinking of fermented milk (a low alcohol beverage in any case) among the Scythians, there is none about their use of wine. As early as the sixth century BC we find that Scythians drank wine immoderately and noisily. The poet Anacreon wrote:

> Come once more, let us no longer practise Scythian drinking of wine with clashing and shouting, but drink moderately with beautiful songs.

Another source tells us that 'Scythian drinking' refers to drinking in one shot. The Scythians were particularly noted for drinking their wine unmixed. Herodotus informs us that the Spartan King Cleomenes learned to 'drink unmixed' from Scythians that he consorted with, and that some thought that he went mad because of this (though Herodotus himself doubts that this was the real reason); consequently, whenever the Spartans wished to drink a stronger beverage they called it an *episkythison*. Indeed Greeks (and later Romans) often considered drinking straight wine a dangerous practice which could lead to insanity; some even thought that the regular drinking of a half and half mixture could lead to insanity. Oddly, Herodotus further says that the Scythians reproached the Greeks for following the rites of Bacchus (another name for Dionysus) since they thought that *this* led to madness. However, they did pour libations of wine to their war god and Herodotus also says that they had wine at their annual banquet, at which time those Scythians who had slain enemies were allowed to drink from the bowl, while those who did not had to sit apart in disgrace.[9]

The overindulgence of the Scythians was observed by peripatetic authors, the successors of Plato's student Aristotle. Hieronymus of Rhodes in his work *On Intoxication* wrote that '"to do the Scythian" is "to become intoxicated"' since the Scythians were known for their overindulgence, and he further suggested that the drinking cup known in Greek as *skyphos* was originally the *skythos*. In the anonymous peripatetic *Problems* it is said that the Scythians, and in fact all who are courageous, are fond of wine because they have a hot temperament. There was also a tradition that in the first century BC the Roman General Crassus detained Scythian envoys and got them purposely drunk and found out the Scythian plans 'since the whole Scythian race makes much use of wine and quickly becomes glutted with it'.[10]

Although the Scythians were infamous for their love of wine, it was said, interestingly enough, that there were no vines in Scythia. Anarcharsis the legendary wise Scythian, who in many sources is said to have actually been opposed to wine and drunkenness, was supposed to have shown his countrymen the vine from Greece, and to have explained to Greeks that there were no flute-girls (who were associated with drinking parties) among Scythians since there were no vines. The comic poet Antiphanes in his *Bacchae* also said that vines did not grow in Scythia. But we learn at least from Strabo in the first century BC

that nomads north of the Black Sea (that is, in Scythian territory) bought wine from Greeks, and presumably this trade had been going for many hundreds of years, as is perhaps confirmed by Greek vessel finds in Scythian tumuli as early as the seventh century BC.[11]

Not only did the Scythians drink fermented milk and wine, they also used many other intoxicants, purportedly even narcotic drugs. Herodotus reported that the Scythians threw the seeds of cannabis, that is hemp, onto hot stones within three-poled felt tents and they howled. The discovery of tent poles with braziers as well as hemp and melilot seeds in the tombs of Scythians in northern Russia stunningly confirms the accuracy of Herodotus's account. However, it seems that Herodotus did not quite understand the narcotic properties of the seeds since he asserted that the Scythians followed this practice as a way of cleansing their bodies in a steam bath rather than washing their bodies with water. It is only in the second century AD Platonic philosopher Maximus of Tyre that we are told that Scythians use narcotic herbs rather than a beverage for 'the pleasure relating to intoxication'. He explains that they sit in a circle around a bonfire in which unidentified odourous herbs are thrown and that when intoxicated they leap up, sing, and dance. More vaguely, Dio Chrysostom, the first century AD Greek orator, said in one of his speeches: 'Among some barbarians they say a mild intoxication is produced from the fumes of certain incenses.' When the Greeks (or Romans) rarely did experiment with narcotic drugs recreationally (as opposed to simply medically), it seems that wine, their ubiquitous intoxicant, was still inevitably involved. This is already seen in Homer, when Helen, at a banquet organized by her husband Menelaus, drugs the wine of the guests, apparently without their knowledge, with an unidentified substance which 'takes away grief and takes away anger, and which brings forgetfulness of every ill'. Much later, in the second century AD, Plutarch would say that it was in imitation of Homer's Helen that people in his day mixed the 'ox-tongue' plant in wine to cause cheerfulness and happiness. The earlier Roman scholar Pliny the Elder also spoke of the Bactrian 'laughing plant' with myrrh and, again, wine, saying that it caused one to hallucinate and laugh incessantly.[12]

It should occasion no surprise that the Scythians, willing, it seems, to get intoxicated by a great many means, were also beer drinkers, though it so happens that the evidence for this is, for some reason, rather late. In the late first century BC the Roman poet Virgil, in the third book of his *Georgics*, which concerns the care of livestock, turns at one point to sheep and goats and says that while Libyans roam with their flocks the Scythians pen them up. He further goes on to explain that the Scythians live in a perpetual winter, that because of the cold 'they cleave the liquid wine with axes' and that they stay in caves around fires, and: 'Here they pass the night in fun and, joyful, they copy vine drinks with wheat and with sour rowanberries.' Rather than having wine, they have here either one drink made of wheat and one with berries, or one drink made of both (the Latin leaves the exact meaning ambiguous). Servius, an ancient

commentator on Virgil, believed that he was here referring to a single type of drink known as *cervesia*, a sort of beer (ostensibly made also with added berries). The Scythians apparently also made beer from other types of cereal. One lexicon from the early Roman Empire says that the Scythians made beer with millet. Priscus Panites, travelling in a Greek delegation with Scythians on his way to meet Attila the Hun in the fifth century AD, said:

> At the villages victuals were supplied for us: millet rather than wheat, and that which is locally called *medos* [that is, mead] rather than wine. The attendants following us carried millet and the drink supplied from barley. The barbarians call it *kamon*.

Since the Scythians were famous for drinking their wine straight, we may presume that they also drank their beer straight too, as barbarians were certainly only expected to do. That beer of all intoxicants was the preeminent barbaric beverage is at least made explicit in a tenth century AD Byzantine Greek author citing the authority of a certain Leontinus (of unknown date) who explained the quite obvious fact 'that not only wine but also other things drunk cause intoxication' including 'drinks arising from wheat and barley, which the barbarians especially use'.[13]

And so our Greek (and Roman) sources give us the impression that there were two very different drinking ideologies in Europe. A distinction is made between drinking habits on the basis of the quantity of alcohol normally consumed as well as the level of discrimination between various types of intoxicants. While the Greeks spoke of themselves drinking (at least ideally) moderately almost exclusively wine and shunning every other type of intoxicant for recreational purposes, the 'barbarians' were said to often drink heavily and were apparently not usually very discriminating about their intoxicants (as best exemplified by the Scythians). To an extent this could be forgiven on climatic grounds, since poor environmental conditions could make one immoderate and force one to drink such inferior drinks as beer. What remains striking in our ancient sources is, on the one hand, the lack of variety of intoxicants found among the Greeks (and later Romans), and, on the other hand, the great variety of intoxicants among other European peoples. Although the Greek ideal of moderation was certainly not always put into practice by even the Greeks themselves, let alone others, the idea of discriminating between one's intoxicants did catch on, particularly among the beer-drinking Celts.[14]

5

THE CELTS AND THE GREAT BEER DECLINE

As we have seen, the Greeks from the seventh century BC on associated beer particularly with the Thracians and neighbouring peoples (Paeonians, Phrygians, and Scythians) as well as the Egyptians, and in misunderstanding its nature considered it a drink inferior to wine. Greeks already knew of the Celts from the sixth century BC on, and at least by the fourth century BC could speak of them as a people who overindulged in drink. Thus, as we have seen in the last chapter, Plato so characterized the Celts, and perhaps he knew of their drinking habits through his encounter with the Celtic mercenaries hired by Dionysius of Syracuse, at whose court he stayed. It would be among the Celts that the Greek (and later Roman) views on the superiority of wine would first have a great impact. After looking at the evidence for drinking practices among the prehistoric Celts, this influence will be traced among the Celts of southern Gaul, Celtiberia, northern Gaul, and finally Britain.[1]

Prehistoric Celtic Europe

We may presume that from an early time the Celts made various types of intoxicating drinks just as other prehistoric European peoples, as we saw in Chapter 2. At least from the late Hallstatt period (roughly from 600 to 450 BC) onward (so called after one of the major find spots in Austria) bronze vessels with flat bottoms (known as 'buckets') or rounded bottoms (known as 'cauldrons') became common throughout Celtic Europe, and were often placed in burials, full of alcoholic drink, as it would seem.[2]

Indeed one of our most important early pieces of evidence for Celtic drinking habits comes from a chieftain's grave in Hochdorf, Germany dated to the sixth century BC. The chieftain was buried not only with a wagon, but with a 500-litre bronze cauldron made in Greece, as well as nine gold-adorned drinking horns. An analysis of the cauldron has turned up pollen and beeswax residue which suggests that it had contained honey, pointing thus to mead or honey beer. Indeed the discovery in Hochdorf of a large amount of pure hulled barley which was probably deliberately germinated, in two U-shaped trenches, dated to around 600 to 400 BC, could point to the location of a brewery there at the

time (the actual structure of the brewery may have been made of wood which has not survived). Other similar princely tombs have been found to contain drinking sets. Thus (among many examples) a tomb in Apremont, France from around 600 BC contained a wagon as well as a cauldron and drinking cups, and a tomb at Bescheid near Trier, Germany had some sort of food and drink laid at the dead man's feet.[3]

Southern Gaul

In around 450 BC, the archaeological record suggests that the Hallstatt culture was being replaced by Celts migrating into western Europe from the north, the so-called La Tène culture (named after the important find spot in Switzerland), which is characterized chiefly by its intricate artwork. These Celts too, no doubt, were drinkers of various alcoholic beverages, including beer. At least a late source, the Roman historian Ammianus Marcellinus from the late fourth century AD, noted of the Gauls: 'It is a race fond of wine, and disposed to numerous drinks resembling wine.' There is little doubt that beer and mead were the traditional drinks of the Gauls, but also that the Gauls became great devotees of wine. And though Romans liked to think that they had first brought wine to the Gauls, it was really the Greeks who introduced it, as we will see.[4]

Around 400 BC the Gauls invaded Italy, surely as part of the large La Tène migratory movements of the time, but, according to some Greek and Roman sources, rather because these beer drinkers wanted readier access to wine. The traditional story was that a certain Arruns of Clusium wished to avenge the seduction of his wife by his own protégé, a young prince by the name of Lucumo, whom he had raised after Lucumo's father had died. Arruns therefore imported wine to the Gauls, which was said to have been unknown to them at the time, to entice them to cross the Alps and attack Clusium to acquire direct access to the product. The Greek historian Dionysius of Halicarnassus from the early first century AD explains in detail that Arruns went to Gaul with skins of wine, olive oil, and baskets of figs, and adds: 'The Celts at that time did not know grape wine or oil as olive trees produce among us, but used wine of barley rotted in water, a foul-smelling juice.' Dionysius here emphasizes his disdain for beer in one of the most virulent classical attacks on the beverage, following the notion first found in Theophrastus that beer is fundamentally rotten (presumably because of the corrupting influence of yeast, as we have seen in Chapter 3). Dionysius goes on to say in a later passage that when the Gauls took to drinking wine they drank it unmixed. Thus it is clear that while the Roman product was readily accepted among the Gauls, the Roman (and Greek) drinking ideology was not.[5]

Not only did the Gauls end up attacking Clusium, just as Arruns had planned, they even besieged Rome, and it was claimed, ironically, that part of their undoing was that very cause of their invasion: the wine. Because of their overindulgence the Gauls were said to have become fat and lazy, incapable of

running or exertion, and even growing effeminate and weak. The Roman historian Livy, writing just around the time of Christ, has it that the Roman commander Camillus knew that the Gauls in Rome ate much and drank much wine and left their camp unguarded, and thus he led an attack on their camp in which the Gauls were slaughtered. Another account has it that the Romans, knowing that the Gauls were very addicted to wine, gave them wine as a present (a sort of Trojan horse if you will), and then attacked them and slaughtered them while drunk. Similarly, some thirteen years later, when certain Gauls were camped on the Anio River and were full of food as well as drunk, the Romans again attacked and slaughtered them. There would be other times too when drunken Gauls would be slaughtered, and it was said to be common among the Gauls, because of their great drunkenness, to often fight among themselves after coming home with spoils.[6]

Livy pointed out that this was probably not the first time the Gauls had crossed the Alps into Italy, and, similarly, this was certainly also not the first time that the Gauls were introduced to wine. It is usually thought that the Etruscans and Greeks as early as the sixth century BC brought wine to southern Gaul (which, we can assume was at this time a place of beer and mead drinking). In around 600 BC Greeks from the town of Phocaea in Asia Minor founded the colony of Massalia (Massilia in Latin; modern Marseilles) at a large natural harbour near the mouth of the Rhône River. In the standard foundation story, a local King named Nanos (or Nannos) invited a Greek merchant to a feast at which his daughter would choose whom she would wed by proffering a cup to the man. The princess chose the Greek, and the King, accepting her choice, gave them the land on which Massalia would be founded. In the version of the story provided by Aristotle, the cup is said to have been 'mixed', which implies that it contained a mixture of water and an alcoholic drink, but in the version recorded by Pompeius Trogus (who lived around the time of Christ), the drink is simply water. Aristotle probably had wine in mind, but Pompeius Trogus knew well that the pre-Greek inhabitants of the area did not have wine, for he goes on to say that the region became less barbaric with the Greek arrival and they first began to practise viticulture.[7]

The archaeological finds of Greek amphoras and other vessels (ceramic and bronze), including Etruscan wares, associated with wine drinking throughout southern France, and even further north, show that from at least 650 BC wine was being imported into Gaul, and by the next century most of this trade was centred on Massalia. Archaeological evidence suggests that in the fifth century BC there was a decline in the trade; this is probably to be associated with the demise of the Hallstatt culture and the rise of the La Tène culture.[8]

The ancients themselves never mention this early trade in wine, and in fact our first sources for Massalian wine only come from the first century BC on. Strabo said only that Massalia was a good place for the growing of olive trees and vines but not cereals, while as one went further north, though vines could not easily bring their fruit to maturity, there was much cereal, including millet.

Other authors describe Massalian wine as rich and full-bodied. And at least at one point in its history, women of Massalia were not allowed to drink wine, but only water.[9]

It was Posidonius, the Syrian philosopher and historian from the early first century BC, who first spoke of the trade of wine from Massalia (as well as Italy) to the Gauls, in a chapter of his monumental history devoted to the ethnography of the Gauls. We know from Strabo that Posidonius had personally been to Gaul (since he had seen head trophies there), and if he had not been to Massalia, he at least had had a Massalian guide named Charmoleon. It is quite probable in fact that Strabo relied on Posidonius for his description of the place.[10]

A number of ancient authors also cite Posidonius on the eating and drinking habits of the Gauls, with Athenaeus as our most important source. Thus we learn through him that the Celts at this time sat on straw on the ground and ate from low tables (which is confirmed by Strabo, though Diodorus of Sicily says they sat on wolf or dog pelts). When there are many of them they sit in a circle, with their best warrior sitting right in the middle, and they are served by attendants (Diodorus says that these are their children, and he also adds that they invite strangers at their meals). They eat small amounts of bread and large amounts of boiled or roasted meat (Strabo says especially wild boar), with the best cuts going to the bravest warriors according to Diodorus, and those near the Atlantic or Mediterranean eat fish. Their drink (either wine or beer as we will see, or milk as Strabo says) is served in a clay or silver container which is passed around, each person having a shot. It is also said that they put cumin in their drink, though which drink is not specified. Diodorus adds that when they eat, food often gets stuck in their moustaches and that when they drink their moustaches act as strainers. Finally, Posidonius also says that often disputes during the meal (especially over the best cut of meat or a jar of wine) erupt into full combat, and sometimes some attending are even killed.[11]

Posidonius, who was a great proponent of the idea that climate influences character, speaking of how the environment was able to determine whether one would be a wine drinker or beer drinker, explained that 'because excessive cold ruins the climate of the air' the land of the Gauls 'bears neither wine nor oil', that is, neither vines nor olive trees, forcing the Gauls to drink beer. Dionysius of Halicarnassus, perhaps following Posidonius, also said that the Celts did not have grape wine or olive oil, but used beer instead. However, though the Gauls did not have their own wine they did have it imported. At one point Athenaeus says that Posidonius explains that in southern Gaul, the upper class (that is, the chieftains) avoided beer and drank wine from Italy and Massalia. Though they still had not fully accepted Greco-Roman practice, since, Posidonius explains, they drank the wine unmixed with water or with only a little water, Gauls did consider wine an upper-class beverage. Diodorus of Sicily, in a passage which was also clearly indebted to Posidonius, states that the Gauls were addicted to the wine imported by Italian merchants, which they drank unmixed and in immoderate amounts, to the point of falling into stupors. He notes that it was

a luxury item; in fact, he says that Gauls would exchange a slave for one jar of Italian wine. Athenaeus also quotes Posidonius about a great feast which lasted numerous days which was organized by the chieftain Lovernius (or Loverius) at which there were 'vats of expensive drink'; presumably wine is meant, though it is possible that mead or expensive beer is meant. This type of wealthy Celtic feast had already been known among the Galatians (Celts who inhabited Asia Minor) long before. Phylarchus in the third century BC said that the very wealthy Ariamnes put on a feast open to all Galatians and even strangers passing by which lasted a whole year; he built temporary banqueting halls throughout the land, and provided at all of these a variety of meats as well as jars of wine.[12]

Posidonius's student Cicero, the great Roman orator, also testifies to the large taxes imposed by Romans on wine sold in Gaul. He further says that the inhabitants of Transalpine Gaul were not allowed to plant vines or olive trees, so that the Italians could have a monopoly in the wine and olive oil trade. By the early Empire Strabo would say that the barbarians of southern Gaul, because of Roman influence, turned to farming rather than war, and in fact that the peoples around the Rhône River were really no longer barbarians at all since they accepted Roman ways, which presumably included wine drinking.[13]

The great popularity of wine in southern Gaul at this period in no literary exaggeration; it has in fact been archaeologically confirmed. Fragments of hundreds of thousands of Italian amphoras of the Dressel 1 type in southern France, dating from the late second to the late first centuries BC, testify to a unique and incredibly massive trading phenomenon, not paralleled otherwise for Italy in the ancient world. The two major centres of this trade were Toulouse (ancient Tolosa) and Châlon-sur-Saône (ancient Cabillonum), both of which are built upon tens of thousands of amphora fragments. Here then the remains suggest the powerful influence of the Greco-Roman notion of the superiority of wine. To further easily transport Italian wine inland, the thirsty Gauls, it seems, came up with an ingenious solution. While the amphora with its pointed end was ideal for stacking in the hull of a ship it was rather clumsy for land transport. The solution was to fasten together staves of wood in a cylindrical shape, thus creating the barrel. This is an ideal container for alcoholic beverages as its use still today testifies; it is relatively light (more so than ceramic containers, such as the Italian amphoras), easily transportable (by rolling), and good for storage and ageing. The first evidence of the barrel as we know it, made from staves and hoops, comes from the first century BC, though there is some evidence that wooden containers were occasionally used by other peoples for the storage of wine. Julius Caesar speaks of *cupae* filled in time of war with grease, pitch, and shingles put on fire which Gauls rolled toward Roman fortifications. Strabo says that Illyrians buy wine in northern Italy and store it in 'wooden jars' and also speaks of the Cisalpine Gauls storing their wine in 'wooden jars' larger than houses which were covered in pitch. We need not assume that Strabo here is indulging in undue hyperbole, since ancient barrels with capacities of over 1,000 litres have indeed been found. Pliny the Elder

says of wine in the Alps: 'they store [it] in wooden containers and bind them with hoops'. And indeed the remains of a barrel dating to Roman times have even been found in Manching, Switzerland (among other places). Pliny also says that yew when used by Gauls for the transportation of wine proved poisonous.[14]

Some scholars have assumed that barrels were also used for beer from an early time. However, the analysis of archaeological remains of barrel hoops, staves, and stoppers has proven only that these containers were used for wine. Similarly, the Celtic god Sucellus, who is often associated with barrels and the tools of the cooper in iconography, has also sometimes been identified as a beer god. However, in one relief from Kinheim, Germany, he is clearly shown holding a bunch of grapes, while two barrels are seen behind him, while another statue of the god, from Javols, France, shows him with barrels, vines, and an amphora, thus showing that he was the patron of makers of wine barrels. Other depictions of barrels (which exist from the second century AD on) do not associate them with beer in any way. And so all the early evidence then seems to point to the fact that barrels were simply used by Gauls to transport wine, perhaps starting with the huge influx of Italian wine which occurred around the second and first centuries BC. Before this, when wine was first imported into Gaul by Greeks and Etruscans, ceramic containers were used for it.[16]

In Posidonius's account, it is clear, however, that wine, though very popular, did not fully replace beer among the Gauls. After explaining that the rich Gauls drink wine he goes on to say: 'Among those who are poorer there is wheaten beer [*zūthos*] prepared with honey, and among the majority there is plain [beer]. It is called *korma*.' Posidonius clearly lays out a drinking hierarchy among the Gauls, with wine at the top, honey wheat beer in the middle, and plain beer at the bottom. This plain beer is probably simply barley beer with no additives (such as the honey mentioned above), that Gallic product which we have seen Dionysius of Halicarnassus call a 'foul-smelling juice'. It makes sense that a honey beer, which would be more expensive to make and which would tend to be stronger and sweeter, would be considered a better product than a plain beer. That wheat beer would be considered a product superior to barley beer seems to stem from a general notion of the status of barley as inferior to wheat as is well exemplified in the dietary practices of the Roman army. Thus in the second century BC Polybius explained that Roman and allied infantrymen would receive two thirds of an Attic *medimnus* of wheat a month, while Roman cavalrymen would receive two of wheat and seven of barley and allied cavalrymen one and a third of wheat and five of barley. This clearly implies that barley was normally used as food for the horses (at least Pliny the Elder remarked some centuries later that barley bread used to be common but was in his day mainly used for livestock), though we also learn from other sources that rations of barley rather than wheat were provided to soldiers when supplies were low or as a punishment. Furthermore, in antiquity, as today, the cereal most used for beer was barley since it is very hardy and easily cultivated as well as malted, more so than wheat.[16]

Posidonius in the passage cited above also seems to use *zūthos* as a generic term for beer. As I have shown in Chapter 2, this term was used specifically of Egyptian beer in earlier sources, and it may be Posidonius who coined this generic use of the term. However, it is unclear whether the term *korma* is meant to apply to both the honey wheat beer and the plain beer or simply the latter. At least the first century AD medical author Dioscorides says that *kourmi* (clearly another Greek variant of the Celtic word, akin to *korma*) is specifically made of barley, suggesting that by *korma* Posidonius was referring to the plain beer alone.[17]

Diodorus of Sicily also says that the Gauls 'prepare the drink from barley which is called *zūthos*, and in washing the honeycombs they use the drain-off from them'. It is difficult to assess the accuracy of this statement, which is clearly again indebted to Posidonius. Diodorus seems to have misunderstood Posidonius's use of the term *zūthos* as a generic one for beer, taking it instead as a Gallic word for beer, which it certainly was not. There is also an ambiguity in the passage since Diodorus could be referring to one drink (a honey barley beer, made from the honeyed water remaining after honeycombs are washed) or to two drinks, namely barley beer and mead. Either interpretation is possible, especially since Posidonius speaks elsewhere of honey wheat beer, as we have seen, and since Gallic mead is known, not only from the Hochdorf grave, discussed above, but from a silver goblet (now lost) with a Gallic inscription in Greek letters which reads: 'mead of a kinsman'.[18]

The two Posidonian passages, our earliest references to Gallic beer, far from being contradictory (as sometimes claimed), rather point to that variety of Gallic fermented drinks. Such a variety was noted by Pliny the Elder in the first century AD, who said that the Gauls have 'many types' of beer made 'in many ways' and 'with various names'. Pliny unfortunately does not give a full listing of the Gallic beer varieties. He does say at one point that one type was known as *cervesia* and at another point that Gauls had wheat beer. Isidore of Seville in the early seventh century wrote: '*Cervisia* [or *cervisa* in some manuscripts] is named from Ceres, that is from cereal; it is in effect a drink made in different ways from the seeds of cereal [or wheat?].' Here Isidore gives what is certainly a false folk etymology, connecting *cervisia* to the Roman goddess of cereal Ceres, whereas the word is surely Celtic. He goes on to say that it is made from the seeds of *frumentum*, which could either be translated as cereal generally or wheat specifically, but the latter interpretation is in keeping with the evidence from a school text to be discussed in the next chapter.[19]

We have good reason then to think that the Gauls had two main types of beer, a barley beer, which was considered inferior, and which was known as *korma* (and variants) and a wheat beer known as *cervesia* (and variants). Either of these could also be made with honey. Our best evidence for there being two basic types of Gallic beer is in the Gallic medical author Marcellus Empiricus from the early fifth century AD, who, as part of a remedy for coughs, speaks of placing salt 'into a drink of *cervesa* or *curmi*', presumably wheat beer and barley beer, respectively.[20]

A few surviving inscriptions also add to our picture of beer in ancient southern Gaul, and to its continued popularity there. A stone slab of unknown date uncovered in Riez, in southern France, gives us unique evidence of beer (along with oil) being given as a gift to the populace, presumably by a Roman official who was attempting to gain popular support. Another piece of evidence comes from a rather unlikely source, a spindle whorl found in Autun, France, on which is written in what seems to be Gallic transcribed with Roman letters: 'Beautiful girl, good barley beer' (Figure 5.1). This would seem to embody the two things that a Gallic man sought most. One Gaul, presumably because of his great fondness for the beverage, seems to have even been given the nickname *Cervesa* (or 'wheat beer'), as is attested on two mid-first century AD dishes as part of kilning dockets (indicating the owners of dishes placed in a kiln) in La Graufesenque (Millau), France.[21]

All this evidence tends to show us that the southern Gauls from at least the first century BC (but probably from very much earlier) had both barley and wheat beer, both of which could also be fermented with honey, but also that wine became an important part of the Gallic drinking tradition.

Celtiberia

In the late third century BC, the Romans expanded into northern Italy beyond the Po River, conquering Cisalpine Gauls as well as the Ligurians. These were their first conquests of beer-drinking peoples. The Gallic taste for beer has

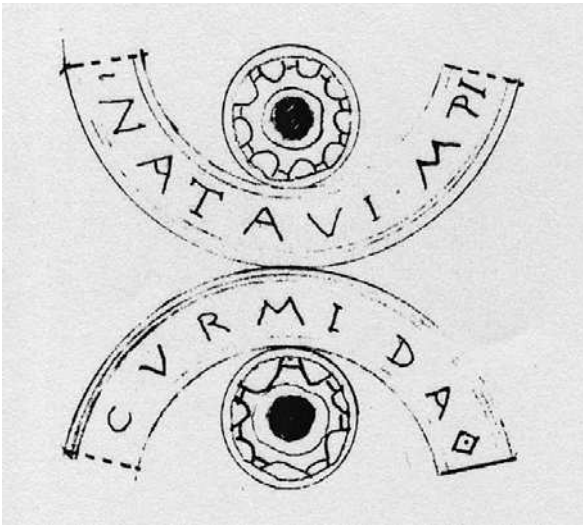


Figure 5.1 A spindle whorl from Autun, France, probably from the early Roman Empire, with an inscription which may read in Gallic: 'Beautiful girl, good barley beer'. By permission of Editions Errance, Paris, France.

already been dealt with. As for the Ligurians, Strabo says that they lived off sheep mainly and that they drank milk and a 'barley beverage', clearly beer. He also says that they traded lumber, flocks, pelts, and honey in Genoa for Italian olive oil and wine and also had a little bit of inferior wine of their own.[22]

Around this same time the Romans were also expanding westward, conquering in the Iberian peninsula the Celtiberians and Lusitanians, also beer drinkers, after having expelled, under the leadership of Scipio the Elder, the Carthaginians from there. In 197 BC a part of the peninsula was annexed into two provinces (Nearer and Further Spain), which gradually expanded in size, but many of the native peoples continued to rebel against Roman rule. The situation had come to a head by 134 BC, when Scipio the Younger, who had led the destruction of Carthage in 146 BC, forever ridding the Romans of the Phoenician domination of the western Mediterranean, was made Consul a second time and was sent to Spain to end the resistance once and for all. The final war for Roman supremacy in Spain occurred in 133 BC at the most important inland town, 'the little barbarian city state' of Numantia, as the historian Appian called it. Scipio refused to fight the Numantians in an open battle but rather encircled the city with seven forts as well as a wall and conducted a drawn-out siege, attempting to reduce the inhabitants by famine. Eventually, as Appian has it, the starving Numantians were forced into cannibalism for survival, and some in the end committed suicide and the rest finally came out and surrendered to Scipio. However, as the story goes in other authors, on the last day, refusing to surrender, the Numantians drank some of their local wheat beer, which was called *celia* or *caelia*, and then they rushed out from the two gates of their city into a final suicidal battle with the Romans. There are two different, and somewhat contradictory, accounts as to why they tippled before their final attack. One author, the historian Florus, from around the late second century AD, claimed that the Numantians also ate a meal of half-raw meat, and believed that this, along with the beer, constituted a sort of mortuary dinner (that is, a banquet held at tombs of the deceased), the Numantians thus consuming things contrary to the normal human diet (which, clearly, was conceived to be cooked meat and wine) since they considered themselves already in a sense dead as they had resigned themselves to dying in battle. If anything this betrays a Greco-Roman view of the matter, in which it is assumed that the drinking of such a thing as beer must be abnormal. Another author, the historian Paulus Orosius from the early fifth century AD, rather understood that the Numantians at this time did not have wine (because, he says, their land was not fertile in vines), and that they rather drank the beer so that they could warm themselves up again after their long famine, and obviously to sustain them to win in battle. This makes much more sense from what is known of Celts in general. Orosius even describes the malting process used in making this beer, in which the cereal is soaked (and presumably allowed to germinate), dried, reduced to flour, mixed with water, and then fermented.[23]

Accompanying Scipio on his successful campaign was the Greek historian Polybius, who is said to have written a work on the Numantine War, unfortunately now lost. However, in Polybius's more general history of the times, in which he expresses his fascination at the striking Roman expansion of his day, something more is said of Iberian beer. Polybius noted that a certain Iberian king lived in great luxury, rivalling that of Homer's Phaeacians, except that the Iberian King's mixing bowls made of silver and gold which were placed in the middle of the house were full of 'barley wine'. Evidently, Polybius was struck by the fact that a lowly beverage such as barley beer should be found incongruously in expensive vessels. Polybius speaks of beer as a wine and even refers to the vessels in which it is found as 'mixing bowls', which would have been used by Greeks and Romans to mix wine and water. A similar usage was made by Xenophon, as we have seen in Chapter 2, and here again we may presume that it is a slip and that the Celtiberians, like other beer drinkers, drank the beverage straight.[24]

It is clear then that in the second century BC the Celtiberians had both barley and wheat beer, and no wine. It was after the Roman expansion into the peninsula that the locals were introduced to wine or at least introduced to systematic viticulture. When in the early first century BC Posidonius wrote about the situation among those Iberians in the Lusitanian mountains (in modern day Portugal) he spoke of them drinking beer and only a little wine: 'They use *zūthos* and are scarce in wine. They quickly drink up what they have, feasting with kinsfolk. Instead of olive oil they use butter.' Here again we find the use of *zūthos* in a generic sense, and not specifically applying to Egyptian beer. Later in the first century BC the historian Diodorus of Sicily said that the Celtiberians purchased wine from merchants and drank it with honey. By the time of the Empire viticulture was certainly thriving. Strabo for one said that Iberia had olives, vines, and figs on the coasts, except in the north, and that was not only because of the cold, but also because the inhabitants lived like beasts, doing such things as bathing in urine and using it to wash their teeth. Thus again the drinking of wine is likened to being civilized. Pliny also spoke of the best vintages in Spain, but also mentioned Hispanians drinking beer, specifically wheat beer, and also ageing it. He further said that they called it *caelia* and *cerea*. We have already seen that the former term was used by other ancient authors. The latter word, however, is found nowhere certainly, but has been restored in one inscription (to be discussed). Finally, in the early seventh century, the scholar Isidore, from Seville in Spain, explained that beer was still to be found 'in those parts of Hispania not fertile in wine [that is, vines]'. This clearly suggests that wine, when available, was the drink of choice in his homeland, and thus that the Roman conquest of Spain was not only a political success but an ideological one as well.[25]

Northern Gaul

In 57 BC Julius Caesar, after having campaigned against certain southern Gallic tribes as well as Germans who had crossed the Rhine under Ariovistus, went north to put down a revolt of the Belgians. Julius Caesar noted of these Celtic peoples:

> Of all of these [that is, Gauls] the Belgians are the bravest, because they are furthest removed from the culture and the civilization of the Province [of Gallia Narbonensis] and not often do merchants visit them and introduce the commodities that make for effeminate spirits; and also because they are nearest to the Germans, who dwell beyond the Rhine, with whom they continually wage war.

Very interestingly, Caesar here connects the Belgians' very barbarity, their distance from civilization (and here also their proximity to another barbarous nation), with their great bravery in battle, and seems to admit that Roman commodities can cause a lack of manliness. Later, he says that the Gauls in general are less brave than the Germans because of their acquaintance with Roman luxuries. What exactly these luxurious commodities are, Caesar does not explicitly say in these passages, though he elsewhere specifies that an item believed by the Belgian Nervii as well as Germans to cause effeminacy was imported wine. He notes:

> There was no means of access unto them [that is, the Nervii] for merchants since they allowed no wine nor any of the other appurtenances of luxury to be imported, because they supposed that their spirits would be enfeebled by these things and their courage slackened. They were fierce men of great courage.

And again, of the Germans: 'They do not at all allow wine to be imported among them, since they believe that by it men are made soft and effeminate for the endurance of hardship.' According to Caesar then, certain northerners in his day considered imported wine unmanly. Whatever reason the northern Belgians and Germans had for avoiding wine, the absence of finds of Roman Republican amphoras from these areas tends to confirm that they did not drink it.[26]

This is a remarkable new twist in our evidence. Everything else has pointed to the barbarians being relatively indiscriminate and accepting wine along with other fermented beverages. If indeed the Belgian Gauls and the Germans avoided wine at this time, the question as to what they consumed instead (beer or mead, for instance) naturally comes to mind. Caesar says only that the Germans have milk, cheese, and meat. Nowhere does he mention beer, though he does note that there was an abundance of cereal in northern Gaul, and shows that there were already Roman dealers interested in it in his day. Strabo,

probably simply following Caesar, also spoke of the great abundance of grain in northern Gaul as did other authors as well, and surplus wheat cultivation in this area became important for sale to the Roman army. There can be little doubt that the Belgian Gauls themselves used this cereal to make beer. The evidence for this comes from three types of sources: inscribed drinking vessels from throughout the region, inscriptions referring to brewers found around the Mosel/Moselle River area in what are now Germany and France, and architectural remains of what may have been breweries in Germany and in the Belgian province of Namur.[27]

While the commerce and consumption of wine among such ancient peoples as Greeks and Romans can be relatively easily traced by finds of amphoras or other vessels (such as mixing bowls or drinking cups) there are no equivalent vessels associated with beer trade and drinking. Some scholars have suggested that shoe- or boot-shaped vessels which have been found in Gallic territory were used as beer vessels (as they still are today in Germany), though we cannot be sure. Rather, it seems that a wide variety of vessels were used for beer, including some that would also be used for wine, and the only way to identify them as beer vessels is either through the detection of beer residue (as we saw in Chapter 2) or from inscriptions on the vessels themselves. A number of vessels have been found in northern Gaul with Latin or Gallic inscriptions (or a mixture of both) indicating their use in beer drinking. A clay cup from Mainz, Germany (in what would have been part of ancient Gaul) from the early fourth century AD, decorated with a man fighting a panther with a spear, has inscribed on it: 'Fill up, waitress, the pot from the good wheat beer!' (Figure 5.2). A clay ring-shaped flask found in Paris has on one side in white paint on varnish: 'Waitress, fill up the flask with wheat beer!' (Figure 5.3). The other side makes a mention of spiced wine (Figure 5.4). Similar shaped vessels have been found in the province of Hainaut in Belgium and in the Rhineland and Trier regions in Germany. Other fragmentary pieces of vessels, some from further south in Gaul, may similarly involve the admonition to fill up the container with beer (see Figure 5.5), but many of the remains are too meagre to be certain.[28]

A number of inscriptions found both in Trier, Germany (once the ancient Gallic town Augusta Treverorum, as organized under the Emperor Claudius) and Metz, France (ancient Mediomatrici) also provide evidence for beer manufacture in northern Gaul and seem to indicate that the Mosel River area was once a very important beer-making centre. One inscription found at the Altbachtal sanctuary and dated from the late first century AD was set up in fulfilment of a vow by a certain soldier (whose name has not survived) of the German fleet of the Emperor Domitian (Figure 5.6). He is rather enigmatically described as a '*cervesa*-related dealer of the guild of dyeing'. It used to be assumed that this meant that he was a merchant who dealt with 'dyed' or dark beer (which presumably would have been made with the infusion of roasted malt in the hot water, just as tea colours hot water) but it has been shown on the evidence of other inscriptions that a person could belong to a certain profession (such as

Figure 5.2 A cup from Mainz, Germany, from the early fourth century AD with an inscription in Latin reading: 'Waitress, fill up the pot from the good wheat beer!' By permission of the Landesmuseum Mainz.

beer dealer) but be guild-related to another profession (such as a guild of dyers), since membership in these was often passed on from father to son. Some scholars assume that the soldier/brewer from our inscription must have been a discharged soldier or veteran, but there is no way of knowing certainly whether or not he was still serving in the army while dealing in beer. It is also sometimes further assumed that this soldier supplied his beer to fellow-soldiers, which is possible though far from certain.[29]

Two other inscriptions show that there was also an *ars cervesaria* or guild of beer makers. One of them is the newly discovered tombstone from the St Matthias Church grounds in Trier of a Fortunatus (though it is admittedly quite fragmentary) (Figure 5.7). The other is a stone set up by a woman named, it seems, Hosidia, which has been restored as referring to her 'dealing in the *cervesa* or *cerea* guild'. Yet another fragmentary funerary inscription from Trier (Figure

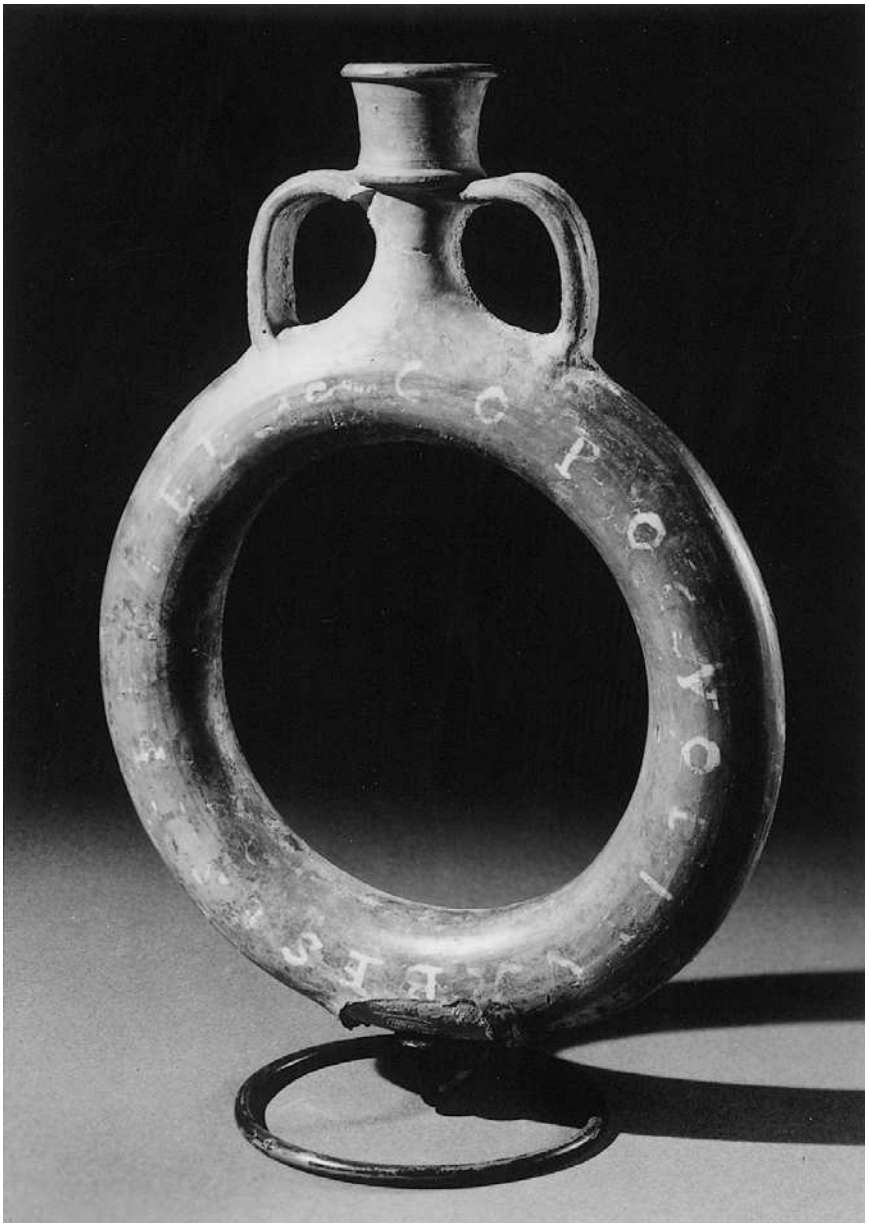


Figure 5.3 An annular flask from Paris, France, probably from the early Roman Empire, with an inscription in Latin reading: 'Waitress, fill the flask with wheat beer!' By permission of the Musée Carnavalet, Paris.

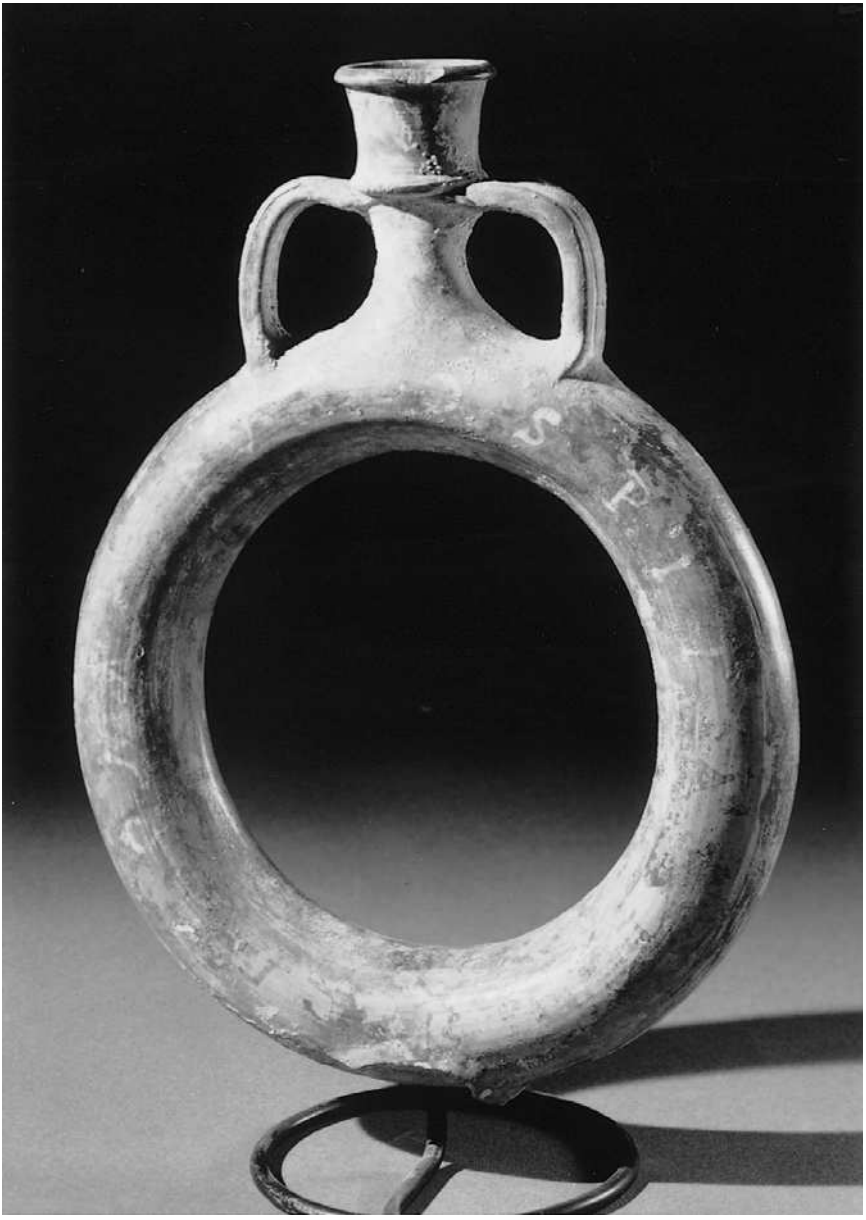


Figure 5.4 The reverse side of the flask in figure 5.3 with an inscription in Latin reading: 'Innkeeper, do you have spiced wine? It needs to be filled!' By permission of the Musée Carnavalet, Paris.

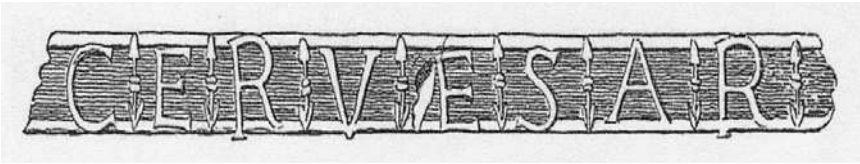


Figure 5.5 A fragmentary Latin inscription on a vessel from Banassac, France, probably from the early Roman Empire, perhaps originally reading: 'Fill up with wheat beer!'

5.8) has been restored to read: '[To the shades of the dead, Satt]onius Capurillus the maker of *cervesa* made [this] vow for himself and his own.' Not far up the Moselle, in Metz, France, another brewer's tombstone has been found, which can be restored to read: 'To Julius of the Mediomatrici, the maker of *cervesa*, (who) lived for 50 years; (his) legally married, living wife, set up (this stone) for her husband.'[30]

Recently it has also been suggested that remains of a brewery have been found at Lösnich, Germany, also on the Mosel River, and possible locations for ancient breweries have been proposed in the past at sites a little further afield in Germany, namely Regensburg and Xanten. These breweries would have been part of ancient villas, and we know from extensive archaeological as well as some literary evidence that the ancient territory of the Belgian Gauls during the Roman Empire was dominated by large private villas which were fully self-sufficient agricultural estates. The most widely accepted evidence for such properties containing breweries comes not from Germany but from the area around modern Namur, Belgium, at the villas uncovered in Ronchinne and Anthée.[31]

The villa of Ronchinne from the third and fourth centuries AD included a large residence, workhouses and storehouses, as well as what was identified as a brewery. This building had a gallery in the front, a small room containing three stone weights of 25 to 30 kilograms, probably used to weigh cereals, another small room with low walls on which malting vessels could have stood, a very large room in which the grain may have been spread to germinate, rooms with access to a heater which could have been used for the actual brewing of the beer, and a final room where the brew could be cooled and fermented. A small tower nearby contained an oven, which could have been used to roast the germinated cereals before brewing. A cellar found in the neighbouring residence, with a ramp facing the brewery, was suggested to be the storeroom for barrels of beer produced on the estate, although, as we have seen, there is no evidence for beer being stored in barrels at this time. Nevertheless, there is little reason to doubt that the villa was indeed equipped with a brewery, though it seems that the excavators could have benefited from modern archaeochemical methods; they cite no finds of cereals or, for that matter, of containers for beer.

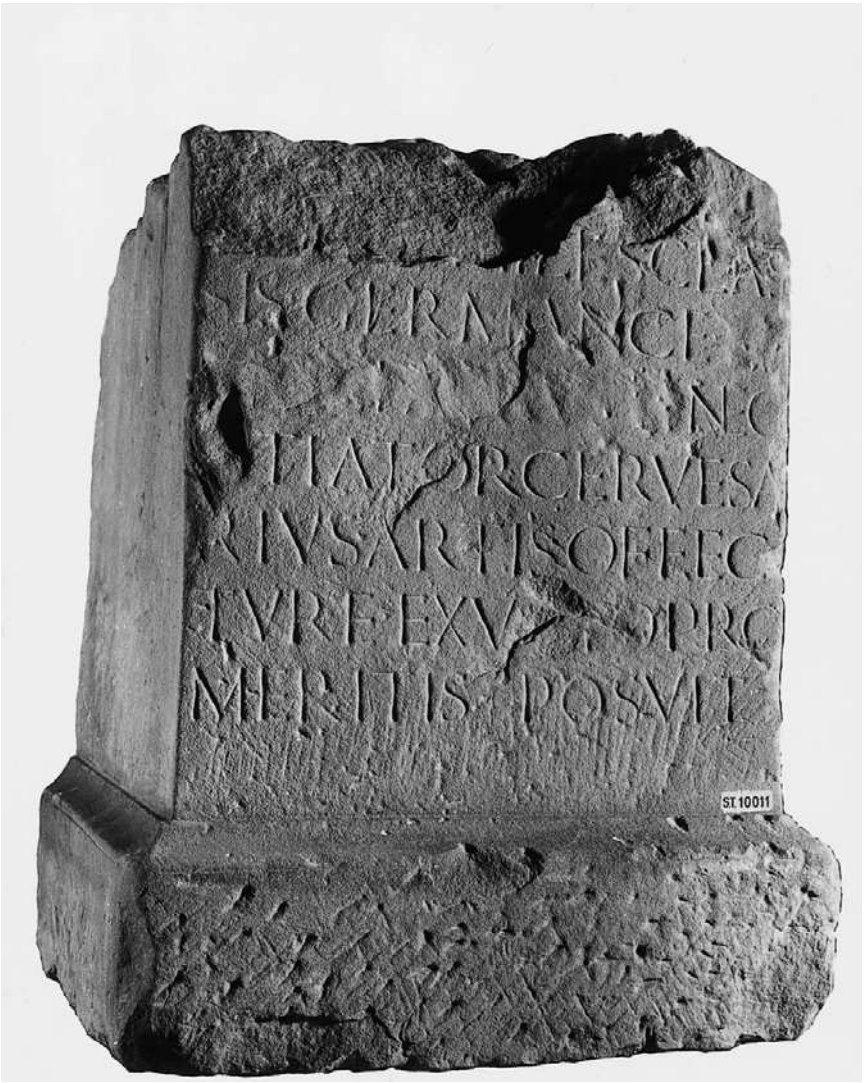


Figure 5.6 The tombstone of a beer dealer from Trier, Germany, from the late first century AD. By permission of the Rheinisches Landesmuseum Trier.

The other possible villa brewery in Belgium is at the Villa of Anthée, the principal part of which is to be dated from the mid to late first century AD. It has been plausibly suggested that the cellar and hollow (meant for a cauldron?) found in a building on the villa grounds pointed to this structure's possible use as a brewery.[32]

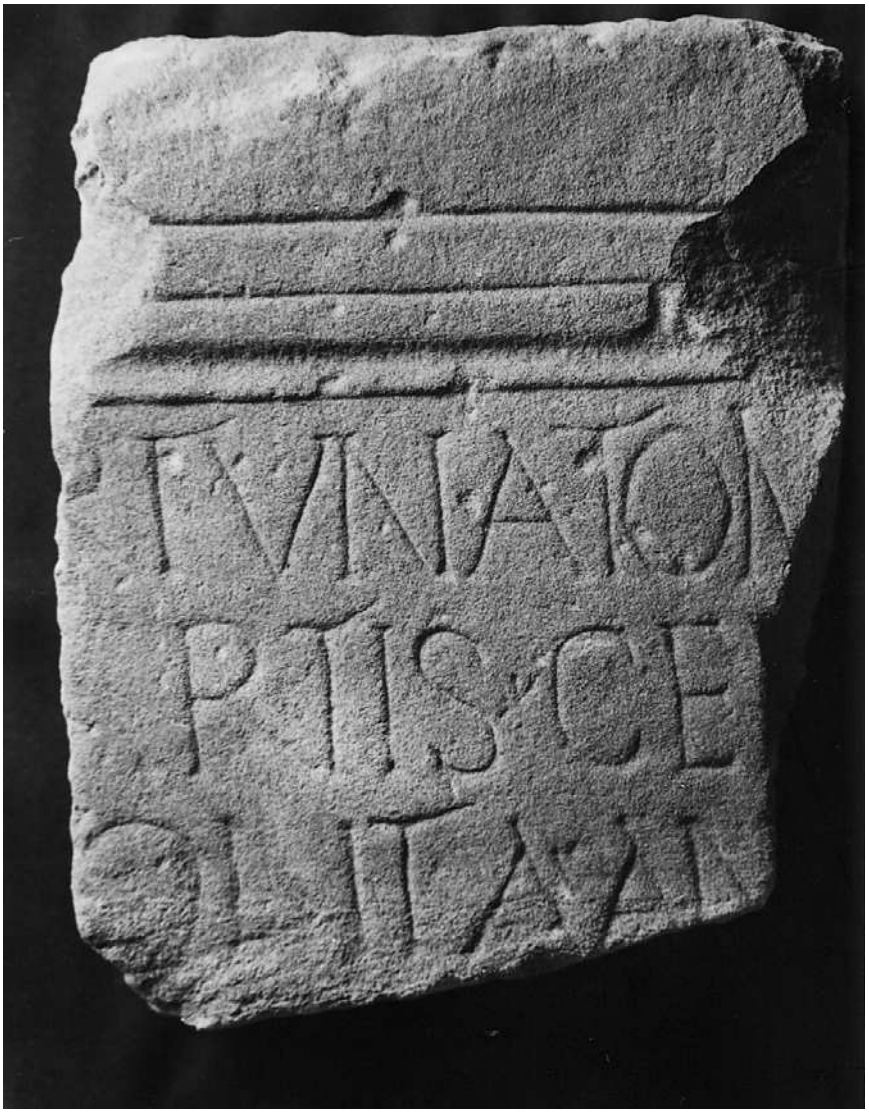


Figure 5.7 Fragment of a tombstone of a beer maker from Trier, Germany, from the early Roman Empire. By permission of the Rheinisches Landesmuseum Trier.

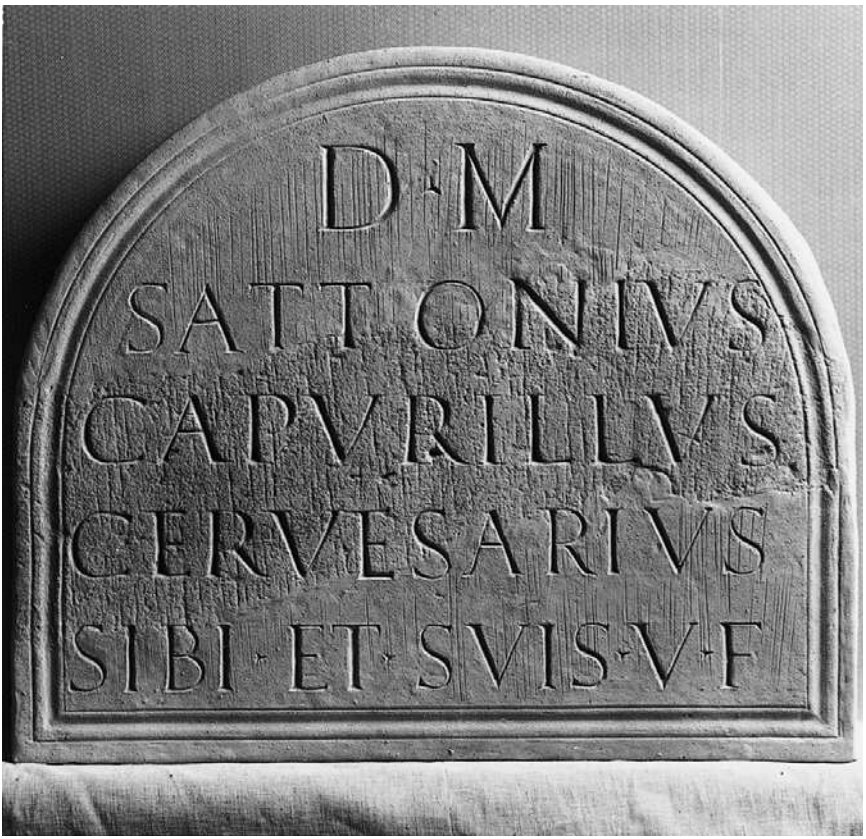


Figure 5.8 The reconstructed tombstone of a beer maker from Trier, Germany, from the early Roman Empire. By permission of the Rheinisches Landesmuseum Trier.

Northern Gaul thus remained an important beer-producing area during Roman rule and widespread acceptance of wine seems to have come there quite a bit later than in southern Gaul and Celtiberia. Indeed the presence of grape vines along the Moselle River is only first mentioned by the poet Ausonius in the fourth century AD.[33]

Britain

Sometime around the mid to late fourth century BC, the Greek explorer Pytheas of Massalia wrote his now lost work *On the Ocean*, in which he chronicled his discoveries during his travels in northern Europe, perhaps as the first literate person to describe Britain. Pytheas stated that the most northerly inhabited land

was that of Thule, which he considered to be the most northern of the British Isles and to be six days' voyage north of Britain (presumably of Britain proper). Strabo himself thought it uninhabited and considered what Pytheas had said about it to have been lies (having found no information on it in more recent authors), and he stated instead that the inhabited land furthest to the north was likely Ireland (though its inhabitants were barely human, being completely savage incestuous cannibals). Pytheas had stated that those who live near 'the frigid zone' (that is, the uninhabited area of the earth) had few domesticated animals and plants, and that they lived on millet, herbs, fruits, and roots, and prepared both food and drink from grain and honey. There is an ambiguity here: Pytheas could be speaking of beer and mead separately or of a honey beer (of the type we saw the Gauls drank). Strabo makes it clear that Pytheas here is not specifically referring to Thule, and he may in fact be referring to the inhabitants of the northern Scottish islands, who many not have even been Celts. As we have seen in Chapter 2, there is in fact quite a bit of evidence that beer and mead have probably been drunk in Scotland since very early times.[34]

Pytheas also claimed that they gathered their grain in large storehouses and threshed them there rather than outdoors, because of the lack of sun and the rain. Diodorus of Sicily, perhaps also ultimately indebted to Pytheas, explains that Britons have a special way of harvesting crops; they cut off only the heads of the cereal, store them, and then grind them as they need to eat. Indeed many Iron Age granaries have been found in Britain.[35]

Caesar led expeditions to Britain in 55 and 54 BC and it was hyperbolically stated that he was thus going 'to the ends of the earth'. Strabo claimed that the Britons were 'more primitive and more barbaric' than the Gauls, and that though on the land there grew cereals the Britons knew nothing of agriculture. Caesar claimed that the most civilized of the Britons were those of Kent (ancient Cantium) by the sea, who lived much like the Gauls, while the inlanders for the most part did not grow cereal. Some scholars have noticed a wine versus beer rivalry amid certain British tribes in the late first century BC and early first century AD. The Trinovantes in Essex, who were supported by the Romans, used a vine leaf on their coins while their rivals the Catuvellauni in Hertfordshire used as their motif an ear of barley. However, the first certain literary reference to British Celtic beer comes at a time after the Roman conquest of Britain in AD 43. Some thirty years later, the Greek medical writer Dioscorides, speaking of a type of barley beer known as *kourmi*, says: 'Such drinks [that is, beers] are also prepared from wheat, as in Iberia in the west [as opposed to eastern Iberia] and Britain.' Further evidence for this drink comes from the usually T-shaped kilns (commonly known as 'corn-dryers') discovered in numerous sites in Britain (especially in rural areas and villas), and dating especially from the first to fourth centuries AD, which were certainly used at least in part for malting. In such kilns at a Roman site at Catsgore, Wales, malted spelt was even found.[36]

It was indeed the Romans who introduced wine to Britain, in the early first century BC, as the archaeological evidence makes clear. Amphoras (Dressel 1 and

2–4) and bronze vessels associated with wine drinking are found in rich Late Iron Age burials, as well as in settlement sites, in southern Britain, indicating small-scale trading. Viticulture itself was probably not introduced until the Roman conquest in AD 43. It was after this that the historian Tacitus claimed of the Britons, just as Caesar had of the Belgians, that, under the guise of being civilized, they were gradually being corrupted by Roman customs, including sumptuous dinner parties; 'even the barbarians now learned to condone pleasant vices'. However, the Icenian tribe of Britons, which famously revolted under their female leader Boudicca not long after the Roman conquest, was in fact said not to have been tempted by Roman wine, and the abscence of archaeological finds in the area they inhabited supports this. We can only assume that their main drink continued to be beer (or else mead).[37]

Beer also remained prominent in a quite unexpected way, by being a beverage of choice for many of the very troops safeguarding Roman dominance in Britain. These were not troops of Italian stock, but rather auxiliaries, recruited from among the provincial populace. Our best evidence for these soldiers drinking beer (as well as wine) comes from the late first century AD onwards at the northern British site of Vindolanda (which would become a fort on Hadrian's Wall), where Batavian and Tungrian units from what is now Germany were stationed. A large number of tablets have been found at Vindolanda on which are recorded the day-to-day activities of the soldiers. One of the most recently published tablets makes it absolutely clear that beer was officially rationed out to soldiers there. In a letter from around AD 100, the decurion Masc(u)lus writes to the prefect Flavius Cerialis: 'My fellow-soldiers do not have any *cervesa*; I request that you order some to be sent.' In another tablet dating to the late first or early second century AD, a certain Atrectus the brewer (*cervesar*[*ius*]) is attested making payments for iron and pork-fat. There is some question as to whether this was a member of the military personnel who made the beer, or a civilian who made and sold the beer to the troops. On another tablet there is an account from AD 111 in which the price for the beer (*cervesa*) is recorded at 8 *asses* (a small unit of Roman currency) per *metreta* (a liquid measure). Another, from the late first or early second century AD includes a list of quantities of both *cervesa* and wine, with much more of the former than the latter. Beer (and a beer maker) is also mentioned in one other account and the phrase 'from drops of *cervesa*' is also found in another very fragmentary tablet. Furthermore, other tablets as well as archaeological evidence point to the local brewing of the beer, perhaps within the fort itself. Thus the word *bracis* (probably 'malt' or perhaps a type of wheat) is found in six different tablets, a certain Optatus is referred to as *braciiarius* (probably 'maltster') on another, and what may be a reference to a *braciarium* ('malthouse') is found on one more. Finally, it has been suggested that a small structure from the mid-third century AD connected to a large building at the fort of Vindolanda may have been used for brewing. This identification is based on the discovery of two flues used to heat vats above them, and a large number of amphora fragments.[38]

All this evidence (which will only be expanded upon through future research) seems to show that beer was more consumed than wine in Vindolanda, and scholars have assumed that this was not an isolated case. Thus, it has been suspected (though with no concrete proof) that beer was also more consumed than wine at the fort at the military works-depot in Longthorpe. However, finds of cereal (especially malted cereal) show the plausibility of this argument for other sites. Thus finds of barley dating to the mid-second century AD at the Bearsden fort (eventually on the Antonine Wall) in Scotland possibly point to beer making among Roman soldiers there. Furthermore, finds of carbonized malted wheat from the first and second centuries AD at the Roman fort of Isca in Caerleon, Wales point to the production of beer at that location.[39]

One last possible piece of evidence for beer in Roman Britain, particularly among Roman soldiers, must be cited, if only to be rejected. Among the numerous unofficial gods of the Roman army, on the British frontier there were many deities who were amalgams of Roman and British gods. One of these, attested by only one inscription, was Mars Braciaca, a fusion of the Roman Mars and the Celtic Braciaca. The inscription, on an altar from Haddon House near modern Bakewell, Derbyshire, runs: 'Quintus Sittius Caecilianus, prefect of the First Cohort of the Aquitanians, fulfilled this vow to the god Mars Braciaca.' It is often said that Braciaca was the Celtic god of malt (being connected to the term *bracis* discussed above). It has even further been suggested that the equation of Braciaca (as a god of malt) with Mars (as a god of war) in this inscription is due to the fact that Celtic warriors would drink before going into battle. However, there is little evidence for this practice of 'Dutch courage' (as it is now called) as being a regular one among Roman soldiers. Furthermore, another plausible explanation can be advanced for the term 'Braciaca': it may simply refer to a locality (five places called Braciacus are known in Gaul).[40]

In conclusion, there is no doubt that Celtic peoples in Europe from what is now France, Spain, Belgium, Germany, and Britain were all avid beer drinkers, probably from very early times and for the most part even after the Roman conquests. However, due to Greek, and especially Roman influence, wine came to supplant beer (or honey beer or mead) as the upper-class beverage in most of these areas. The place where the old beer tradition remained most steadfast was in what is now Germany, perhaps due to Germanic influence on Celts (which Caesar's comment about German resistance to wine would confirm). This same Germanic influence is probably behind the popularization of beer among auxiliaries soldiers in Britain. But before looking at beer among the Germans, we should turn first to a more in-depth examination of the status of beer in the Roman Empire.

6

THE ROMAN EMPIRE AND THE RULE OF WINE

The Italians, like the Greeks, were wine drinkers, and there is no evidence, literary or archaeological, for the use of beer in Italy at any time in its ancient history. It has even been claimed that the extent of the Roman Empire was the extent of the cultivation of vines in the known world. By the first century BC, the agricultural writer Saserna had noticed that vines were then being grown in the far north, and assumed that there had been a change in climate. The change in fact was cultural.[1]

As the Romans spread knowledge of wine and viticulture in Europe so did they encounter beer drinkers. Some of them, like the Celts, were happy to adopt wine as a beverage, if not always ready to adopt the rituals which went with wine drinking among the Romans (such as mixing wine with water), while others, like the Germans, were apparently less happy to do so, at least at first (if we are to believe the testimony of Julius Caesar), as we saw in the last chapter. The Egyptians as well adopted the Greek and Roman view of wine as superior to beer, and though a full examination of this phenomenon is strictly outside the purview of the book, it is worthwhile looking at it briefly since it further illuminates the European conceptions of beer.

Beer, as we have seen in Chapter 2, had long been a standard beverage in Egypt, and indeed it continued to be drunk there after the conquest of Alexander the Great in the late fourth century BC. This is certain from references to beer found in a large number of papyrus records discovered in Egypt, as well as from a few Greek and Roman authors. Alexander's successors in Egypt, the Ptolemies, even began regulating the manufacture and sale of beer (along with other products, such as oil). Beer making thus became a state monopoly, in which a fixed quantity of cereals was provided to the beer makers in state-run or at least state-contracted factories to make a fixed amount of beer, and the production subsequently taxed. However, unlike the situation in Pharaonic Egypt, where beer was certainly drunk by all classes, wine came to dominate upper-class Egyptian society. Already in the first century BC this is suggested by the Platonic philosopher Dio who anachronistically wrote:

> The Egyptians were wine lovers and lovers of drinking. An aid was found among them so that those bereft of wine through poverty

> could drink that made from barley. Those who took it were so happy that they sang and danced and did all the things like those done by people full of wine.

Here Dio seems to be combining Herodotus's idea that Egyptians drink beer because they do not have wine (as seen in Chapter 4 above) with the further idea that the lack of wine is not due to geographic factors but to financial ones.[2]

The Romans took over Egypt in 30 BC and during their rule the production of beer was not as strictly regulated as it had been under the Ptolemies, since the government leased out concessions to private factories and provided no fixed allotments of cereals, and since it allowed 'home-brewing' to a certain extent, though they still imposed taxes on the product. Greek and Roman authors of the first and second centuries AD also speak of beer in the port cities of Pelusium and Alexandria (still nominally a Greek city, even under Roman rule). Thus Columella, in his verse work on agriculture, speaks of various snacks (skirwort, radish [probably], and soaked lupines) being served with beer from Pelusium. The geographer Strabo says that Alexandrians drink sea-water wine (which is called 'Libyan' wine) as well as *zūthos*. Later in the century, Dio Chrysostom wrote an oration attacking mainly the Alexandrian enthusiasm for musical shows and charioteering in which he cites a poem (in the form of a Homeric pastiche) which he ascribes to an inferior anonymous Alexandrian poet (but which may in fact have by written by him). The poem describes the spectators going to the racecourse as drunk on beer (*zūthos*) and wine, and flying there with a shout like a flock of birds. At the race itself they often swear, fight, and even throw their clothes at the contestants, thus leaving the racecourse naked. In the second century AD Galen could still refer to the 'Alexandrian diet' as 'eating salt fish and leeks and drinking *zūthos*'.[3]

Much evidence shows, however, that from the first century AD onwards, especially in Alexandria, upper-class Egyptians took to drinking Italian wines, and, furthermore, that by the fourth century AD wine was rapidly replacing beer as the drink of choice among all strata of the Egyptian population, paralleling the situation in Gaul.[4]

Overall, however, while wine became the dominant drink in Egypt as in Europe, beer remained a beverage among those people for whom it had long been a staple of their diet. Strabo, the Greek geographer who wrote during the rule of the first Roman Emperor, Augustus, said the following in his section on Egypt: '*Zūthos* is prepared in a particular way among them [that is, the Egyptians]; it is common among many, but the ways of preparing it in different places are different.' Strabo also knew of beer within the Empire in Liguria, Iberia, and Britain, and outside the Empire in Ethiopia and, it seems, in India. Although Strabo nowhere explicitly attacks beer, he does certainly believe in the supremacy of wine. Although at one point he criticizes those who make a direct correlation between climatic zone and character, he connects the happiness of peoples in Asia, whom he noted were not barbarians, with the niceness of their

climate and the quality of the vines grown there, and speaks of the reverse being the case in the north.[5]

A generation later, Pliny the Elder compiled a large amount of information on the various sorts of drink to be found within the Roman Empire and outside of it. He makes note of a large number of different fermented fruit beverages and also writes:

> There is a particular intoxication too among western peoples, with soaked grains, [made] in many ways among Gauls and Hispanians, with various names, but the same technique. The Hispanians have even taught the ageing of such types [of drinks]. Egypt also has devised similar drinks for themselves [made] from cereal, and intoxication is absent in no part of the world, since they drink such juices [from cereal] pure, not weakening it through dilution as with wine. But, Hercules, the earth seemed to produce cereals there. Oh wondrous ingenuity of vices! Such a manner of making even water intoxicating was invented!

We can see here that Pliny considers beer mainly a drink of Gauls, Hispanians, and Egyptians, and that he does not use a generic term for the beverage. In fact he also writes somewhat later, using various local designations for the beers of different people: 'From them [that is, cereals] they also make beverages, *zythum* in Egypt, *caelia* and *cerea* in Hispania, *cervesia* and many [other] types in Gaul and other provinces.' He ends this passage by stating: 'But as for what concerns the drink itself, it is preferable to pass on to a discussion of wine . . .' This clearly shows Pliny's own disapproval of the beverage. But, as was the case with Herodotus and many others, Pliny believes that it is the climate which determines what one drinks as well as one's character. Pliny notes that the central or temperate zone is characterized by the presence of wine, as well as by a populace of just the right size, with just the right colour of skin, that is well-mannered, intelligent, and natural rulers. One the other hand, the climate makes northerners tall, light-skinned, and savage and southerners tall, dark-skinned, and wise. Indeed the Roman scholar Vitruvius had already said that northerners, because of the cold and wet climate, were large, light-skinned, very brave, but slow-witted; southerners, because of the hot and dry climate, were small, dark-skinned, timid, but intelligent. Italians, however, since they were centrally located, were just right.[6]

However, this did not necessarily mean for Pliny that beer itself, though a drink mainly among those who could not cultivate vines (as other authors during the Roman Empire emphasize), was necessarily all bad. Amidst a discussion of the beneficial as well as negative qualities of wine, Pliny mentions the positive qualities of milk, beer, and water, writing: 'A drink of milk nourishes the bones, [a drink] of cereals the sinews, [and] water flesh.' He also says of the beers of Gaul, Hispania, and Egypt: 'The foam of all of these nourishes

the skin in the faces of women.' Presumably Pliny does not mean that the foam does not also nourish the face of men but rather that it is commonly used by (Celtic?) women on their faces. Pliny also notes that in the first two places the foam is also used instead of yeast to make light leavened bread. In both cases the foam mentioned (*spuma* in Latin) must refer to the froth formed at the time of fermentation (the so-called 'krausen head') and not the head on the finished beer.[7]

Pliny exemplifies well the sort of preoccupations with beer that Roman scholars would have during the Empire, particularly in terms of its terminology (especially in law) and in terms of its qualities (especially in medicine).

Beer and law

In the early first century AD, the law teacher Masurius Sabinus, who wrote a celebrated work on private or civil law, discussed the issue of interpreting the meaning of various types of intoxicating beverages as found in a person's will. He proposed that all drinks should be included under the designation 'wine' (*vinum*) which the head of the household held to be so designated and also those which were so designated 'by the reckoning and usage of men'. This included vinegar and also *zythum* and *camum*. Sabinus, at least in the form in which he survives, does not define these last two beverages, and presumably expected his readers to understand what they were.[8]

In the early third century AD, the famous and influential jurist Ulpian wrote a treatise commenting on Sabinus's civil laws. Ulpian differed from Sabinus on the issue of wine designations, saying that if a man bequeaths *vinum* this should usually include only 'that originating from the vine which remains wine', and thus not usually, among other beverages, mead or *zythum*, *camum*, or *cervesia*. Ulpian has added a third drink to Sabinus's list of beers, *cervesia*, which, along with *camum* he leaves undefined. However, *zythum* this time is defined generically as something 'made in some provinces from wheat or from barley or from millet'.[9]

Clearly then, legal experts from the first century AD felt the need to discuss the drinks of provincials. Ulpian particularly wrote most of his legal treatises directly after Roman citizenship had been extended to all free inhabitants of the Roman Empire in AD 212 under the Emperor Caracalla, and thus had much of Europe in mind as his audience. Ulpian, unlike Sabinus, was unwilling to designate types of beers as wine, perhaps to emphasize their different natures. The Greeks already had spoken of beers as wines, not because they believed them to be essentially the same drink, but only because they lacked a general term to describe all liquid intoxicants and because wine was for them a natural reference point since it was their sole intoxicant (see Chapters 3 and 4 above); apparently the same was the case with Sabinus.

Ulpian's distinctions, however, do not seem to have had much of an impact, since in AD 301 the Emperor Diocletian categorized *cervesia*, *camum*, and *zythum*,

precisely the three types of beer excluded by Ulpian, under the heading of *vinum* in his edict fixing the maximum prices for products throughout the Empire. Here perhaps we may assume that *cervesia* refers to Celtic wheat beer, *camum* to Celtic barley beer, and *zythum* to Egyptian beer. In any case, this document is important in showing how much less beer cost than wine. The cost of an Italian *sextarius* (or pint) of the first two sorts of beer is placed at four *denarii* and the cost of *zythum* at only two *denarii*, as compared to eight *denarii* for the cheapest wine. This evidence raises an essential question: was the large difference in price between beer and wine prompted simply by the value placed on them through ideological considerations, or was it rather due to pragmatic or practical reasons, such as cost of production and availability? The production of beer requires more work than that of wine, as we have seen, since the sugar, water, and yeast are all present in the grape, whereas cereals must be malted (or at least the starch converted to sugar) and water and yeast supplied. Yet, the cultivation of grapes is much more time-consuming and expensive than that of cereals, and more limited geographically. It is therefore only reasonable that wine would cost more than beer, but in the price edict wine does not seem to be reasonably proportionately more than beer. Diocletian even has unaged wine cost four times the price of beer, while the cheapest aged wine is listed at eight times the price (at 16 *denarii*). It thus makes sense to posit some ideological reasons behind the differences in prices, and for European beers being thought of more highly than Egyptian ones.[10]

Around this same time Roman school teachers were compiling lists of vocabulary for their students and including in them, among much else, both Greek and Latin terms for beer. In them the three terms used in legal texts are also found: *camum*, *cervesia*, and *zythum*. In one such anonymous compilation the first term is specifically said to be a drink made from barley and the second is said to be a drink made from wheat (probably a long-standing distinction, as I have discussed in the previous chapter). In another such compilation, only the latter two terms are found, and seemingly as generic terms for beer, *cervesia* being considered the Latin word and *zūthos* the Greek word.[11]

Thus we can see that some Romans thought of the different terms for beer as related to their origins (*zythum* is Egyptian, *caelia* and *cerea* is from Hispania, and *cervesia* is from Gaul in Pliny the Elder) or else the cereals from which they are made (*camum* is from barley, *cervesia* is from wheat or from any cereal, and *zythum* or *zūthos* is from any cereal). And its place among the provincials was evidently secure even if Romans in Italy would not drink the stuff.

Beer and medicine

Pliny was certainly not the only Roman to attribute positive qualities to beer. Already in the early first century AD the medical author Celsus speaks very positively about beer. In his work Celsus turns his attention to different drinks after discussing the merits of various types of food. He classes as the best

(literally 'strongest'), first, 'whatever is made from cereal', and then milk and various types of wine. He classes vinegar as being of intermediate quality while he says that water is 'the weakest' of all. He goes on to explain that a 'drink from cereal' is more nutritious than water since cereal itself is quite nutritious. And so we see that the quality of strength that the Greek playwright Aeschylus in the early fifth century BC was willing to attribute to cereal when processed into bread or porridge but not when processed into beer (as seen in Chapter 3) is now applied to beer as well.[12]

Not all Roman authorities, however, would be so fulsome in their praise of beer. In fact in general physicians and medical authors during the Roman Empire had a very mixed view about the usefulness of beer. In a way this should occasion no great surprise since the ancient Greeks and Romans, as loyal as they were to wine, were always well aware that even its consumption could lead to possible negative effects. Pliny the Elder went so far as to write that it was uncertain whether wine was more useful or harmful. It is only logical that similar questions were asked about beer.[13]

After Celsus our most important medical source is the Greek herbalist Dioscorides, who wrote around AD 70. Dioscorides, like Pliny, mentions numerous types of fermented fruit beverages, and in his section on the merits of various cereals, after his entry on barley he refers to two types of barley beer, *zūthos* and *kourmi*. The first, he says, is made of barley and is a diuretic, affects the kidneys and sinews, and is especially harmful to the membranes. Also, he continues, it induces flatulence, causes bad humours, and produces elephantiasis, the last also a result of drinking Cretan fig wine (*trochitēs*). Finally, he adds, ivory steeped in this drink becomes good to work with. The second, *kourmi*, he says is also made from barley and it causes headaches and bad humours and is harmful to the sinews.[14]

Dioscorides's analysis evidently had much influence. All later Greek medical authors use the word *zūthos* as the standard one for barley beer (and lexicographers also so define it). In the second century AD, Plutarch, when speaking of how vice softens men, provided as an analogy the fact that beer makes ivory tender and softened, perhaps from a reading of Dioscorides. Plutarch clearly followed the common notion (discussed in Chapter 4 above) that beer was used by people as a substitute when wine was not available, that is in places where vines could not grow (and into which wine was not imported). This is well exemplified in Plutarch's explanation, found in a work on various aspects of drinking parties, of how ivy came to be used as a symbol of the god Dionysus. He said that since a wreath of vine leaves could not be made during the winter Dionysus chose the ivy as his symbol during this season 'just as lovers of wine use barley drink [that is, beer] when the vine is not available, and some mead, and others make palm date wine'. He also wrote later in the same work: 'And even up to the present, those of the barbarians who do not drink wine drink mead.' Plutarch was clearly not very positive about such substitutes. In yet another work he compared the sexual relationship of an adult man with a

teenage boy, rather than with an adult woman in a reciprocal relationship, to drinking beer rather than wine: it is a fruitless, unfulfilling quick fix.[15]

The most famous physician from antiquity, Galen, also evidently made use of Dioscorides. Like him he says, in his work on medical simples, that *zūthos* causes flatulence and bad humours, but gives the cause of the latter as due to the fact that it is made from that which is rotten (as Theophrastus had already said, as we have seen in Chapter 3). Galen further distinguishes between the majority of beers, which he says are cold, watery, and sour, and those which are hot and pungent (as we have seen in part in Chapter 3). In a treatise falsely attributed to Galen, it is said that wine, beer, other intoxicating beverages, and even cold water, harm the stomach, liver, and sinews (thus contradicting Pliny's assertion about beer; Dioscorides says only that it affects the sinews, as we have seen).[16]

A number of other medical authorities from the second century AD spoke of beer. Aelius Aretaeus explained that ulcerations on the tonsils occur when one swallows harsh substances, including in Egypt 'the pungent drink made from barley'. On the other hand, others recommend beer as a vehicle by which medication is to be taken. Antyllus, as recorded by later authors, spoke of using *zūthos* to administer a mixture of either the crushed unripe fruit of the sesame plant or five or seven crushed earthworms of the type used by fishermen along with crushed palm dates for good and plentiful breast milk in women. And Philumenus recommends beer with crushed garlic as an emetic for poisonous asp bites.[17]

In the fourth century AD, Plinius Secundus speaks of using beer dregs mixed with leaves of danewort to help against scrofulous tumours. Around the same time Oribasius, the personal physician of the Emperor Julian who made fun of beer (as we have seen in Chapter 3), collected much information on it, following Galen and Antyllus among other authorities. He added to the assertion of Dioscorides and Galen that beer causes flatulence by saying that the worst beer in this regard was that from Cyrene in Libya. Oribasius also praised wine over beer, saying that, though barley and wheat beers were not weaker than wine they were inferior.[18]

In the early fifth century AD, the Gallic Marcellus Empiricus stated that beer is good against coughs when drunk warm with salt and he also recommended using new beer to soak a herbal suppository to expel intestinal worms (in those provinces where there was no beer water was to be used instead). This prescription was followed by other medical authors and in the mid-sixth century AD Aëtius of Amidena, who copied some of the now traditional medical wisdom on beer found in Galen and Antyllus, suggested rather madwort 'drunk with *zūthos*' to expel worms. He further recommended applying beer along with mustard on arrow wounds.[19]

Not only medical authorities but also alchemical ones dealt with beer during the Roman Empire. In the arcane thinking of the alchemical authors beer was considered to be in the moist category of white substances. This idea is first

found in Zosimus of Panopolis in Egypt who wrote in around AD 300 (and in whose works there is a recipe for beer, as we have seen in Chapter 2) and then some hundred years later in Olympiodorus, who places the juices and secretions (that is, saps or resins) of plants in the same category. Beer seems to be considered in the same category as vegetation since it is the liquid product of cereals, and perhaps it is considered white because of its froth. Presumably because it is thought of as a white substance, other alchemical texts recommend it as a whitener of pearls or a detergent.[20]

Thus even if in much of the southern Roman Empire the populace was drinking mainly wine the fact that many provinces were inhabited by beer drinkers meant that beer came to be regarded as a drink worthy of medical investigation (which it had not been among Greeks), and one that could be recommended under certain circumstances. By no means, however, did this mean that beer came to be thought of as a drink equal to wine, either among pagans or Christians.

The Roman Church

If the Greeks and Italians had already long excluded beer from their table (though they may have accepted it as a beverage of their neighbours or conquered peoples), it certainly did not help beer's status in the emergent Christian Roman Empire that nowhere is beer mentioned in the New Testament, while wine is given a prominent place. This absence, however, may be misleading; it seems at least that in Egyptian settlements in Israel going back to the late fourth millennium BC beer was present, and in the late second millennium BC spouted jugs perhaps used for beer have been found in Philistine sites, and soon after in Israelite settlements as well. Beer probably continued to be drunk there after the conquests of Alexander the Great (as was the case in Egypt too, as we have seen), but certainly by the first century AD wine had become the preeminent beverage in Israel.[21]

The first Christian to mention beer was the philosopher Sextus Julius Africanus, who lived in the early third century AD. In a section of his *Cestoi*, a collection of various information, he discusses the wonders of agriculture including various types of wine and beer:

> Those who do not possess vines and are not able to profit from the fruit of this plant have imitated wine from other things, either from seeds or by a preparation from fruits or by a combination of roots, since they refuse to drink pure water. The Egyptians drink *zūthos*, the Paeonians *kamon*, the Celts *kerbēsia*, the Babylonians *sikera*. For Dionysus, being angry, abandoned them and did not give them the art of viticulture, reserving for the Greek farmers alone the triumphs.

Africanus seems to be mixing two sorts of traditions concerning the use of beer, one that explains it as due to environmental factors and another due to divine

punishment. Indeed the mention of Dionysus in a Christian author is striking, but can be surely dismissed as metaphorical, and was likely used to reinforce the notion that wine is a superior beverage. Africanus also adds the sort of erudition concerning terminology which we have seen in Pliny and others.[22]

Other Christian authors, writing after Christianity had been accepted as the official religion of the Roman Empire (from the early fourth century AD on), would similarly denigrate beer, but using much better authority than some pagan myth: the Old Testament. In the Old Testament book of Isaiah an oracle is presented which concerns the downfall of Egypt, in which it is said that God will make the Egyptians fight among themselves, the Nile will be dried up and fishermen will have nothing to fish, and other workers will suffer as well:

> And shame will seize the workers of split linen and the workers of flax, and those who weave these [that is, split linen and flax] will be in pain, and all who make *zūthos* will be grieved and will be distressed in their souls.

Thus reads at least the Greek text (the *Septuagint* version) of this passage, though the original Hebrew and the later Latin Vulgate texts (not to mention the standard modern translations) make no mention of beer makers. Nevertheless, in the fourth and fifth centuries AD, Church fathers, armed with this mistranslated passage, readily used divine authority to attack beer while praising wine.[23]

Eusebius, the great Church historian from the fourth century AD, who also knew of the pagan tradition connecting Dionysus and beer, commented on this passage, saying that:

> He [that is, Isaiah] says that all makers, not of the wine from the vine, but of Egyptian *zūthos* will groan. This [that is, *zūthos*] was both adulterated and made cloudy. The Egyptians used it as a drink, before the Lord lived among them. And when this [that is, *zūthos*] is shunned, those who make this are said probably to groan and to feel pain in their souls. But he [that is, Isaiah] boasts that the craftsmen of the Egyptians, those *zūthos*-makers . . . will not be persuaded of these things . . .

Eusebius here describes beer in rather unflattering terms, as an adulterated and cloudy beverage, and other commentators would be even harsher in their assessments of the drink.[24]

Thus in the late fourth or early fifth century AD St Cyril, as part of a convoluted allegorical interpretation of the passage, explained concerning *zūthos* that it was a cold and cloudy drink of Egyptians which could cause incurable illnesses. Wine, on the other hand, he showed, according to *Psalms*, 'gladdens man's heart'. Similarly, around the same time the commentator Theodoret

wrote: '*Zūthos* is an invented [that is, manufactured] beverage, not a natural one. It is vinegary and foul-smelling and harmful, nor does it produce any enjoyment. Such are the lessons of impiety, not like wine which "gladdens man's heart".'[25]

Finally, St Jerome, who knew the proper reading of the text of Isaiah, also commented on the Greek version of it. He noted of *zūthos*: 'The Egyptians use this the most since they do not allow plain water for drinking, but cloudy, and as if mixed with dregs.'[26]

Fortunately this distaste for beer among patristic fathers was not theologically essential and in the end short-lived. And it was in Ireland, a land never conquered by the Romans, never absorbed into the Empire, that beer and Christianity were perhaps first found most compatible.[27]

The Irish Church

Christianity was famously brought over from Britain to Ireland around the mid-fifth century AD by St Patrick, the son of a Roman government official in Britain. In his *Confessions* he himself recounts how, at the age of sixteen, he was first brought to Ireland by kidnappers whom he served as a shepherd. After some years he escaped back to his home in Britain but later returned to Ireland as a bishop to spread Christianity 'among barbarous peoples', as he referred to the inhabitants. One of the barbarities of the Irish was certainly their beer drinking, and St Patrick is said himself to have given advice to one of Ireland's most important beer-related saints, Brigit of Kildare (c. AD 450s to 520s). And though St Patrick is not associated with beer drinking in the ancient sources, at least one of his descendants, Domongart son of Echaid of Sliab Slánge, is said to have provided beer each Easter Tuesday for those attending the Rath Murbuilc Church.[28]

St Brigit in many ways epitomizes early Irish Christianity, with its seamless amalgamation of the pagan Celtic drinking traditions and Christian virtues. It was recounted that when St Brigit's wetnurse was ill St Brigit called for some beer to be brought (obviously the Irish did not question the healing properties of beer as many Greeks and Romans did). Since none could be found Brigit miraculously turned water into beer and when her wetnurse tasted it she was cured. On another occasion she did the same with lepers, but this time turning dirty bathwater into beer; one source even says that it was 'red' beer. On yet another occasion it was enough for her to think that she was carrying a pitcher of beer (though it was a pitcher of water) and to thank God for it to actually turn into a pitcher of beer. Not only could Brigit turn water into beer just as Jesus had turned water into wine at the wedding at Cana, she could also multiply beer just as Jesus had multiplied loaves and fish, and beer that she herself had brewed. One story had it that when she wanted to provide beer for Easter for a diocese of eighteen Churches and had only a small quantity of cereal to make it with because of a general food shortage at the time, she was able to make a batch of beer that was only exhausted a whole week after Easter.[29]

Many other Irish saints would be involved with beery miracles after Brigit and indeed the Irish would have an important role to play in a great revival of beer in Europe (as we will see), but of prime importance was the fact that the Roman Empire would fall to another ancient beer-drinking people that had also never much taken to wine, the Germans.

7

GERMANIC EUROPE AND THE GREAT BEER REVIVAL

Always on the fringes, if not altogether outside the Roman Empire, were the Germans, who ended up being the almost exclusive inheritors of Roman Europe. From their (traditional) position east of the Rhine and north of the Danube the German Angles and Saxons took over Britain in the mid-fifth century AD and the Germanic Franks and Burgundians took over Gaul in the early sixth century AD. Once again beer drinkers ruled these areas which had been usurped by the wine-drinking Romans for a half millennium. Beer drinking, as we have seen, did continue during the Roman Empire, and beer was even officially distributed to those Roman soldiers used to drinking it in their homelands. But one could certainly be thought of negatively for drinking the stuff, even as late as the end of the fourth century AD, as is amply demonstrated by the case of the beer-swilling Emperor Valens (as we saw in Chapter 3). But after the sixth century AD general attacks on beer become rare, and only pagan religious rituals involving beer are normally condemned, though this is certainly not to say that the Church took wine drinking over beer drinking as a sign of conversion to Christianity, as has been claimed. From this time on, references to beer are no longer made by non-beer drinkers about a foreign product (the Vindolanda tablets and a few other texts excepted); the writers themselves clearly are drinkers of beer.[1]

The Germans

The ancient Greeks conventionally divided northern barbaric Europe between the Celts and the Scythians, both of which, as we have seen (along with Thracians and others), were enthusiastic beer drinkers. The recognition of the Germans as yet a third large distinct group arose in the first century BC.[2]

The Romans first had contact with the peoples later called 'Germans' in the late second century BC when some of the tribes (most notably, the Cimbri) moved toward northern Italy, and were defeated by Marius. Posidonius attempted to explain their migration either as due to flooding in their homeland or due to the intention to maraud; a combination of both reasons may have been the case. It was said that once the Cimbri were stopped in Italy they became weak,

less courageous, and more susceptible to hardships since they began to live in houses, began taking hot baths, began eating fancy foods rather than the raw meat they were used to eating and 'contrary to their custom, they became satiated with wine and mead'. This story is very similar to the one discussed in Chapter 5 concerning the migration of Gauls into Italy in the early fourth century BC, and as such should be taken to mean, not that the Germans had never been intoxicated before, but that they had not been intoxicated with wine or mead before. We dismissed earlier the notion that the Gauls had similarly never had wine before they came to Italy and we can certainly dismiss the notion that the Germans never had wine or mead (if indeed *methē* here is even to be understood as 'mead').[3]

Our first certain evidence for the use of the term 'Germans' is to be found in Posidonius, who says that for their morning meal they ate roasted meat and drank milk and unmixed wine. We do not know exactly how Posidonius understood 'Germans' but, soon after, Caesar at least distinguished the Germans specifically from the Gauls as a large ethnic group. Caesar was the first Roman commander to penetrate into German territory, crossing the Rhine in 55 BC and campaigning there sporadically until 53 BC, though without any final conquest of territory. It has been plausibly suggested that in fact the idea of Germans as a people fully distinguishable from the Celts and living beyond the Rhine was in many ways an invention of Julius Caesar. In reality, so-called Germans and Celts often intermixed and did not recognize the Rhine as a border. Caesar probably claimed that the Germans were more barbaric and hostile than the Gauls for the simple reason that he had been able to conquer the Gauls but not the Germans.[4]

As we have seen in Chapter 5, Caesar said that the Germans refused to drink wine, and this contradicts Posidonius's testimony. It is also contradicted by Appian's account of Caesar's victory over Pompey at Pharsalus in 43 BC. He says that the Germans among Caesar's soldiers, allowed to plunder the small town of Gomphi before the battle, 'were very giddy on account of the intoxicant', presumably the wine which they had confiscated from the locals. Caesar himself does not say what the Germans drank instead of wine, and in fact nowhere mentions beer (as we have seen in Chapter 5).[5]

Caesar's great-nephew, adopted son, and successor Augustus (Emperor from 17 BC to AD 14) wished to conquer the Germans, and in his own account of his rule even claimed to have done so up to the Elbe River. This river was indeed reached by Nero Drusus and even later crossed by Domitius Ahenobarbus who campaigned beyond it, but the Rhine River seems to have remained the actual limit after three whole legions led by Varus were disastrously destroyed by Germans under the leadership of the fierce Germanic chieftain Arminius in the Teutoburg Forest in AD 9. Augustus also wrote that the Cimbri and other German tribes sought his friendship and that of the Roman people. The geographer Strabo, who lived under Augustus and his successor Tiberius, wrote that the Cimbri even sent to the Emperor Augustus their most sacred cauldron.

This may have been a beer vessel, as has been suggested, but Strabo also goes on to say that a bronze cauldron with the capacity of about twenty amphoras was used by the Cimbri to catch the blood of slaughtered prisoners of war.[6]

The attempted conquest of free Germany continued under Augustus's successor Tiberius (Emperor from AD 14 to 38), when Tiberius's nephew and adopted son Germanicus was sent out on this task (from AD 14 to 16). His first attack was an assault on the German tribe of the Marsi when they were drunk and unarmed. Although after two years of fighting Germanicus was said to have avenged the defeat of Varus's legions, he was unable to take over the land beyond the Rhine. And so the situation would remain throughout Roman history.[7]

Our best surviving account of these early conquests is that of the historian Tacitus, and in fact it is also Tacitus who provides us with the best evidence for the social practices of the Germans during the early Empire. This is found in the historian's ethnographical treatise entitled the *Germania*, which in many ways idealizes the Germans as a pure and simple, though savage, people. Tacitus says that the Germans are made up of numerous tribes, which, when not engaged in warfare, devote their time mainly to sleeping and eating. Indeed, we are told, the Germans prefer to fight and plunder than to farm, gaining their sustenance quickly by blood rather than slowly by sweat and awaiting their crops. Caesar, in fact, had said of the Germans that their 'whole life consists of hunts and military pursuits' but that, though they did not care for agriculture, they did practise it, and the possession of land was shared. Similarly, Tacitus explained that the land of the Germans was fertile in cereals, and, sharing the cultivable land, they did grow cereals (some more enthusiastically than others), which they then stored in underground chambers, and, presumably, used to make bread and beer. Finds of germinated barley in a first century AD house in Østerbølle, Denmark, as well as at a site in Eketorp, Sweden, seem to point to purposeful malting for the production of beer by local Germanic people.[8]

Tacitus further explained of the Germans: 'No other people indulges more extravagantly in feasting and hospitality.' Caesar had also noted the Germans' hospitality, but the full extent of their feasting is preserved only in Tacitus who goes on to say that they often drink the whole day rather than work, and then often fight. However, Tacitus was willing to explain the German tendency to drink as due to climatic factors (a common explanation for such behaviour, as we have seen in the previous three chapters). Thus the Germans were accustomed to cold and hunger, but could not tolerate thirst and heat, implying that the environment forced them to drink a lot of cold beverages.[9]

The drink of the Germans, consumed it would seem usually from ceramic containers, was 'a liquid from barley or wheat, which, once rotted, has a certain resemblance to wine'. This is the first certain reference to German beer, which was evidently made from both barley and wheat, also the case among the Gauls, as we have seen. Tacitus also follows the notion of beer fermentation as a decomposition already found in Theophrastus, as we have seen in Chapter 3. Tacitus goes on to say that those Germans near the bank (presumably, of the

Rhine) also buy wine and that the Germans could be defeated by bringing drink to them. There is certainly no evidence that this suggestion was ever officially put into motion as a military strategy, and in fact there is also no evidence that the Germans were ever conquered by wine to the extent that the Gauls certainly were. The Germans continued to be known for their beer and the Gauls for their wine, and in a tenth century monastic rule it is said: 'There is not as much beer in Germany as there is wine in Gaul.' This implies both that Germany was known for its beer as Gaul was for its wine (the case still today in these areas) and that the Gauls were even greater tipplers than the Germans.[10]

No doubt a great many Germans did develop a taste for wine. Thus Tacitus speaks of Italicus, nephew of the famous German Arminius and who became leader of the Cherusci in AD 47, as one 'often indulging in the wine soddenness and intemperance dear to barbarians'. The term used here clearly implies the use specifically of wine, a penchant which Italicus may have developed from Roman influences (perhaps when in captivity in Rome). Yet, just as Caesar had already spoken of the German resistance to Roman imports, including wine, Tacitus similarly noted such resistance. He wrote that in AD 70, under the Emperor Vespasian, the Germanic tribe of the Tencteri under the leader Civilis had urged the Germanic citizens of Colonia Agrippina (modern Cologne) to revolt from the Roman Empire in the following words: 'Resume the customs and culture of your fathers, renouncing the pleasures through which the Romans have more control over their subjects than with weapons.' Yet, despite the exhortation of the Tencteri to resist Roman pleasures, Civilis's own cohort of Chauci and Frisii were later defeated by the inhabitants of Cologne after the latter invited them to dinner and got them drunk on wine. Other German troops under Civilis had rather used wine to their advantage, rushing into battle after having been inflamed by wine. These incidents are not paralleled in later accounts, and in fact, far from taking Tacitus's advice, some centuries later the export of wine (along with oil and fish-sauce) to the *barbaricum*, the territory occupied by barbarians, was forbidden in a law valid under the Emperors Valentinian, Valens, and Gratian (AD 370 to 375).[11]

It would be extremely interesting to know more about the ancestral customs alluded to by the Tencteri as those which the citizens of Cologne were urged to resume, especially those having to do with drinking. One much later text may in fact elucidate them to a certain degree, if indeed it can be trusted. Gregory of Tours wrote in the sixth century AD that in Cologne there was a temple 'filled with various adornments, in which a barbarism similar to libations is displayed, it being filled even with vomited up food and drink'. Gregory recognizes this barbaric practice as similar to libations (as taken over in Christianity from pagan Roman practice), though it purportedly involved not only consumed drink, but, remarkably enough, regurgitated drink. It is of course impossible to know whether or not beer was involved in such nauseous libations, though it has been argued that the 'barley market' mentioned in one Latin inscription from Cologne could have been important for local beer making.[12]

Much of our information about the native pagan Germanic drinking traditions indeed come from texts from around and after the fall of the Roman Empire. In what follows, we will trace the history of beer, first among those Germans, the Anglo-Saxons, who took over Britain, and then among those who settled in what is roughly now France (the Merovingians and Carolingians).

Anglo-Saxon Britain

The first native British historian, Gildas (from the mid-sixth century AD), described the departure of the Romans from Britain and the entry of the Anglo-Saxons in the fifth century AD. After the Roman army left, the British twice asked Rome for help against the Scots (that is, those who inhabited what is now Ireland) and the Picts (tattooed people who inhabited what is now Scotland). Though the Romans complied, nonetheless there again was an invasion into Britain of 'the foul hordes of Scots and Picts, like dark throngs of worms who wriggle out of narrow fissures in the rock when the sun is high and the weather grows warm'. The Romans could no longer come to their aid and by the mid-fifth century the British, unsuccessful on their own, had no choice but to ask certain German tribes (the Anglo-Saxons) to act as mercenaries and help them with the northern threats. As we learn from another British historian, Nennius (from around AD 800), the British King Vortigern was said at first to have received as friends the two Anglo-Saxon leaders, the brothers Horsa and Hengist, sons of Wichtgils. The Anglo-Saxons fought successfully against the Scottish and Pictish invaders, but in the end Vortigern was unable to pay the Saxons for their military services and asked them to leave. Instead, Hengist invited Vortigern to a feast and had his beautiful daughter Rowenna serve Vortigern great quantities of wine and other fermented drinks (perhaps including beer) in order to intoxicate him and make him desire his daughter. The plan succeeded and Vortigern promised to give Hengist anything he desired for his daughter; the Anglo-Saxon asked for and received Kent, and continued to reinforce his numbers with more immigrants from the mainland. Later Vortigern's son Vortimer fought the Anglo-Saxons in numerous battles, but after his death Hengist invited Vortigern to yet another feast, supposedly to make a peace treaty. Vortigern and his three hundred men were made very intoxicated (it is not specified with what types of drinks) after which the three hundred were slaughtered and Vortigern was ransomed for Essex, Sussex, and Middlesex. Thus, if we are to believe the ancient tradition, much of Britain was won over by the Germans not only with the sword but with drink. Other British leaders later tried to defeat the Anglo-Saxons, such as King Arthur (later immortalized in legends), who was said to have beaten them at Badon Hill (in the late fifth or early sixth century AD), but this was the last great native British victory, and the Anglo-Saxons were there to stay.[13]

As Gildas sadly explained (in the very title of his work *The Ruin of Britain*), all these conflicts left Britain in ruins. The ruins of one Roman city, certainly

Bath, were later observed in an anonymous Anglo-Saxon poem (appropriately itself barely surviving in fragmentary form in a single burned manuscript), a portion of which can be translated loosely:

> Mead halls once there stood right here,
> Full of noise and loud with cheer,
> High and bright, with springs aflow,
> Till fate decreed the final blow.

Even the functions of the Roman buildings are no longer understood, since they are wrongly referred to as mead halls, the locus of Anglo-Saxon drinking culture.[14]

Something of the character of the pagan mead halls can be recovered from the famous Anglo-Saxon epic poem *Beowulf*. Although it depicts the pagan warrior society of the Scandinavians in the early sixth century AD, *Beowulf*, as it is preserved for us, was written by a Christian in Old English at some time between the seventh and eleventh centuries, and no doubt reflects much of Anglo-Saxon culture.[15]

One of the central features of this Germanic warrior society, as depicted in *Beowulf* and other Old English poetry, was the hall, where the chieftain and his retainers would drink alcohol together, at least until a time when it became necessary for them to engage in battle. The alcohol was, it seems, a means for the chieftain to keep his retainers as well as to reward them for their efforts in battle on his behalf. What the Germanic warriors ate at their feasts was of no importance to the poets (and perhaps not to the warriors either), nor in fact was it of importance what exactly they drank or how much, as long as it was intoxicating and as long as it was being drunk communally. Four beverages are commonly mentioned in *Beowulf*, and in fact in Anglo-Saxon writings as a whole: *medo*, *wīn*, *ealo* (or *ealu*), and *beor*. It has often been taken for granted that the first two are equivalent to the modern terms 'mead' and 'wine', respectively (and I have accepted this in speaking of 'mead halls' above), and that the last two both referred to beer (though perhaps different types). However, there is no evidence that Old English *beor* (though it is the ancestor of the modern word 'beer') was a cereal-based drink, and in fact it has been convincingly argued that it rather denoted a honey-based drink, while *ealo* (the ancestor of the modern word 'ale'), a distinct beverage, denoted a cereal-based intoxicant. This argument is founded on the fact that *beor* was used to translate Latin *ydromellum* and *mulsum* while *ealu* was used to translate Latin *celea* and *cervisa* (and variants), as ancient lexicographical sources demonstrate. The etymology of the word *beor* remains a vexed question. A derivation from the Latin *bibere* ('to drink'), which is often proposed, seems unlikely, as is also a connection to the hypothetical root **beura-* meaning 'barley' since it was apparently not a cereal-based beverage. Since it was honey-based we may wish to accept a derivation of *beor* from Old English *bēo*, meaning 'bee'. It has further been argued that, although cognates

of *ealu* were adopted into a number of languages (such as the Scandinavian languages and Lithuanian and Estonian), the cognate in Old High German was lost by the tenth century AD, at which point Old High German *bior* came to designate a cereal-based intoxicant. Presumably, this new usage replaced the old one also in English shortly afterwards.[16]

In any case, Old English poets were clearly not much worried about carefully distinguishing words for alcohol, and used them interchangeably, mainly based on poetic requirements of alliteration and variation. Thus the central location of the first part of the poem, the huge and costly Heorot, built by Hrothgar, King of the Danes, as a throne room and drinking hall is not only described as a mead hall, but is also variously described as a wine hall and *beor* hall. Though it is never called an *ealo* hall (that is, a beer hall), *ealo* is drunk there too, and the warriors are said at times to be sitting on *ealo* benches and to be drinking out of *ealo* cups (though they all drink the other beverages and sit on other sorts of benches while using other sorts of cups too).[17]

The daily drinking and rejoicing in the hall, so the story goes, angers the monster Grendel who thus mounts attacks on the Danes of Heorot for twelve years. Though the drunken Danes pledge over their cups to beat Grendel, each night there continues to be new slaughter in the hall. However, the brave Geat Beowulf comes to Heorot with his men to fight the monster, and they are given a feast in Heorot, at which a poet sings songs. There one of the Danes, Unferth, drunk and jealous of Beowulf, makes known his doubts that the Geat can beat Grendel. Sure enough that night Grendel comes and Beowulf has the chance to prove Unferth wrong. As an Old Norse lay states: 'In war is proved what was pledged over ale.' The battle itself between Beowulf and Grendel is described as a beer (*ealo*) serving, a figurative way of saying, it seems, a dispensing of violence or woe toward Grendel, perhaps since it was realized that quantities of beer can make one belligerent. Similarly, in the Old English poem *Andreas* the title hero sends a miraculous flood against his pagan captors, at which point it is said that 'a mead serving happened after the feast-day'. In more detail a few lines later it is said: 'That was a sorrow-load, a bitter beer serving. The pourers, obedient followers, did not delay. There was for each, from the beginning of the day, enough drink ready soon.' This seems to be an adaptation of the Old Testament book of Isaiah, in which a prophecy of ill tidings is compared to a bitter drink. This may be proof that bitter drinks were looked down upon by Anglo-Saxon, something supported by other Germanic evidence, as we shall see, but we cannot be certain on this point.[18]

To return to *Beowulf*, after a long struggle Grendel is indeed beaten by Beowulf and the Danes celebrate with a victory feast in the hall, at which time a poet relates a tale. This involves of course much drinking and in fact the Danish queen Wealhtheow herself even offers Beowulf a cup to drink from. It has been noted that drinking horns are nowhere mentioned in the poem even though we can be sure that Germanic peoples used these from an early date. Already Julius Caesar, in one sense the first classifier of the Germans as a people,

wrote that the Germans used the horn of the aurochs encased in silver as a drinking cup at feasts. Much later, in the early seventh century AD, the scholar Isidore of Seville wrote that the aurochs have such large horns that they were used at feasts by Germans. That Anglo-Saxons specifically used such horns has been confirmed archaeologically. In an early seventh century AD ship cenotaph at Sutton Hoo (on the banks of the Deben River near Woodbridge in Suffolk), probably of an East Anglian king, silver fittings for three drinking horns have been found. The horns themselves have been reconstructed, and were clearly those of aurochs (two of these are shown on Figure 7.1). A similar find was made in the roughly contemporary barrow at Taplow in Buckinghamshire, where the remains of six drinking horns with gilt silver mounts and terminals were discovered (two of these are shown on Figure 7.2). Although there is no certain evidence linking a drinking horn to beer drinking, there can be little doubt that it was at least occasionally so used.[19]

The tradition of the Germanic drinking hall, as the locus of the warrior culture, was clearly not confined to the Germans of northern continental Europe or to the Anglo-Saxons of Britain. Indeed there is evidence that Celts in Britain also had a warrior culture centred around the hall (and also, incidentally, that they drank from aurochs horns). Since Greeks and Romans, though they might mention the tendency of Celtic warriors to drink immoderately (as we have seen), make no mention of Celtic drinking halls, we may presume that this was

Figure 7.1 Reconstructed drinking horns from Sutton Hoo, England, from the early seventh century AD. By permission of the British Museum, London.

Figure 7.2 Reconstructed drinking horns from Taplow Barrow, England, from the early seventh century AD. By permission of the British Museum, London.

an innovation adopted by British Celts from the Anglo-Saxons. Thus the Celtic drinking hall has its place in the Old Welsh *Gododdin*, a set of death-songs for heroes of the Gododdin (a people whose capital was the site of present-day Edinburgh), originally composed by the bard Aneirin in the sixth century AD, but only now surviving in one thirteenth century copy. It recounts fights in the early sixth century AD, including the battle at Catraeth (probably Catterick in Yorkshire) involving the Celtic Gododdin against Anglo-Saxons. In this poem the Celtic warriors are kept as retainers and paid with drink, especially wine and mead, but the worthy warrior Eidyn is found at one point drinking honey beer (or 'bragget') from an aurochs horn. It is clear, however, that just as in *Beowulf*, the exact drink being drunk is unimportant, and what is important is the fact that the warrior is worthy of his drink, that he has earned it in brave combat. The same sort of evidence comes from Taliesin, also a Welsh bard from the sixth century AD. He mentions the drinking hall of the Celtic warrior culture and in fact in recounting the praise given to the warrior Urien in the hall of Rheged he speaks of beer as well as wine and mead being proffered there. From the Celts in the British Isles the tradition seems to have gone over to Ireland. Thus, for instance, in the Ulster Cycle of the Irish Celts the mead hall again has its place, again with beer, wine, and mead. At one point in the Finn Cycle we hear that Fothad would not drink his beer without severed heads in his presence and insisted that his host kill some people so that he could feast.[20]

Now although *Beowulf* is full of Christian sentiments, nowhere is there an attack on the drinking habits of the pagan warrior society, which include drunkenness and fighting, as we have seen. This sort of moralizing, however, is found in other Anglo-Saxon Christian texts. In *The Fortunes of Men*, a poem which catalogues various types of human experiences, it is said that one man will amuse those sitting drinking beer on the benches. The drinker himself will have a bad fate: 'Some, angry, ale-swilling, wine-soaked, will die by the sword's edge upon the mead bench because of hasty words.'[21]

In Cynewulf's verse life of St Juliana (adapted from a Latin life of the saint which is no longer extant), it is the devil himself who confesses to her that among other wicked deeds he causes drunken strife:

> I have led on some by my counsels and brought them into discord, so that suddenly, drunk on *beor*, they renewed old grievances; I have served them strife from out of the cup, so that by resorting to swords within the wine hall, being stricken with wounds, they released their souls to flit doomed away from their body.

Here the devil is blamed for the sort of fighting during Germanic drinking bouts which Tacitus had described centuries earlier. That this remained a great concern is shown again during the rule of King Ine of Wessex (AD 688–725) when a law was passed stating: 'If, however, they quarrel at their drinking of *beor*, and one of them bears it with patience, the other is to pay 30 shillings as a fine.' Certainly, *beor* was not considered the only drink which could cause quarrels, and in fact the Latin version of this law leaves out any mention of a specific intoxicant.[22]

The accounts of the drinking traditions of the Germans (and Celts), as found in their own poetry, vindicate in a remarkable manner the accuracy of the accounts of the peoples found in Greek and Roman authors, from the fourth century BC on, at least in terms of their heroic feasting, deep-drinking, and fighting. Though, no doubt, as we have seen, the Greeks and Romans were no unprejudiced onlookers, they did report authentic barbarian beer-related traditions. At the same time, however, by the fifth century AD the Anglo-Saxons had also clearly accepted the drinking hierarchy influenced by Greek and Roman practice and already found in Gaul in the first century BC, with beer as the common beverage of the populace, followed by honey-based intoxicants, and finally wine for the wealthy. Thus in the late ninth century AD King Alfred the Great (AD 871–899) mentioned beer as one of the most basic necessities when he said that a king needs men to pray, fight, and work, and also provisions for these three classes consisting of 'land to dwell in and gifts and weapons and meat and ale and clothes'. And in the tenth century AD Aelfric (surnamed 'Bata' probably because he had a barrel-shaped stomach due to his heavy drinking habits) could write in his school book of wine as the drink for the rich, ale for the poor, and water for the poorest.[23]

The everyday nature of beer in fact may explain why it is not given a great deal of prominence in Anglo-Saxon poetry (or for that matter in contemporaneous Celtic poetry). Interestingly the two types of texts in which references to beer are most plentiful are of the same sort as during the Roman Empire, when beer drinking was taken as a common activity of provincials that for the most part was not considered worthy of notice, namely in legal and medical works.[24]

Beer is often found in charters as part of lease payments or 'food rent'. Already at the time of King Ine (mentioned above), 'twelve *ambers* of Welsh ale' and 'thirty of clear ale' are considered part of a payment. These same two types of beer are mentioned in another charter, probably from AD 909, involving King Edward's lease of land at Tichborne to Bishop Denewulf; his annual payment includes 'twelve *sesters* of *beor* and twelve of sweet Welsh ale and twenty *ambers* of clear ale'. The 'Welsh ale' (which could also simply be translated as 'foreign ale') is said to be sweet here, but this need not mean that it was always sweet, or that it was a honey beer while the 'clear ale' was a plain beer, as has been thought; the difference may have rather been one of strength or flavour, but it is impossible now to tell. Yet another charter mentions a third type of beer, mild ale. Thus the annual payment, when in AD 852, Ceolred, abbot of Medeshamstede (that is, Peterborough), leased to a certain Wulfred land at Sempringham (in Lincolnshire), included 'two full barrels of clear ale' and 'ten *mittan* of Welsh ale' to the community of Medeshamstede as well as 'fifteen *mittan* of clear ale and five *mittan* of Welsh ale and fifteen *sesters* of mild ale' to the lord of the church. Finally, in AD 958 a certain Aethelwyrd's will included a mention of 'forty *sesters* of ale', though the type is not specified, among other products as part of a land lease. Also, sometimes malt rather than beer is spoken of as payment in such documents.[25]

And so with a precision lacking in the poetic texts there are references to three different types of beer in legal documents: clear ale, Welsh ale, and mild ale. Some of these as well as other types are found in the many anonymous Anglo-Saxon medical texts (known as 'leechdoms'). In one book ingredients are to be drunk in 'clear ale' for nine mornings to help the voice. In another book 'clear ale' is recommended for lung disease while 'sweetened ale' is to be abstained from, while in a different recipe a purgative is to be prepared by placing herbs in 'well sweetened clear ale'; presumably beer with honey added is being referred to in both passages. A number of ingredients are also boiled in 'sweetened ale' for pain in the loins or for coughing. 'Good clear ale' or 'Welsh ale' is recommended with other ingredients for the 'dry' disease, while 'Welsh ale' or else 'double-brewed ale' (that is beer brewed from beer rather than water) is recommended with other ingredients for 'dry rot'. Various herbs are to be taken in 'Welsh ale' for a neck tumour. Sedge (the plant long before spoken of by Theophrastus as being boiled in beer, as we saw in Chapter 2) as well as the stem of an iris are to be boiled in 'sour ale' then strained, left for one day in 'new ale', and then given to drink as another form of purgative. 'New ale' on its own is also recommended for ailing sheep. 'Old ale' is to be drunk (cold or

warm) by humans with other ingredients for lung disease and some sort of bodily corruption or is to be used, with betony, to wash the head in case of light-headedness. Plain hot ale is also recommended for chest pains and various herbs are to be boiled in plain ale for the rheum or for seizures. Marrubium boiled in ale and sweetened with honey is to be drunk warm for lung problems. Plain ale is to be used for cases of dry lungs, as part of an emetic, for stitch in the side, and for lice (either being drunk or placed on the head) while 'good ale' is to be used for teary eyes or chest pains, all of these with other ingredients. Beer dregs are also one of the ingredients in a potion for inflammations. Some of these recipes even call for the aid of Christian saints.[26]

It is clear then that there was a considerable variety of beer to choose from in Anglo-Saxon Britain and that though drunkenness was not countenanced by many Christians, beer itself was accepted without question as a good and wholesome beverage, as was the case too among Irish Christians (as we saw in the last chapter). At the same time on the Continent the Franks could at least occasionally promote beer as a wholesome beverage, though not all agreed.

Merovingian Gaul

Not long after the Anglo-Saxons had taken over Britain another Germanic tribe, the Franks, took over Gaul. In 476 Clovis, son of Merovech (from which the Merovingian line was named), expelled the Romans from Gaul and united the nation under Frankish rule. When Clovis died in 511 his kingdom was divided between his four sons: Theodoric, Chlodomer, Childebert, and Clothar. Theodoric, like kings before him, had a physician advise him on his diet. This physician, Anthimus, considered beer a healthy beverage, writing:

> It is on the whole extremely suitable for all to drink beer or mead or spiced mead, since beer which has been well made is excellent in terms of benefits and is reasonable, just like the barley soup which we make in another way. However it is usually cold. Similarly also mead made well, as long as the honey it has is good, helps a lot.

Here, even though beer is still considered a naturally cold beverage (for which see Chapters 3 and 6 above), its beneficial qualities are not denied. And thus it is not surprising to discover that the Merovingian royalty are found drinking beer in our sources.[27]

Theodoric's brother Clothar I was once invited by a certain Hozinus (or Hocinus) to a dinner to which the missionary Bishop Vedastes (who died in AD 540) was also invited. As the story runs:

> Having been invited to diner, he [that is, Vedastes] went, and entering the house, he perceived that, in accordance with native ritual, vessels full of beer were at hand in the house. Wishing to

> know, he asked how they would pick for him the vessels placed in the middle of the house, and the reply was that some were sacrificed by Christians and others truly by pagans contrarily and in accordance with native ritual. And when he [that is, Vedastes] had accordingly made a denunciation to him, through his diligence he sanctified all of the vessels with the sign of the cross, invoking the name of almighty God, with faith's support, heavenly due to the helping gift, he gave a blessing. With the blessing and the sign of the cross over the vessels, those which had been sacrificed in accordance with native ritual he had pressed, and soon broke into pieces, and all the liquid of beer which they had carried spilled onto the floor. The King [that is, Chlothar I], disheartened by the miracle, and the whole crowd of nobles inquired who had been the cause of the occurrence and he recounted to him in the court. The venerable man and great priest Vedastes said to him: 'Oh King, glory of your Franks, you are able to see how to what extent can exist the cunning of a devilish fraud because of the deceived minds of men. For what do you reckon was this devilish appearance [and] which hearts choked by duplicity were zealous to eternally submit to death through this heathen liquid of beer only now being beaten through the power of the divine and expelled by the art of the devil? It is necessary to know everything, just as they truly run to take refuge in the healthy medicines of the Christian faith and all are in no way zealous to permit these superstitions of pagans.

Here then beer itself is accepted by Christians as long as they were not involved in any pagan rituals. However, not all Christians were willing to drink beer.[28]

King Clothar I brought home as booty from one of his campaigns a Thuringian princess by the name of Radegund, whom he married. However, she left him to become a religious and build the nunnery of the True Cross in Poitiers. Her friend Venantius Fortunatus, Bishop of Poitiers, reports that from the time that she became a nun until the time that she fell sick she only drank honeyed water (*aquam mulsam*) and perry (*piratium*), that is, a pear-based intoxicant, and: 'Truly she had not touched the purity of wine or the boiling-down of mead and the cloudiness of beer.' Venantius, however, wrote a poem to her urging her to drink wine for her health, as St Paul had recommended.[29]

Despite what Anthimus may have told Radegund's former brother-in-law about the benefits of beer and mead, Venantius (from around AD 530 to 600) seems to have looked down upon beer. He curses a certain Dagaulf (perhaps the notorious abbot who had been found guilty of such serious crimes as robbery and murder, and who had got drunk with and slept with a married woman whose husband killed them both) in the following words: 'May this sorrowful beer overcome Dagaulf, with the muddy dregs of the flask; may dropsy press on. May this man drink such a liquid in his foolish maw, who so evilly spoiled

pure waters.' Here, as in classical attacks on the beverage (see above in Chapters 3 to 6), beer in general (or is it only one bad batch?) is considered a spoiling of water and, as in the patristic attacks (see above in Chapter 6), its murkiness (due to dregs) is thought to be harmful. Although it is often claimed that beer became a popular beverage in the Middle Ages because the boiling (and thus sterilization) of water in the beer-making process makes it a safer beverage to drink than plain water (which could often be infected), it seems rather that many considered water a healthier choice. Although it was well known, at least from the first century AD on, that boiling water could purify it, the process of fermentation in the production of beer was clearly thought to negate this and make the drink once again corrupt.[30]

Radegund's and Venantius's stances on beer aside, the beverage was on the whole probably well accepted in Christian Gaul, as it was at the time in Christian Britain. Gregory, the nineteenth Bishop of Tours (from AD 573 to 594), who was a friend of both Radegund and Venantius, even attests to a miracle involving beer (similar to the type attributed to St Brigit, as we have seen in Chapter 6). Gregory's compilation of miracles not previously recorded by others, some of which he claimed to have seen himself and others he claimed to have learned from trustworthy sources, begins as follows:

> On the powers of angels:
>
> While I was living in the territory of Avernus, a trustworthy man talked to me, and I know that he recounted true things because I knew clearly that what he said had happened. He said that he ordered a drink to be prepared for the reapers, to be made from cereals soaked and boiled in water. Orosius, moreover, related that this brew was called *caelia* from being cooked. When it had been prepared and stored in a vessel, and the man got entangled in delays in the city, as is habitual for the slaves, the most part was drunk and they [that is, the slaves] left a little for the uses of the lord. The man, trusting in his order, ordered the reapers to be invited, so that when he returned from the city he would find them cutting his cereals. With this done, seventy workers were already gathered around in the cereal field. The lord of the estate arrived, and inspecting the quality and the quantity of the drink, found only a little. Then he was disturbed by shame, thinking that it was done to him to embarrass him so that there would be drink wanting for the workers, since, as he himself determined, there was not more than five pecks in measure [left]. He hung in uncertainty about what he should do, where he should turn. Finally, with the inspiration of the Lord, he turned to the small vessel and over its opening piously called the names of the holy angels which the holy readings teach, praying that their power might deem it worthy to change this small amount into an abundance, so that there would

> not be wanting something for the workers to drink. What a marvel to report! For the whole day there was never lacking [drink] to draw out from it [that is, the vessel] for the drinkers; until night put an end to work, there was provision in abundance for all.

Thus at the end of the sixth century we find both the last vestige of the classical attitude to beer as well as the new, predominant barbaric view. But it would seem that the widespread acceptance of beer within the religious tradition of the European mainland would be due at least in part to the activity of British and Irish missionaries.[31]

This influence can already be traced as far back as Gildas, who, as we saw above, wrote of the Anglo-Saxon invasions in the mid-sixth century AD. Gildas, unlike the original invading Anglo-Saxons, was a Christian, of the native British Church (as opposed to the Roman Church) and he was said to have successfully converted many of the pagans. He was also involved in the monastic life in Britain and in fact provides us with the first evidence for the use of beer in monasteries. In his penitential he wrote:

> He who has been polluted during sleep willingly by indecent liquid, if the monastery abounds in beer and meat, he should keep awake standing for three hours of the night, if his health is strong. If in fact it [that is, the monastery] has poor fare, as a suppliant he should sing twenty-eight or thirty psalms while standing, or pay with extra work.

Clearly Gildas was accustomed to the idea of having beer in a monastery, but he also endorsed strict rules as to when it could be drunk.[32]

Gildas apparently was invited by King Ainmeric of Ireland to visit the island to reestablish the Christian religion, which supposedly had been almost entirely abandoned. Gildas travelled around Ireland, preached successfully to many, and built many monasteries there (in one tradition he is even made a friend of St Brigit, discussed in the last chapter). He also went to the Kingdom of the Franks and built a monastery at Ruys in Brittany, in a place which was very fertile in cereals and vines. It was said that one day when guests came and he had no wine to offer them he had wine vessels filled with water and blessed them and the water turned into the best wine.[33]

Though the monastic rule used by Gildas for his foundations in Ireland and Brittany has not survived, it is quite likely that in it monks were allowed to drink wine or beer, perhaps depending on the accessibility of each, or else perhaps beer was the common drink and wine was reserved for guests (as in the story above). In any case, Gildas's rule is believed to have influenced one of the most important monastic missionaries of the age, St Columban. Columban is in fact the first extant author to mention Gildas in a letter to Pope Gregory the Great (AD 590–604) of around AD 600. Pope Gregory, it should be said,

had just sent Augustine with others in AD 597 to preach Roman Christianity to the Anglo-Saxons, and Ethelbert, King of Kent, was the first English King to be Christianized at that time.[34]

If Gildas could at least countenance beer in a monastery, and perhaps had beer in his monastery in Brittany, we know that Columban certainly introduced its use throughout what is now France. Columban was born in Leinster, Ireland at sometime around the mid-sixth century AD. After being a monk for many years in Ireland he left the isle forever and went as a missionary to Gaul along with twelve companions as the first Irish missionary on the Continent. Columban and his companions found the inhabitants of Gaul barely Christian at all. Welcomed by the Frankish King, Columban founded the monastery of Anegray in Burgundy on an old Roman ruin. Once Anegray became too crowded Columban founded a second monastery not far away at Luxeuil, the site of old Roman baths, as well as one at Fontaine.[35]

At this time Columban is said to have written his monastic rule (which remains the earliest surviving Latin Irish monastic rule), which was notoriously strict. Columban, however, was not so strict as to completely forbid the consumption of alcohol, as was the case in some other Irish rules. Although our other evidence is later than Columban, it shows that beer was not always universally accepted in Irish monasteries. Thus Maelruain, the founder of the monastery of Tallaght (near Dublin, Ireland) who died in AD 792, did not allow any beer to be drunk there by the monks, even on feast days, according to an anonymous Old Irish text. In a surviving rule for the monastery of Kilrose, Ireland (purportedly founded by St Servanus in the mid-fifth century AD) it is written: 'For drink they [that is, the monks] shall have plain water and sometimes mixed with milk, since wine and beer will be unknown to them.' Columban, on the other hand, evidently saw some advantages in having beer for monks, perhaps due in part to the influence of the British monastic tradition, specifically as he knew it from Gildas, and perhaps also because of the possible health benefits attributed to the beverage by fellow Irishmen (as we saw in the last chapter). At least in an Old Irish penitential from the late eighth century, it is advised that even those who have vowed not to drink beer should have three sips of it each Easter and Christmas to stay healthy.[36]

If Columban allowed beer, there were still strict regulations as to its consumption. Thus Columban punished severely the spilling of beer by monks, as we know from the section of his rule on the punishments of monks for sins and offences:

> But if because of negligence or distraction or mistake in care he has lost more than usual in liquids or solids, let him do penance with a long pardon in church while they sing twelve psalms at twelve while he is prostrate and moving no limb. Or if indeed what he spilled was much, as many measures of beer or portions of whatever things he lost by spilling in the event of neglect, let him supply for that

> number of days what he was used to receiving lawfully for his own, and let him know that he lost it for himself, so that he will drink water rather than beer. Concerning what is spilled on the table and runs off, we say it is enough to seek pardon at his place.[37]

The importance of beer at Columban's Frankish monastic foundations is clear in the stories of miracles which he was said to have performed there. One day when Columban was at the monastery in Luxeuil and it was time for dinner the steward of the refectory went to the cellar to get the beer for the monks. There he placed a jug under the tap of a barrel and pulled the plug, allowing the beer to flow into the jug, but then suddenly he was called by another monk on the order of Columban. Forgetting about the beer, he rushed to Columban, plug in hand. After he had done Columban's bidding he realized his carelessness and quickly returned to the cellar, sure that the barrel would be empty. But, to his amazement, he saw that the beer had filled the jar to the top and that not a drop was spilled. 'Thus the Lord wished to avert sadness for both of them, so that if his zeal for orders and obedience had diminished the assets of the brothers, both would not have to deny themselves needed comestibles.' Because of the steward's zeal to obey Columban, God made sure that he would not be punished for spilling beer (as Columban surely would have made certain). A similar miracle would also later be attributed to the seventh century St Bercharius.[38]

This story, apart from showing us the important status held by beer in Columban's monastery, is also our first good evidence for the use of a barrel for the storage of the beverage. The jug used for beer is specifically called here a *tiprum* or *tybrum* and the plug a *duciculum* or *duciclum*, and although the vessel used to store the beer is not named, it must certainly be a barrel (see further below for a story in which Columban is explicitly linked to a beer barrel). We have already seen that the barrel was in all likelihood a second or first century BC Gallic innovation brought about because of the large-scale Italian export of wine at the time. At some point, but exactly when we cannot say, it was also recognized as a perfect container for the locally produced beer, and has remained so.

This passage is also important for what it tells us about the Latin terminology for beer at this time. As we have seen, our Greek and Roman evidence points to the fact that the Celts had both a barley and a wheat beer, each of which was given a separate name: *cervesia* (and variants) for barley beer and *camum* (and variants) for wheat beer (as we have seen in the last two chapters). The author of Columban's life, Jonas of Susa, fortunately defines the term he uses for beer, namely *cervisia*. No doubt he felt it was necessary to do so since he wrote at the monastery of Bobbio in Italy (also founded by St Columban) and was writing for Italians for whom beer still remained an esoteric beverage. He explains that *cervisia* is that 'which is boiled from the juice of wheat or barley, and which, before other nations on earth, especially the Scordisci and Dardani peoples who inhabit Ocean use, that is Gaul, Britain, Ireland, Germany, and the other [places] which are not unfaithful to the customs of these'. Thus by this time

cervisia (and variants) had become the generic Latin term for beer just as *zūthos* had become the generic Greek term (as we saw in the last chapter). Although there is no reason to doubt that Gaul, Britain, Ireland, and Germany were the main places for beer drinking at this time during the Empire, the fact that the Scordisci and Dardani are mentioned is a bit puzzling. Unlike the others they were not inhabitants of 'Ocean' (that is, they did not live near the Atlantic) but rather were Illyrio-Thracian tribes living in the Balkans; however, these certainly had been beer-drinking people, as we have seen, and perhaps still remained so at the time that Columban wrote.[39]

Yet another beery miracle involving Columban is mentioned as having taken place at his monastery at Fontaine. When visiting there one day he saw sixty monks working in the fields and he enjoined them to have a feast. And though they only had two loaves of bread and a little bit of *cervisia* he told them to bring these to him and with a prayer he was able to provide enough for all. This again is an imitation of Jesus's miracle with the loaves and fish (and Columban's biographer even makes the connection explicit) of the sort that, as we saw in the last chapter, St Brigit had already reportedly accomplished.[40]

After this Columban got himself in trouble with the monarchy and was ordered to return to Ireland. He made it to Nantes where kindly inhabitants provided him with food and malt to make beer, but by a miracle the ship on which he was to travel to Ireland could not set out because of great waves and Columban remained in mainland Europe. Among other places, Columban and his followers then travelled to the territory of the pagan Suevi (that is, the Suebi of classical texts) at the town of Brigantia (modern Bregenz, Austria) on a mission of conversion to Christianity. An anecdote concerning this mission clearly shows that, though Columban was certainly no enemy of beer, he was profoundly against pagan practices involving the beverage:

> Once, as he [that is, Columban] was delaying and walking among the inhabitants of the place, he discovered that they were intending to offer a heathen sacrifice. They had placed in their midst a large vessel, which they commonly call a *cupa* [that is, a barrel], that held more or less twenty-six measures, filled with beer. When the man of God approached and asked what they intended to do with it, they said that they intended to make an offering to their god Wodan, whom others call Mercury. Hearing of this abominable deed, at a distance he breathed upon the vessel, and through a miracle the vessel was shattered into pieces, and broke into bits, and the swift force blew out the beer with the pieces. It was clear that the devil had been hidden in this vessel, and he would have captured the souls of the participants through the heathen offering. The barbarians, seeing this, were stunned, and said that the great man had the breath of God, since he was thus safely able to shatter the vessel into pieces. He ordered them to return to their homes, after they had been

> reproached with gospel sayings so that they would cease from these offerings. Therefore many of them were converted then to the learning and faith of Christ because of the blessed man's preaching, and they pursued baptism. And the others, who already had been purified by cleansing, but whom the heathen error held back, [converted] to the devotion of the gospel doctrine through his counsel, so that the good shepherd of the Church had brought back scattered seeds.

This story is very similar to that told about St Vedastes, as seen above, and may come from a common source. Interestingly, this very story of a powerful man being able to burst barrels is also attested in pagan Irish myth. In one story Athairne the fierce was able to do so when still just in the womb of his mother. As the story went, when his mother, pregnant with him, went to get fire from a house where a feast for the King was being prepared, he smelled beer in unopened barrels and prompted her to ask for some. Three times the brewer refused, then the boy within her spoke some words and the barrels burst open, flooding the house with beer. The woman then drank three mouthfuls of the beer from her palm as she left.[41] All these stories may have been attempts at explaining why beer barrels occasionally burst (this is due, as we know, to carbon dioxide pressure).

Whatever the truth of the miracles attributed to Columban, the pervasiveness of beer in his biography tends to indicate that he may have made an important contribution to spreading the British and Irish Christian traditions, into which beer had already been integrated, to continental Europe. In Ireland in the seventh century AD saints would reportedly continue to perform beer-related miracles (as St Brigit had done), but such miracles would also be frequently attested from this time forward in continental Europe, presumably following Columban's example. Thus, to start with Ireland, St Mochuda, Bishop of Rathen and Lismore from the early seventh century AD, was said to be able to multiply beer, while St Cronanus, among others, was able to make beer spontaneously ferment. Around the same time, St Aidan of Connaught, Bishop of Ferna, was said to have been involved in a near fatal vehicle accident, the first on record in which beer was involved. Once, having been placed in charge of bringing beer to a local monastery, his wagon lost control down a slope after hitting a rock, but by making the sign of the cross he caused the wagon to come to a safe stop, and the oxen and beer were unharmed. Meanwhile, on the Continent, when in around AD 640 a group was transporting the corpse of St Arnulf, Bishop of Metz (a brewing centre already in Roman times, as we have seen in Chapter 5), for burial and lacked enough beer, there miraculously appeared an abundance of it after their leader Noddo prayed to Arnulf for it. One account rather says that this was due to the intercession of St Goëricus who was present with the group. Later the body of another bishop, Remigius of Reims, was thought to be able to ensure that beer would not spoil. Similarly, the Abbess and Saint

Sadalberga (or Salaberga) from the mid-seventh century AD once ensured that beer (*cervisa*) in a barrel (*tunna*) would not run out or spoil at the time of the visit of the important holy man Waldebert. Indeed many Christians in Europe would not only drink beer but use it as part of their religious festivities. Beer, however, was not to be brewed on Sunday, and when the people of Wisa once tried to celebrate the martyred Saints Chrysanthus and Daria they were unable to draw beer (*cervisia*) out of the barrel (*cupa*) no matter how many times it had been tapped, so it was claimed, since it had been made on a Sunday and God would not allow them to drink it. After pledging that this would never happen again and that they would give the beer to paupers the beer flowed out normally. Admittedly, there were those who would happily have their beer turn to wine, and such a miracle was also occasionally reported.[42]

Thus, despite the apprehension of early Roman Catholic fathers, beer came to have an accepted role in the Church, perhaps in no small part due to the work of a single Irishman, Columban. In AD 668 or 669 Theodore of Tarsus, Cilicia in Asia Minor was sent by Pope Vitalian to become Archbishop of Canterbury, where he remained until 690, the year of his death at the age of 88. He ordained many bishops and spread the Catholic teachings throughout Britain. Theodore was well versed in Greek and Latin literature, pagan and Christian, and he himself wrote a penitential addressed to British Catholics which was meant to replace Irish traditions with Roman ones. In this penitential, beer was acknowledged as the standard beverage of the faithful. Theodore explained that for penances in which one had to fast on bread and water, for the first year, three times a week (on Tuesday, Thursday, and Saturday) one had to abstain 'from wine, mead, and honey beer' (*a vino, medone, mellita cervisia*) although this did not mean that one had to simply drink water since plain beer (*cervisia*) was allowed (a concession which is also, not surprisingly, found in Irish penitentials). Here then we see again the hierarchy of drinks first observed by Posidonius some 800 years earlier when he said that the poorer Gauls drank plain beer while the richer ones drank wine and honey beer (see Chapter 5). Theodore goes on to say that for the second year, again one could drink plain beer (*cervisia*) but soberly. This of course does not imply that in the first year one could drink beer to the point of intoxication. In fact Theodore forbade intoxication at any time. He said that whoever is intoxicated on wine or beer (*cervisia*) did so against the order of the Lord and his apostles. He also made sure to define intoxication, explaining that it is the condition 'when states of mind change and tongues stammer and eyes roll and there is dizziness in the head and swelling of the stomach, and pain follows' (presumably a hangover is meant). The penalty for intoxication for a lay person was one week with bread and water (and presumably no beer), two weeks for a priest, and so forth, up to five weeks for a bishop (who, of all clergymen, was surely expected to know better). Theodore's advice on fasting and intoxication was followed by numerous later writers, as it was meant to be. At the Church Council at Mainz in AD 852 it would be officially decreed that a murderer 'should, for three years, abstain

from meat, wine, mead, and honeyed *cervisa*, festival days and [cases of] serious injury excepted'.[43]

Theodore was also familiar with two clergymen who had purportedly been involved in alcoholic miracles, St Cuthbert and St John of Beverly. In AD 685, under King Egfrid of Northumbria, Theodore presided over the synod of Twyford, where the miracle-working monk Cuthbert, against his own wishes, was made Bishop of Lindisfarne. Two years later he relinquished the bishopric to return to a solitary life, shortly after which he died. Cuthbert is said by Bede to have abstained from all alcoholic drinks, and once when he was visiting a monastery near the mouth of the River Tyne, after being asked whether he wished to drink wine or beer (clearly both were available, at the very least for guests), he asked simply for water. However, after blessing it and tasting a little he gave the cup to someone who found that it tasted like wine, and another brother also found the same. Perhaps in fact it only tasted like wine but did not inebriate.[44]

One of Theodore's pupils was St John of Beverly, who, while he was Bishop of Hexham and later of York, was reported to have wrought numerous miracles, including curing the dumb, ill, and gravely wounded, who often, as proof of their recovery, could be found healthily eating and drinking. King Osred (who ruled Northumbria from AD 704 to 716) once invited John to a dinner. At one point, John ordered that three jugs be filled, one with wine, one with mead, and one with beer. Once they were filled to the brim, John blessed the jugs. It was then found that as much as was drawn from the jugs they continued to be filled right to the brim and were never emptied.[45]

It was John of Beverly who had the singular honour of having taught Bede (AD 673–735), the great intellectual of the time, and of having ordained him into the priesthood. It was either Bede or his friend Egbert, Bishop of York (to whom Bede once offered the advice that a bishop should have as companions men who are not simply enticed into intoxication and the pleasures of the belly) who wrote a penitential in which one can find one of the most curious ancient pieces of advice concerning beer. After mentioning the penance for those eating impure meat, it is said that if a mouse has fallen into a liquid such as milk or beer (*cervisia*) and has died, the liquid is to be thrown out and not consumed. Clearly for such seemingly commonsensical notions about hygiene to be emphasized there must have been a lack of general understanding of these among the general populace. Further advice concerning the consumption of beer is to be found in a calendrical work falsely attributed to Bede in which it is said, without explanation, that during the month of July one should drink a full cup of cold water but one should not drink beer (*cervisia*) or mead, while in August one should drink only a little beer or mead. Is this because beer and mead at this time were considered warming beverages unsuited to warm weather, as opposed to cooling ones as seems to be suggested at least of beer in St Cyril and Anthimus (and, before them, in Galen)?[46]

St Guthlac, who was born in the same year as Bede (AD 673), was also involved in beer miracles. Guthlac, born to Mercian royalty, was first a soldier

and then, at the age of twenty-four, unhappy with the fighting life became a monk at Repton. After that, according to his biographer Felix of Crowland, 'he no longer tasted any intoxicating liquor nor any kind of pleasant drink whatsoever, except at Communion time'. Guthlac was said to have a certain clairvoyant skill. He once told an abbot that his two servants had gone to the house of a widow in the morning and got drunk there. Another time he realized that two monks on the way to visit him at his monastery had hidden two flasks of beer to retrieve later and he chastised them for it.[47]

Beer no doubt remained of importance in Gaul as in Britain, though references to it are sparse until the time of Charlemagne.[48]

Carolingian Gaul

Charlemagne (or Charles the Great), ushering in a new dynasty of the Franks, ruled benevolently for nearly fifty years, from AD 768 to 814. Among his minor pieces of legislation he provided regulations for his imperial estates, where beer and other intoxicants were evidently drunk. Among the many employees on his estates were *siceratores*, that is, 'makers of *sicera*'. *Sicera* had long been used as a term to denote any type of alcoholic beverage aside from wine, since it was often found paired with wine in the Old Testament. Thus, for instance, Jerome, the author of the Latin translation of the Bible, stated that *sicera* was a Hebrew word which could be applied to every drink which is able to intoxicate, including beer, cider, mead, and date wine, though he made no mention of grape wine. Charlemagne in his regulations mentions beer, cider, and perry specifically as the products of the makers of *sicera*, but this list does not seem to have been exhaustive since in another passage Charlemagne speaks of the income made by his estates from various types of wine (including mulberry wine) along with mead and beer. Clearly then, the alcoholic beverages were made not only for consumption on the estates but for outside sale as well. Charlemagne also emphasizes that 'masters who are used to making good beer' should be found on his estates, and that when the malt and the beer (among other items) are prepared it should be with the utmost regard for cleanliness. Thus we find that by the ninth century in France there was an extremely wide variety of intoxicating drinks (considering especially that distilled alcoholic drinks were still unknown) being made for the King and his subjects. Moreover, we find that this was done with a remarkably advanced notion of the necessity of both professionalism and also hygiene for proper production (we can recall that not long before in Britain it was necessary to tell people not to drink a beer in which a dead mouse was found, as we saw above).[49]

As idyllic as the drinking situation seems to have been under Charlemagne's rule, one was still not allowed absolutely unfettered use of alcohol. As we know from a now fragmentary letter sent from Rihcolfus, Bishop of Mainz, to Eginones, Bishop of Constantina, dated AD 810, Charlemagne instructed that on certain days of the year (such as the sixth, seventh, and eighth of December)

everyone, including the old, the sick, and children, should fast and abstain from meat, wine, beer, spiced mead, and mead. Although they are not mentioned, this prohibition probably also included other alcoholic drinks such as cider and perry. Charlemagne himself, as we are told by his biographer Einhard, rarely entertained (and only then on major feast days), disliked drunkenness, and drank wine and other drinks very moderately, rarely having more than three cups during the course of a meal. Wine and beer seem to have been the most popular drinks during the time of Charlemagne, but clearly wine remained the upper-class beverage and beer the common drink; at least Alcuin, the famous intellectual during the reign of Charlemagne, who lived from AD 735 to 804, once complained in a letter to his friend Joseph about having to drink sour beer because of a lack of wine, clearly considering wine the superior drink. One anonymous Carolingian poet called forth Bacchus and also wrote (to put it into English verse):

> May you, oh beer,
> be absent from here![50]

The period during which Charlemagne's successor King Louis the Pious ruled (from AD 814 to 840) may be one of the most important in the history of beer in the early Middle Ages. Though monasteries, as we have seen, had served beer in Ireland, Britain, and France since at least the fifth century AD, it was only during King Louis' reign that the exact role of beer in monasteries was officially established, and more importantly it was only then that hops were first certainly used in brewing.

During the seventh and eighth centuries various idiosyncratic rules had been observed throughout the monasteries of Europe. These were based mainly on those formulated by St Benedict of Nursia, founder and Abbot of Monte Casino in Italy from the early sixth century AD, but also those of St Columban (the great Irish proponent of beer from the late sixth century AD, as we have seen), and often combined ideas from both. Charlemagne had already wished to bring together all monasteries in the Empire under a single, standard rule, based primarily on that of Benedict, and this was discussed at the Council of Frankfurt which was convoked in June 794. It was another Benedict, one of the participants at the Council, who would be in charge of these reforms, Benedict of Aniane (AD c. 750 to 821). This Benedict 'gave his heart to studying the rule of St Benedict'; he travelled to countless monasteries to discuss this rule and also set out to make a collection of practically all known monastic rules in Latin. This compilation, known as the *Concordia regularum*, survives in full. Among the rules collected is material from an Irish rule for nuns of unknown date in which beer is considered the standard drink and wine is to be drunk on special occasions, and in which one nun is placed in charge of the brewery.[51]

Early in his reign, Louis continued the imperial sponsoring of the monastic reforms, and it was during the two synods which took place in Aachen (the

location of Charlemagne's death and burial) in AD 816 and 817 that the universal rules were established, based on Benedict's work. One issue discussed at these synods was that of the consumption of alcohol by monks. Benedict of Nursia indeed knew of those who considered wine not fit for monks, but he did not agree with the complete prohibition of the beverage, writing: 'we believe that one half pint (*hemina*) of wine a day is sufficient for each'; a little more was allowed if the circumstances of the location or of work or heat in the summer dictated it, but never to the point of surfeit or drunkenness. Not all of Benedict's followers agreed with him. For instance, Theodemar, the Abbot of Monte Cassino in the late eighth century AD, wrote that most monks should not drink wine. Similarly, at around the same time, St Sturmius (AD 715–779) had proposed that a group of monks should not drink wine. As his biographer Eigil of Fulda goes on to recount: 'It was decided by all unanimously that among them there should be no strong drink which could intoxicate, but that weak beer should be drunk.'[52]

Benedict of Nursia had in fact made no mention of beer, which is not surprising since he was writing for Italian monks, and since beer, as we saw, only came to prominence in continental European monasteries through the influence of Columban. However, at the first synod of Aachen, in August, AD 816, Benedict of Nursia was followed and his neglect of beer was remedied. Thus it was decided that the daily ration should be one half pint (*hemina*) of wine per person and that if wine was lacking, twice as much beer (that is a pint [*sextarius*]) was to be provided. One version has the phrasing that a double measure of 'good beer' is to be given. This acceptable calculus of two portions of good beer (and what of bad beer?) being equivalent to one portion of wine probably was arrived at based on the amount of alcohol in each, or rather, from the point of view of the people then, in their relative powers to intoxicate.[53]

Just as it was intended, the universal rules presented at Aachen were soon followed by numerous monks and were implemented in many monasteries. Thus, not much later, Hlotharius in his monastic rule agreed to the double beer calculus. More importantly, the monastery of St Gall (in what is now Switzerland), originally founded in around AD 673, was to be renovated to reflect the ideal monastery of the new universal rule, breweries included. In around AD 820 a detailed plan of the abbey with descriptive captions in Latin was created by an anonymous drafter who dedicated it to Gozbertus, the Abbot of St Gall (from AD 816 to 836) who initiated the building programme there. The original drafter may have been Haito of Basel, Bishop (from AD 803 to 823) and Abbot of Reichenau (from AD 806 to 823), since the script of the plan is that of the monastery of Reichenau. A copy of this plan dating back to this period still survives to this day, remarkably enough, in the library of St Gall (Figure 7.3). We cannot be sure, however, whether or not the monastery was rebuilt in accordance to the plan, and no contemporary writings from the monastery mention the breweries that were presumably there, though in a poem the monk Waldrammus from St Gall does mention beer in passing.[54]

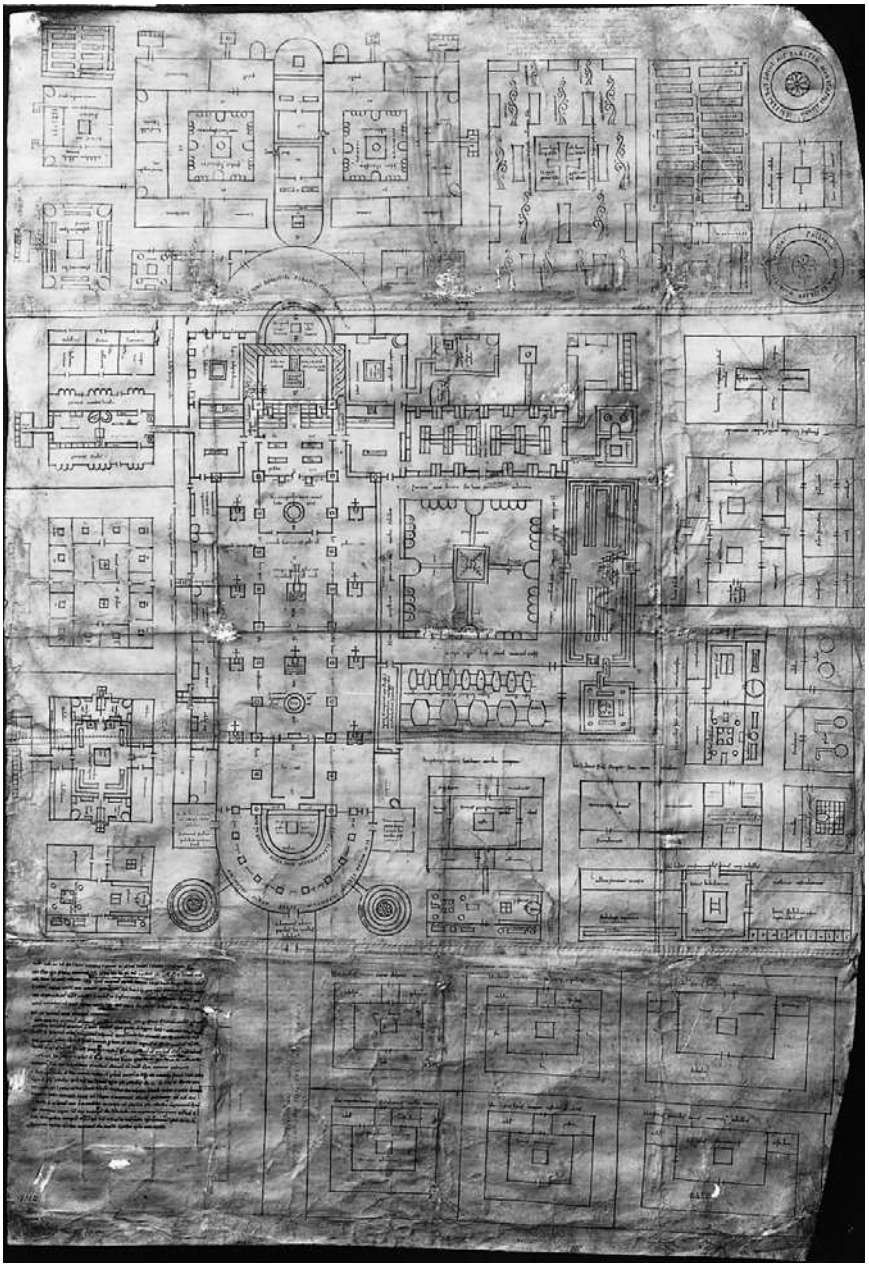


Figure 7.3 The map of the abbey of St Gall, Switzerland, from the early ninth century AD. By permission of the Stiftsbibliothek St Gallen.

On the map are found three separate breweries, one for the production of the beer for the monks, one for that for the distinguished guests, and one for that of pilgrims and paupers. The most elaborate is that for the monks' beer, which is surrounded by a number of auxiliary buildings (Figure 7.4). First, a granary (*granarium*), located in the same structure as the coopers' (*tunnario domus*) and wheelwrights' (*tornariorum*) quarters, consisted of a square room with cross-shaped floor and four storage bins in the corners for both cleaned (and presumably still unmalted cereal) (*ubi mundatu{m} frumentum servetur* ['where cleaned cereal is kept']) and malted cereal (*quod ad cervisam praeparatur* ['that

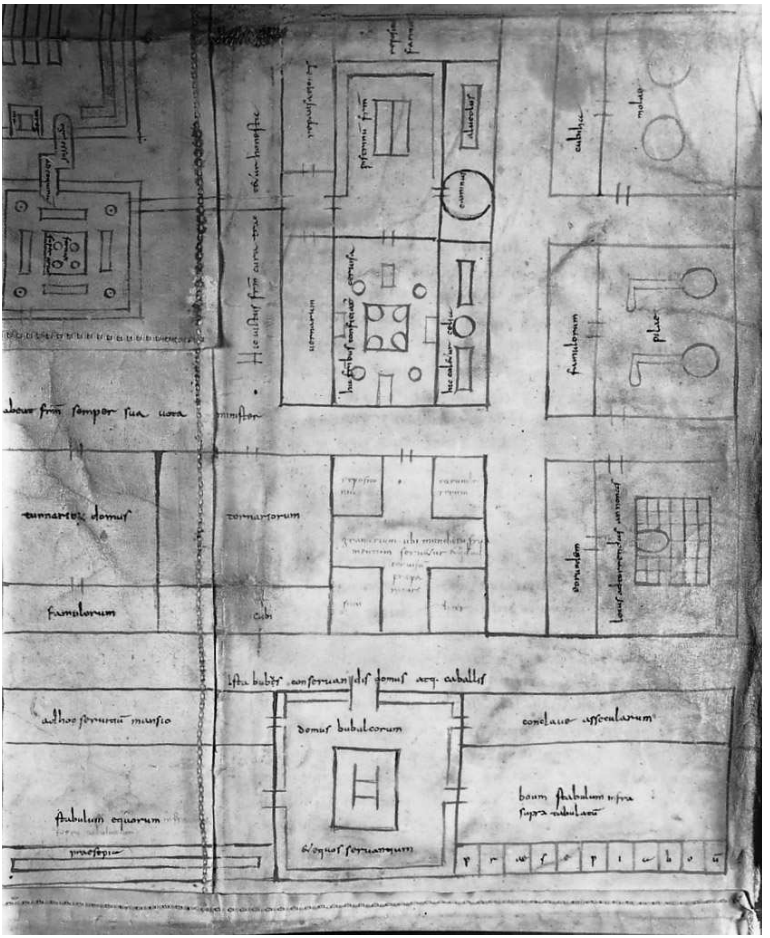


Figure 7.4 Detail of the map of the abbey of St Gall showing the monks' brewing facilities at top centre surrounded by buildings where the malt was stored and ground. By permission of the Stiftsbibliothek St Gallen.

which is prepared for the beer']). Since there is no building specifically labelled as a malthouse, it is probable that the malted cereal was brought in from outside the abbey, perhaps as a tithe (as was the case at the abbey of St Denis, as we will see below). Next to the granary was a drying kiln (*locus ad torrendas annonas* ['the place for heating cereals']) presumably used for the drying and roasting of malted cereals. Next to it were buildings housing mortars and mills, probably water-powered, where the unmalted and malted cereal would be ground, for the brewery and bakery, which are centrally located. The brewery consisted of a room with a hearth and a side room where the brew was filtered. After this the beer was evidently placed in barrels made by the cooper which were stored in a nearby cellar. This was designed to hold nine elongated barrels (with a capacity of perhaps 5,000 litres) and five larger round barrels (with a capacity of perhaps 30,000 litres) (see Figure 7.6 at the top).[55]

The second brewery was that for the house of the distinguished guests (Figure 7.5) while the third brewery, just to the south of the second, on the other side of the basilica, was that for the house of pilgrims and paupers (Figure 7.6). Both of these included a central hearth for the brewing, a place for cooling the brew, and an adjoining bakery (the brewery/bakery building for the distinguished guests also contained a kitchen and larder). It is odd that the monks' brewery had a place for filtering the brew and no place designated for its cooling, while the reverse is true of the two other breweries. However, the filtering and cooling probably occurred in all breweries at the same place.[56]

And so beer had, no doubt, a very important place in the Carolingian monasteries, but evidently wine was still considered the superior drink, and when possible, even a humble monk might prefer wine to beer. This is well exemplified in the correspondence of Lupus, Abbot of Ferrarias (modern Ferrières, a town some sixty miles south-east of Paris) from AD 840 to 862. In 843, Lupus wrote to his friends Marcward and Eigil that there was a scarcity of wine, and that perry would have to be drunk, but that in fact there was also a shortage of fruits which might mean that even perry would not be available, and that a shortage of cereal meant that also *cervesia* would likely be unavailable, leaving only water to drink. Here we have a clear demarcation of the hierarchy of beverages at the time: wine, perry, beer, and water. As we have seen, Charlemagne had mentioned the first three intoxicating beverages (as well as others, such as a cider and mead), but without explicitly ranking them. Similarly, in 846, in a letter addressed to an unidentified friend, Lupus says of a certain Demosthenes, who may well simply be himself, that: 'He was also led by the hopelessness of [procuring] wine to this, [namely] that he was delighted by sold *cervesia*.' Here again beer is a substitute for wine, but, interestingly, Lupus specifies that the beer is sold, implying either that the monastery of Ferrarias did not produce its own, or perhaps more likely, did not have a good crop yield for beer that year. In another later letter written in the autumn of 859 and addressed to Odo, Abbot of Corbie (from 851 to 859), it is clear that the monks of Ferrarias at least grew their own grapes for their wine.

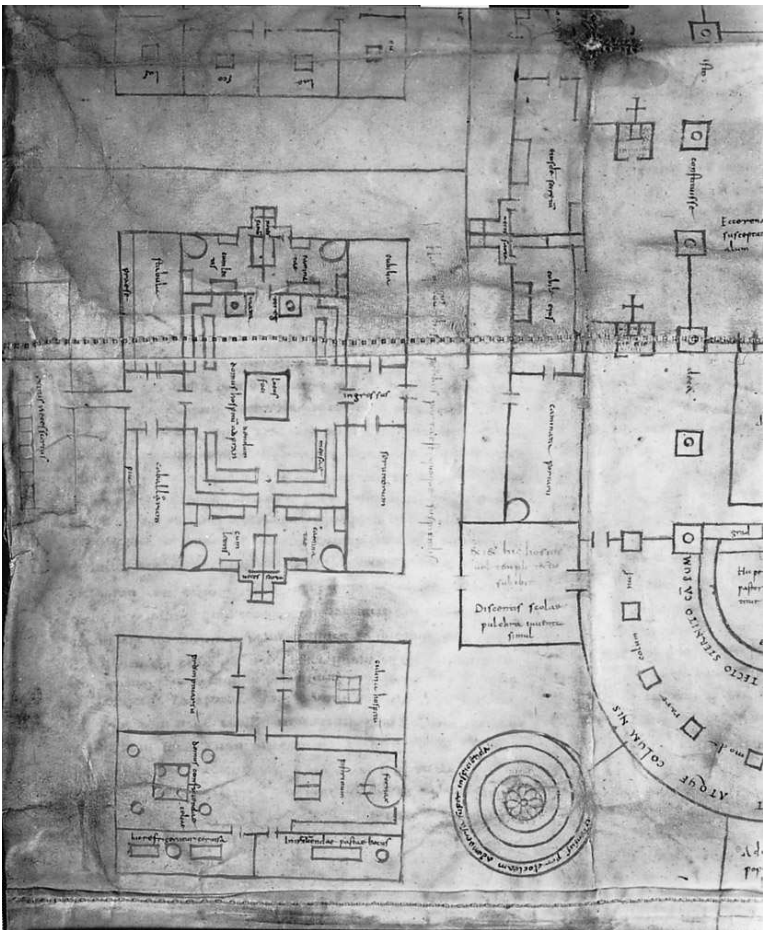


Figure 7.5 Detail of the map of the abbey of St Gall showing the brewing facilities for the distinguished guests in the lower left corner. By permission of the Stiftsbibliothek St Gallen.

Lupus says to Odo that though the year's vintage has been disappointing he will try to send him some wine since Odo has had to contend with barbarian attacks on his monastery and has been trying to buy wine for his monks.[57]

The official recognition of beer as an integral part of monastic life throughout Europe certainly had far-reaching implications. Monks were free to choose whether to produce wine or beer, and in many areas probably made both. Those who were beer makers probably experimented with many different ingredients, until some clever brewer, it would seem, popularized hops as a regular beer additive, at least in northern France.

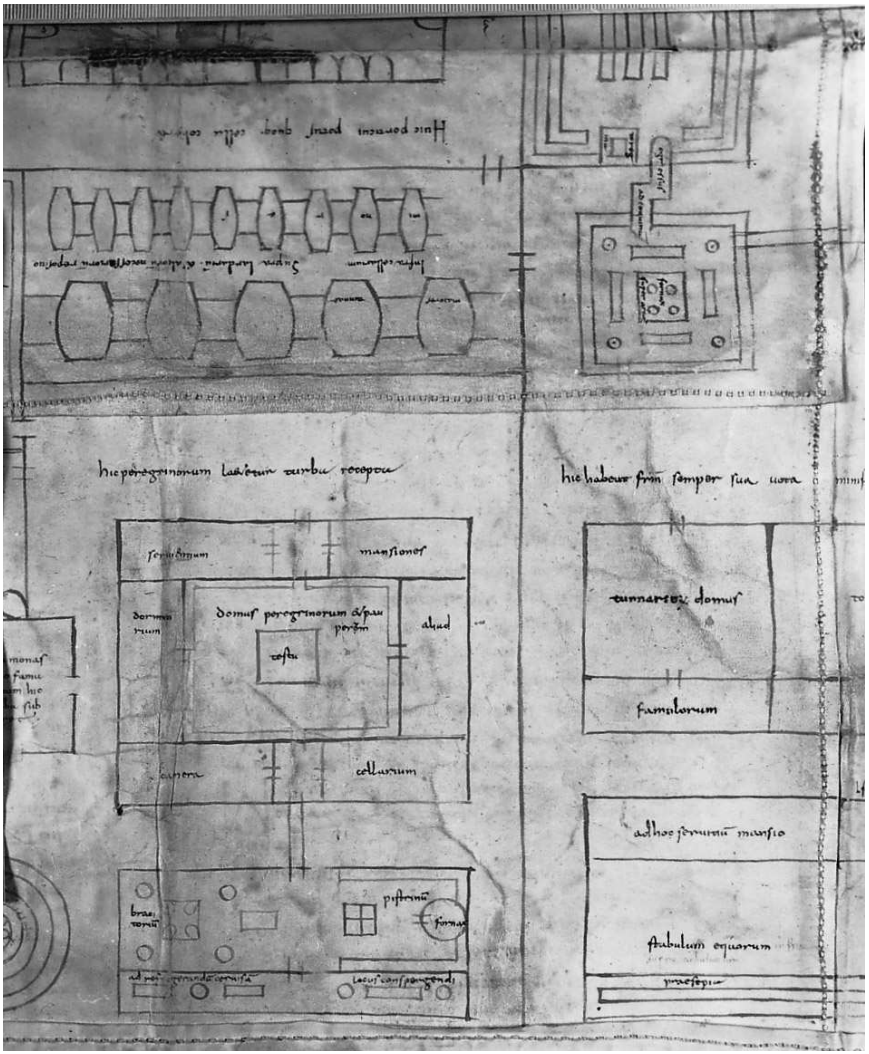


Figure 7.6 Detail of the map of the abbey of St Gall showing the brewing facilities for the pilgrims and paupers in the lower left corner; notice the storeroom with barrels at the top. By permission of the Stiftsbibliothek St Gallen.

The hop (or *Humulus lupulus* L) is a perennial climbing plant related to hemp (in the Cannabinaceae family) which has probably grown wild in mainland Europe since the earliest times. In the hop's female flower (or inflorescence or cone) is found, among others, a resin *lupulin* in which are found the oils *humulone* (an alpha acid) and *lupulone* (a beta acid), which are now universally used in beer

as a bittering agent (for flavour and aroma), preservative, and sterilizer, and also tannin which acts as a clarifier. The use of hops in beer is now taken for granted, and practically all beers contain them to one extent or another, but the exact origins of this practice are shrouded in mystery.[58]

There is no evidence that the ancient Greeks took any notice of hops and the Romans seem to have thought of the hop simply as an edible wild plant. The only indubitable ancient Roman reference to it comes from Pliny the Elder who, in a list of wild plants, calls it 'the willowy wolf' and says that it is a delicacy rather than an ordinary food; this is probably a reference to the edible shoots of the hop plant, which, as was the case with grapevine shoots, may have been eaten, either plain or pickled. It is sometimes also thought that Pliny mentioned hops as a type of non-cultivated *asparagus* which he said grew widely in Upper Germany, and on this note it is also interesting that Pliny spoke of *asparagus* wine. Shortly after Pliny, the poet Martial wrote: 'when wolf is served one hungers for a low-quality olive'. Rather than being a reference to eating the mammal, this may be a reference to the so-called 'wolf fish', or perhaps to the 'willowy wolf', that is, hops. This evidence tends to show that in so far as hops were known it was only as a wild plant, the shoots of which were occasionally eaten like asparagus.[59]

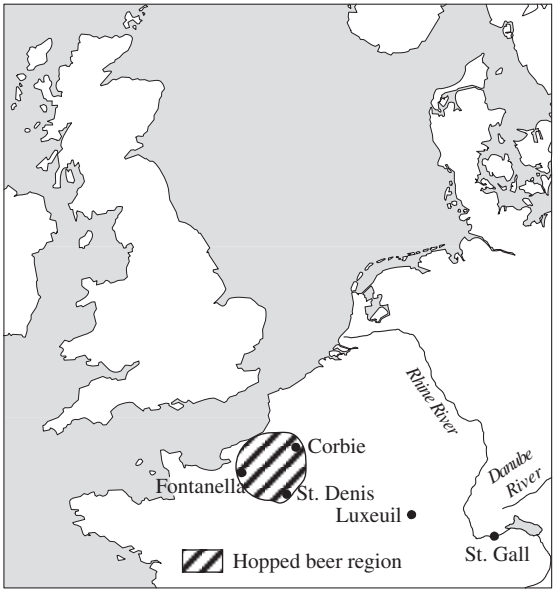
Hops seem to disappear from our written records until a mention in a document of September 768 which contains a listing of the areas which King Pepin (Charlemagne's father) granted to the abbey of St Denis including '*humlonariae* completely'. This could mean 'hop gardens', that is areas where hops were cultivated, though it may simply refer to a piece of land called *Humlonariae* known for its wild hops. Shortly after this, texts dating to the early ninth century AD from the abbey of St Germain-des-Prés and to the late ninth century AD from the abbey of St Remi in Reims mention measures of hops.[60]

The first certain reference to hops being used for beer is to be found in the statutes of Adalhard the Elder (the ninth abbot, from AD 753 to 826) for the monastery of St Peter and St Stephen at Corbie, France, written in January AD 822, and following the precepts for monks established in the synods of Aachen in AD 816 and 817. This abbey was founded around AD 660 by Queen Balthilda and was populated by monks from Luxeuil, a monastery founded by the pioneering Columban where beer had been served since its inception in the late sixth century, as we have seen. It is likely then that Corbie too had a long tradition of beer drinking, and probably had been using hops for some time, since Adalhard refers in passing to the use of hops in beer as an established practice in the monastery. Adalhard states that the porter of the monastery (that is the monk in charge of food and shelter for visitors) received a portion of the hops which were given as a tithe to the monastery, and if that were not enough, 'he may acquire for himself as much as necessary from which to make his own beer'. It is clear that the hops used were wild ones since it is stated by Adalhard that millers are excluded from the duties of other tenants, such as gathering firewood and hops.[61]

It is clear that beer is the normal daily drink of the monks at Corbie, which was equipped with both mills and malthouses. Adalhard, however, does not provide a pint for each monk, as was decided at Aachen. Rather, he daily provides eight pints (*sextarii*) altogether. Half of this is to go to the twelve paupers who are invited to stay with the monks each night, providing each of them with two cups of beer (thus giving each one third of a pint). Of the remaining four pints, one cup is given to each clergyman, one cup to Vuillerannus the servant, and the remainder is left to the master of the guests so that it may divided in some way either among the sick or the other paupers. A full cup of wine, if available, and beer if not, is given on thirteen special days of the year, namely on Christmas, the Theophany, St Balthilda's day, the Annunciation, the fortieth Sunday, the day of the Last Supper, Easter, the Ascension, Pentecost, St John the Baptist's day, St Peter's day, St Martin's day, and St Andrea's day. In one passage of the statutes it is stated that certain lay people are to be given 'two pints of beer or one pint of wine' at Christmas and Easter; however, it has been shown that this is an interpolation to the text dating to after AD 1123.[62]

Adalhard's detailed text is not an isolated reference to hopped beer in a northern French monastery in the 820s. Other monastic texts show that similar operations were found in neighbouring communities. Thus only a little while later the Abbot Ansegis (from AD 823 to 833), in the rules for the abbey of Fontanella (a monastery located near the mouth of the Seine River which was founded by St Wandrille around AD 645), made a list of the various tithes supplied to the monastery which includes a reference to 'as much as is required for necessities' of *sicera <ex> humolone*, certainly here 'beer made with hops'. The name of the region which was to give this as a tithe has dropped out, though it has been suggested that it was Burgundy. Here, the monks seem to be entirely removed from the production process, receiving the beer in its finished form. Yet another text shows again that the beer was made by the monks, since the tithes of hops and malt, but not of beer, are collected by the abbey of St Denis (also in northern France), as is clear from the Abbot Hilduin's list of items due from neighbouring villages dating to AD 832.[63]

This evidence tends to show that the use of hops in beer was suddenly popularized in the 820s and 830s in an area roughly encompassing part of modern Normandy and L'île de France, now conspicuous neither for hop growing nor beer brewing (see Map 2). This is not to say that the origins of the use of hops in beer date to this time, only that this technique was wholeheartedly adopted then by a number of monastic communities. It may be that a coincidence in our evidence unduly emphasizes the contribution of northern French monasteries, but for now it appears that this region had a great influence, if not in developing, at least in maintaining and in passing along this little-known brewing technique. There is but one literary reference to hops in this period and it pertains to a site outside of France. There is a mention from around AD 860 to a hop garden (*humularium*) in the abbey of Freisingen, Germany, presumably cultivated for beer brewing. It is tempting to think that the



Map 2 Monasteries serving beer and using hops.

technique was learned from the French monasteries, and then improved upon by no longer having to rely on the collection of wild hops, but our evidence on this point is too meagre to make any positive conclusions.[64]

Evidence for believing that the use of hops in beer may have been developed earlier comes from various archaeological finds. In Haithabu in northern Germany abundant amounts of hop flowers were found coupled with malt residue, and thus clearly in beer production contexts, but the finds have not been dated more closely than the ninth century AD. There have also been some other finds of hops dating to somewhat earlier than AD 800 (and even possibly in the sixth century AD), but not firmly associated with beer production. Also, remains of other plants which can function as bittering agents in beer have been found. Thus the bittering sweet gale plant (also known as bog myrtle) was probably already used in beer in the region of the Rhine estuary by the first century BC, and, as we have seen, meadowsweet (another bittering agent, again despite its name) seems to have already been used in beer in Scotland in the Neolithic period.[65]

This leads us to the question of how such bittering agents came to be used in beer. As we have seen, sweeteners, such as honey or fruits, had been used in beer in Europe since very early times, and at least among the Gauls honey beer was considered superior to other types (see above in Chapter 5). It is quite possible that there was a general tendency to appreciate sweet beverages and to shun bitter drinks (though no doubt the addition of sweeteners was also

important in producing higher alcohol beers or even as sources of yeast). Although no concrete evidence exists on this issue among the early Celts and Germans, the Greeks and Romans at least felt this way. Aristotle, for instance, thought of bitter things as naturally unpleasant, and the Roman poet Martial said that something sweet is not a good trade for something bitter. Finally, Plutarch stated that bitterness is the most unpleasant taste. In a life of St Liudgerus (or Ludgerus), probably from the ninth century AD, it is said that when visiting a monastery in AD 785 the only beer (*cervisa*) which he miraculously allowed to spill after a gust blew over a vessel had a bitter taste, certainly showing that this was an unenviable flavour. Even in the late ninth century AD, when bittering hops were starting to be used in beer, it is said in one source that because the beer (*cervisia*) prepared for a dinner had become bitter all who drank it threw up. And we have already talked about the possible negative implications of the bitter drink in Old English poetry.[66]

The absence of any ancient praise for bitterness or for bitter beer specifically tends to show that hops came to be used less as a flavouring for beer but rather as a preservative, and the same could be true of sweet gale (which also has preservative qualities) and other such plants. At least in the twelfth century AD the only positive thing that the Abbess Hildegard of Bingen could say about hops was that 'in its bitterness it prevents spoilage in those drinks to which it is added, so that they can last much longer'. Otherwise, she considered the hop a rather useless plant, which causes melancholy and weighs down the innards, and which, when taken in a drink (presumably beer) could make one practically insane, just as with strong wine. However, she did think more positively of other additives (such as sweet gale) which produced so-called 'gruit' beer, a type only first attested by this name in the tenth century AD.[67]

Whether or not this was a general consensus, it may well be that enterprising monks considered the benefits of preserving their beer with hops to outweigh the change in flavour; and certainly a taste for bitter beer could be acquired over time. As is still attested by those who first venture to try a beer, especially a hoppy, bitter beer, it is an acquired taste since we tend to consume very little else (some vegetables) that is bitter.

The legacy

With a universal rule for monasteries now stipulating that beer was to be available if wine was not, monks could come to expect that beer be provided them. However, apparently not every monastery followed the stipulation that the beer served should be 'good'. An anonymous Irish cleric in Belgium probably in the late ninth century wrote a letter to the local bishop asking for better treatment: 'Indeed I am not able to live in such misery, not having to eat and drink except very bad bread and a very little small amount of very bad beer. Oh miserable me!' A more elaborate complaint was composed by Sedulius Scottus, also an Irish cleric in refuge in Liège, Belgium (on the Meuse River) at

this same time (in fact the above complaint may well also have been penned by him or by one of his companions). Sedulius sent to his bishop a whole poem complaining about the beer that he and his companions were provided with. It can be rendered in literal prose as follows:

> Thirst and hunger, the twofold beast, disturbs us, and tears us with its wound-causing beaks. A very rich abundance of things does not delight us; rather, horrible poverty torments us. The sweet-flowing gifts of Lyaeus [that is, wine, the gift of Bacchus] do not delight us and honey-flowing mead flees from our homes. And the twice-boiled [River] Meuse in pots does not delight us; the sweet favour of blond-haired Ceres is absent. Weak [beer], the cruel beast, softens us, the wise. I pray, best Christ, Lord, be mindful of us. That which is not a sweet child of Ceres is not easy to swallow, is drinkable by none. It is not a daughter of the Jordan or of the Meuse River, but the rushing, cloudy Cedron bore it. It clouds all the citadels of the wise mind, removes happiness, and produces sadness. It pretends to have the blond-haired colour of Ceres. Gods, remove this beast from the lands. You, submerge the monster in the Lethe River or hide such a wretch in the Stygian waves. May it be able to suffer cruel punishments. May it attain the worthy recompenses with which it torments us. Why should I delay in words and stir up winds with lamentations? Oh father, I implore, conquer these twin beasts. Leader, give to your servant Sedulius a bandage, bountiful health-giving against the little wounds.

Sedulius thus explains that he was not provided with wine or mead, but with twice-boiled water from the River Meuse and with weak beer which is cloudy, not sweet, and looks blond (but is not?), and which makes Sedulius and his companions weak, stupid, and unhappy. If we can indeed extrapolate from this it seems that the beer that Sedulius was used to (or at least preferred) was blond, clear, and sweet. Sedulius ends his poem with a couplet showing the very poem's success, recounting that when the bishop read the poem he laughed and gave Sedulius and his friends all that they wanted. Indeed, there can be little doubt from other sources that the region of the Meuse River was teeming with breweries from the ninth century AD on, and at least some of them must have produced a product acceptable to the visiting Irish monks. However, Sedulius also complained in another poem about beer (as well as wine and mead) not being available all year round, saying that though early spring is a beautiful season at this time 'drink does not disturb with its saddening juices, when mead and Ceres [that is, beer], when the gifts of Bacchus [that is, wine] may be absent'. Interestingly then he does not seem to have been used to aged fermented drinks.[68]

The Benedictine monastic reforms and the newly popularized hopped beer technique developed in northern French monasteries not only spread through

continental Europe, but also made their way to England. The reform movement reached England over a century later, during the reign of King Edgar (AD 959 to 975). Benedict of Nursia's original allowance of a half a pint (or *hemina*) of wine per monk per day was evidently followed, although it is clear that beer was also allowed. One Old English poetic rendering of his rule on drink can be translated into modern English as follows:

> Softly shall they taste, and fair,
> Drink that may their heads impair,
> Like mighty wine or noble ale,
> For the wise man tells this tale:
> 'Wine when mighty and when strong
> Gets smart men to work all wrong.'
> Let be by all this law embraced:
> Wine or ale softly to taste.[69]

In Benedict of Nursia's original rule it was also forbidden to speak at table (as well as at other times) and thus it was necessary to use signs at mealtime if one needed anything. Probably during Edgar's reign an Old English sign language was developed for this purpose. It survives to us in one manuscript. In it the sign for wanting a drink is to put one's index finger to one's mouth and the sign for *beor* is said to be grinding one hand on the other (see Figure 7.7). Since the action of grinding seems to represent the grinding of the malted grain in the making of beer we can presume that *beor* by this time has indeed come to be used to refer to the drink now known as beer (and no longer to a honey-based beverage).[70]

Around this time the English had already learned of the use of hopped beer. Hops (*hymele*) are found in a ninth or tenth century AD Old English version of Pseudo-Apuleius's *Herbarium* (originally written in Latin in the fifth century AD). Though they are confused with bryony (*bryonia*) it is also said (adding to the Latin text) that the plant 'is to that degree recommended that men mix it with their usual drink'. This is almost certainly a reference to beer and to an up-to-date technique which the original Latin author would not have known. In any case elsewhere in this work beer (*ealo*) is indeed mentioned as a cure for sore eyes along with honey. There is no evidence for the growing of hops in England at this time, but one find points to the possibility of the importation of hops from continental Europe. On a boat abandoned at Graveney, Kent (in south-eastern England) at some time in the tenth century AD a cargo of hundreds of hop flowers was found. This is a probable indication that by this time hops for use in beer brewing were being traded. Certainly the common use of hops in beer would not come for a few more centuries, but its use was probably fairly widespread already by the end of the first millennium.[71]

Unlike the important role of monasteries in the perpetuation of a beer-drinking tradition on the Continent, from the first foundations of Gildas and

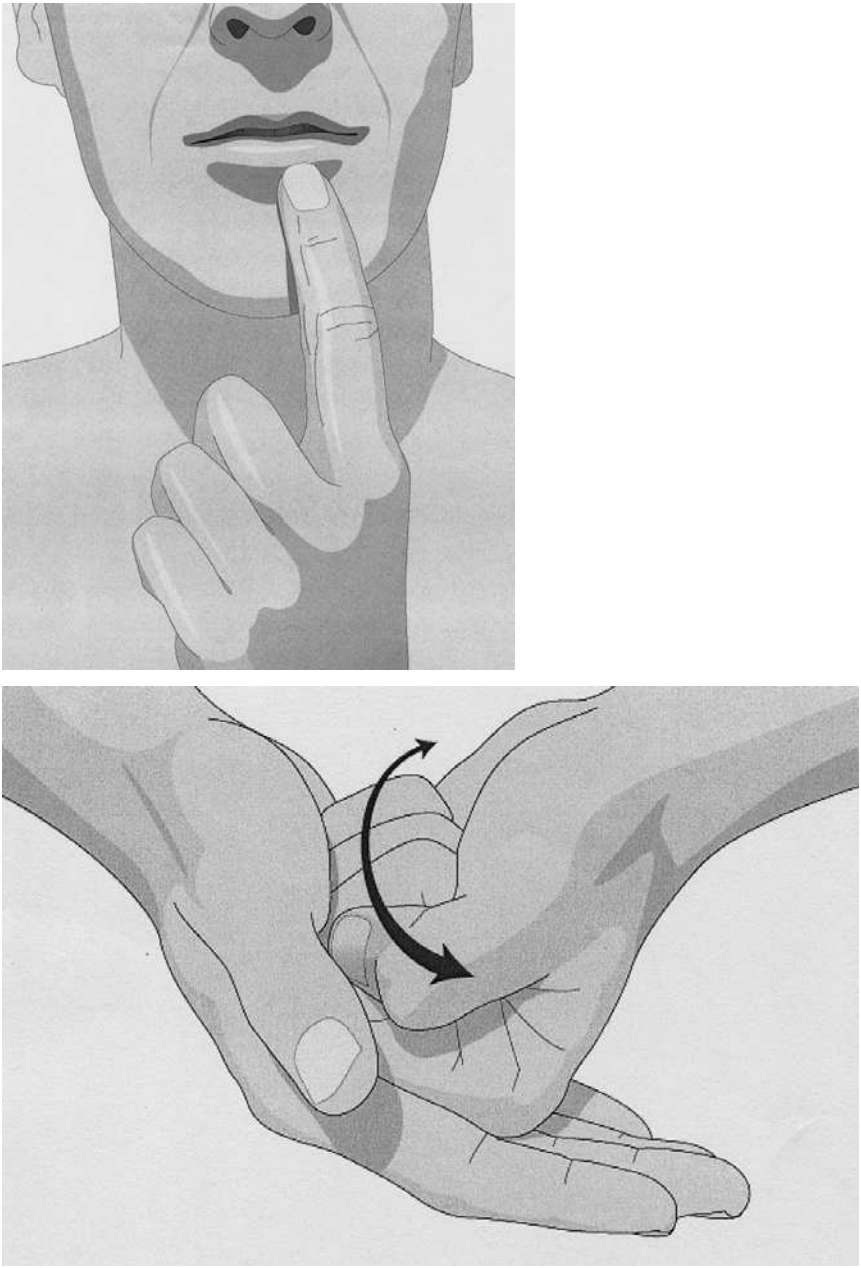


Figure 7.7 Drawing of English monks' sign language from around the tenth century AD. A finger applied to the lips represented a drink, and grinding one hand on the other represented beer. Drawings by Eleanor Andrew with Roland Ouellette as model.

Columban in the sixth century to the hopped beers of the ninth century, in England taverns become the locus of beer culture. In the mid-eighth century AD, Ecbright, Archbishop of York, ordained that priests should not eat or drink in taverns, and this seems to be the first reference to such establishments in Britain, though this is not to say that taverns had not been already long established there. In fact already in the fifth century AD the Old Irish law book known as the *Crith Gabhlach* describes the beer tavern (*cuirmthige*) as something which by rights should belong to a chieftain while the *Senchus Mor* further describes the quarrelling in such an establishment, and this is later found in English legal texts as well. The prohibition against priests in taverns found in Ecbright would continue to be expressed. Thus King Edgar passed a law stating: 'We instruct that no priest should be a *cerevisiarius*, nor in any way should he lead a buffoon with himself, or with others. But he should be, just as is suitable to his position, wise and worthy of praise.' It cannot be certain that *cerevisiarius* here means 'maker of *cerevisia*' rather than 'drinker of *cerevisia*' or something similar. In either case, this seems to contravene for regular clergy what was allowed for monks. Similarly, in the contemporary laws of the Northumbrian elders a priest is not permitted to be 'a drunkard, a buffoon, or an ale-poet', the latter presumably being an entertainer at taverns. Indeed the general rowdiness of English drinking at this period, which precluded priests from participating, is attested in the twelfth century historian William of Malmesbury. In describing the character of the Angles before the Norman conquest of AD 1066 he says that all drank together, throughout the night and day, that intoxication was common, making men effeminate, and that the people would eat until they were sick and drink until they threw up (these last two habits being passed on to the conquerors). Another tradition of theirs not mentioned until after the conquest is that of the *wassail*, or toast, first found in the poet Layamon around AD 1200.[72]

During the ensuing centuries the ancient European beer tradition, passed on and improved upon by monks, would spread into the secular sphere of the tavern. In England at least much of the beer production remained domestic and in the hands of women until after the Black Death of 1348–1349 when taverns flourished more than ever and brewing became an urbanized, professionalized, commercialized, and male-dominated industry.[73]

8

CONCLUSION

In distant prehistoric times various people probably discovered that wild cereals could be fermented to make beer, and over time those societies that had ready access to cereals would normally make beer. In Europe particularly, perhaps as early as 3000 BC, various fermentable products (including cereal, honey, and fruits) would be used together to make intoxicating beverages, but there eventually emerged a tradition of using only certain well-established ingredients. Beer was usually made from barley, as today, though some peoples had a secondary beer made usually either from wheat or millet. After the cereal was malted by steeping it in water, by allowing it to germinate, and then by drying it, the beer was evidently made by brewing the malt as today. Beer was probably usually fermented spontaneously, that is with wild yeast, though there is some evidence for its deliberate leavening. Because beer would ordinarily be easily contaminated by air-borne bacteria, as well as unwanted yeast, it would usually be sour. Beers were sweetened with honey and fruits (whose sugars would further increase the alcohol of the final product) as well as plants, or else bittered with sweet gale or, by the ninth century, hops. Beer was sometimes filtered, though it would have remained pretty cloudy, and then drunk probably usually from clay, horn, or bronze containers; sometimes it was left unfiltered, in which case it was drunk from sieve-spouted vessels or filtered straws (an especially eastern tradition, as in the east beer may have usually been made from bread, though even in brewed beer hulls or other detritus could form at the surface). For the most part beer would have been drunk fresh and only rarely allowed to age. It is impossible to determine the average alcohol content of ancient beers, though it is certain that both weak and strong beers existed.

In antiquity there seem to have been two main cultural practices involving the consumption of alcoholic beverages: in the first, found among most ancient peoples, various intoxicants were rather indiscriminately drunk, often to the point of intoxication, and beer was given a role in both secular and sacred drinking rituals; in the second, found principally among Greeks and Romans, grape wine was almost exclusively the only alcoholic beverage commonly consumed, and, at least ideally, in moderation. This exclusivity seems to have been due to the fact that beer and wine were not known to be both primarily alcoholic drinks produced from the conversion of sugars through the action of yeasts. Beer was thought to be an inferior type of intoxicant since it was (at

least often) affected by the corrupting power of yeast and was naturally a 'cold' and hence effeminate substance, while wine was thought to be unaffected by yeast and to be rather a 'hot' and hence manly substance. The notion of the superiority of wine over beer was spread among Celtic and Germanic peoples, among others, though these never gave up the drinking of beer, which continued to be the common beverage of the populace, nor would they consider it an effeminate beverage.

In many ways this has been a preliminary investigation and I have considered of prime importance the presentation of a large amount of primary material, something which has not previously been attempted. Certainly much of this material deserves far more careful analysis than I have been able to provide here and I hope that it will stimulate others on this path. Also, the still young disciplines of palaeobotany and archaeochemistry are only beginning to provide us with a deeper understanding of ancient drinking practices, and no doubt many more finds will be uncovered which will help clarify our understanding of prehistoric and later European drinking practices.

NOTES

ABBREVIATIONS

ASS = *Acta Sanctorum*, eds J. Bolland *et al*. (1643–1940)
CCM = *Corpus Consuetudinum Monasticarum*, eds K. Hallinger *et al*. (1963–)
CGL = *Corpus Glossarium Latinorum*, eds G. Löwe and G. Goetz (1888–1923 [1965])
CMG = *Corpus Medicorum Graecorum* (1908–)
CML = *Corpus Medicorum Latinorum* (1915–)
FGrH = *Fragmente der griechischen Historiker*, eds F. Jacoby *et al*. (1923–)
MEA = *Monumenta Ecclesiastica Anglicana in Ancient Laws and Institutes of England*, ed. B. Thorpe (1840)
MGH-AA = *Monumenta Germaniae Historica – Auctorum Antiquissimorum*, ed. T. Mommsen (1877–1919 [1961])
MGH-CAC = *Monumenta Germaniae Historica – Concilia Aevi Carolini* (1906–)
MGH-CRF = *Monumenta Germaniae Historica – Capitularia Regum Francorum*, eds A. Boretius and V. Krause (1883–1893)
MGH-DC = *Monumenta Germaniae Historica – Diplomatum Carolinarum* (1906–)
MGH-E = *Monumenta Germaniae Historica – Epistolae Merovingici et Carolini Aevi* (1891–)
MGH-L = *Monumenta Germaniae Historica – Leges* (1835–1889 [1965])
MGH-PLAC = *Monumenta Germaniae Historica – Poetae Latini Aevi Carolini* (1886–1896 [1978])
MGH-S = *Monumenta Germaniae Historica – Scriptores* (1826–1913)
MGH-SRM = *Monumenta Germaniae Historica – Scriptores Rerum Merovingicarum*, eds B. Krusch *et al*. (1885–1920)
PG = *Patrologia Graeca*, eds J.-P. Migne *et al*. (1857–1868)
PL = *Patrologia Latina*, eds J.-P. Migne *et al*. (1844–1855)
SCC = *Sacrorum Conciliorum Nova et Amplissima Collectio*, ed. G. D. Mansi (1759–1798 [1960–1961])
SLH = *Scriptores Latini Hiberniae* (1955–)
VSH = *Vitae Sanctorum Hiberniae*, ed. C. Plummer (1910)

1 INTRODUCTION

1 **During the course of the nineteenth century:** See, for instance, the summary by Schlenk (1997), noting the contributions of various scientists. It is from the work at that time that there arose the modern distinction between 'ale' and 'lager' which is based, roughly speaking, on the types of yeast used. In this book I will never refer to 'lager' and will always use 'ale' and 'beer' interchangeably. In this respect I will also ignore the usage (attested first in the fourteenth century AD) in

which 'beer' designated a product with hops while 'ale' designated a product without hops (see Kylstra 1974: 10, Fell 1975: 88–89 and 91, and Scully 1995: 153). **Types of sugar:** Sherratt (1987: 91 and 1995: 24) notes that these were the principal sources of sugar known in antiquity. **Cane sugar:** See Str., 15.1.20 and Pliny, *Hist. nat.* 12.17.32. **'Alcohol':** During the Roman Empire many Greek and Latin authors did use the Semitic word *sicera* to mean roughly 'any fermented drink other than wine' including beer (see, for instance, Method., *De castit.* in Phot., *Bibl.* 309b3–4, Jer., *Epist.* 52.11 [= *PL* 22.536–537], copied by Isid., *Etym*. 20.3.16, and Hesych., *Lex*. s.v. σίκερα, and see also the more general definitions at Phot., *Lexi.* s.v. σικερά and *Suda* s.v. σίκερα); however, they still did not identify a common substance (alcohol) in both wine and beer (as will be see in detail below in Chapter 3). **'Wine':** The Greek word οἶνος and the Roman word *vinum* were both used of various fermented fruit drinks, but also of other intoxicants, even beer. In fact such loose terminology is even still found today, with 'barley wine' and 'rice wine' being used to refer to types of beer. **'Beer':** The Greek word ζῦθος and the Latin word *cervesia* (and variants) came to be used generically for beer, but only at quite a late date, as will be seen.

2 **Nomenclature:** There do exist some archaic English words for these sorts of drinks; thus for instance, a fermented drink made from honey and cereals was known as 'bragget' while one made from honey and grapes was known as 'piment'.

3 **Aristotle on distillation:** Arist., *Meteor*. 2.3 (358b16–17), and see Alex. Aphrod., *In Arist. Meteor.* 86.20–24 Hayduck. Distillation is primarily referred to in Greek alchemical works (see Forbes 1948: 13–28 and the full treatment in Mertens 1995: cxvi–cxxx). **Twelfth century AD:** Forbes (1948: 57–58 and 1956: 141, and see Derry and Williams 1960: 262 and Scully 1995: 158–165) argues for the beginnings in Italy (perhaps Salerno). For the possibility of alcoholic distillation already in Minoan Crete, see Tzedakis and Martlew 1999: 178–179. **Variety:** For the great variety of intoxicants in antiquity, see, for instance, Heichelheim 1958: 77–78.

4 **Definition of beer:** In this respect I follow Arnold (1911: 41–42). In contrast the *OED* (1989: 2:58, s.v.) defines 'beer' as a fermented beverage with malt and hops, and, for instance, Monckton (1969: 11) insists on speaking about ancient ale rather than beer (see also Moulin [1984] on this). The problem of defining 'beer' so strictly is exemplified in Robert and Rey (1985: 1:979, s.v. bière), in which the word 'bière' is defined as a fermented drink made from malted barley and hops, shortly after which the Gauls are said to have called 'bière' *cervisia*. Not only was the Gallic beverage made without hops, but it may well have been made with wheat, not barley, as I will attempt to show. The notion of the primacy of barley, just as much as that of the necessary use of hops, are both misguided.

5 **Drinking alcohol as a social act:** See Douglas 1987a: 4, Heath 1976b: 45 and 1987: 46, and see 30, Murray 1995: 4–5, and Joffe 1998: 297–298. I use 'ideology' to mean what Heath and Murray call societal 'values, attitudes, norms'. **Never altogether ignored:** Mandelbaum 1979: 14. **Diversity:** Bacon 1976: 7–10 and Gefou-Madianou 1992a: 2–3.

6 **Categorized as a follower:** Such distinctions are most readily noted with food taboos which identify groups, such as Pythagorean vegetarianism or Jewish abstinence from pork (see Garnsey 1999: 82–99 ['Forbidden foods']). Garnsey's work as a whole is a useful discussion of the cultural construction of food and drink among the Greeks and Romans, though it has little to say about beer. **Marker of identity and alterity:** Honigmann 1979: 33–35, Douglas 1987a: 8–11, and Sherratt 1995: 12–14, and see Murray 1995: xiii on the creation of social stratification through drinking. **Singularity and superiority:** Garnsey

1999: 62 and 65 (in a chapter on 'otherness'). For Greco-Roman notions of the food of others, see also Longo 1999, who does not deal with beer.

7 **The Cyclopes raise sheep and goats:** Hom., *Od.* 9.167, 183–184, 187–188, 216–249, 297–298, 308–309, 312–316, 336–342, 405, and 425–472. **Drinking straight milk:** 297. **Eating humans:** 287–298, 311, 344, and 373–374. **No agriculture and wild wheat, barley, and grapes:** 108–111 and 357–358. **Do not eat grain:** 190–191. **Do not drink wine:** It is clear that Odysseus is the first to provide wine to the Cyclops (345–374 and 516). More on this wine will be presented in the following chapter. Antisthenes, a follower of Socrates (and a character in Xenophon's *Symposium*), wrote a work entitled 'On the Use of Wine or On Intoxication or On the Cyclops' (περὶ οἴνου χρήσεως ἢ περὶ μέθης ἢ περὶ τοῦ Κύκλωπος) (Diog. Laert., 6.18), from which one quotation survives (fr. 41 Caizzi in Ael. Aristid., *Dict. sacr.* 49.30–33). **Ethnographical dichotomy:** See Shaw 1982–1983. **Diligence:** Athenaeus cites references to beer in ten authors (Archilochus, Hecataeus, Aeschylus, Hellanicus, Sophocles, Antiphanes, Aristotle, Polybius, Dio the Academic, and Posidonius) which have not survived in any other source (see *Deipn.* 1.16c and 34b epit., 4.152c–d, 10.418e and 447a–d, and 11.485b). Indeed, almost all of the earliest references to beer, up to the end of the fifth century BC, are based solely on Athenaeus; the only exceptions are one passage in Aeschylus, one passage in Herodotus, and a comic fragment of Cratinus preserved in Hesychius (to be discussed in the following chapters). It is interesting that Athenaeus does not cite these references, nor, for instance, the mentions of beer in Xenophon and Theophrastus.

8 **Linguistic analysis:** See my treatment of Greek and Latin beer terminology at Nelson 2001a: 19–94. **Technical analysis:** For the modern science of malting and brewing, see especially Briggs *et al.* 1981 and Hornsey 1999. Though obviously many of the principles have remained the same, ancient malting and brewing could be accomplished quite differently than today, and I will touch upon only some aspects of this question; for a fuller discussion, see Nelson 2001a: 95–178.

9 **First scholarly work:** This work has no page numbers, but is divided into chapters and sections and I will cite it according to these.

10 **Reaction:** See Bickerdyke 1889: 1. **Agenda:** Arnold 1911: xii. Contrast Eddy 1887, a history of alcohol from the point of view of an adherent to the temperance movement. **Imprecise:** Decent popular treatments now include Cornell 2003 and Hornsey 2003.

11 **German collections:** Ruprechtsberger 1992c and Both 1998. **No comprehensive account:** For partial treatments of the Greek and Latin evidence, aside from works cited above, see Wessely 1887, Olck 1899, Hehn 1911: 144–154, Bucheler 1934, McKinlay 1948, Forbes 1951, Forbes 1954, 1956, and 1965, Schrot 1964, Krenkel 1965, Hopf 1976, André 1981: 177–178, Masonen 1991, Compton-Davey 1995, Gutsfeld 1997, Kramer 1997, Volke 1998, Dayagi-Mendels 1999, Valiño 1999, Dalby 2003: 50–51, and Nelson 2003a.

2 BEER IN THE EAST AND WEST

1 **Animals:** See Brookes 1999. **Neolithic Period on:** Sherratt (1987: 91–92 and 1995: 24–26) suggests rather that the production of alcohol did not begin in the Neolithic (as is usually thought), but later, and first in the Mediterranean basin. Lambert (1997: 135), on the other hand, places the origins of beer in the Near East as early as 6000 BC. **Wild fruits:** Since wine is easier to produce than beer (since the cereal does not have to be converted) it may have been made first; see Forni 1975: 74–75 and Singleton 1996: 72 (however, the opposite is argued

unconvincingly by Ritchie 1981: 31). **Fermented foods:** See the accounts of Gastineau *et al*. 1979, Hesseltine 1979, and Hesseltine and Wang 1986.

2 **The process of conversion:** See, for instance, Lambert 1997: 134. **Unprocessed cereal:** See Corran 1975: 17.

3 **Adventurous man:** See, for instance, Durkan 1972: 267, Corran 1975: 15–16, Forni 1975: 75, MacLeod 1977: 45–46, and Ritchie 1981: 31. **Saliva beer:** Sherratt 1987: 93–94, and see Forni 1975: 75. **Malting developed:** Kahn 1996: 90 and Brothwell and Brothwell 1998: 166. **Pottery:** Kavanagh (1994) suggests that beer was only regularly made after the invention of pottery.

4 **The cultivation of cereals:** See in general Zohary and Hopf 2000. **Dismissing the theory:** See Braidwood 1952 and 1960 and Braidwood *et al*. 1953. **Taken for granted:** See, for instance, Katz and Voigt 1986: 24 and 26 (with Olsson 2003: 173), Hallo 1993: 28, and S. 1993: 28, and see Joffe 1998: 297. For the theory that malt was added to milk aready 10,000 years ago, see Alexander 2003.

5 **Beer in Mesopotamia:** Among much scholarship, see especially the monograph by Röllig (1970), the study of Salonen (1970: 186–206), the succinct summary in Bottéro (1971: 303–304, replacing Huber 1938) and the articles in Milano (1994b). For beer among the Hittites, see Steiner 1971: 307 and Del Monte 1995, and see Hoffner 1974: 37 and 144. **Beer in Egypt:** For a recent overview and very full bibliography on beer in ancient Egypt, see Samuel 2000. The standard monograph remains Helck 1971 (and see the summary in Helck 1975, replacing Helck and Otto 1956, as well as the review by Westendorf 1973). See also Darby *et al*. 1977: 529–550 and Geller 1992 (who, however, incorrectly cites the Greco-Roman evidence). **Hajji Firuz Tepe:** McGovern *et al*. 1997: 5, with McGovern 1998: 33, Phillips 2000: 2, and McGovern 2003: 64–74. **Godin Tepe:** Michel *et al*. 1992 and 1993: esp. 412A–413A on beer, with Badler 1995, McGovern *et al*. 1997: 12–13, Phillips 2000: 2–3, and McGovern 2003: 40–63 on the wine there. **Finds at Hieraconpolis:** Geller 1993. **Archaeochemical analysis:** Maksoud *et al*. 1994. **Independently discovered:** See, for instance, Olsson 2003: 171–172 (though at 175 it is said that the Greeks spread beer around Europe). Spiller writes (1955: 86) of beer: 'The discovery was made independently at different periods in various places.' He assumes, however, that beer was only discovered after cereals were cultivated. Heath (1976b: 40–41) and Sournia (1986: 13) convincingly propose that the first alcoholic beverages were presumably made before the beginnings of agriculture.

6 **Clay vessels:** See the general recent treatment of Benz *et al*. 1998. **Beer or mead:** Sherratt 1987: 93–96 and Cunliffe 2001: 110. Rudgley (1993: 32) suggests that they were used for some kind of alcohol combined with marijuana.

7 **Machrie Moor:** Haggarty 1991: 58–60, 65–66, 71–72, 83–84, 85–86, and 87 (for the pottery finds) and 91 (for the analysis). That beer is involved is suggested by Dineley and Dineley 2000: 138. **Balfarg:** Barclay and Russell-White 1993: 94–108 (grooved ware) and 98 and 108–110 (residue). **Meadowsweet:** See Grieve 1959: 2: 524–525 (who mentions at 524 the plant's use in wine and beer) and Lust 1974: 269–270. André (1985: 176) suggests that οἰνάνθη/*oenanthe*/*oinanthe* was the ancient term for meadowsweet. Eleanor Irwin, however, has informed me that there can be no doubt that this term was at least sometimes used of other plants. In the *OLD* (1996: 1240, s.v.) it is said perhaps to be dropwort. **Preservative effect of meadowsweet:** Dineley 1997. Dineley has attempted to reproduce meadowsweet beer using pots fired in kilns made partly of cow dung, which led to a story in which the ancient beer itself was wrongly said to be made from dung (see Powell 2001). **Meadowsweet in wine:** Pliny says (*Hist. nat*. 23.5.9) that *oenanthe* taken in wine is good for the stomach, while the *Geoponica* (5.51.2) speaks of using οἰνάνθη in wine. **Henbane:** See Grieve 1959:

1: 397–404 (with 403 for the effect of the seeds) and Lust 1974: 222–223. Xenophon (*Econ.* 1.13) in fact says that eating henbane causes insanity. Dioscorides (*Mat. med.* 4.68 Wellmann) speaks of extracting oil from henbane seeds. **In wine:** Plut., *Quaest. conv*. 1.4.3 (= *Mor.* 621e) (ὑοσκύαμον ἐμβαλόντες οἴνῳ) and Pliny, *Hist. nat.* 25.58.104. **Magico–medical text:** *Lacnunga* 62 (in Grattan and Singer 1952: 122) (*Slœpdrœnc: rœdic, hymlic, wermod, belone; cnuca ealle þa wyrte; do in ealað; lœt standan ane niht; drince ðonne*). **Psychedelic effects:** See Long *et al*. 1999 and Dineley and Dineley 2000: 138 and 147.

8 **Hochdorf:** Stika 1996a: 87. **Kinloch:** Wickham-Jones *et al*. 1990: 126–127, with Dineley and Dineley 2000: 138. Dickson and Dickson (2000: 218 and 262) say that this evidence needs reevaluation without explaining why. Locke (1859) long ago suggested that Scandinavians at least by the early Middle Ages used heather and sweet gale in their beers, and brought this beverage to Ireland. **North Mains cist burial finds:** Vessel SF17 in burial B in Barclay *et al*. 1983: 136, 157, 176–177, with 137, fig. 14, 138, fig. 15, 158, fig. 29a, and pl. 10. **Analysis:** Barclay *et al*. 1983: 178–180, with Dineley 1996 (who also mentions other Neolithic finds of meadowsweet in Britain, though not in the context of cereals), Pain 1999: 57, Dickson and Dickson 2000: 82, and Dineley and Dineley 2000: 137. For a similar lime pollen find in Sweden, see Dickson and Dickson 2000: 207–208. **Ashgrove Farm cist burial:** Dickson 1978: esp. 111 and 112. See also Barclay *et al*. 1983: 179, Sherratt 1987: 96, van Zeist 1991: 121, Dickson and Dickson 2000: 79–81 (and see 78–84 for meadowsweet finds generally in Scotland), and Dineley and Dineley 2000: 137. **Egtved, Jutland find:** Dickson and Dickson 2000: 81, citing Thomsen 1929 and an unpublished study of J. J. Troels-Smith. See also Nierhaus 1954: 258 (citing previous scholarship), Dickson 1978: 111, van Zeist 1991: 121, and Dineley and Dineley 2000: 138; Clark (1952: 208) speaks only of 'a fermented drink mixed with honey'.

9 **Finds:** See Dineley and Dineley 2000: 138, with their discussion (at 139–153) of how such drinks may have been made. **Paucity of evidence:** One Mesopotamian medical text seems to describe a drink made of honey, grape juice, and beer (see Bottéro 1971: 303) and Polyaenus (*Strat*. 4.3.32) says that Cyrus wrote that in Babylon and Susa 'one supplies a wine half from dates and half vines [that is, grapes]' (τὸν μὲν ἡμίσεα ἐκ τῶν φοινίκων οἶνον παρέχει, τὸν ἡμίσεα ἀμπέλινον). Otherwise, such mixed beverages are rarely to be found.

10 **Myrtos jars:** Tzedakis and Martlew 1999: 159–161, with McGovern 2003: 265–266. For a general overview of the study of the diet of Minoans and Mycenaeans, see Hamilakis 2000 and for Mycenaean feasts, Wright 2004. **Apodoulou cooking pot:** Tzedakis and Martlew 1999: 162 and 183.

11 **Late Minoan times:** See especially Evans 1921: 415: 'Its [that is, beer's] usage seems to have preceded that of wine in the island.' This is followed by Forbes (1965: 130), who suggested that Cretan beer may have been imported from Egypt. However, Ventris and Chadwick (1973: 131) thought this implausible since no beer-straining vessels were found on Crete and beer was not mentioned by Homer. **Finds of barley and millet:** Evans 1936: 622. **Two jugs:** Evans 1921: 414–415, with figs. 299a–b, and 1936: 627–628, fig. 618. Hood (1971: 87) says of the jugs that they may have been used 'in some religious cult'. **Oats jug:** Evans 1936: 629, figs. 620a–b. It should be noted also that ears of barley seem to be depicted on late Cycladic pottery from Akrotiri (Thera) (Doumas 1983: 112). **Vessels with a mixture:** Tzedakis and Martlew 1999: 207–208, with 166–173 (Chania) and 174 and 176 (Armenoi), and see further Pain 1999. **Nestor's drink:** Hom., *Il*. 11.638–641 (called a κυκεών or 'mixture'). **Circe's drink:** Hom., *Od*. 10.234–235, and see 290. **Demeter's drink:** Ps.-Hom., *Hymn. Cer*. 207–210. **Not beer:** See the discussion in Richardson (1974: 345), and his

definition of the beverage (found also in many other sources) as 'any form of mixture of grain . . . and liquid . . . often seasoned with herbs' (344). Nevertheless, some, still interpret this drink as beer, such as McGovern *et al*. (1999: 864), and see also McGovern 2003: 267–268.

12 **Mycenaean take-over:** See Chadwick 1976: xii and 4–14. **Evidence for wine:** Palmer 1994 (and see Chadwick 1976: 122 and 124). The Linear B symbol is *131 (see Ventris and Chadwick 1973: 50 and 220). For wine in later Cretan history, see Marangou 1999. **Dionysus:** PY Xa 1419 (with wine) and KH Gq 5 (with honey), cited in Palmer 1994: 61–62, and see the discussion in Ventris and Chadwick 1973: 127, with Kerényi 1976: xxvi. **Joy of Mortals:** Hom., *Il*. 14.325 (χάρμα βροτοῖσιν), and see the mentions of Dionysus at *Od*. 11.325 and 24.74. **'Discoverer of wine':** Aristarchus in *Schol. in Hom. Od.* 9.198 (οἴνου εὑρετής). Athenaeus (*Deipn*. 1.26b epit.) said that some thought that Dionysus's flight into the sea in Homer (*Il*. 6.135) symbolized wine mixed with sea water. Otto (1965: 55–57, and see 145–146) argues that Homer already thought of Dionysus as a wine god. See also the discussion in Privitera 1970: esp. 49–89. **Some scholars:** See especially Harrison 1903: 323–324 and 1922: 413–425, whom Graves (1960: 108), among others, accepts.

13 **Plant ideogram:** Evans 1935: 624–625 (with the quotation from 624), followed by Hroznŷ 1949: 261–264, inscriptions nos. 181–183. See also the cup with the symbol for 'two' found with measures for grain and thought to indicate beer (perhaps of barley) at Evans 1935: 721–722 and Hroznŷ 1949: 264–265, inscription no. 184. Hroznŷ (1949: 201–207, 263–264, 266–270, 344, inscriptions nos. 114–116, 183, [*ra-u*], 186–189 [*ra-i*], 117 [*ru*], and 119–121 [*ri*]) further suggested that the words *ra-u* and *ra-i* (and possibly *ru* and *ri*) placed in conjunction with a symbol for liquid (an urn or amphora), as found on tablets from Knossos, denoted some type of beer (made perhaps of barley or millet). **Olive oil:** Ventris and Chadwick 1973: 50, 217–218, and 303 (*130). For the actual symbol for wheat, see 50 and 213–215 (*120); for barley, see 50 and 215–217 (*121). Palmer (1992) argues rather that *120 is barley and *121 is wheat. For vessel ideograms, see 324, fig. 16. For cereals in general among the Mycenaeans, see Chadwick 1976: 108–119. **Two unidentified ideograms:** Ventris and Chadwick 1973: 50 (*132) (which appears only once in a tablet from Pylos) and 50 and 392 (*134 = *190) (which appears on tablets from Knossos and Mycenae and nodules from Thebes). **May be beer:** See Piteros *et al*. 1990: 165 and Palmer 2002.

14 **Akkadian text:** *Ras Shamra* 16.238, ll. 7 and 10 (edited in Nougayrol 1955: 107–108; see also the information on this inscription in Bordreuil and Pardee 1989: 108). Knapp (1991: 21, 37, and 42) identifies the product here as Cretan beer.

15 **Egyptians discovered beer before wine:** *Schol. in Aesch. Suppl*. 953: ἐκ κριθῶν μέθυ· πρὸ γὰρ τῆς εὑρέσεως τοῦ οἴνου τοῦτο ἐξεῦρον Αἰγύπτιοι. λέγεται δὲ μεθύσκειν ("of the inebriant [made] from barley": before the discovery of wine the Egyptians discovered this. And "to intoxicate [from barley?]" is said'). **Mead was drunk:** See Harrison 1922: 422 and 442, who cites some of the passages cited below. **Fairly recent:** At the time of Aphrodite's birth there was no wine yet according to Plato (*Symp*. 203b); on this passage, see Worms 2002. Also Diodorus of Sicily (5.61.3), in recounting a myth, speaks of wine having only recently been discovered among mankind, and Theophrastus speaks of wine being a beverage unknown to the Greeks in earlier times (fr. 584A Fortenbaugh *et al*. in Porph., *De abst*. 2.20). **Zeus intoxicated Cronus:** Orph., fr. 154 Kern in Porph., *De antr. nymph.* 16. For other possible Greek mythological allusions to mead, see Younger 1966: 29–30. **Jews:** Plut., *Quaest. conv*. 4.6.2 (= *Mor*. 672b), who uses μέθυ,

for 'mead'. **Lost mead recipe:** Ps.-Aristot., *Mir. ausc.* 22 (832a); this probably derives from Theophrastus's lost work on honey (see Sharples 1995: 209–210). Theophrastus also stated (fr. 584a Fortenbaugh *et al.* in Porph., *De abst.* 20.2–3) that before there were wine libations there were libations of water, then honey, then oil.

16 ***Methu:*** The Greek μέθυ, is already found as *me-tu-wo* in Linear B (PY Fr. 1202, cited in Palmer 1994: 63). **Indo-European root:** Pokorny 1994: 707 and Watkins 2000: 52. **Equated with wine:** Hom., *Il.* 7.467 and 471. **Opposed:** See, for instance, Arist., *Phys.* 1.2 (185b).

17 **Two general drinking traditions:** See Sherratt 1987: 94.

18 **Lost knowledge:** It remains possible, though as yet unproven, that some Greeks in remoter areas did retain a beer-drinking tradition and that this tradition was unknown to those who left us a literary record of the times.

19 **Colonization of Thasos:** Isaac 1986: 79–80 and 279. Archilochus (frs. 21–22 West) actually thought of Thasos as not a pretty place. **Gold and silver mines:** Hdt., 6.46 and 7.112, Eurip., *Rhes.* 921 and 970, and Str., 7.34 and 14.5.28. **Dropped his shield:** Archil., fr. 5 West. **Wine from Ismarus:** Archil., fr. 2 West, and see fr. 4 West. **Known to Homer:** See *Od.* 9.45 and 163–165. Agamemnon (whom Achilles calls 'wine-sodden' [*Il.* 1.225 (οἰνοβαρής)] and who admits to having been drunk [*Il.* 9.119]) is said to receive wine everyday from Thrace (Hom., *Il.* 9.71–72). It was later plausibly posited (in Athen., *Deipn.* 13.556e) that the great quantities of wine were not for Agamemnon to get drunk but were meant as a mark of honour. Also the Thracian Maron gave Odysseus wine (*Od.* 9.196–211), as will be seen in the following chapter. Thracian wine was said to be called ζῆλα (or variants) (Eupolis, fr. 390 Kassel-Austin, with Hesych., *Lex.* s.v. ζίλαι, Herod., *Lex.* s.v. ζελᾶς, Phot., *Lex.* s.v. ζειλά, and *Etym. Magn.* s.v. ζήλας). Platnauer (1921: 150) implausibly thought that this term referred to beer. **'Intoxicant-struck Archilochus':** Callim., fr. 544 Pfeiffer in Eust., *Comm. ad Hom. Il.* 6.135 (= Archil., T62 West) (ὁ μεθύπληξ Ἀρχιλόχος), certainly based on one of his poems, in which he speaks of having his wits thunderstruck with wine (Archil., fr. 120.2 West in Athen., *Deipn.* 14.628a). **'. . . just like a Thracian':** Archil., fr. 42 West in Athen., *Deipn.* 10.447b (ὥσπερ αὐλῷ βρῦτον ἢ Θρέϊξ ἀνὴρ | ἢ Φρὺξ ἔβρυζε· κύβδα δ' ἦν πονεομένη) on 'barley wine' (ὁ κρίθινος οἶνος). The first line (which is metrically incomplete) has been variously restored, but with no great change in meaning. I accept the manuscripts' reading ἔβρυζε (a *hapax legomenon*) (defended by Gerber 1976: 13–14, and see Pini 1972: 216–218) rather than ἔμυζε proposed by Wilamowitz, accepted by West, and defended by Bossi (1990: 126–131). **Fellatio:** See the discussion by Gerber 1976. For an alternative reading, see Medaglia 1977. **Daughters of Lycambes:** See the erotic remains of Archilochus's poetry: frs. 30–41, 43–82, and 207–208 West. On the identity of the fellatrix, see Rankin 1977: 63–65.

20 **Mesopotamian connection:** West 1994: 2–3 and 1997: 498–499. **Beer tubes depictions:** See, for instance, Hartman and Oppenheim 1950: pls. I–II and Röllig 1970: 30, 36, 41, 49, 58, and 61. **Beer tube finds:** Maeir and Garfinkel 1992. **Sieve-spouted vessels:** See Sams 1977 and 1995: 1153, with the photographs in Akurgal 1955: pls. 10–12, 17, 20, and 23. It has been tentatively suggested that sieve-spouted containers found in the sanctuary of Demeter and Kore in Corinth were also used for beer (Bookidis 1990: 93). See below in Chapter 6 for such vessels in ancient Israel where a different view is cited. **Situlae:** McGovern *et al.* 1999, McGovern 2001, and McGovern 2003: 279–298.

21 **Armenian barley wine:** Xen., *Anab.* 4.5.26–27 (ἦσαν δὲ καὶ πυροὶ καὶ πυροὶ καὶ κριθαὶ καὶ ὄσπρια καὶ οἶνος κρίθινος ἐν κρατῆρσιν. ἐνῆσαν δὲ καὶ αὐταὶ αἱ κριθαὶ ἰσοχειλεῖς, καὶ κάλαμοι ἐνέκειντο, οἱ μὲν μείζους οἱ δὲ ἐλάττους, γόνατα

οὐκ ἔχοντες· τούτους ἔδει ὁπότε τις διψῴη λαβόντα εἰς τὸ στόμα μύζειν. καὶ πάνυ ἄκρατος ἦν, εἰ μή τις ὕδωρ ἐπιχέοι· καὶ πάνυ ἡδὺ συμμαθόντι τὸ πῶμα ἦν). A number of the words in this passage were thought unusual enough to be glossed in the *Suda* (s.vv. ἄκρατος, γόνατον, μυζεῖ καὶ μύζει, συμμαθόντι, and οἶνος). For Xenophon's account of his troops' drinking practices in his *Anabasis*, see Villard 2002: 60–65. For the strangeness of straws to Romans, see Mela, *Chorogr*. 3.9.91 and Pliny, *Hist. nat.* 6.35.188, with Nelson 2003a: 109 and n. 44.

22 **'Very strong':** See Davidson 1997: 323, n. 18. **Wine mixed with water:** This is apparently first mentioned in Hom., *Il*. 9.203 (see the discussion of this in Plut., *Quaest. conv.* 5.4 [= *Mor*. 677c–678b] and Athen., *Deipn*. 10.423c–424a). Even the gods drink their nectar mixed (Hom., *Od*. 5.93). As Aristotle (*Poet.* 1461a27–28) put it, 'they call "wine" that which has been mixed' (τὸν κεκραμένον οἶνόν φασιν εἶναι). **Various proportions:** See, for instance, Plut., *Quaest. conv*. 1.4.2 (= *Mor*. 620e–621a) and 3.9 (= *Mor*. 657b–e) and Athen., *Deipn*. 10.423b–424a, 424d–e, 425f–427a, and 429f–432b, with Gerber 1988: esp. 41, n. 5, Villard 1988b, and Wilson 2003: 114–167. An etiological myth of the tradition of mixing wine and water is found in Athen., *Deipn*. 15.675a–c, where it is said that once Dionysus introduced the vine in Greece people drank wine unmixed, until one day it rained in their wine cups and they discovered the pleasure of the mixed drink (see also the different tradition at 2.38c–d [= Philochor., *FGrH*328F5b], that Dionysus introduced the art of mixing). Unmixed wine was usually reserved for libations (see Athen., *Deipn*. 15.693b–e). **'They do not weaken [beer]':** Pliny, *Hist. nat.* 14.29.149 (*nec diluendo ut vina mitigant*). **Drinking like a bullock:** Xen., *Anab*. 4.5.32.

23 **First meeting:** Xen., *Anab*. 7.2.23, cited in Athen., *Deipn*. 11.476c (ἠσπάζοντο μὲν πρῶτον ἀλλήλους καὶ κατὰ τὸν Θρᾴκιον νόμον κέρατα οἴνου προὔτεινον). **Banquet of Seuthes:** 7.3.21–32 (quoted in Athen., *Deipn*. 4.151a–e), with horns of wine at 24, 26, 29, and 32. **Thracian drinking horns:** See Marazov 1976 and 1978 (with English summary at 162–165), and his summary in Fol and Marazov 1977: 80–81 and 85. On this type of drinking horn, the ῥυτόν, see Athen., *Deipn*. 11.496f–497e. **Modelled on Persian examples:** See Ebbinghaus 1999. **Banquet of Dromichaetes:** Diod. Sic., 21.12.5. **Drinking cups as Dacian spoils:** Crito, *Getica FGrH*200F1 in Joh. Lyd., *De magistr.* 2.28 ('drinking cups': ἐκπωμάτα). **Dedicated a horn:** Hadrian, *Epigr*. 1 Page in *Anth. Pal.* 6.332.

24 **Thracian word:** See, for instance, among classical scholars, Frisk 1954: 1: 273, s.v. βρῦτον, Chantraine 1968: 199, s.v. βρῦτον, and Kramer 1997: 202; and among Thracian scholars, Tomaschek 1894: 7, Detschew 1957: 93, Russu 1959: 61 (with previous scholarship cited), Georgiev 1983: 1152, and Duridanov 1985: 16, s.v. βρῦτον. For the fanciful etymology from 'Britannia', see Bickerdyke 1889: 31–32, who rightly rejects it. **Indo-European root:** See Pokorny 1994: 143–145, as well as Mallory and Adams 1997: 199 and Watkins 2000: 13. **Obsolete:** After the fourth century BC the word (and its variants) is only found in Herodian's work on obscure words (*De orthogr*. s.vv. βρῦτον and βρῦττιον) and later lexicons (Hesych., *Lex*. s.vv. βροῦτος, βρῦτον and βρύττιον and Phot., *Lex*. s.v. βρῦτον), in all cases defined as a barley drink. If it were not for Athenaeus (see *Deipn*. 10.447a–d, with Eust., *Comm. ad Hom Il.* 11.638 and 22.283) we would know practically nothing of the earlier uses of this word.

25 **A certain peoples:** Hellan., *FGrH*4F66 in Athen., *Deipn*. 10.447c (πίνουσι δὲ βρῦτον ἐκ τῶν βριζῶν, καθάπερ οἱ Θρᾶικες ἐκ τῶν κριθῶν). I accept Wilamowitz's βριζῶν ('rye') for the manuscripts' ῥιζῶν ('roots'), since clearly a type of cereal is required. Jacoby (1957: 454) suggests instead that the people referred to here are Paeonians. **Book on customs of the barbarians:** Hellan., *FGrH*4F72 and 73 (the latter on Thracians). Other works entitled βαρβαρικὰ

νόμιμα were written by Aristotle (fr. 604–610 Rose[3]), Theodectes of Phaselis (*FGrH*113T1), and Callimachus (fr. 405 Pfeiffer). Dionysius of Heraclea wrote a περὶ βαρβαρικῶν ἐθῶν (see Diog. Laert., 7.167). None of the remaining fragments deal with drinking customs. **Paeonian beer:** Hecat., *FGrH*1F154 in Athen., *Deipn*. 10.447d: Παίονάς . . . πίνειν βρῦτον ἀπὸ τῶν κριθῶν ('The Paeonians drink *brūtos* [made] from barley'). **Pushed beyond Mount Athos:** Pind., *Paean* 2.60–62. Herodotus (7.113, and see 4.49.1, 5.16, 7.185, and 8.115) speaks of the Paeonians living north of Mount Pangaeus, while Strabo (7.4, 10, and 38) places Paeonia north of Macedonia and west of the Thracian mountains. Also, *Schol. Hom. Il.* 2.848 says that the Paeonians are neighbours of the Thracians while *Schol. Eur. Rhes.* 408 speaks of the Paeonians as a tribe of Thrace (ἔθνος Θρᾴκης).

26 ***Parabiē:*** Hecat., *FGrH*1F154 in Athen., *Deipn*. 10.447d: Παίονάς . . . πίνειν . . . παραβίην ἀπὸ κέγχρου καὶ κονύζης ('The Paeonians drink . . . *parabiē* [made] from millet and [from] fleabane'). **Beer additive:** Peck (1965: 321), for instance, accepts that Paeonians made beer with fleabane. **Fleabane wine:** Cass., *Geopon*., 8.10 (κονυζίτης οἶνος). **Restored:** The manuscripts provide κόνυζαν which implies three sorts of Paeonian beverages: barley *brūtos*, millet *parabiē*, and *konuza*. This is almost universally emended to κονύζην though Kaibel tentatively suggested κυρηβίην ('[drink] bran'), which makes no sense since no one drinks bran (the husks on the grain); even κυρηβίης would make no sense, since bran would not be used to make beer either. **Rice in Europe:** André 1981: 54–55 and 1985: 182, and for recent archaeobotanical finds of rice in Europe, see Kroll 2000: 45. Humphrey *et al*. (1998: 154) are wrong that rice never made its way westwards, though it was certainly rare in the northern Mediterranean, as its enormous price in Diocletian's edict testifies (1.23). However, Grant (2000: 200, n. 25), commenting on Galen's mention of rice (*De alim. facult.* 1.17 [= 6.525.1–4 Kühn = *CMG* V.4.2, 243.8–11]), shows that Apicius's reference to rice water (2.2.8) tends to show that rice was not that exotic. **Millet-like cereal:** Hdt., 3.100, and see Amouretti 1986: 33, n. 3. The first certain reference to rice is Theophr., *Hist. Pl.* 4.4.10. **Indian millet and rice:** Diod. Sic., *Hist.* 2.36.3 and 4. **Indian rice beer:** Str., 15.1.53, Pliny, *Hist. nat.* 18.13.71 (?), and Ael., *Nat. anim.* 13.8, perhaps all ultimately indebted to Ctesias's *Indica* (see Nelson 2003a: 102 and n. 6). Pliny (*Hist. nat.* 8.24.8) also mentions beer used to tame elephants, presumably in India. There are also ancient Indian sources on rice beer which I leave aside.

27 **Egyptian bread and barley drink:** Hecat., *FGrH*1F323b in Athen., *Deipn*.10.418e: Αἰγυπτίους δὲ Ἑκαταῖος ἀρτοφάγους φησὶν εἶναι κυλλήστιας ἐσθίοντας, τὰς δὲ κριθὰς εἰς ποτὸν καταλέοντας ('Hecataeus says: "The Egyptians are bread-eaters, eating *cyllēstis*, and grinding barley for a drink" '). This is also quoted in part in Athen., *Deipn*. 10.447d (= Hecat. *FGrH*1F323a): τὰς κριθὰς ἐς τὸ πῶμα καταλέουσιν ('They [that is, the Egyptians] grind barley for a beverage'). See also Eust., *Comm. ad Hom. Il.* 11.638 and 22.283 (taken from Athenaeus). Athenaeus also elsewhere (*Deipn*. 3.114c) mentions that Hecataeus (*FGrH*1F322), Herodotus, Aristophanes (Dan. fr. 267 Kassel-Austin), and others discussed Egyptian κυλλήστις. For this type of bread, see also Pollux, *Onom*. 6.73 and Phot., *Lex*. s.v. κυλλήστις. **Word used for beer:** Hesych., *Lex*. s.v. ζύθιον (ἢ <ἐξ> ἀλφίτου πόσις). **Bread and barley wine:** Hdt., 2.77.4. This passage will be further discussed in Chapter 4.

28 **Regularly purge:** Hdt., 2.77.2. **Purge mummies' stomachs:** 2.88. **Purgative as payment:** 2.125.6. Diodorus of Sicily (*Hist*. 1.64.3) also imitates Herodotus (speaking of the purgative and vegetables) and further (*Hist.* 1.82.1–2) speaks of Egyptians fasting and using douches/enemas and emetics. **Radishes:** Pliny, *Hist.*

nat. 36.17.79. **Beer as payment:** Lloyd 1988: 70. **'To measure out laxative/purgative':** Ar., *Pax* 1197–1264, with the quote at 1254 (συρμαίαν μετρεῖν). The measurers have usually been taken to be helmets, but Olson suggests (1998: 304–305) that they are rather scabbards. **Beer spoken of:** Did. Chalc., fr. 14, no. 55 Schmidt in *Schol. in Ar. Pac.* 1254: συρμαίαν μετρεῖν· οἱ μὲν ἀξιοῦσι χυλὸν βοτάνης εἶναι τὴν συρμαίαν, ᾗ χρῶνται Αἰγύπτιοι πρὸς διάρροιαν, τινὲς δὲ τὸν λεγόμενον ζῦθον [Nelson, ζῦθον codd.], ὡς καὶ φησὶ Δίδυμος ('"to measure out laxative/purgative": Some esteem the juice of a plant as a laxative/purgative, which the Egyptians use for diarrhoea, and others [esteem as a laxative/purgative] so-called *zūthos*, as Didymus says'). **'Of the dark laxative/purgative':** Ar., *Thesm.* 857 (μελανοσυρμαῖον). **Explained:** *Schol. in Ar. Thesm.* 857: ἡ δὲ συρμαία κρίθινόν ἐστι πόμα (Nelson, πότημα codd.) ('the laxative/purgative is barley drink') and *Suda* s.v. μελανοσυρμαία: συρμαία δὲ κρίθινόν ἐστι πόμα ('the laxative/purgative is barley drink'). **Jewish source:** *Pesahim* 42b, where the term *zūthos* is used; it is considered a laxative for a constipated person and an anti-laxative for someone with diarrhoea and is thought dangerous for the sick or pregnant. **Other laxatives/purgatives:** Hesych., *Lex.* s.v. συρμαία and the *Suda* s.v. συρμαία. **Bread:** Ar., *Dan.* fr. 267 Kassel-Austin. **Sellers of laxative/purgative:** Ar., *Dan.* fr. 276 Kassel-Austin (συρμαιοπῶλαι). **Indebted to Hecataeus:** See Garvie 1969: 179 and n. 6 and Hall 1989: 133. Hecataeus had also discussed the story of the Danaids (*FGrH*1F19–22). **Egyptian barley beer:** Aesch., *Suppl.* 952–953.

29 **The *malinathallē*:** Theophr., *Hist. plant.* 4.8.12 (ἐν δὲ τοῖς ἀμμώδεσι χωρίοις, ἅ ἐστιν οὐ πόρρω τοῦ ποταμοῦ, φύεται κατὰ γῆς ὃ καλεῖται μαλιναθάλλη, στρογγύλον τάῳ σχήματι μέγεθος δὲ ἡλίκον μέσπιλον ἀπύρηνον δὲ ἄφλοιον· φύλλα δὲ ἀφίησιν ἀπ' αὐτοῦ ὅμοια κυπείρῳ· ταῦτα συνάγοντες οἱ κατὰ τὴν χώραν ἕψουσιν ἐν βρυτῷ τῷ ἀπὸ τῶν κριθῶν καὶ γίνεται γλυκέα σφόδρα. χρῶνται δὲ πάντες ὥσπερ τραγήμασι). The same plant (as is obvious from its description) is called the *anthalium* by Pliny (*Hist. nat.* 21.52.88), but no mention of beer is made there. **Another passage:** Theophr., *De caus. plant.* 6.11.2 (οἱ τοὺς οἴονυς ποιοῦντες ἐκ τῶν κριθῶν καὶ τῶν πυρῶν, καὶ τὸ ἐν Αἰγύπτῳ καλούμενον ζῦθος). I follow Schneider in writing ζῦθος for the manuscripts' ζύθος since the penultimate syllable in the word is metrically guaranteed to be long in Colum., *Rei rustic.* 10.116 and Dio Chrys., *Or.* 32.82, and is explicitly said to be long in *Etym. Gudian.* s.v. μῦθος.

30 **Linking to Egyptian words:** See Chantraine 1968: 401, s.v. ζῦθος, Peruzzi 1947, and Kramer 1997: 204, all of whom cite previous scholarship on the question. Schrader argued that it came from the Old Egyptian *hekt*, while Loret suggested an origin from Old Egyptian *haqi* (see the citations in Olck 1899: 458). Recently, Kramer (1997: 205) argued for a derivation from the Egyptian swt meaning 'wheat'. **Connected to *zeō*:** See already Meibom 1668: 4.19, and see, for instance, Olck 1899: 458, Arnold 1911: 88, n. 1, Lutz 1922: 75, and Nencioni 1939: 21, n. 2. ***Zumē*:** Schrader and Nehring 1917: 143, Nencioni 1939: 21, n. 2, Schwyzer 1939: 330 (and see 512), Chantraine 1968: 401, s.v. ζύμη, and Kramer 1997: 204–205 (citing previous scholarship). **Same construction in Latin:** See, for instance, the definition of *fermentum* as πόμα ἀπὸ ζύμης ('a drink [made] from yeast') at *CGL* II, 413.22 and as ζύμη ('yeast') at *CGL* II, 322.44 and elsewhere. **Glossary:** *CGL* II, 322.42.

31 **Contrast:** One late lexicon (*Lex. Seguariana* s.v βρῦτος, and see Phot., *Lex.* s.v. βρῦτος), however, equates βρῦτος and ζῦθος (my accents). **Hymn to Ninkasi:** See Civil 1964 (with a translation at 72–73), and also generally Hartman and Oppenheim 1950. The method was recreated by Katz and Maytag 1991 (who include a revised translation [29], and who suggest [32] that the bread was twice-

baked like modern Italian biscotti), for which, see also Stone 1991. The method is summarized in Renfrew 1995: 197. **Paintings, reliefs, etc.:** See especially the careful analysis by Helck 1971: esp. 22–52. **Baking and beer making:** See, for instance, Lutz 1922: 78–81, Darby *et al*. 1977: 534–547 (with further bibliography), and Geller 1998. **Difficult to interpret:** Samuel 1993: esp. 276–278 and 1994. **Starch granules:** Samuel 1996b: 488–490; more in depth in 1996a, with the summary by Williams 1996: 432, and also Samuel 2000: esp. 555. Samuel (1996b: 8) argues that sieves were used to remove chaff, not for the crumbled bread. **Unsprouted grain:** Samuel 1996a: 9 and 10. Samuel also had an Egyptian brew made according to her reconstruction (see, for instance, Merrington 1994 and Samuel 1995).

32 **Later scribe:** See Mertens 1995: lix with n. 163. **Recipe:** Ps.-Zosim. in 2.372 Berthelot and Ruelle: περὶ ζύθων ποιήσεως· λαβὼν κριθὴν λευκὴν, καθαρίαν, καλὴν, βρέξον ἡμέραν α', καὶ ἀνάσπασον ἢ καὶ κοίτασον ἐν ἀνειμέμῳ [Olck 1899: 459, ἀνηνέμῳ cod.] τόπῳ ἕως πρωΐ· καὶ πάλιν βρέξον ὥρας ε'· ἐπίβαλε εἰς βραχιώνιον ἀγγεῖον ἠθμοειδὲς, καὶ βρέχε. προαναξήρανε ἕως οὗ γένηται ὡς τύλη· καὶ ὅτε γένηται, ψῦξον ἐν ἡλίῳ ἕως οὗ πέσῃ· μαλίον γὰρ πικρόν. λοιπὸν ἄλεσον καὶ ποίησον ἄρτους προσβάλλων ζύμην ὥσπερ ἄρτον· καὶ ὄπτα ὠμότερον· καὶ ὁτ' ἂν ἐπανθῶσιν, διάλυε ὕδατι γλυκεῖ καὶ ἤθμιζε διὰ ἠθμοῦ ἢ κοσκίνου λεπτοῦ. ἄλλοι δὲ ὀπτῶντες ἄρτους βάλλουσιν εἰς κλουβὸν μετὰ ὕδατος, καὶ ἑψοῦσι μικρὸν, ἵνα μὴ κοχλάσῃ, μήτε ᾖ χλιαρὸν, καὶ ἀνασπῶσι καὶ ἠθμίζουσιν· καὶ περισκεπάσαντες, θερμαίνουσι καὶ ἀνακλίνουσιν [Olck, ἀνακρίνουσιν cod.] ('On the making of *zūthoi*: take nice, clean, white barley, soak [it in water] for one day, take [it] up [out of the water], and lay it out in a windy place until early [the following day], and soak it again for five hours. Throw it into a shallow, strainer-like bowl [?], soak [it in water], making it dry up until it becomes like a lump, and, being so, dry it in the sunlight until it falls apart, since the little hairs are bitter. Grind the remainder and make [it] into loaves, adding yeast as that for bread. Heat [the loaves] more strongly [than bread], and when they rise, crumble them into fresh water and strain them through a strainer or fine sieve. Others bake the loaves and cast them in a vat with water and they heat it slightly, so that it does not boil nor become lukewarm, then take up [the loaves from the water] and strain [the water], and they cover [it] around, heat [it], and lay [it] out'). A slightly different translation into English is provided by Irby-Massie and Keyser 2002: 251. I have made a beer using an adaptation of this recipe (see Nelson 2001a: 399–400) which, after a bit of ageing, and allowing the sediment to settle, was a beautiful reddish colour and had a refreshing sweet and sour flavour. ***Bouza:*** See, for instance, Lucas and Harris 1962: 13–14, Darby *et al*. 1977: 534 and 541, and Geller 1992: 20. For technical aspects of *bouza*, see Morcos *et al*. 1973.

3 THE GREEK PREJUDICE AGAINST BEER

1 **Thrace 'rich in vines':** Pind., *Paean* 2.25–26 (ἀμπελόεσσα). **Fought Thracians:** See Radt 1985: 39–40. **Lycurgus tetralogy:** See *Schol. Ar. Thesm.* 134–135 (= Aesch., T68 Radt). See the full account by West 1990: 26–50, which I follow throughout this discussion. **Mocking Dionysus:** Aesch., frs. 59, 61, and 62 Radt (see West 1990: 28). **'Threw out drinking horns':** Timon, fr. 4 Diels (= *Suppl. Hellen*. 778) in Athen., *Deipn*. 10.445e (ἐκ δὲ ῥίπτασκεν ἀπληστοίνους τ' ἀρυσαίνας). **Artistic depictions:** See Sutton 1975, Griffith 1983: 220–229, Farnoux 1992: 311–313, and Carpenter 1993: 198–199. Sometimes the death of Lycurgus's wife is also shown in art. **Later accounts:** The first is Ps.-Apollod., *Bibl.* 3.5.1, and see Hyg., *Fab*. 132, where Lycurgus also kills his wife. Plutarch

(*De aud. poet.* 1 [= *Mor*. 15e]) claims that Lycurgus was drunk when he did it, and Hyginus (*Fab*. 132) says that he was drunk on wine (see further Farnoux 1992: 309). **Fate:** For instance, Dionysus places him in a cave until he regains his senses (Soph., *Ant.* 955–963 [and see the scholia]); the Edonians have him torn to pieces by horses (Ps.-Apollod., *Bibl.* 3.5.1) or he is torn to pieces by panthers (Hyg., *Fab.* 132); he cuts off his own legs (Serv., *Comm. ad Verg. Aen*. 3.14); Dionysus kills, tortures, and then crucifies him (Diod. Sic., 3.65.4–5); Dionysus binds him in vines and brings him to the underworld where he has to fill a leaking vessel with water for eternity (*P.Ross.-Georg*. I.11 [in Page 1941: 520–525]); or he is attacked by a grape-vine and by followers of Dionysus, made blind by Zeus, and later made a god by Hera (Nonnus, *Dion*. 21.1–170). **Blinded:** Hom., *Il*. 6.130–140 (and see the scholia); this story was apparently also found in Eumelus's *Europia* (fr. 11 Bernabé in *Schol. Hom. Il*. 6.131) and this story is expanded upon by Nonnus, *Dion.* 20.149–404 and 21.1–170, esp. 20.325–353 (in which, however, Lycurgus is from Arabia); Lycurgus is also mentioned in Homer as the killer of Areïthous, whose armour he took (*Il*. 7.142–149). For Aeschylus taking slices from Homer's dinners, see Athen., *Deipn*. 8.347e (= Aesch., T112a Radt). **Lycurgus and Maron:** Diod. Sic., 1.20.2 (ὁ βασιλεύς τῶν βαρβάρων). **Son of Evanthes:** Hom., *Od*. 9.197. **Descendant of Dionysus:** Hes., fr. 238 Merkelbach-West. **Dionysus's son:** Eur., *Cycl.* 141 and Satyrus, *FGrH*631F1.27. **Son or grandson:** *Schol. Hom. Od*. 9.197 and 198. **Maron's wine:** Hom., *Od*. 9.196–211. Odysseus gives this wine to the Cyclops, which was a popular literary topic in the fifth century BC: see Timoth., *Cycl*. in Athen., *Deipn*. 11.465c, Eur., *Cycl.* 141 (and see 145–174 [including the reference to an eight to one mixture of water with wine]), 411–412, and 616, and Crat., *Odyss*. fr. 146 Kassel-Austin. For Mareotic wine, see Athen., *Deipn*. 1.33d epit. and Nonnus, *Dion*. 1.36, 11.518, and 14.99 (cited in Savage 1965: 388, n. 14). Maron was also thought to have made the Mareotic wine in Alexandria (Athen., *Deipn*. 1.33d epit.) and, at least in a comedy, the wine from Lesbos (Clearchus, fr. 5 Kassel-Austin in Athen., *Deipn*. 1.28e epit.). **Thracian wine in Pliny's day:** Pliny, *Hist. nat.*, 14.6.54, and see Pollux, 6.16. **Aristaeus:** Pliny, *Hist. nat.*, 14.6.53. **Unmixed wine:** Pl., *Legg.* 1.637e, in a passage to be discussed in the next chapter. **Alcibiades:** Athen., *Deipn*. 12.534b, with Plut., *Vit. Alc.* 23.4–5. For the Thracians as great drinkers, see also Ps.-Eur., *Rhes*. 418–419 and 438 and Athen., *Deipn*. 10.442e–f and 11.477c, and for them drinking in one shot, see Athen., *Deipn*. 11.781d and Poll., 6.25, with Lenfant 2002: 69 and 72.

2 **Rejectors of Dionysus:** Diod. Sic., 3.64.2–4, and see 4.3.4; Ovid (*Met*. 4.19–20) and Pausanias (1.20.3) also connect Lycurgus and Pentheus. **Aeschylus's *Pentheus*:** See fr. 183 Radt, which provides us no information about the plot. Aeschylus also mentions Pentheus's death at the hands of Dionysus at *Eum*. 24–26. **Pentheus mocks Dionysus:** Eur., *Bacch*. 453–459, and at 353 he calls him the 'female-formed stranger' (ὁ θηλύμορφος ξένος). **Dressed as a woman:** 912–976. **Dionysus and wine:** 278–283, 378–385, 421–423, and 770–774. **Pentheus's opinion of wine:** 651–652 (general) and 215–225 (and see 683–688, where the women are said to not have been drinking wine) and 260–262 (for women's rites). Also at 233–238, the 'wine-faced' (οἰνωπός) Dionysus is said to mingle day and night with young girls. **Vessels from Thebes:** Tzedakis and Martlew 1999: 184–186.

3 ***Lycurgus*:** Aesch., fr. 124 Radt in Athen., *Deipn*. 10.447c (κἀκ τῶνδ' ἔπινε βρῦτον ἰσχναίνον χρόνῳ | κἀσεμνοκόμπει τοῦτ' ἐν ἀνδρείᾳ τιθείς). This, incidentally, is the only fragment surviving from this play (see the discussion in Krumeich *et al*. 1999: 164–168). These lines have occasioned much conjecture, but I accept here Radt's text except for ἰσχναίνον (discussed below). **Manliness:**

See Sommerstein 1990–1993: 59. Sommerstein believes that Lycurgus is boasting because he is drinking from the skulls of his enemies (for this as a Scythian practice, see Hdt., 4.65.1 [and see 4.26], Str., 7.3.6 and 7, and Pliny, *Hist. nat.* 7.2.12; Livy [23.24.12] and Cassius Dio [15 in Zonar., 9.3] attribute the use of an enemy's skull as a sacred cup to the Celtic Boii), but I believe that he may simply be boasting of drinking beer rather than wine. **'Weakened by time':** Hartung read ἰσχναίνον for the manuscripts' ἰσχναίνων. Some have replaced ἰσχναίνων with ἰσχανόν, giving the contrary meaning of the beer being 'strong through time'. This reading is in a way preferable since though ageing a beer should not usually drastically affect its alcohol content, if it is refermented with a great quantity of yeast it could be made (at least slightly) stronger.

4 **First evidence:** Bahntje (1900: 62) stated that Archilochus spoke of the beer of barbarians 'not without contempt' (*non sine contemptione*), but I see no certain evidence to support this. Tuplin (1999: 54) notes that it is hard to interpret Archilochus's beer stance. **Appearance of Dionysus:** Aesch., T111 Radt in Paus., 1.21.2. **Wrote while intoxicated:** Aesch., T117 Radt, from many sources, including Plutarch (*Quaest. conv*. 1.5.1 [= *Mor.* 622e], 7.10.2 [= *Mor*. 715d–e], and fr. 130 Sandbach) and Athenaeus (*Deipn*. 1.22a–b epit. and 10.428e–429a). **On wine:** Ps.-Luc., *Demosth. enc.* 15 (= Aesch., T117e Radt). **'Full of Dionysus':** Aesch., T 117g Radt in Plut., **Quaest. conv.** 7.10.2 (= *Mor.* 715e) (πάντα Διονύσου); this notion may come ultimately from Chamaeleon's work on Aeschylus (see Pfeiffer 1968: 281). Aristophanes (*Ran*. 1259) referred to Aeschylus as 'the Bacchic Lord' (= Aesch., T120 Radt). For Aeschylus and Dionysus, see Murray 1940: 145–147 (who cites most of the material cited above).

5 **Dionysus and wine:** Diod. Sic., 1.15.8, 3.70.8, 4.2.5, and 4.3.4–5. **Dionysus and beer:** 1.20.4: κατασκευάζουσι δὲ καὶ ἐκ τῶν κριθῶν Αἰγύπτιοι πόμα λειπόμενον οὐ πολὺ τῆς περὶ τὸν οἶνον εὐωδίας, ὃ καλοῦσι ζῦθος ('The Egyptians also prepare a drink from barley not much lacking in the good aroma characteristic of wine, which they call *zūthos*'); 3.73.6: οὐδένα γὰρ οὔθ' Ἑλλήνων οὔτε βαρβάρων ἄμοιρον εἶναι τῆς τούτου δωρεᾶς καὶ χάριτος, ἀλλὰ καὶ τοὺς ἀπηγριωμένην ἔχοντας χώραν ἢ πρὸς φυτείαν ἀμτέλου παντελῶς ἀπηλλοτριωμένην μαθεῖν τὸ κατασκευαζόμενον ἐκ τῶν κριθῶν πόμα βραχὺ λειπόμενον τῆς περὶ τὸν οἶνον εὐωδίας ('There is no one, either among the Greeks or among the barbarians, who does not share in his gifts and favour, but he even taught those who possess a land which has become a wilderness or altogether unsuited to the growth of the vine the drink prepared from barley little lacking in the good aroma characteristic of wine'); and 4.2.5: εὑρεῖν δ' αὐτὸν καὶ τὸ ἐκ τῆς κριθῆς κατασκευαζόμενον πόμα, τὸ προσαγορευόμενον μὲν ὑπ' ἐνίων ζῦθος, οὐ πολὺ δὲ λειπόμενον τῆς περὶ τὸν οἶνον εὐωδίας. τοῦτο δὲ διδάξαι τοὺς χώραν ἔχοντας μὴ δυναμένην ἐπιδέχεσθαι τὴν τῆς ἀμπέλου φυτείαν ('He discovered the drink prepared from barley, which is called by some *zūthos*, and [which is] not much lacking in the good aroma characteristic of wine. He taught this to those possessing a place not able to support the growing of the vine'). Diodorus in these passages equates Dionysus with Osiris, as had also Herodotus (2.42.2 and 144.2; see the rejection of this notion at Plut., *De malign. Hdt*. 13 [= *Mor*. 857c]); see also the sources cited in Diod. Sic., 1.11.3, with 1.13.5, 23.7–8, and 25.2. Eusebius (*Praep. evang*. 2.2.4 [= *PG* 13.711A]), copying from 4.2.5, understands it as a reference to the Dionysus born of Semele. Diodorus's ultimate source for these passages is unclear; Jacoby assigned 3.73.6 to Dionysius Scytobrachion (= *FGrH*32F8), but Diodorus's comment in this passage on beer being as nice smelling as wine is also found in 1.34.10, which Jacoby assigned to Agatharchides (= *FGrH* 86F19). Strangely, Eustathius (*Comm. ad Hom. Il.* 11.638) spoke of beer as 'the wine of Dionysus' (ὁ Διονυσιακὸς οἶνος).

Julius Africanus: *Cesti* 1.19 Vieillefond (μόονις τὰ ἐπινίκια γεωργοῖς Ἕλλησι τηρῶν).

6 **At least by the fifth century BC:** Many scholars used to believe that Dionysus was originally a Thracian god, but this is now untenable (see Archibald 1999: 432–433 and 460). **Coins from Maroneia:** See Franke and Marathaki 1999: 74–75 and 120–121. For other Thracian coins with Dionysiac themes, see Archibald 1999: 460. **Named after Maron:** See Diod. Sic., 1.18.2 and 20.2. For coins from Maroneia showing Maron, see Kossatz-Deissmann 1992: 182 and 363. **Thracian worship and ideals:** Hdt., 5.7 and 6, respectively. Thucydides (7.29.4) also speaks of the barbarous nature of Thracian bellicosity. **Fought when they drank:** Hor., *Od*. 1.27.1–2, and see 1.18.9–11 and 2.7.26–27. **Drank when they went into battle:** Paus., 9.30.5. **Oracles:** Hdt., 7.111.2 (and see the oracle given to Paeonians at 5.1). **Mount Pangaeus:** Eur., *Rhes*. 972 (Βάκχου προφήτης). Casson (1926: 48) notes that the modern name of Σκάλα Ντένας on Mount Pangaeus in Thrace may preserve Dionysus's name. Note also that Sophocles (*Hec.* 1267) calls Dionysus 'the Thracians' diviner' (ὁ Θρῃξὶ μάντις). **Mountains of Thrace:** Mela, *Chorogr.* 2.17. **Ligurean oracle:** Macrob., *Sat.* 1.18.1 (who cites a pseudo-Aristotelian work). For further evidence for the worship of Dionysus in Thrace after Herodotus, see Kovačev 1997: 121–123. **Prediction based on the flame:** Suet., *Aug.* 94.5. See also the reference to a spoken oracle from Dionysus from Thrace in Paus., 9.30.9.

7 **'Sebadius':** Alex. Polyhist., *FGrH* 273F103 in Macrob., *Sat.* 1.18.11. **Sabazius or Sebazius:** The sources on this god are presented in Vermaseren 1983 and Lane 1985, and are discussed in detail in Lane 1989; however, no mention of the god's possible connection to beer is made. See also Johnson 1984. **'Sleep from Sabazius':** Ar., *Vesp.* 9 (ὕπνος . . . ἐκ Σαβάζιου) and 10, with *Schol. in Ar. Vesp.* 9. **Grogginess brought on by intoxication:** See, for instance, Johnson 1984: 1587 and Henderson 1987: 118. **Comic authors:** *Schol. in Ar. Lys*. 388. Eupolis (fr. 94 Kassel-Austin) cited the cry εὐὰι σαβαῖ which may be related to Sabazius (see the reference to Demosthenes below). A certain historian of unknown date (and referred to as Amphitheus) also identified Sabazius and Dionysus (*FGrH*431F1). **Phrygian:** Ar., *Horae* fr. 578 Kassel-Austin (where he is also called a pipe-player) and punningly at Ar., *Av*. 873 (see the scholium, in which it is said that the Phrygians call Dionysus 'Sabazius' and in which the reference to the *Horae* is found). Strabo (10.3.15 and 18) and Hesychius (*Lex*. s.v. Σαβάζιος) also make Sabazius Phrygian. **'Thick Sabaziuses':** Ar., *Lys*. 388 (Σαβάζιοι), with the scholia and Lane 1989: 1–2. **Identifies:** Cic., *De nat. deor*. 3.23. **Worship stopped:** Cic., *De leg.* 2.15.37. ***Seasons:*** Ar., *Horae* fr. 578 Kassel-Austin. **Persisted in Athens:** Theophr., *Charact*. 16.4 and 27.8 and Demosth., 18.259–260 (with Str., 10.3.18 and Harpocr., *Lex*. s.v. Σαβοί, who explain that Demosthenes is referring to Sabazius). Demosthenes speaks of mixed libations and drunken worship, but does not mention wine specifically.

8 **Shared the worship:** Lane (1989: 1 and 9) argues that Sabazius was first worshipped in Thrace only in the first century BC. **Similarity of Phrygian and Thracian rites:** Str., 10.3.15–16, quoting from Aesch., *Edon*. fr. 57 Radt. **Hand-shaped carvings:** See Vermaseren 1983. **Grape, vessel, and ladle designs:** Discussed by Lane 1989: 30, 31–32, and 33–34. **Two craters:** Vermaseren 1983: 8–9 and Lane 1989: 31.

9 **Uncultured:** Amm. Marc., 29.1.11, 30.4.2, and 31.14.5 and 8, and see further Nelson 2003a: 108 and n. 40. **Derisively addressed:** Amm. Marc., 26.8.2 (*irrisive compellebatur Sabaiarius. est autem sabaia ex ordeo vel frumento, in liquorem conversis, paupertinus in Illyrico potus*). ***Sabaiarius*:** The most logical interpretation is 'a drinker of *sabaia* beer' (Harrison [1922: 419] translates it as 'beer-man'), but

Mayer (1957: 287) also logically connected the construction of the word with that of *cervesarius*, which means 'a maker of *cervesa* beer'. ***Sabaium*:** Jer., *Comm. in Is.* 7.19 (*vulgo in Dalmatiae Pannoniaeque provinciis, gentili barbaroque sermone appellatur sabaium*). **A native of Dalmatia:** Jer., *De vir. ill.* 135, and see Pallad., *Hist. Laus.* 41.

10 ***Sabaiam*:** Mayer 1957: 287 and 1959: 96. **Connection:** See, for instance, Olck 1899: 461, Harrison 1903: 323 and 1922: 419 (with n. 2 for the opinions of other scholars), Cumont 1911: 929 (with previous scholarship at n. 3), Mayer 1957: 288, Johnson 1984: 1586 (who notes other suggestions), Turcan 1989: 291, Kramer 1997: 210, and Tassignon 1998: 190. **Beer god:** See especially Harrison 1922: 417–419. **Two Dionysi:** Diod. Sic., 4.4.1.

11 **Poem:** Jul., *Epigr.* 1 Page in *Anth. Pal.* 9.368 (τίς πόθεν εἶς, Διόνυσε; μὰ γὰρ τὸν ἀληθέα Βάκχον, | οὔ σ' ἐπιγιγνώσκω· τὸν Διὸς οἶδα μόνον. | κεῖνος νέκταρ ὄδωδε, σύ δὲ τράγον· ἦ ῥά σε Κελτοί | τῇ πενίῃ βοτρύων τεῦξαν ἀπ' ἀσταχύων; | τῷ σε χρὴ καλέειν Δημήτριον, οὐ Διόνυσον, | πυρογενῆ μᾶλλον καὶ Βρόμιον, οὐ Βρόμιον). I follow here Page's text except that at line 4 I accept the manuscripts' τῇ πενίῃ rather than the conjectured ἠπανίῃ. This poem is titled: εἰς οἶνον ἀπὸ κριθῆς ('On wine [made] from barley'). **Regularly cited:** See, for instance, Yates and Flather 1890: 407, Cornish 1898: 157, Forbes 1951: 284, Peck 1965: 321, and Wightman 1970: 187–188. See, more generally, Binsfeld 2001. **Punning:** The punning also includes Dionysus as Δημήτριος 'born of Demeter' which also suggests 'born of two mothers' (that is, beer made of two types of cereal) as suggested by Page (1981: 572); πυρογενῆ, 'wheat-born,' presumably rather than 'fire-born' (πυριγενῆ or πυρογενῆ with a short υ); and Βρόμος ('oats') rather than Βρόμιος ('roarer/thunderer').

12 **Sneering remark:** Aesch., *Suppl.* 952–953 (ἀλλ' ἄρσενάς τοι τῆσδε γῆς οἰκήτορας | εὑρήσετ', οὐ πίνοντας ἐκ κριθῶν μέθυ.). Burges suggested adding after these two lines fr. 318 Radt (but see the other attributions listed in Garvie 1969: 231 and n. 5). See further Sommerstein 1990–1993 on this passage. **Not women:** See 913.

13 **Corrupt quotation:** Soph., *Tript.* fr. 610 Radt in Athen., *Deipn.* 10.447b: βρῦτον δὲ τὸν χερσαῖον † οὐ δυεῖν † ('The mainland *brūtos* <?> . . .'). **Not fit for pigs:** οὐδ' ὑσὶν ποτίν, accepted by Mekler and Pearson. I leave aside the slew of other proposals. **'To spin':** Crat., fr. 103 Kassel-Austin in Hesych., *Lex.* s.v. βρυτίνη (ἄμοργιν ἔνδον βρυτίνην νήθειν τινά). **Explained:** ἔπαιξε πρὸς τὸ πόμα τὸ βρύτινον. ἔστι δὲ καὶ ζῶον βρύτον ὅμοιον κανθάρῳ, καὶ τὸ ἀπ' αὐτοῦ βρύτινον πήνισμα, ὅπερ ὑπ' ἐνίων βομβύκινον λέγεται ('He was joking with the *bruton*-like (*brutinon*) drink. The *bruton* is a creature like a beetle, and the thread from it is *brutinon*, which is called by some *bombukinon*'). **Linen wear:** See Kassel and Austin 1983: 173 (with sources cited). **Fond of wine:** Ar., *Pax* 702–703 and *Eq.* 526–536, and Nicaeret. in *Anth. Pal.* 13.29 (also in Athen., *Deipn.* 1.39c epit. = Crat., T45 Kassel-Austin). **Personal predilection:** *Schol. in Ar. Eq.* 400a. **The Wine Flask:** Crat., frs. 193217 Kassel-Austin (Πυτίνη). Sidwell (2000: 140–142) rather suggests that Cratinus's target was not himself but Aristophanes, who, as Athenaeus (*Deipn.* 10.429a) claims, wrote his plays drunk. **Silk fabrics as women's fabrics:** See Dalby 2000a: 151–152 and 200.

14 **'He ground':** Antiph., fr. 47 Kassel-Austin in Athen., *Deipn.* 11.485b (τὴν δὲ γραῦν τὴν ἀσθενοῦσαν πάνυ πάλαι τὴν βρυτικήν, | ῥίζιον τρίψας τι μικρὸν δελεάσας τε γεννικῇ | τὸ μέγεθος κοίλῃ λεπαστῇ, τοῦτ' ἐποίησεν ἐκπιεῖν). **'Drunk on *brūtos*':** See Chantraine 1968: 199, s.v. βρυτική and *LSJ* 1996: 332, s.v. βρυτική. Some scholars have wished to emend the word βρυτικήν: Meineke read βρεττικήν ('from Brittania') and Kock βρυττικήν ('from the Bruttii').

15 **Manly food:** Aesch., *Suppl.* 761.

16 **Wine, vinegar, and mead:** Hippocr., *De vict. acut.* 14–16 (= 2.332–358 Littré). **Added:** Galen, *In Hippocr. de victu acut. comm.* 3.43 (= 15.704.13–705.3 Kühn = *CMG* V.9.1, 256.29–30 + 257.1–4) (mentioning a barleyed drink [κρίθινον] in passing) and 4.67 (= 15.850.3–6 Kühn = *CMG* V.9.1, 330.27–331.2) (mentioning ζῦθος in passing). ***Muttōtos*:** Erotianus, *Vocum Hippocr. collect.* s.v. μυττωτός (= 94.11–18 Klein) (οἱ δὲ τὸν λεγόμενον ζῦθον). **Hydropsia:** Hippocr., *Epid.* 2.6.28 (= 5.138 Littré) (specifically 'pungent' [δριμύς]). **Lowering of the womb:** Hippocr., *Loc. pers.* 47 (= 6.344 + 346 Littré). **A type of cataract:** Hippocr., *Vid. ac.* 6 (= 9.158 Littré).

17 **Four attributes:** Hippocr., *Reg.* 3.1–4.1. For this theory in Hippocratic works, see Lloyd 1964: esp. 92–94. **Some wine cold:** Hippocr., *Reg.* 2.52. **Prevalent throughout antiquity:** In the second century AD Plutarch (*Quaest. conv.* 3.5–6 [= *Mor.* 651f–653b]), indebted to Epicurus (= *Symp.* frs. 60–61 Usener), and followed by Macrobius (*Saturn.* 7.6.1–14), speaks at length about the popular opinion that wine is by nature hot, though he argues against it (see the commentary of Teodorsson 1989: 332). Epicurus's ideas about wine not always being hot (= *Symp.* frs. 58–60) are also cited by Plutarch (*Adv. Colot.* 6 [= Mor. 1109e–1110b], and see 24 [= Mor. 1120e]). Pliny the Elder (*Hist. nat.* 14.7.58) says that wine warms the inside of the body and cools the outside. **Cereals:** The sources are analysed in Amouretti 1993: 18–19. **Wine usually hot:** Hippocr., *Reg.* 1.13. **Beer:** Galen, *De simpl. med. temp. ac facult.* 6.6.3 (= 11.882.7–8 Kühn). See further Chapter 6 below.

18 **Males hotter and drier:** Hippocr., *Reg.* 1.34. **Superior:** See Lloyd 1964: 103. **Germ:** See Lloyd 1964: esp. 92–102.

19 **Drugs:** See, for instance, Herodotus's reference to Armenians becoming intoxicated from inhaling narcotic incense (1.202.2): 'They become intoxicated from the smell like the Greeks from wine' (μεθύσκεσθαι τῇ ὀδμῇ κατά περ Ἕλληνας τῷ οἴνῳ). Another example from Dio Chrysostom will be cited in the next chapter.

20 **Inspired by Plato:** Plutarch, in his own sympotic dialogue (in which he mentions beer in passing [*Quaest. conv.* 3.2 (= *Mor.* 648e), and see *An vit. ad inf. suff.* 4 (= *Mor.* 499e) and *Amat.* 5 (= *Mor.* 752b)], contrasting it to wine), notes that such works were written by Plato, Xenophon, Aristotle, Speusippus, Epicurus, Prytanis, Hieronymus of Rhodes, and Dio the Academic (Plut., *Quaest. conv.* 1 [= *Mor.* 612d–e]; see the commentary in Teodorsson 1989: 35–36). For the history of sympotic literature in antiquity, see Martin 1931 and, most recently, Laurenti 1987: 2:598–599, n. 3. Xenophon made no mention of beer in his *Symposium* (but did in his *Anabasis* as we have seen). For the Athenian symposium, see Murray 1990b. **Citations:** Arist., frs. 101–111 Rose^3. **Accepted:** See Lloyd's very full discussion (1964: 102–106). **Old men:** Arist., fr. 107 Rose^3 in Athen., *Deipn.* 429c–d and fr. 108 Rose^3 in Plut., *Quaest. conv.* (= Mor. 650a) and Macrob., 7.6.14. **Wine hot:** Ps.-Arist., *Probl.* 3.1 (871a), 5 (871a–b), 6 (871b–872a), and 26 (874b–875a). **'But a peculiar thing happens':** Arist., *Symp. sive de ebriet.* fr. 106 Rose^3 in Athen., *Deipn.* 10.447a–b (πλὴν ἴδιόν τι συμβαίνει περὶ τὸν ἀπὸ κριθῶν, τὸ καλούμενον πῖνον. ὑπὸ μὲν γὰρ τῶν λοιπῶν τε καὶ μεθυστικῶν οἱ μεθυσθέντες ἐπὶ πάντα τὰ μέρη πίπτουσι· καὶ γὰρ ἐπὶ τὰ ἀριστερὰ καὶ δεξιὰ καὶ πρηνεῖς καὶ ὕπτιοι. μόνοι δὲ οἱ τῷ μεθυσθέντες εἰς τοὐπίσω καὶ ὕπτιοι κλίνονται). See also Eust., *Comm. ad Hom. Il.* 11.638 and 22.283 (taken from Athenaeus).

21 **Greek link:** See already Meibom 1668: 5.4–5, and also, for instance, Wessely 1887: 38 and Frisk 1954: 2:540. Chantraine (1968: 903, s.v. πῖνον, citing Schwyzer 1939: 693, n. 8) thought that πῖνον was perhaps originally a foreign word which was borrowed and then remodelled on the word πίνω. **Cognate:** See

already Meibom 1668: 5.8–9 (an unlikely connection with the word *bier* is also mentioned at 5.7) as well as Schrader and Nehring 1917: 143 and Kramer 1997: 203. **Thracian beer:** Tomaschek (1894: 18, cited in Kramer 1997: 203) proposed that it was a Thracian word. **Macedonians and Thracians:** For the political, as well as ideological and cultural union of the Macedonians and Thracians, see Stakenborg-Hoogeveen 1989: 181–189. **Alexander the Great:** See O'Brien 1980 and 1992.

22 **'Those who become intoxicated':** Arist., *Symp. sive de ebriet*. fr. 106 Rose^3 in Athen., *Deipn*. 1.34b epit. (οἱ μὲν ὑπ' οἴνου μεθυσθέντες ἐπὶ πρόσωπον φέρονται, οἱ δὲ τὸν πρίθινον πεπωκότες ἐξυπτιάζονται τὴν κεφαλήν· ὁ μὲν γὰρ οἶνος καρηθαρικός, ὁ δὲ κρίθινος καρωτικός). **Heavy-headedness:** Arist., *De somn*. 3 (456b) (καρηθαρία).

23 **Followers:** Chamaeleon, a contemporary of Theophrastus, wrote a work on intoxication (frs. 9–13 Wehrli) as did Hieronymus of Rhodes (frs. 25–28 Wehrli), a peripatetic of the succeeding generation. None of the surviving fragments from these works deal with beer. Some further notions on intoxication can be found in Ps.-Arist., *Probl*. 3 (871a–876a). The fourth century BC medical author Mnesitheus of Athens also wrote a letter concerning heavy drinking (see Athen., *Deipn*. 11.483f–484b; he is also quoted on wines at 1.32d). **Aristotle's choice:** Aul. Gell., 13.5.

24 **Theophrastus's *On Intoxication*:** This work is found in Diogenes Laertius's bibliographic list (5.44), where it is said to have consisted simply of one book (he also lists a work by Theophrastus on wine and oil [5.45]). Otherwise, only Athenaeus quotes from it, and only mentions passages dealing with wine (*Deipn*. 10.423f [= fr. 574 Fortenbaugh *et al*.], 424e [= fr. 576], 427d [= fr. 570], 11.463c [= fr. 569], 465b [= fr. 573], 497e [= fr. 575], and 15.693c [= fr. 572]). See the commentary on these passages by Fortenbaugh 1984: 324–330. **Egyptian beer:** See Theophr., *Hist. plant.* 4.8.12. **'They even turn into drinkable juices':** Theophr., *De caus. plant*. 6.11.2 (τοὺς δὲ καὶ ἐξιοτάντες τῆς φύσεως καὶ ὑποσήποντες εἰς χυλοὺς ἄγουσι ποτίμους οἷον ὡς οἱ τοὺς οἴνους ποιοῦντες ἐκ τῶν κριθῶν κριθῶν καὶ τῶν πυρῶν, καὶ τὸ ἐν Αἰγύπτῳ καλούμενον ζῦθος).

25 **'Rotten' wine:** Hermippus, fr. 77.6 Kassel-Austin in Athen., *Deipn*. 1.29e epit. and Philyllius, fr. 23 Kassel-Austin in Athen., *Deipn*. 1.31a epit., where the word σακρίας is used. See also Ar., *Pl*. 1086. **Yeast corrupts:** Plut., *Quaest. rom*. 109 (= *Mor*. 289e–f) (ἡ δὲ ζύμη καὶ γέγονεν ἐκ φθορᾶς αὐτὴ καὶ φθείρει τὸ φύραμα μειγνυμένη· γίγνεται γὰρ ἄτονον καὶ ἀδρανὲς καὶ ὅλως ἔοικε σῆψις ἡ ζύμωσις εἶναι· πλεονάσασα γοῦν ἀποξύνει παντάπασι καὶ φθείρει τὸ ἄλευρον). Plutarch also connects ζύμωσις and σῆψις at *Quaest. conv.* 3.10 (= *Mor*. 659b). Aulus Gellius (10.15.19) similarly says that the *Flamen Dialis* may not touch leavened bread, but he does not attempt to explain the prohibition.

4 THE TWO DRINKING IDEOLOGIES OF ANCIENT EUROPE

1 **Drinking parties outlawed:** Plato's relative (and fellow-follower of Socrates) Critias also says that Spartan youths drink moderately (fr. 6.14–16 West in Athen., *Deipn.* 10.432f) and that the Spartans eat and drink moderately and have no day set apart for intoxication (fr. 6.24–27 West in Athen., *Deipn.* 10.433b). Xenophon, also a follower of Socrates, says that Lycurgus passed the laws that Spartan women either drink no wine or very diluted wine (*De rep. Laced.* 1.3; and see Hdt., 6.57 and Plut., *Vit. Lyc.* 12) and that in general the Spartans eat in common and never drink to the point of intoxication (*De rep. Laced.* 5.4–6). For Spartan drinking customs, see McKinlay 1951: 77–80. **Later claims:** Pl., *Leg.*

1.639d–e. **Drinking customs:** Pl., *Leg.* 1.637d–e (λέγω δ' οὐκ οἴνου περὶ πόσεως τὸ παράπαν ἢ μή, μέθης δὲ αὐτῆς πέρι, πότερον ὥσπερ Σκύθαι χρῶνται καὶ Πέρσαι χρηστέον, καὶ ἔτι Καρχηδόνιοι καὶ Κελτοὶ καὶ Ἴβηρες καὶ Θρᾷκες, πολεμικὰ ξύμπαντα ὄντα ταῦτα γένη, ἢ καθάπερ ὑμεῖς· ὑμεῖς μὲν γάρ, ὅπερ λέγεις, τὸ παράπαν ἀπέχεσθε, Σκύθαι δὲ καὶ Θρᾷκες ἀκράτῳ παντάπασι χρώμενοι, γυναῖκές τε καὶ αὐτοί, καὶ κατὰ τῶν ἱματίων καταχεόμενοι καλὸν καὶ εὔδαιμιον ἐπιτήδευμα ἐπιτηδεύειν νενομίκασι). This passage is quoted in Athen., *Deipn.* 10.432a, where the first mention of Scythians is replaced by one of Lydians. Note that Plato does not say specifically what kind of drink the Scythians and Thracians use. **'Intoxication is harmful to people':** Pl., *Symp.* 176d (χαλεπὸν τοῖς ἀνθρώποις ἡ μέθη ἐστίν). Similarly, in Xenophon's *Symposium* (2.23–26), inspired by Plato's, Socrates suggests that small cups be used so that the guests do not become intoxicated. **Combining wisdom and pleasure:** Pl., *Phileb.* 61b–c, quoted in Athen., *Deipn.* 10.423a–b. Plato also compares a good city with mixed wine at *Leg.* 6.773c–d. **Drinking ages:** Pl., *Leg.* 2.666a–c, partly quoted in Athen., *Deipn.* 10.440b–d. **Festivals of Dionysus:** Pl., *Leg.* 6.775b, quoted in Athen., *Deipn.* 10.431f. While in his ideal state in the *Republic* Plato would not allow drunkenness, in his second-best state in the *Laws* he does allow it so that older men may return to a more youthful disposition (see the full discussion in Belfiore 1986). For wine generally in Plato, see also Boyancé 1951. For ancient anecdotes, certainly fabricated, about Plato's views on intoxication, see Riginos 1976: 127–128 (anecdote 81) and 157–158 (anecdote 116).

2 **'Drenching not drinking':** Alex., *Aes.* fr. 9 Kassel-Austin in Athen., *Deipn.* 10.431d–f (τὸ ... ἕτερον λουτρόν ἐστιν, οὐ πότος). **Use of the word 'barbarian':** See, for instance, Bacon 1961, Hall 1989, and De Romilly 1993. **The ambassador to the Persians:** Ar., *Ach.* 73–75 and 77–78 (οἱ βάρβαροι γὰρ ἄνδρας ἡγοῦνται μόνους | τοὺς πλεῖστα δυναμένους φαγεῖν τε καὶ πιεῖν). **'Rush upon much wine':** Cham., *De ebriet.* fr. 9 Wehrli in Athen., *Deipn.* 11.461b (ἀπεστερημένοι τῆς παιδείας ὁρμῶσιν ἐπὶ τὸν πολὺν οἶνον).

3 **Exaggerated:** See Honigmann (1979: 30–33), who compares Greek accounts to those of modern anthropologists, who until recently, focused on excessive drinking, particularly that of the North American native peoples. For a recent overview of anthropological studies on drinking alcohol, including the present focus away from problem-drinking, see Gefou-Madianou 1992a: 1–6. **Greek/barbarian antithesis:** Pl., *Pol.* 262c; Alexander the Great was also supposedly unwilling to accept such a simplistic antithesis (see Eratosth., fr. IIC24 Berger in Str., 1.4.9, with Plut., *De Alex. magn. fort.* 6 [= *Mor.* 329b]). **Born the same:** Antiph. Soph., fr. 5 Gernet in *P.Oxy.* XI.1364, fr. 2. **Climate:** Pl., *Leg.* 5.747c–d, and see also *Rep.* 4.435e–436a. See Rives 1999: 16–17 and 129, and Tuplin 1999: 63 and n. 43, Isaac 2004: 56–109 for numerous examples of the climatic theory in ancient texts. **Athena:** Pl., *Tim.* 24c–d. **People from cold climates, easterners, and Greeks:** Arist., *Pol.* 7.7 (1327b).

4 **Palm date wine:** Hdt., 1.193.4 (in Athen., *Deipn.* 14.651c) (Babylonians) and 2.86.4 and 3.20.1 (Egyptians), Ephippus, fr. 24 Kassel-Austin in Athen., *Deipn.* 1.29d epit. (contexts not preserved), Diod. Sic., *Hist.* 1.91.5 (Egyptians), Str., 16.1.14 (Babylonians) and 16.4.25 (Arabians), Pliny, *Hist. nat.* 6.32.161 (in North Africa), 14.19.102 (Parthians, Indians, and other eastern peoples), and 24.102.163, 164, 165, and 166 (not associated with particular peoples), and Diosc., *Mat. med.* 5.31 Wellmann (with Orib., *Coll. med.* 5.31.12 [= *CMG* IV.1.1, 151.3–9]) (in general). See Forbes 1965: 64, Stol 1994: 157–158, and Dalby 2000b: 404, n. 8. **Troops in the east:** Xen., *Anab.* 1.5.10 and 2.3.14 (partly in Athen., *Deipn.* 14.651b). **Not drunk normally:** Pliny (*Hist. nat.* 23.26.52) at least considered the drink harmful to the head but a useful laxative and reliever of

blood-spitting. **Lotus or jujube wine:** Hdt., 4.177, Theophr., *Hist. pl.* 4.3.1, Polyb., 12.2.7–8 (in Athen., *Deipn.* 14.651e), Nepos, fr. 29 Marshall (in Pliny, *Hist. nat*. 13.30.106), and Pliny, *Hist. nat.* 14.19.101.

5 **One of the earliest proponents**: Herodotus, for instance, wrote (9.122.3): 'soft men come from soft countries' (ἐκ τῶν μαλακῶν χώρων μαλακοὺς ἄνδρας γίνεσθαι). **'Use wine made of barley':** Hdt., 2.77.4 (οἴνῳ δὲ ἐκ κριθέων πεποιημένῳ διαχρέωνται· οὐ γάρ σφι εἰσὶ ἐν τῇ χώρῃ ἄμπελοι). **Herodotus was wrong:** Legrand 1963: 36 and 117, n. 6 and Chantraine 1968: 401, s.v. ζῦθος. Diodorus of Sicily (*Hist*. 1.36.5) said that regions with vines in Egypt were irrigated and supplied much wine for the inhabitants, and he also mentioned wine drinking in Egypt in other passages (1.70.11, 72.2, 84.2, and 91.1). For wine and viticulture in Greco-Roman Egypt, see, for instance, Rathbone 1983, Empereur 1993, and McGovern 1997. **Excuse him:** Waddell 1939: 194–195. **'Vine wine':** Hdt., 2.37.4 and 60.3, and see 39.1 and 4. Cary (1843: s.v.) shows that this is used 'in contradistinction to that made from barley' (οἶνος ἀμπέλινος). **Wine imported:** Waddell 1939: 194–195. Herodotus mentions that Greek and Phoenician wines are imported to Egypt at 3.6.1. **No vines in southern Egypt:** Lloyd 1976: 334, and see Blakesley 1854: 221, n. 201.

6 **Egyptian women urinate standing:** Hdt., 2.35.2–3. Similarly, Sophocles states (*Oed. Colon.* 339–341) that Egyptian men stay indoors and weave and women work outdoors, while Diodorus of Sicily says (1.27.2) that in Egypt men obey their wives. Strabo (4.4.3) notes that it is common among a number of barbaric people for the roles of men and women to be reversed.

7 **Pastoralist peoples:** Some Scythians were agrarian (see Hdt., 4.3, 19, 53–54, 56, and 108), but in general they were associated with a nomadic lifestyle (see Just., 2.2.3 on the Scythians not having agriculture). **Eurasian steppe:** For the extent of the Scythian tribes, see Str., 2.1.17. **Least civilized:** Thuc., 2.97.6. **Climatic effect on Scythians:** Hippocr., *Aer.* 8.52–53 and 19.32–33, and see generally 17–22. A distinction is also made in the work between the Asians, who are considered gentle because they live in a temperate and unchanging climate, and the Europeans who are war-like because they live in a harsh and changing climate.

8 **Mare-milkers:** Hom., *Il.* 13.5–6. **Milk-drinkers:** Hes., *Cat.* fr. 150.15 Merkelbach-West (and see fr. 151 for mare-milking Scythians), Hdt., 1.216 (of the Massagetae who are like the Scythians), Ephor. *FGrH*70F42 in Str., 7.3.8–9, Theop., *FGrH*115F45 in Hesych., *Lex.* s.v. ἱππάκη, Eratosth., fr. IB4 Berger in Str., 7.3.7, Diod. Sic., 3.53.5, Str., 7.3.7, 7.4.6, and 12.3.26, Nic. Dam., *FGrH*90F104 in Stob., *Anth.* 3.1, Just., 2.2.8, and Max. Tyr., *Diss.* 21.6. See further Braund 1999. **Fermented milk:** Hdt., 4.2; see the discussion of this difficult passage by West 1999. **Also discussed:** Hippocr., *Morb.* 4.51.2 (= 584 Littré); see also Hippocr., *Aer.* 18 on Scythians drinking mare's milk. **Pontic tree fruit drink:** Hdt., 4.23.3.

9 **Drank wine immoderately:** We need not believe the story preserved by Justin (1.8.4–8), that the Persian King Cyrus was able to defeat the Scythians by getting them drunk on wine, which, it is said, they were not used to drink. **'Come now':** Anacr., fr. 356b West in Athen., *Deipn.* 10.427a–b (ἄγε δηῦτε, μηκέτ' οὕτω | πατάγῳ τε κἀλαλητῷ | Σκυθικὴν πόσιν παρ' οἴνῳ | μελετῶμεν, ἀλλὰ καλοῖς | ὑποπίνοντες ἐν ὕμνοις). **Drinking in one shot:** Poll., 6.25. **Scythian cup:** Hdt., 6.84 (ἀκρητοποσίῃ and ἐπιοκύθισον), quoted in Athen., *Deipn.* 10.427b; the anecdote concerning Cleomenes is also found in Aelian, *Var. hist.* 2.41. See also the further references in Athen., *Deipn.* 10.427b–c (Cham., *De ebriet.* fr. 10 Wehrli and Achaeus, *Aethon* fr. 9 Snell). A drunken Scythian is mentioned by Parmenon, fr. 1 Powell in Athen., *Deipn.* 5.221a–b. **Dangerous practice:** See, for instance, Diod. Sic., 4.3.4. In Locria it was a capital crime to drink unmixed wine without

a physician's prescription (Athen., *Deipn.* 10.429a). **Half and half:** *Com. adesp.* 101.12 Kassel-Austin in Athen., *Deipn.* 2.36a. **Reproached the Greeks:** Hdt., 4.79.3 and 4. In general the Scythians were said to shun Greek customs (4.76.1). Herodotus (4.108) says that the Geloni, a half-Greek and half-Scythian people, did worship Dionysus. **War god libations:** Hdt., 4.62.3. **Annual banquet:** 4.66. For the crater in this passage possibly being 'a misnomer for a beer bowl', see Burkert 1991: 22, n. 63.

10 **'To do the Scythian':** Hieron. Rhod., *De ebriat.* fr. 27 Wehrli in Athen., *Deipn.* 11.499f (τὸ μεθύσαι σκυθίσαι). **Hot temperament:** Ps.-Arist., *Probl.* 3.7 (872a). **Crassus:** Dio Cass., 51.24.2 (γὰρ ἐμφορεῖται πᾶν τὸ Σκυθικὸν φῦλον οἴνου, καὶ ὑπερκορὲς αὐτοῦ ταχὺ γίγνεται).

11 **Anarcharsis against wine:** The primary sources are collected by Kindstrand 1981 at 113–116 and discussed at 55–57 and 139–145. **Showed his countrymen:** Athen., *Deipn.* 10.428d–e (= *Apophth. Anach.* 24 Kindstrand). **No flute-girls:** Arist., *Anal. Post.* 1.13 (78b30) and found in many later authors (= *Apophth. Anach.* 23 Kindstrand). **No vines:** Antiph., *Bacch.* fr. 58 Kassel-Austin in Athen., *Deipn.* 10.441d. **Bought wine from Greeks:** Str., 11.2.2. **Finds:** Lenfant 2002: 73, n. 47, who further states that local amphoras are found from the fourth century BC on.

12 **Cannabis seeds:** Hdt., 4.75.1–2, with Hesych., *Lex.* s.v. κάνναβις, Ephippus, fr. 13.5 Kassel-Austin, and Galen, *De alim. facult.* 1.34.2 and 1.35 (= 6.550 Kühn = *CMG* V.4.2, 259.17–19 and 260.3–4). Sophocles also mentioned κάνναβις in an unknown context in his lost *Thamyras* (fr. 243 Radt). **Stunningly confirmed:** See Artamanov 1965: 239, Rudenko 1970: 62 and 285, with pl. 62, Brunner 1973, Rolle 1989: 94, Sherratt 1995: 27, and Butrica 2002: 54–55. **Ignores the narcotic properties:** The seeds of the hemp plant actually contain very little of the narcotic tetrahydrocannabinol (THC), and no ancient author mentions the narcotic properties of the tops and leaves of the female hemp plant which contain the most THC (see Butrica 2002: 51, 56, and 61–62 on the recreational use of the seeds). **Use narcotic herbs:** Max. Tyr., *Diss.* 21.6 (ἡ κατὰ μέθην ἡδονῆς). **'Among some barbarians':** Dio Chrys., *Or.* 32.56 (παρὰ μὲν γὰρ ἐνίοις τῶν βαρβάρων μέθην φασὶ γίγνεσθαι πραεῖαν δι' ἀτμοῦ θυμιωμένων τινῶν). **Medically:** Drugs would often also be given in wine, such as the opium which the Emperor Marcus Aurelius took (see Africa 1961). **Helen's drug:** Hom., *Od.* 4.220–222, with the quotation from 221 (νηπενθές τ' ἄχολόν τε, κακῶν ἐπίληθον ἁπάντων). **'Ox-tongue':** Plut., *Quaest. conv.* 1.4 (= *Mor.* 614b–c); its property of causing cheerfulness when placed in wine had also been mentioned by Diosc., *Mat. med.* 4.127 Wellmann and Pliny, *Hist. nat.* 25.40.81. **'Laughing plant'**: Pliny, *Hist. nat.* 24.102.164. Wasson *et al.* (1978: 89–93) argue that ancient Greek wine was usually drugged.

13 **Life among the Scythians:** Virg., *Georg.* 3.349–383. **A perpetual winter:** 357–358. **'They cleave':** 364 (*caeduntque securibus umida vina*). On the Scythian winter, see also Hdt., 4.28–30 and 50. **'Here they pass the night':** 379–380 (*hic noctem ludo docunt, et pocula laeti | frumento atque acidis imitantur vitea sorbis*) with Serv., *Comm. ad Verg. Georg.* 3.380 (*potionis genus est, quod cervesia nominatur*). Most manuscripts have *fermento atque*, which would refer to yeast, but γ has *frumentoque* and I accept Martyn's conjecture *frumento atque*, especially since Servius believes that wheat beer is here involved. For *cervesia* meaning specifically 'wheat beer', see the following chapter. **Beer from millet:** Anon., *Lexicon* s.v. μελύγιον (a type of honey drink) in *P.Oxy.* XV.1802.ii.41–42 (with my own accentuation): . . . αὐτῶν ἡ χώρα κολὺ τὸ μέ|λι ἔτι δὲ καὶ τὸ ζῦτος ἣ ποιοῦσιν ἐκ τῆς κέγχρου ('. . . their [that is, the Scythians'] land [has] much honey and, what is more, *zūtos*, which they make from millet'). **'At the village':** Prisc. Pan., *Ecl. hist. goth.* fr. 11.2, ll.

278–280 Blockley in Const. Porph., *Exc. de leg.* 3 (ἐχορηγοῦντο δὲ ἡμῖν κατὰ κώμας τροφαί, ἀντὶ μὲν σίτου κέγχρος, ἀντὶ δὲ οἴνου ὁ μέδος ἐπιχωρίως καλούμενος. ἐκουίζοντο δὲ καὶ οἱ ἑπόμενοι ἡμῖν ὑπηρέται κέγχρον καὶ τὸ ἐκ κριθῶν χορηγούμενον πόμα· κάμον οἱ βάρβαροι καλοῦσιν αὐτό). It is possible that something like σκευαζόμενον (a more usual expression) should be read for χορηγούμενον (which may have been influenced by the ἐχορηγοῦντο at the beginning of this passage). **Barbarian beer:** Leont. in Cass., *Geopon.* 7.34.1 (ὅτι οὐ μόνον ὁ οἶνος, ἀλλὰ καὶ ἕτερά τινα μεθύειν ποιεῖ τοὺς πίνοντας . . . τὰ ἀπὸ τοῦ σίτου καὶ τῶν κριθῶν γινόμενα πόματα, οἷς μάλιστα κέχρηνται οἱ βάρβαροι . . .).

14 **Not always put into practice:** McKinlay (1951) discusses in detail how moderation was an Attic ideal (and not a folk trait), best exemplified in Plato and Aristotle, which was not always put into practice. See also Davidson (1997: 61–68) on heavy drinking in Athens. There has been much written on intoxication in Greek and Latin sources which I must leave aside.

5 THE CELTS AND THE GREAT BEER DECLINE

1 **Sixth century** BC**:** Hecat., *FGrH*1F54–56 (cited by Stephanus of Byzantium in his entries on Narbo, Massalia, and Nyrax). **Fourth century** BC**:** Pl., *Leg.* 1.637e. **Dionysius of Syracuse:** This is suggested by Freeman 1996: 25, citing Xen., *Hell.* 7.1.20 and 31 on the mercenaries.

2 **Bronze vessels:** See, for instance, Hawkes and Smith 1957, Olmsted 1979: esp. 17–18, O'Connor 1980: 147–148, 191–192, and 250–251, Fitzpatrick 1985: 312, and Dietler 1990: 382.

3 **Hochdorf:** Biel 1982: 84–90 and 1985 and Krausse 1996, and see also Cunliffe 1997: 51–63. **Analysis:** Körber-Grohne 1985: 121–122, with van Zeist 1991: 121 (in both of which it is assumed that the cauldron contained mead). **Hochdorf brewery:** Stika 1996a, 1996b, 1998b: 43–44, and 1998c, with Kretschmer 1996 (the last two include reconstructions of how the beer there may have been made). **Apremont:** Mohen 1991: 118–119. **Bescheid:** Haffner 1991: 188–189. For a find of mead at Glauberg, see Rösch 1999.

4 **'It is a race fond of wine':** Amm. Marc., 15.12.4 (*vini avidum genus, affectans ad vini similitudinem multiplices potus*). See also 22.12.6 for heavy-drinking Celts.

5 **Migratory movements:** Pompeius Trogus (in Just., 24.4.1–3) relates that 300,000 Gauls went into Italy and Pannonia in order to find new homes. **Readier access to wine:** Livy, 5.33.1–4 (who says [at 2] that wine was a 'new pleasure' [*nova voluptas*] for Gauls at this time), Dion. Hal., *Ant. rom.* 13.10.14–11.17, and Plut., *Vit. Cam.* 15.2–4. **'Foul-smelling liquid':** Dion. Hal., *Ant. rom.* 13.11.1 (οἱ δὲ Κελτοὶ οὔτε οἶνον ἀμπέλινον εἰδότες τηνικαῦτα οὔτε ἔλαιον οἷον αἱ παρ' ἡμῖν ἐλαῖα φέρουσιν, ἀλλ' οἴνῳ μὲν χρώμενοι κριθῆς σαπείσης ἐν ὕδατι, χυλῳ δυσώδει). **Wine unmixed:** Dion. Hal., *Ant. rom.* 14.8.12.

6 **Their undoing:** See Cass. Dio 7 in Zonar., 7.23, who says that the Gauls found a large quantity of wine and drank it immoderately since they had never had the drink before. **Fat and lazy:** Dion. Hal., *Ant. rom.* 14.8.12 and App., *Hist. rom.* 4.7. **Effeminate:** Dion. Hal., *Ant. rom.* 14.8.12. Caesar too thought of wine as causing effeminacy among Gauls (see below in the section on northern Gaul). **Camillus knew:** Livy, 5.44.6. **Slaughter:** Livy, 5.55.2–3. **Wine as a present:** Polyaen., 8.25.1. This was not an original plan; Herodotus, for instance, recounts (1.207) that the Persians gave the Massagetae a feast with unmixed wine to defeat them. **Camped on the Anio:** Plut., *Vit. Cam.* 51. **Other times:** Pompeius Trogus (in Just., 24.7–8) says that when Gauls under Brennus reached Delphi in Greece in 279 BC they drank large quantities of wine they found among the villagers,

giving time for allies of the people of Delphi to come and causing the Gauls to be in bad shape when fighting the force the next day. Polybius (11.3.1) describes the Romans finding drunken, sleeping Gauls in Hasdrubal's camp in 207 BC. Cassius Dio (67.4.6) speaks of the complete annihilation of the Nasamones of Numidia as occurring after they passed out drunk on Italian wine in AD 85–86. **Fighting among themselves:** Polyb., 2.19.4.

7 **Probably not the first time:** Livy, 5.33.5–6. **Beer drinking:** Arcelin (1999: 30) suggests that small clay bowls found in the area of Marseilles and dating to before 600 BC may have been used for beer. **In around 600 BC:** This date, already in Timaeus (*FGrH*566F71 in Ps.-Scymn., *Per.* 209), and now supported by archaeological evidence, is the generally accepted one, although some ancients placed the foundation some fifty years later (see Woodbury 1961: 139–151). **The standard foundation story:** Arist., fr. 549 Rose[3] in Athen., *Deipn.* 13.576a–b (φιάλη κεκερασμένη given) and Justin, 43.3.4–13 (*aqua* given). Justin (as well as Plutarch, *Vit. Sol.* 2.7) calls the Greek founder Protis, but Aristotle says that this was his son's name and that his name was rather Euxenos. On this story, see Pralon 1992. **Viticulture:** Just., 43.4.

8 **Vessel finds:** See Villard 1960 and Laubenheimer 1990: 12–38, and now the very full accounts in Bats 1990 and Bertucchi 1992. See also the map in Cunliffe 1997: 298. **Greek Massalian wine:** Wells 1980: 64–66 and 1995: 231–233. **Decline in the trade:** Wells and Bonfante 1979.

9 **Good place for vines:** Str., 4.1.5. **As one goes north:** Str., 4.1.2. However, Pliny (*Hist. nat.* 14.4.43) speaks of one type of vine found throughout Narbonensis, and of other types resistant to frost (23–24). For the spread of viticulture north into Gaul during the Roman Empire, see, among others, Unwin 1991: 113–118. **Rich and full-bodied:** Pliny, *Hist. nat.* 14.8.68 and Athen., *Deipn.* 1.27c epit. **Women:** Ael., *Var. hist.* 2.38 and Athen., *Deipn.* 10.429a.

10 **Ethnography of the Gauls:** For a careful examination of what is known of this book (23) of Posidonius's history, see Malitz 1983: 169–198, with previous scholarship cited at 169, n. 1; and see Meid 1986 and the comments of Hahm 1989: 1344–1347. **Head trophies:** Str., 4.4.5 (= T19 Edelstein-Kidd). **Charmoleon:** Str., 3.4.17.

11 **Celtic eating and drinking customs:** Posid., *Hist.* 23, fr. 170 Theiler in Athen., *Deipn.* 4.151e–152d (and see Eust., *Comm. ad Hom. Il.* 11.638) and fr. 169 Theiler in Diod. Sic., 5.28.4–5, and Str., 4.4.3. **Moustaches:** Posid., *Hist.* 23 fr. 169 Theiler in Diod. Sic., 5.28.3. **Fights:** Posid., *Hist.* 23, fr. 171a Theiler in Athen., *Deipn.* 4.154a–c and fr. 169 Theiler in Diod. Sic., 5.28.4–5.

12 **Great proponent:** See, for instance, Strabo's citations (2.3.7, with 2.5.26) concerning how a bad climate leads to a war-like and courageous character and a good climate to peacefulness. **'Because excessive cold':** Posid., *Hist.* 23 fr. 169 Theiler in Diod. Sic., 5.26.2 (διὰ δὲ τὴν ὑπερβολὴν τοῦ ψύχους διαφθειρομένης τῆς κατὰ τὸν ἀέρα κράσεως . . . οὔτ' οἶνον οὔτ' ἔλαιον φέρει). The coldness of Gaul is also mentioned by Diodorus of Sicily (using Posidonius [= *Hist.* 23, fr. 169 Theiler]) at 5.25.2 and 5. **Celts had no grape wine or olive oil:** Dionys. Hal., *Ant. rom.* 13.11.1. **Upper class:** Posid., *Hist.* 23, fr. 170 Theiler in Athen., *Deipn.* 4.152c (and see Eust., *Comm. ad Hom. Il.* 11.638). For the drinking hierarchies among the Gauls, see Dietler 1992: esp. 406–407. **Lovernius's feast:** Posid., *Hist.* 23, fr. 170 Theiler in Athen., *Deipn.* 4.152d–e (and see Eust., *Comm. ad Hom. Il.* 11.638) (ληνοὶ πολυτελοῦς πόματος). **Indebted:** Although Diodorus of Sicily does not mention a source by name it is usually thought that his section on the mores of the Gauls (5.25–32) was derived from Posidonius; how faithful he was is a matter of dispute. **Italian wine:** Posid., *Hist.* 23, fr. 169 Theiler in Diod. Sic., *Hist.* 5.26.3. **Year-long Galatian feast:** Phylarch., *FGrH*81F2 in Athen., *Deipn.* 4.150d–f.

13 **Posidonius's student:** Plutarch (*Cic.* 4.5 = Posid., T29 Edelstein-Kidd) says that while Cicero was in Rhodes he studied philosophy with Posidonius, and Cicero confirms that he was his student (*De nat. deor.* 1.6 = Posid., T31 Edelstein-Kidd, and see T30, 32–33, and 38) and says that he had even sent him some of his writings (*Ad Attic.* 2.1.2 = Posid., T34 Edelstein-Kidd, and see T44). **Large taxes:** Cic., *Pro M. Font.* 9.19. **Not allowed to plant vines:** Cic., *De rep.* 3.9.16. Later the Emperor Domitian considered restricting the plantation of vineyards because cereal crops were being neglected (Suet., *Vit. Domit.* 7.2 and 14.2). **Turned to farming:** Str., 4.1.5. **No longer barbarians:** Str., 4.1.12.

14 **Archaeologically confirmed:** See Feuvrier-Prévotat 1978: 253–255, Tchernia 1983: esp. 92–95, Bats 1986, Chossenot 1988, Laubenheimer 1989: esp. 7–9 and 1990: 39–76, Unwin 1991: 124, and Cunliffe 1997: 218–220 and 312. Purcell (1985: esp. 13–15) points out that there was also an increase in the consumption of wine in Italy from the second century BC on which was brought on by the wide availability of cheap vintages. **Wooden containers:** Herodotus (1.194.2) speaks of Armenians using βίκοι φοινικείοι to transport wine, which are probably Phoenician vessels, but could possibly be palm-wood casks (see McNeal 1986: 185–186). See also the possible evidence for more ancient barrels cited by Singleton 1996: 76; Forbes (1956: 136) claimed that the 'wooden cask' was already known in ancient Egypt. **Caesar on barrels:** *De bell. gall.* 8.42.1. A reference in Caes., *De bell. civ.* 2.2 to barrels is uncertain. **Illyrians:** Str., 5.1.8 (ξυλίνοι πίθοι). **Cisalpine Gauls:** Str., 5.1.12 (πίθοι . . . ξυλίνοι). **Over 1,000 litres:** Collingwood and Wright 1992: 1. For a picture of the massive barrels found in Silchester, England, see Scullard 1979: 142. **Alps:** Pliny, *Hist. nat.* 14.27.132 (*ligneis vasis condunt circulisque cingunt*). **Manching barrel:** Kaenel 1985: 156, with the discussion of wine there generally in antiquity at 152–158. See also, for instance, Collingwood and Wright (1992: 1) on British finds of barrels, most of which are from the first and second centuries AD and were clearly imported (as the non-British types of wood demonstrate). **Yew:** Pliny, *Hist. nat.* 16.20.50.

15 **Used for beer:** Laubenheimer (1990: 149–151) assumes that barrels were first used by the Gauls for beer then later for wine. Desbat (1991: 333) suggests the possibility that the barrel was not always used for wine while Jalmain (1988: 150), Alcock (2001: 88–89), Amouretti *et al.* (1993: 575), and Marlière (2002: 173–174), among others, suggest that it was used early on for beer and wine. See also, for instance, Wilson (1975: 640, citing no evidence, but perhaps relying on Wightman [1970: 183], who mentions beer barrels in Trier): 'Beer was one of the commodities exported in barrels from Trier.' **Analysis:** See the discussions by Laubenheimer 1990: 146–154, Desbat 1991, Amouretti *et al.* 1993: 575, Marlière 2002: 27–185 (with 40–117 for a catalogue of finds), and Wilson 2003: 190–192. **Sucellus as beer god:** See, for instance, Chapot 1919a: 917, n. 20 and Laubenheimer 1990: 150. **Kinheim:** Nagy 1994: 821, no. 19, with the picture at 580. **Javols:** Pailler 1995: 41–46, with pl. 2. **Other depictions:** See Horn and Born 1979: 1: 281–286 and Marlière 2002: 117–155. **Ceramic containers:** See Dietler 1990.

16 **'Among those who are poorer':** Posid., *Hist.* 23, fr. 170 Theiler in Athen., *Deipn.* 4.152c (and see Eust., *Comm. ad Hom. Il.* 11.638) (παρὰ δὲ τοῖς ὑποδεεστέροις ζῦθος πύρινον μετὰ μέλιτος ἐσκευασμένον, παρὰ δὲ τοῖς πολλοῖς καθ' αὑτό· καλεῖται δὲ κόρμα). I accentuate here ζῦθος. I do not accept Kidd's reservations (1988: 312 and 1999: 135, n. 83) concerning this passage. **Wheat/barley rations:** Polyb., 6.39.13–15. **Barley for livestock:** Pliny, *Hist. nat.* 18.15.74. Pliny, however, also says (18.14.72) that gladiators used to be called *hordearii*, presumably since they ate barley. See further André 1981: 50, Sallares 1996: 313,

and Alcock 2001: 18 and 29–30. **When supplies were low:** Caes., *Civ.* 3.47.6 and Cass. Dio., 49.38.4. **As punishment:** Polyb., 6.38.3, Livy, 27.13.9, Suet., *Aug.* 24.2, Front., *Strat.* 4.1.25 and 37, Plut., *Marcell.* 25 and *Anton.* 39, Polyaen., 8.24.2, and Veget., 1.13.

17 **Variant:** Diosc., *Mat. med.* 2.88 Wellmann (κοῦρμι). The word κόρμια is also found in Hesychius (*Lex.* s.v.), which he explains as the source of the word Corybant; see also the *curmen* found in a ninth century glossary (*CGL* II, 119.26) and defined as ζῦθος ἀπὸ δίτου (the accentuation is my own) or '*zūthos* [made] from cereal'.

18 '**Prepare the drink from barley':** Diod. Sic., 5.26.2 (πόμα κατασκευάζουσιν ἐκ τῆς κριθῆς τὸ προσαγορευόμενον ζῦθος καὶ τὰ κηρία πλύνοντες τῷ τούτων ἀποπλύματι χρῶνται). **Generic:** See Nelson 2001b: 723, n. 6. '**Mead of a kinsman':** ουενικοι μεδου, discussed in Eska (1992: 20–23), who takes Diodorus to refer to mead (21, n. 1), as does Kidd (1988: 312, and more cautiously at 1999: 135, n. 83). **Celtic:** See, for instance, Holder 1896: 995–997 and 1907: 1207–1208, Billy 1993: 51–52, and Lambert 1994: 191, all of whom specifically take it to be a Gallic word.

19 **Contradictory:** Kidd (1988: 308) argues that Diodorus 'approaches conflict' with Posidonius. '**Many types':** Pliny, *Hist. nat.* 22.82.164 (*plura genera*). '**In many ways':** 14.29.149 (*pluribus modis*). '**With various names':** 14.29.149 (*nominibus aliis*). ***Cervesia*:** 22.82.164 (some manuscripts have *cerevisia*, but this form is not otherwise attested until Irish hagiographies of the seventh century AD). **Wheat beer:** 18.12.68. ***Cervisia*:** Isid., *Etym.* 20.3.17 (*cervisia* [*cervisa*] *a Cerere, id est fruge vocata; est enim potio ex seminibus frumenti vario modo confecta*.). It is also said to be made from *frumentum* at *CGL* V, 177.25.

20 **Part of a remedy:** Marc. Emp., *De medic.* 16.33 (*in potionem cervesae aut curmi*). His remedy will be dealt with again in the following chapter. For the two types of Gallic beer, see also Nelson 2003b: 258–259.

21 **Beer given to the populace:** *CIL* XII.372.6–7: *ded*(*it*) *e*(*t*) *cervi*[*siam* ?] | *et oleum p*[*lebei* ('he gave both wheat beer and oil to the populace'), following Hirschfeld. **Spindle whorl:** *ILTG* 529 (*nata vimpi* | *curmi da*). For a discussion of this and other interpretations, see Nelson 2003b. **Nickname:** *GLG* 12.13: *Cervesa catili DCC* ('Cervesa: 700 small dishes') and *GLG* 14.11: *Cervesa catili* (*I*)*CC* ('Cervesa: 200 small dishes'). See also the possible, though unlikely, restoration *Ce*[*rvesa*] in an inscription at Marichal 1988: 188, no. 82.4, first proposed by Aymard 1955: 127. For a full discussion of this name, see Evans 1967: 333–334, who says (334) that is was 'a nickname or a comic name'; Loth (1924: 54) had called it 'humoristique'.

22 **Expanded north:** See, for instance, the summary in Cunliffe 1997: 211–215. **The Ligurians:** Str., 4.6.2 (κριθίνον πόμα). Posidonius is known from Strabo's own testimony (3.4.17 = T23 Edelstein-Kidd and fr. 269 Edelstein-Kidd) to have gone to Liguria, but this reference to Ligurian beer has not been attributed to him in the standard editions. Diodorus of Sicily (*Hist.* 5.39.4) says that some of the Ligurians simply drink water because of the lack of crops.

23 **Romans in Spain:** See especially App., *Iber.* 2.11–13.83, and in general Salinas de Frías 1986. **Scipio and Numantia:** App., *Iber.* 14.84–15.98. '**Little barbarian city state':** App., *Iber.* 14.97 (ἐν πόλει βαρβάρῳ τε καὶ σμικρᾷ). **Siege:** Livy, *Epit.* 59.1 and Valer. Max., 3.2 ext. 7 also speak of the starving Numantines killing each other at the end of the siege, while Petr., *Sat.* 141 mentions cannibalism. For the archaeological evidence, see Schulten (1914–1931). **Mortuary dinners:** Florus, *Epit. bell. omn.* 1.34.12 (= 2.18.12): *sed cum Scipio veram vellet et sine exceptione victoriam, eo necessitatum compulsi primum ut destinata morte in proelium ruerent, cum se prius epulis quasi inferiis implevissent carnis semicrudae et celiae; sic vocant*

indigenam ex frumento potionem ('But when Scipio wanted a real victory, and one without compromise, they [that is, the Numantians] were compelled by this so that they first rushed into battle for their destined death, after having filled themselves first in feasts like mortuary dinners, on half-raw meat and *celia* (thus they call a local drink [made] from wheat)'). Appian says (*Iber.* 14.85) that the Roman soldiers on campaign in Iberia ate plain, boiled, and roasted meats. **Warming themselves:** Oros., *Hist. advers. pag.* 5.7.13–14 (= *PL* 31.933B + 934A): *ultime omnes duabus subito portis eruperunt, larga prius potione usi non vini, cuius ferax is locus non est, sed suco tritici per artem confecto, quem sucum a calefaciendo caeliam vocant.* | *suscitatur enim igne illa vis germinis madefactae frugis ac deinde siccatur et post in farinam redacta molli suco admiscetur; quo fermentato sapor austeritatis et calor ebrietatis adicitur. hac igitur potione post longam famem recalescentes bello sese obtulerunt* ('In the end, they [that is, the Numantians] all rushed suddenly from their two gates, having before made great use of a drink which was not wine (of which this fertile land is deprived), but with the juice of wheat made through skill, which juice they call *caelia* from being heated [*calefacio*]. In fact the potency of the grain of the soaked cereal is activated by this fire and then it is dried, and after being reduced to flour is mixed with soft juice. With this fermentation, a flavour of harshness and heat of intoxication is conferred. Therefore, warming themselves up again with this drink after a long famine, they presented themselves for war'). Orosius's passage was copied by Gregory of Tours (*De gloria confessorum* 1 [= *PL* 71.829BC + 830B = *MGH-SRM* I.2, 748.25–749.12]), Isidore of Seville (*Etym.* 20.3.18), and Paul the Deacon (*Hist. misc.* 4.17 [= *PL* 95.804C]), and perhaps was also glossed (*CGL* V, 653.45: *celia: potio de suco frumenti* ['*Celia*: a drink [made] from the juice of wheat']). Furthermore, the first part of this passage is also found in the abbreviated Old English translation by an anonymous scholar during the last years of King Alfred's reign in the late ninth century AD (for the authorship and date, see Bately 1980: lxxiii–xciii). There the word *ealo* ('ale') is used to translate *caelia* (5.3 [edited in Bately 1980: 117]). Interestingly, the translator leaves off from Orosius's account of northern Europe at 1.2.53 and goes on to describe the area in his own day (apparently under the influence of the traveller Wulfstan), saying for one: 'No ale at all is brewed among the Ests' (*naenig ealo gebrowen mid Estum* [1.1 (edited in Bately 1980: 17)]). However, further on in the same passage he mentions vessels of ale (ibid.: 17–18), showing that the statement that the Ests were not brewers may be a mistake (see ibid.: 199 and 200). The Ests, who live by the Baltic Sea, may be the same as Tacitus's *Aestii* (*Germ.* 45.2) who are said to live near the Suebic (that is, the Baltic) Sea, and whose customs are said to be like those of the Suebi but whose language is said (certainly incorrectly) to be like that of the British.

24 **Accompanying Scipio:** Polybius (3.59.7) says that he journeyed through Iberia and (4.39.11) emphasizes the importance of first-hand knowledge for a historical work. **Work on the Numantine War:** Cic., *Epist. ad fam.* 5.12.2. However, much later, Horace (*Od.* 2.12.1) refused to sing of the 'long war of wild Numantia' (*longa ferae bella Numantiae*). **Striking Roman expansion:** Polyb., 1.1.5 (the Romans had taken almost the whole world in less than fifty three years). **Iberian king:** Polyb., 34.9.14–15 in Athen., *Deipn.* 1.16c epit.: οἴκων μὲν οὖν λαμπρότατος ὁ Μενελάου. τοιοῦτον δὲ τινα ὑφίσταται τῇ κατασκευῇ καὶ λαμπρότητι οἵανπερ Πολύβιος Ἴβηρός τινος βασιλέως οἰκίαν, ὃν καὶ ἐξηλωκέναι λέγει τὴν τῶν Φαιάκων τρυφὴν πλὴν τοῦ τοὺς κρατῆρας ἐν μέσῳ τῆς οἰκίας ἑστάναι πλήρεις οἴνου κριθίνου, ἀργυροῦς ὄντας καὶ χρυσοῦς ('Of houses, that of Menelaus was indeed the most magnificent. He [that is, Homer] provided it with such splendid equipment, just as Polybius mentions the house of a certain Iberian king, who rivalled the luxury of the Phaeacians, except for the

fact that the mixing bowls made of silver and gold stood in the middle of the house full of barley wine'). For Homer's description of the palace of Alcinous, King of the Phaeacians, see *Od.* 7.81–132; at their feast, at which Odysseus is present, the Phaeacians drink μέθυ (at 179) and οἶνος (at 182) mixed with water.

25 **The Lusitanians:** Posid., fr. 22 Theiler in Str., 3.3.7 (χρῶνται δὲ καὶ ζύθει· οἴνῳ δὲ σπανίζονται· τὸν δὲ γενόμενον ταχὺ ἀναλίσκουσι κατευωχούμενοι μετὰ τῶν συγγενῶν. ἀντ' ἐλαίου δὲ βουτύρῳ χρῶνται). Just before this passage Strabo rather says that the Lusitanians were 'water-drinkers' (ὑδροπόται). He also (3.3.8) associated their remoteness from civilization with their way of life. **Purchased wine:** Diod. Sic., 5.34.2. **Inhabitants like beasts:** Str., 3.4.16. For the Iberian practice of using urine, see also Diod. Sic., 5.33.5 and Catull., 39.17–21. **Best vintages in Spain:** Pliny, *Hist. nat.* 14.8.71, and see also Varro, *Rei rustic.* 1.8.13 on Spanish wines. While in the fourth century BC Theopompus (*FGrH*566F164 in Diod. Sic., 5.17.2) had said that there was no wine in the Balearic islands, by Pliny's day Balearic wines were said to compare favourably with Italian ones (*Hist. nat.* 14.8.71). **Wheat beer:** Pliny, *Hist. nat.*18.12.68. **Age it:** 14.29.149: *Hispaniae iam et vetustatem ferre ea genera docuerunt* ('The Hispanians have even taught the ageing of such types [of drinks]'). ***Caelia* and *cerea***: 22.82.164. **'In those parts':** Isid., *Etym.* 20.3.18 (*in his partibus Hispaniae cuius ferax vini locus non est*).

26 **Campaigns of 58 BC:** Caes., *De bell. gall.* 1. **Campaigns of 57 BC:** Caes., *De bell. gall.* 2. **The Belgians:** Caes., *De bell. gall.* 1.1.3 (*horum omnium fortissimi sunt Belgae, propterea quod a cultu atque humanitate Provinciae longissime absunt, minimeque ad eos mercatores saepe commeant atque ea quae ad effeminandos animos pertinent important, proximique sunt Germanis, qui trans Rhenum incolunt, quibuscum continenter bellum gerunt*). Strabo (4.4.3), surely following Caesar, also says that the Belgians are the 'bravest' (ἀρίστοι), but without explaining why. **Less brave than the Germans:** Caes., *De bell. gall.* 6.24.5–6. **The Nervii:** 2.15.4 (*nullum aditum esse ad eos mercatoribus; nihil pati vini reliquarumque rerum inferri, quod eis rebus relanguescere animos eorum et remitti virtutem existimarent: esse homines feros magnaeque virtutis*). Caesar had earlier noted also that the Nervii were taken to be the most fierce among the Belgians (2.4.8). As it turned out the Nervii were one of the most difficult of the Belgian tribes to conquer. When other Belgians had settled a peace with Caesar, they refused and only surrendered after a battle in which they demonstrated their great bravery (2.15–28). However, sometime later, Ambiorix convinced them to join his rebellion against the Romans (5.38.2–4), but again they were conquered (6.3.1–3). Not having learned their lesson, they rebelled again under Vercingetorix (7.75.3). Strabo (4.3.4) speaks of the Nervii as a German people, and Tacitus (*Germ.* 28.4) says that the Nervii claimed Germanic origin since the Germans were considered more warlike than the Gauls. Caesar noted that most of the Belgians were originally Germans (*De bell. gall.* 2.4). **The Germans:** Caes., *De bell. gall.* 4.2.6 (*vinum ad se omnino importari non sinunt, quod ea re ad laborem ferendum remollescere homines atque effeminari arbitrantur*). **Absence of amphoras:** Fitzpatrick 1985: esp. 311–312, Peacock and Williams 1986: 26, fig. 8, and Cunliffe 1988: 178–179. Fitzpatrick, trying to explain the absence of finds, suggested that 'specific social and/or religious taboos determined the admission of external goods' (312), though he also notes that 'the absence of amphorae might be explained by the Germans returning them for the deposit' (332, n. 7). However, Brogan (1936: 218) argued that 'the scarcity of amphora-fragments in free Germany is irrelevant' since they used barrels to transport wine, and that (218, n. 125) even if the Suebi discouraged the wine trade other tribes probably did not.

27 **Milk, cheese, and meat:** Caes., *De bell. gall.* 6.22.1. According to Mela (*Chorogr.* 3.25–28) the Germans ate raw meat. **Abundance of cereal:** Caes., *De bell. gall.*

1.39.1, 7.3.1, 7.42.3–5, and 7.55.5, with Str., 4.1.2, pointing out also that vines do not grow very well there, and see also, for instance, Mela, *Chorogr.* 3.2.17. **Sale to the Roman army:** Quick and Simon 1999.

28 **Shoe- or boot-shaped vessels:** See Megaw and Megaw 1989: 97, fig. 130 and 151, n. 238, Kruta *et al.* 1991: 306, 333, and 365, and Ruprechtsberger 1992b: 25, fig. 1 (with the suggestion). **Mainz cup:** Künzl 1991: 171–172 (*imple* (*h*)*ospita ol*(*l*)*a*(*m*) *de cervesa da*) with photographs at 179. I translate it here differently than Siebert 1998: 123. Note that Alcuin (*Epist.* 5 Chase or 8 in *MGH-E* IV, 33.28) much later also speaks of a 'pot' (*olla*) of beer. **Ring-shaped flask:** *CIL* XIII.10018.7a ((*h*)*ospita, reple lagona*(*m*) *cervesa*). Spiced wine is referred to on the other side (b) of the vessel. Venantius Fortunatus (*App. carm.* 9.16 = *MGH-AA* IV.1, 281) similarly speaks of a *lagunarus* filled with beer. **Similar shaped vessels:** Read 1868: 226–227. **Other fragmentary pieces:** *CIL* XIII.10012.7 (from modern Banassac, France) reads *cevesar* on one side and *esar* on the other. Although de Barthélemy (1877: 176) proposed that they stood for *cervesariis feliciter*, Déchelette (1904: 1:120, 125, no. 6 and 7) suggested *cervesa reple*, which is more plausible given the parallel inscriptions. Déchelette (1904: 1: 127, no. 67) also suggested that *CIL* XIII.10012.15b (also from Banassac), which reads *are*, should be interpreted the same way. Note also the *ce* at *CIL* XIII.10012.15d and 16f. A fragmentary vessel from the Boulonnais had written on it *cerrivi* (see Vaillant 1885).

29 **Beer-making centre:** See Binsfeld 1972b. **Altbachtal sanctuary inscription:** *AE* 1928, no. 183 (see the full bibliography at Binsfeld *et al.* 1988: 213) (the additions are my own): *miles clas*|*sis germanic*<*a*>*e do*|*mitianae p*(*iae*) *f*(*elicis*) *neg*|*otiator cervesa*|*rius artis offect*|*tur*<*a*>*e ex voto pro* | *meritis posuit* ('. . . soldier of the German fleet of Domitian, [which is] dutiful [and] lucky, the *cervesa*-related dealer of the guild of dyeing, set up [this stone] in accordance with a vow, in return for services'). **Merchant of 'dyed' beer:** See still, for instance, Wightman 1970: 188, n. 25. **Guild of dyeing:** Rostovtzeff 1930: 254–256. He also suggests that *cervesa* may have been the name for a brown dye, but there is no evidence for this. Certainly the same equipment could be used for beer making and dyeing. **Discharged soldier or veteran:** See, for instance, Wightman 1970: 188 and Bowman and Thomas 1994: 133. Rostovtzeff (1930: 253) pointed out long ago that there is no way of knowing whether he was still serving in the army or not. **Supplying fellow soldiers:** See, for instance, Davies 1971: 133 (= 1989: 199 and 287).

30 **Fortunatus:** First published in Clemens *et al.* 1998: . . . *Fo*]*rtunato n*[*egotiatori* | . . .]*artis ce*[*rvesariae* . . . | . . .]*ont mn*[. . . ('To Fortunatus the dealer . . . of the guild of the maker of *cervesa* . . .') **Hosidia:** *CIL* XIII.450*: [*Ho*?]*sidia Mater*|[*n*]*a n*<*e*>*go*<*t*>*ians* | *ar*<*t*>*is* <*c*>*ervesa*|*riae sive* <*ce*>*rea*|*riae sibi viva* | *fec*[*it titulu*?]*m* ('Hosidia Materna, dealing, of the guild of making *cervesa* or *cerea*, made [this] inscription while living'), as restored in Binsfeld 1972a: 258 (and see Binsfeld 1972b: 135); the inscription reads *gervesariae*. **Another funerary inscription:** *CIL* XIII.11319: [*D*(*is*) *M*(*anibus*)] | *Satt*]*onius* | *Capurillus* | *cervesar*[*ius* | *si*[*bi et suis v*(*otum*) *f*(*ecit*)] (Binsfeld 1972b: 136); Siebert (1998: 123, fig. 8) rather has Capponius. **Metz:** *CIL* XIII.11360 = XIII.597*: *Iulio* | *ce*]*rvesario* | *medi*(*omatrico*) *vix*(*i*)*t a*(*nnis*) *L* | *coniux viva p*(*osuit*) | *mulier vir*(*o*). Tony Barrett has helped me with the restoration (*CIL* has *E* for *L* and *coniuc* for *coniux*). See Binsfeld 1972b: 135. One could add here the doubtful [*cer*]*vesa*[*ri* . . .] restored in line 4 of an inscription from Rheinzabern (ancient Tabernae) (see Ludowici 1905: x) by Whatmough (1970: 1076, no. 230).

31 **Lösnich:** Binsfeld 2001: 50, with references. **Regensburg:** Rieckhoff 1992. **Xanten:** Becker and Tegtmeier 1999: 85–87, with Binsfeld 2001: 50. Note also

the finds of malt in Bad Dürkheim, Germany described by Piening 1988 (with van Zeist 1991: 120). **Archaeological evidence:** See Lemaire *et al*. 2000. **Literary evidence:** Tacitus in passing mentions villas in Gaul (*Ann.* 3.46 and *Hist.* 4.67). **Included breweries:** The archaeological finds of breweries in Belgium are cited by Jullian 1920: 256, n. 4 (who is himself cited by Duval 1952: 346, n. 28). Bequet suggested (1895: 192) that some of the beer produced in estates might have been sold to outsiders.

32 **Ronchinne brewery:** Bequet 1895, with Deckers 1970: 448, with n. 12 and Binsfeld 2001: 50, who provide further bibliography. Bequet's description of the brewery in Ronchinne is not without its problems; he assumes, for example, that hops were used (1895: 198, 200, and 202). As I can attest, no trace of the villa can now be seen, though it is said by locals to lie just below ground level under the present-day fields of wheat and other crops. **Various rooms:** Bequet 1895: 199–203. **Tower:** Bequet 1895: 201–202. **Cellar:** Bequet 1895: 197 and 203. **Villa of Anthée:** Del Marmol 1881: 36 (building XV); Grenier (1934: 848, 849, and see 845) and Binsfeld (2001: 50), among others, have accepted the identification. Again, no traces of the villa can now be seen (it is at present a cow pasture).

33 **Rather late:** For wine in the Moselle area in Roman times, see Loeschcke 1933. For the general fertility of the area around ancient Trier, see Pliny, *Hist. nat.* 18.49.183 and Tac., *Hist.* 4.73.7. **Grape vines:** Auson., *Mosella* 21, 25, 161–168, 190–191, and 194–196.

34 **Traveled around Britain:** Pyth., T8 and fr. 5 Roseman in Str., 2.4.1. **Most northern of the British Isles:** Pyth., fr. 6 Roseman in Str., 2.5.8. **Six days' voyage north of Britain:** Pyth., fr. 2 Roseman in Str., 1.4.2, and also found as T18a Roseman in Pliny, *Hist. nat.* 2.187, from whom it was copied by later authorities. **Lies:** Str., 1.4.2–4, 2.1.13, and 17–18, 2.5.8, 12, 14, and 34, and 4.5.5. He also thought that what Pytheas said about Britain proper were lies (4.2.1 = Pyth., T13 Roseman). For Strabo's concept of the habitable world, see 2.5.5–15. **Completely savage:** Str., 2.5.8, and see also Mela, *Chronogr.* 3.53 and Solin., 22.2. **Incestuous cannibals:** Str., 4.5.4. Posidonius (fr. 169 Theiler in Diod. Sic., 5.32.3) referred to the inhabitants of Iris (perhaps Ireland) as cannibals, and Jerome (*Adv. Jovin.* 2.7) claimed to have seen Irish cannibalism at first hand, noting (*Ep.* 69.415) that they especially prized male buttocks and female nipples. **'The frigid zone':** ἡ κατεψυγμένη ζώνη. For the theory of the three zones ('frigid' [κατεψυγμένη], 'temperate' [εὐκράτος], and 'torrid' [διακεκαυμένη]) see Str., 2.2.1–3.3 and 2.5.3. **Prepare food and drink:** Pyth., fr. 7 Roseman in Str., 4.5.5: 'where there is grain and honey, the beverage there also [that is, along with the food] has it' (παρ' οἷς δὲ σῖτος καὶ μέλι γίγνεται, καὶ τὸ πόμα ἐντεῦθεν ἔχειν). Note that I do not accept Roseman's additions to the text here. The reference to millet seems to be a mistake for another plant, since millet does not grow in Britain (see Cunliffe 2001: 111–112). **Northern Scottish islands:** As convincingly suggested by Whitaker (1981–1982: 164, n. 103), who takes Pytheas's Thule to be Iceland (thus also, among others, Cunliffe 2001: 126 and 131–132).

35 **Threshing:** Pyth., fr. 7 Roseman in Str., 4.5.5. **Special harvesting:** Diod. Sic., 5.21.5. **Iron Age granaries:** Cunliffe 2001: 109–110. The archaeological evidence for cereal storage in Roman Britain is discussed in Alcock 2001: 20–21. For the storage of cereal generally in antiquity, see Varro, *Rei rustic.* 1.57 and Pliny, *Hist. nat.* 18.73.301–303.

36 **Caesar's expedition:** Caes., *Bell. gall.* 4.20–38 and 5.1–23, Cic., *Ep. ad Attic.* 4.15, 16, and 18, Str., 2.5.8 and 4.5.3, Tac., *Agr.* 13.1–2, Front., *Strat.* 2.13.11, Suet., *Caes.* 25 and 47, and Plut., *Caes.* 23. **'To the ends of the earth':** Hor.,

Od. 1.35.29–30 (*in ultimos* | *orbis*); see also Tibull., 3.7.147–150 and Virg., *Aen.* 1.66. **'More primitive and more barbaric':** Str., 4.5.2 (ἁπλούστερα καὶ βαρβαρώτερα). Tacitus (*Agr.* 12.5) says that in Britain there is cereal but no olives or vines. **Most civilized:** Caes., *Bell. gall.* 5.14. **Trinovantes and Catuvellauni:** See, for instance, Grant 1999: 17. Wine amphoras have been found in the area of Trinovantes control, but not in great numbers (Dannell 1979: 178). The British King Cunobelinus, for instance, also had coins minted at Camulodunum (Colchester) from AD 10 to 40 with an ear of barley symbol (see Allen 1976: 272–274, with fig. 6). **Roman conquest:** See Millett 1990. **'Such drinks':** Diosc., *Mat. med.* 2.88 Wellmann. **'Corn-dryers':** See, for instance, van der Veen 1989 and Alcock 2001: 19–20. Reynolds and Langley (1979) have shown by experiment that such ovens were not simply used to dry cereal but to roast malted cereal. It has been noted that many types of cereal were dried in ovens because of the unfavourable climate, and that spelt especially needed parching before being threshed (Rivet 1969: 19). For a recent find of a fifth century AD steam-heated stone table and charred grains in Yanworth, Gloucestershire, England, see Anonymous 2000. **Catsgore:** Hillman 1982, discussed by van Zeist 1991: 119. See further Alcock 2001: 93–94.

37 **Wine in the first century BC:** Carver 2001: esp. 1–3 and 23–39. **Corrupted by Roman customs:** Tac., *Agr.* 21.2. **'Even the barbarians':** Tac., *Agr.* 16.3 (*didicere iam barbari quoque ignoscere vitiis blandientibus*). **The Icenian tribe**: Cass. Dio, 62.5.5 and 6.4, with Carver 2001: 81.

38 **Letter from around AD 100:** *Tab.Vindol.* III (Letter from around AD 100: *Tab.Vindol*. III, 628, col. ii, ll. 4–6 (*cervesam commilitones* | *non habunt quam* | *rogo iubeas mitti*). **Atrectus:** *Tab.Vindol*. II, 182, col. ii, ll.14–16: *Atrectus cervesar*[*ius*] | *ex pretio ferri* (*denarios*) *i*[. . .]| *pretio exungiae* (*denarios*) *xi* (*asses ii*) ('Atrectus the *cervesa*-maker, [owes/has payed] as part of the price of iron [. . . denarii], for the price of pork fat 11 [denarii, 2 asses]'). **Some question:** Bowman and Thomas 1994: 27, 30, and 133. **An account:** *Tab.Vindol.* II, 186, l. 11: [*K*(*alendas*) *I*]*anua*{*ui*}*rias cerves*(a)e | *metretam* (*asses*) viii ('January 1st: 1 *metreta* of *cervesa* for 8 asses'); ll. 22–23: [*Id*]*us Februuarias per Similem* | *cervese metretam* ('The Ides of February: through Similis 1 *metreta* of *cervesa*'). No price for the wine there has yet been found (see the list of prices in Bowman and Thomas 1996: 306–307). ***Cervesa* and wine:** *Tab.Vindol*. I, 4, ll. 10–15 and 23–30 (= II, 190, 4–9 and 17–24): *xiii K*(*alendas*) *Iuli*[*as*] | *horde*[*i m*(*odios*) . . .] | *cervesa* [*e m*(*odios*) . . .] | *x*[*ii*] *K*(*alendas*) *Iulias* | *hordei m*(*odios*) iiii [. . .] | *cervesae m*(*odios*) ii . . . *viiii K*(*alendas*) *Iulias* | *hordei m*(*odios*) *v s*(*esmissem*) | *vini m*(*odium*) *i* (*sextarios*) *xiiii* | *cervesae m*(*odios*) *iii* | *viii K*(*alendas*) *Iulias* | *hordei m*(*odios*) *vi* [. . .] | *cervesae m*(*odios*) *iii* (*sextarios* [. . .]) | *vini m*(*odium*) *i* (*sextarios*) *xii* | . . . ('June 19th: [. . . pecks] of barley . . . [. . . pecks] of *cervesa* . . . June 20th: 4 pecks [. . .] of barley . . . 2 pecks of *cervesa* . . . June 23rd: 5½ pecks of barley, 1 peck, 14 pints of wine, 3 pecks of *cervesa*. June 24th: 6 pecks of barley . . . 3 pecks, [. . . pints] of *cervesa*, 1 peck, 12 pints of wine . . .'). **One more:** *Tab.Vindol.* III, 581, a, ll. 2–6 and b, 16–17: *iii Idus April*[*es*] | *decurion* [. . .] | *i cerv*[*esa* . . .] | *xvii K*(*alendas*) *Iunia*[*s*] | *cervesar*[*io*] . . . *iiii Idus Iunias* [. . .] | *cervesario* [. . .] ('April 11th: the decurions of the 1st . . . *cervesa* . . . May 16th: from the *cervesa*-maker . . . June 10th: . . . from the *cervesa*-maker . . .'). **Drops:** *Tab.Vindol*. II, 482, col. ii., ll. 1–2 (*de guttis cervesarum*); and see Bowman and Thomas 2003: 161. **Local brewing:** See Bowman and Thomas 1994: 33. ***Bracis*:** *Tab.Vindol*. I, 5, l. 16 (= II, 191, l. 16) (*bracis* probably in the genitive singular in a very fragmentary list of products), with which, see Adams 1975: 21–22 (who suggests that it is in the accusative plural [i.e. = *braces*]); II, 343, col. iii, l. 25 (119 *modii* of threshed *bracis* [*bracis excussi*]); II, 348, l. 2 (as the ablative *brace* in a fragmentary text); III, 649, col. i, l. 3 (*bracis*, genitive singular) and col.

ii, l. 15 (?) (*bracem*); and III.645, col. ii, l. 14 (*bracem*). **Malt:** A glossary (*CGL* V, 616.26) from AD 969 defines *braces* as what one would make *cervisia* from (*sunt unde fit cervisia*) and, for instance, the Welsh word for malt is *brag* which may come from **brac-* (Ross 1967: 180) and in Middle Irish (Atkinson 1976: 154, s.v. *braich*) and Goidelic (Ross 1967: 201) it is *braich*; see further Holder 1896: 509. **Type of wheat:** Pliny (*Hist. nat.* 18.11.62.) wrote: 'The Gauls also devote themselves to a type of emmer wheat with very shiny grain, which there they call *bracis*, and [which is called] among us *scandala*' (*Galliae quoque suum genus farris dedere, quod illic bracem vocant, apud nos scandalam*, *nitidissimi grani*). ***Braciiarius*:** *Tab. Vindol*. III, 646, back, l. 2. ***Braciarium*:** *Tab. Vindol*. III, 595, col. i, l. 3. The editors propose this interpretation on my advice. **Brewery:** Birley 1977: 45–46, with pl. 17 and fig. 11 (reproduced here), and see Binsfeld 2001: 50.

39 **Longthorpe:** Dannell and Wild 1987: 70. **Bearsden fort:** Dickson 1989: 141 (with the finds listed at 138–139), with Dickson and Dickson 2000: 210. **Caerleon:** Helbaek 1964, with van Zeist 1991: 120 and Alcock 2001: 17. Dickson (1989: 141) notes that the grain here may have sprouted from damp conditions rather than through deliberate malting.

40 **Amalgams:** Helgeland 1978: 1499. For the *interpretatio Romana*/*Celtica* in Britain, see Irby-Massie 1999: 158–181; Mars had at least sixteen counterparts in Britain (164–165). **Inscription:** *CIL* VII.176 = *RIB* I.278 (*Deo* | *Marti* | *Braciacae* | *Q*(*uintus*) *Sittius* | *Caecilian*(*us*) | *praef*(*ectus*) *coh*(*ortis*) | *I Aquitano*(*rum*) | *v*(*otum*) *s*(*olvit*)). Birley (1978: 59–60, reprinted in 1988: 385–386) notes that from the evidence of his name, this prefect was almost certainly from Roman North Africa, and probably from Numidia, and that this cohort is attested in Britain elsewhere in the second and third centuries AD. Irby-Massie says that he is Numidian (1999: 183, n. 5 and 309, with further bibliography) or African (211); for this cohort, see 327–238. **God of malt:** Holder 1896: 509, s.v. Braciaca, Schrader and Nehring 1917: 142 and 145, Ross 1967: 181, 201, 377, and 406 and 1970: 107, followed by Birley 1986: 68 (no. 26), Irby-Massie 1999: 309, no. 605, and Birkhan 1997: 647. **Equation:** Ross 1967: 181. This is taken as fact by Irby-Massie 1999: 309, n. 605. **Little evidence:** Goldsworthy (1996: 261–262), who cites the drinking of alcohol before battle at Tac., *Ann.* 1.65 and *Hist.* 4.29. **Braciacus:** Wright in Collingwood and Wright 1965: 93 and Bowman, Thomas, and Wright 1974: 480. Birkhan (1997: 1088) suggests, rather unconvincingly, that the deity *Latis* known from two inscriptions around Hadrian's wall (*CIL* VII.580 [= *RIB* I.2043] and 828 [= *RIB* I.1897]) is connected to an Irish word for ale.

6 THE ROMAN EMPIRE AND THE RULE OF WINE

1 **Extent of the Roman Empire:** See Friedländer 1908: 171 (quoting Hehn). **Vines grown in the far north:** Saserna in Colum., *Rei rustic.* 1.1.5.

2 **Large number of papyrus records:** There are mentions of beer (as ζῦθος), made usually of barley, sometimes wheat, in over 300 Greek papyri and ostraca (pottery sherds) found in Egypt, dating from the third century BC to the seventh century AD. There has never been an attempt at compiling all papyrological references to beer, and I do not propose to do so here. However, in preparation is the Italian *Corpus Papyrorum Graecarum* in which Greek papyri treating of the same subject are to be published together. For a sampling of sources see Nelson 2001b. **Fixed quantity of cereals:** See *P.Mich.Zen.* I.36 (from 254 BC), in which twelve *artabae* of barley were agreed to be provided daily for Païs to turn into beer at the factory in Philadelphia, though Païs pretended that the agreement had been for eleven *artabae*. For further documents about the contracting out of the beer factory in

Philadelphia, see *P.Cair.Zen.* II.59199 (= *SB* III.6738), 59202 (= *SB* III.6739), and *P.Col.Zen.* III.34. **Ptolemaic beer tax:** See especially Reil 1913: 167–168, Heichelheim 1933: 170–172, Préaux 1939: 152–158, Taubenschlag 1955: 669, and Römer and Gagos 1996: 145. **Anachronistically wrote:** Dio Acad. in Athen., *Deipn.* 1.34b epit. (φιλοίνους καὶ φιλοπότας τοὺς Αἰγυπτίους γενέσθαι· εὑρεθῆναί τε βοήθημα παῳ' αὐτοῖς ὥστε τοὺς διὰ πενίαν ἀπορουῦντας οἴνου τὸν ἐκ τῶν κριθῶν γενόμενον πίνειν· καὶ οὕτως ἥδεσθαι τοὺς τοῦτον προσφερομένους ὡς καὶ ᾄδειν καὶ ὀρχεῖσθαι καὶ πάντα ποιεῖν ὅσα τοὺς ἐξοίνους γινομένους). Athenaeus relates various traditions about the discovery of the vine, that it was first found in Olympia (Theop., *FGrH*115F277) or in Plinthine in Egypt (Hellan., *FGrH* 4F175); in support of the latter claim he quotes Dio. Plutarch (*Quaest. Conv.* 1 [= *Mor.* 612de]) noted that Dio the Academic, among other authors, wrote a *Symposium*, and it is quite possible that this passage came from that work (it is at least mentioned by Athenaeus in connection with Aristotle's *Symposium*). The title is absent since this section survives only in the epitome of Athenaeus.

3 **Roman beer regulations:** See especially Reil 1913: 168–169, Heichelheim 1933: 196, Wallace 1938: 187, and Taubenschlag 1955: 669–670. Note that as in Britain some Roman soldiers in Egypt were issued beer (see especially *P.Alex.* 1.5 and 417.i.18–19 as well as *P.Oxy.* XII.1513). **Snacks:** Colum., *Rei rustic.* 10.114–116: *iam siser, Assyrioque venit quae semine radix,* | *sectaque praebetur madido sociata lupino,* | *ut Pelusiaci proritet pocula zythi* ('Now skirwort and the root which came from an Assyrian seed, is sliced and served along with soaked lupines, to provoke the thirst for a cup of Pelusian *zythum* [or *zythus*]'). 'Pelusian' here may simply mean 'Egyptian', as suggested by Van Minnen (1991: 167–168), but I disagree with his assessment, found also in other authors (for instance, Peck 1965: 321), that the beer was actually made with these ingredients. Against this notion, see, for instance, Arnold 1911: 87, Lutz 1922: 75 with n. 7 (who also cites previous scholarship), Lucas and Harris 1962: 14–15, Darby *et al.* 1977: 543, and Samuel 1996b: 488 with n. 2. **Alexandria:** Str., 17.1.14: ἅπασα μὲν ἡ χώρα αὕτη οὐκ εὔοινος, πλείω δεχομένου τοῦ κεράμου θάλατταν ἢ οἶνον δὴ καλοῦσι Λιβυκόν, ᾧ δὴ καὶ τῷ ζύθῳ τὸ πολὺ φῦλον χρῆται τῶν Ἀλεξανδρέων ('This whole country does not have good wine, since a jar [there] receives more sea-water than wine. They call this "Libyan" [wine], which, along with *zūthos*, the extensive tribe of Alexandrians uses'). **Oration:** Dio Chrys., *Or.* 32, with section 82 (= *Parod. anonym.* fr. 8a) on the beer: ἠΰτε περ κλαγγὴ γεράνων πέλει ἠὲ κολοιῶν, | αἵτ' ἐπεὶ οὖν ζῦθόν τ' ἔπιον καὶ ἀθέσφατον οἶνον, | κλαγγῇ καὶ γε πέτονται ἐπὶ σταδίοιο κελεύθνυ ('Just as the shout of cranes and the cry of daws arises, when they [that is, the spectators] have drunk much *zūthos* and wine they fly with a shout to reach the racecourse'). **'Alexandrian diet':** Galen., *In Hippocr. aphor. comm.* 2.20 (= 17b.492.14–493.5 Kühn): εἰ γάρ τις ἐν μὲν τῇ νεότητι τῇ τῶν Ἀλεξανδρέων χρῆται διαίτῃ, ταρίχη τε καὶ πράσα ἐσθίων, ἐπιπίνων τε ζῦθον [Nelson, ζχθὸν codd.], ἐν δὲ τῷ γήρᾳ μηδὲν τούτων προσφέρηται, φακὴν δὲ ἐσθίει καὶ οἶνον αὐστηρὸν ἔτι πίνει, πῶς ἂν φαίημεν ὑπηλλάχθαι τούτῳ τὰ διαχωρήματα τῷ λόγῳ τῆς ἡλικίας; ('If in youth someone follows the diet of the Alexandrians, eating salt fish and leeks and drinking *zūthos* on top, and then in old age is not fed on these but eats lentils and dry wine, how can we say that the change in excrement is due to his age?'). Galen is here commenting on Hippocrates's statement (*Aphor.* 2.20 [= 4.476 Littré]) that the level of moistness of the bowels inevitably changes as one gets older. In the commentary on Hippocrates's aphorisms by Stephanus of Athens (from the sixth or early seventh century AD) nothing is said of beer in the corresponding section (2.20 [= *CMG* XI.1.3.1, 176.23–182.32]).

4 **First century** AD**:** See Rathbone 1983, cited by Garnsey 1999: 118. **Fourth century** AD**:** Bagnall 1993: 32, and see also Drexhage 1997: 38–39 (this is based on the papyrological evidence, or rather lack thereof). Only four Greek papyri of the fourth century AD mention beer (*PGM* IV.908 and *P.Oxy.* I.85 [= *P.Lond.* III.760 = *SB* XVI.12648], XII.1513, and LXIV.4441), and only two from the fourth or fifth century (*SB* XII.11003 and XX.14507), two from the sixth (*P.Berl.Sarisch.* 22 and *SB* XVIII.13889), one from the sixth or seventh (*P.Alex.* 239), and one from the seventh (*SB* VI.9140). There is also a fourth century Greek inscription from Egypt which mentions beer (*SEG* XLI.1612.5) and two from the fourth or fifth century from Nubia (*OGIS* 200 [= *CIG* 5128.16 = *SB* III.6949 = *SB* V.8546] and *SEG* XXXII.1601 [= *OGIS* 200, Add(1)]). Note also that one Latin Christian author (of unknown date) advises that older ascetics should drink wine or beer (*cervisia*), except on holy days, to take care of their bodies and not offend God (Ps.- August., *Ad fratres in eremo sermo* [= *PL* 40.1286]).

5 **'*Zūthos* is prepared':** Str., 17.2.5 (τὸ δὲ ζῦθος [Nelson, ζύθος codd.] ἰδίως μὲν σκευάζεται παρ' ἐκείνοις, κοινὸν δ' ἐστὶ πολλοῖς, καὶ παρ' ἐκάστοις δὲ αἱ σκευασίαι διάφοροι). Alexandrian beer is also mentioned at Str., 17.1.14 (discussed above). **Liguria:** 4.6.2 (perhaps from Posidonius?); this passage was discussed in the previous chapter. **Iberia:** 3.3.7 (quoting Posid., fr. 22 Theiler); this passage was discussed in the previous chapter. **Britain:** 4.5.5 (quoting Pyth., fr. 7 Roseman); this passage was discussed in the previous chapter. **India:** 15.1.53: οἶνόν τε γὰρ οὐ πίνειν, ἀλλ' ἐν θυσίαις μόνον, πίνειν δ' ἀπ' ὀρύζης ἀντὶ κριθίνων συντιθέντας. καὶ σιτία δὲ τὸ πλέον ὄρυζαν εἶναι ῥοφητήν ('They [that is, the Indians] do not drink wine, except at sacrifices, but drink those [drinks] composed of rice rather than barley. Also their food is mostly rice porridge'). That this is a reference to beer seems clear from the contrast with wine; however, in a similar passage, Pliny the Elder (*Hist. nat.*18.13.71) says rather: *maxime quidem oryza gaudent, ex qua tisanam conficiunt, quam reliqui mortales ex hordeo* ('In fact, they [that is, the Indians] enjoy rice most [among cereals], from which they make the gruel which the rest of mankind [makes] from barley'). **Ethiopia:** Str., 17.2.2: ζῶσι τ' ἀπὸ κέγχρου καὶ κριθῆς, ἀφ' ὧν καὶ ποτὸν αὐτοῖς ἐστιν ('They [that is, the Ethiopians] live on millet and barley, from which [plural] they also have a drink'). Pliny says (*Hist. nat.* 18.24.100) that the Ethiopians only cultivate millet and barley, and thus both he and Strabo may be indebted to a common source (unless Pliny was simply following Strabo). The passage in Strabo is found in *FGrH* in the appendix to the histories of Ethiopia, where it is attributed to no specific source. **Criticizes:** Str., 2.3.7. **Asians not barbarians:** 1.4.9. **Quality of Asian vines:** 2.1.14–16.

6 **Fermented fruit beverages:** Pliny, *Hist. nat.* 14.19.102–104. The Roman author Palladius also speaks of various types of fermented fruit beverages (such as cider [*Agr.* 3.25.19] and perry [2.15.5, 3.25.11, and 3.25.19], among others), though he makes no mention of beer. **'A particular intoxication':** 14.29.149 (*est et Occidentis populis sua ebrietas fruge madida, pluribus modis per Gallias Hispaniasque, nominibus aliis, sed ratione eadem. Hispaniae iam et vetustatem ferre ea genera docuerunt. Aegyptus quoque e fruge sibi potus similes excogitavit, nullaque in parte mundi cessat ebrietas, meros quippe hauriunt tales sucos nec diluendo ut vina mitigant. at Hercules illic tellus fruges parere videbatur. heu mira vitiorum sollertia! inventum est quemadmodum aquae quoque inebriarent*). **Later:** 22.82.164 (*ex iisdem fiunt et potus, zythum in Aegypto, caelia et cerea in Hispania, cervesia* [*cerevisia* pl. codd.] *et plura genera in Gallia aliisque provinciis*). **Ends this passage:** 22.82.164 (. . . *nam quod ad potum ipsum attinet praestat ad vini transire mentionem* . . .). **Presence of wine:** 23.22.37. **Northerners, southerners, and those in the centre:** 2.80.189–190 and Vitr., 6.1.3–11.

7 **Other authors:** The late second and early third century AD historian Cassius Dio, in mentioning Augustus's campaign against the Pannonians (in the Balkans) in 35 BC, states of these people (49.36.3): οὐκ οἶνον, πλὴν ἐλαχίστου καὶ τούτου κακίστου,γεωργοῦσιν, ἅτε ἐν χειμῶνι πικροτάτῳ τὸ πλεῖστον διαιτώμενοι, ἀλλὰ τάς τε κριθὰς καὶ τοὺς κέγχρους καὶ ἐσθίουσιν ὁμοίως καὶ πίνουσιν ('They do not cultivate [that is, make] wine, except for a little bit which is bad, since they spend most of the time in a very harsh winter [climate], but rather eat and drink both barley and millet'). The scholar Servius (*Comm. ad Verg. Georg.* 3.380), explaining why Scythians drank beer (*cervesia*), said that 'wine, because of its natural heat, cannot be made in a cold province' (*vinum, per naturam calidum, in provincia frigida non possit creari*). **Beneficial qualities of wine:** Pliny, *Hist. nat.* 23.19–26.31–53. **Milk, beer, and water:** 23.22.37 (*lactis potus ossa alit, frugum nervos, aqua carnes*). **Foam:** 22.82.164 (*quorum omnium spuma cutem feminarum in facie nutrit*). **For bread:** 18.12.68: *Galliae et Hispaniae, frumento in potum resoluto quibus diximus generibus, spuma ita concreta pro fermento utuntur, qua de causa levior illis quam ceteris panis est* ('The Gauls and Hispanians, liquefying wheat into a drink with those types [of wheat] we have mentioned, use instead of yeast the foam that forms in this way [for bread]. For this reason they have lighter bread than others'). Similarly, in the twelfth century AD, Pierre de Blois (Petrus Blesensis) (*Epist.* [= *PL* 207.45]) speaks of 'bread made from the dregs of beer' (*panis . . . confectus ex cerevisiae faecibus*). '**Kreusen head':** This is correctly stated by Forbes 1956: 140 and 1965: 131, Wilson 1975: 639, and Kahn 1996: 90–91. **Not the head:** However, in medieval Latin (for instance, Anon., *Vit. et res gest. sanct. Altmanni* [= *PL* 148.881A], from the late eleventh or early twelfth century AD) and in modern Italian *spuma* does refer to the head on a beer.

8 **Drinks in a will:** Sabin. in Ulp., *Sabin.* 23 in Justin., *Dig.* 33.6.9: *omnia vini appellatione contineri, quae vini numero pater familias habuit: igitur et acetum, quod vini numero pater familias habuit, et zythum et camum et cetera, quae pro hominum affectione atque usu vini numero habebuntur* ('All [drinks] are included under the designation of wine, which the head of the household held in the category of wine: therefore also the vinegar which the head of the household held in the category of wine, and *zythum* and *camum* and others which are held to be in the category of wine by the reckoning and usage of men').

9 **Differed:** Ulp., *Sabin.* 23 in Justin., *Dig.* 33.6.9: *si quis vinum legaverit, omne continetur, quod ex vinea natum vinum permansit. sed si mulsum sit factum, vini appellatione non continebitur proprie, nisi forte pater familias etiam de hoc sensit. certe zythum quod in quibusdam provinciis ex tritico vel ex hordeo vel ex panico conficitur, non continebitur: simili modo nec camum nec cervesia continebitur nec hydromeli. quid conditum? nec hoc puto, nisi alia mens testantis fuit. oenomeli plane id est dulcissimum vinum continebitur: et passum, nisi contraria sit mens, continebitur: defrutum non continebitur, quod potius conditurae loco fuit. acinaticium plane vino continebitur. cydoneum et si qua alia sunt, quae non ex vinea fiunt, vini appellatione non continebuntur. item acetum vini appellatione non continebitur. haec omnia ita demum vini nomine non continentur, si modo vini numero a testatore non sunt habita* ('If someone bequeaths wine, everything is included which remains wine, having originated from the vine. But if honeyed wine has been made, it will not properly be included under the designation of wine, unless perhaps the head of the household also considered it. Certainly, *zythum*, which is made in some provinces from wheat or from barley or from millet, is not included: in a similar way, neither *camum* nor *cervesia* nor mead will be included. What about spiced wine? I think not, unless the intention of the testator was otherwise. Clearly honey wine, that is the sweetest wine, will be included, and raisin wine will be included unless the intention [of the testator] might be otherwise. Concentrated must will not be included, because it was in

the heading of preservative. Clearly dried-grape wine will be included as wine. Quince wine and whichever other [drinks] there are which are not made from the vine, will not be included under the designation of wine. Similarly, vinegar will not be included under the designation of wine. Finally, in this way, all these [drinks] will not be included under the name of wine, as long as they were not considered as wine by the testator'). I accept here Cujas's reading of *panico* for the manuscripts' *pane*. For this passage, see Radin 1924.

10 **Diocletian:** *Edict. de pret. rer. venal.* 2.11–12. This part of the edict is preserved on a number of inscriptions in Latin or Greek from Greece and Asia Minor, but there is little point here in citing all the different readings for these lines. **Wine:** 2.1–10 and 13–19.

11 **One compilation:** *Hermeneumata Montepessulana* in *CGL* III, 315.68 (πόματος ἐκ πυρῶν *camum* ['of a drink of barley: *camum*'] and 69 (πόματος ἐκ πυρῶν *cerbesia* ['of a drink [made] from wheat: *cerbesia*']. See also 66 (ζῦθος *zithum* ['*zūthos*: *zithum*']) and 67 (ζῦθος *turbulentum* ['*zūthos*: cloudy']). **Another:** *Hermeneumata Celtes* 45 in Dionisotti 1982: 101 (with 86–92 for a discussion of such texts). Similar Latin texts (known as 'colloquies') from the tenth century in Britain also often mention beer (see Gwara 1996: 130, s.vv. *celeum* and *cervisa*).

12 **Celsus:** *De med.* 2.18.11: *ex potionibus vero quaecumque ex frumento facta est, itemque lac, mulsum, defrutum, passum, vinum aut dulce aut vehemens aut mustum aut magnae vetustatis valentissimi generis est. at acetum et id vinum, quod paucorum annorum vel austerum vel pingue est, in media materia est; ideoque infirmis numquam generis alterius dari debet. aqua omnium imbecillissima est; firmiorque ex frumento potio est, quo firmius est ipsum frumentum. firmior ex eo vino, quod bono solo, quam quod tenui; quodque temperato caelo, quam quod aut nimis humido, aut nimis sicco, nimiumque aut frigido, aut calido natum est* ('Now the strongest types of drinks are: whatever is made from grain [or wheat?], likewise milk, honey wine, concentrated must, raisin wine, wine either sweet or heady or still fermenting or of great age. But vinegar, and that wine which is a few years old, either dry or rich, are intermediate in quality; therefore, to the weak nothing of the other type should be given. Water is of all the weakest, and drink from grain [or wheat?] is more nutritious, since the grain [or wheat?] itself is more nutritious. Wine from good soil is stronger than that from weak [soil], and that born from a temperate climate rather than too moist or too dry or cold or hot').

13 **Mixed view:** See the summary at Nelson 2003a: 106–108. **Negative effects of wine:** For the positive and negative assessments of wine in Greco-Roman antiquity, see McKinlay 1950. **Wine useful or harmful:** Pliny, *Hist. nat.* 23.19.31.

14 **Lists of fermented fruit beverages:** Diosc., *Mat. med.* 5.20–75 Wellmann (copied partly by Orib., *Coll. med.* 5.25 [= *CMG* IV.1.1, 140.18–143.28]). **Merits of various cereals:** Diosc., *Mat. med.* 2.85–101 Wellmann. ***Zūthos*:** 2.87 Wellmann: περὶ ζύθου. ζῦθος [Nelson, ζύθος codd.] σκευάζεται ἐκ τῆς κριθῆς. ἔστι δὲ διουρητικὸς καὶ νεφρῶν καὶ νεύρων ἁπτικὸς, καὶ μάλιστα μηνίγγων κακωτικός, πνευματωτικός τε καὶ γεννητικὸς κακοχυμιῶν καὶ ἐλεφαντιάσεως ποιητικός. εὐεργὴς δὲ καὶ ὁ ἐλέφας γίνεται βρεχόμενος αὐτῷ ('On *zūthos*. *Zūthos* is prepared from barley. It is a diuretic and acts on the kidneys and sinews and is especially harmful to the membranes. It induces flatulence, causes bad humours, and produces elephantiasis. But ivory steeped in it becomes good to work with'). This is badly translated into Latin in a sixth century AD Longobardic version as follows (*Mat. med.* 2.70): *de furta. furta fiet de ordeo, que est diuretica, plus meningis, ventrem inflat, humores viscidos nutrit. ex ipsa fiet helefas* ('On *furta*. *Furta* is made from barley and it is a diuretic, [that is, it causes] more urination, swells the stomach, nourishes bad humours. From it is made ivory (*sic*)'). The *hapax legomenon furta*, evidently taken from this text, is later glossed (*CGL* III, 184.63) as *zitos*.

Elephantiasis: 5.32.2: ὁ τροχίτης . . . καὶ ἐλεφαντιάσεως ποιητικός ἐστιν ὡς καὶ τὸ ζῦθος [Nelson, ζῦθος codd.] (‘*Trochitēs* . . . also produces elephantiasis just as *zūthos* [does] too’). The Longobardic version (5.54) has: *elefantiacos facit sicut zutus* (‘It produces elephantiasis just as *zutus*’). ***Kourmi*:** 2.88 Wellmann: περὶ κούρμιθος. καὶ τὸ καλούμενον δὲ κοῦρμι, σκευαζόμενον δ’ἐκ τῆς κριθῆς, ᾧ καὶ ἀντὶ οἴνου πόματι πολλάκις χρῶνται, κεφαλαλγές ἐστι καὶ κακόχυμον καὶ τοῦ νευρώδους βλαπτικόν· σκευάζεται δε καὶ ἐκ πυρῶν τοιαῦτα πόματα, ὡς ἐν τῇ πρὸς ἑσπέραν Ἰβερίᾳ καὶ βρεττανίᾳ (‘On *kourmi*. That which is called *kourmi* is also prepared from barley, and they often use it as a drink instead of wine. It causes headaches and bad humours and is harmful to the sinews. Such drinks are also prepared from wheat, as in Iberia in the west and Britain’). The Longobardic version (2.70) has: *quae dicitur ordeo infuso, quem aliqui camum vocant, quem pro vino multi utuntur, dolorem capitis commobet, cacocymu est, nervis contrarius. de tridico vero non faciuntur suci tales, maxime in Iveria et in Brittania* (‘That which is called [*furta*] from the soaking [or pouring out (*infusus*)] of barley, which others call *camum*, which many use instead of wine, can cause headaches, is bad for the humours, and harmful to sinews. Truly from wheat such juices are not (*sic*) made, especially in Iberia and in Britain’).

15 **Lexicographers:** Herod., *De pros. cath.* 6 , s.v. ζῦθος, Hesych., *Lex.* s.v. ζῦθος, *Suda*, s.v. ζῦθος, Phot., *Lex.* s.v. ζῦθος, *Lex. Seguariana* s.v. ζῦθος, Ps.-Zonar., *Lex.* s.v. ζῦθος, and Theogn., *Can. sive de orth.* 112 + 296. **Analogy:** *An vit. ad infel. suff.* 4 (= *Mor.* 499e): . . . τὸν ἐλέφαντα τῷ ζύθει μαλακὸν γενόμενον καὶ χαλῶντα κάμπτουσι καὶ διασχηματίζουσιν . . . (‘. . . they bend and shape ivory made tender and softened in *zūthos* . . .’). However, Plutarch uses ζῦθος in the neuter rather than in the masculine as Dioscorides does. In the eleventh century AD Simeon Sethus Interpres (fr. 119) also speaks of the use of beer for ivory-working. **‘Just as lovers of wine’:** Plut., *Quaest. conv.* 3.2 (= *Mor.* 648e) (καθάπερ οἱ φίλοινοι μὴ παρόντος ἀμπελίνου κριθίνῳ χρῶνται πόματι, καὶ μηλίτας τινάς, οἱ δὲ φοινικίνους οἴνους ποιοῦσιν). **Barbarian mead:** Plut., *Quaest. conv.* 4.6.2 (= *Mor.* 672b) (καὶ μέχρι νῦν τῶν τε βαρβάρων οἱ μὴ τοιοῦντες οἶνον μελίτειον). **Quick fix:** Plut., *Amat.* 5 (= *Mor.* 752b): ‘If there is a certain Eros [that is, lust] without Aphrodite [that is, sexual partnership], it is like intoxication without wine, by fig and barley drink: it is fruitless, the disturbance is unfulfilled, it is a surfeit, and quickly sated’ (εἰ δ’ ἔστι τις Ἔρως χωρὶς Ἀφροδίτης, ὥσπερ μέθη χωρὶς οἴνου πρὸς σύκινον πόμα καὶ κρίθινον, ἄκαρπον αὐτοῦ καὶ ἀτελὲς τὸ ταρακτικόν ἐστι καὶ πλήσμιον καὶ ἀψίκορον).

16 **Work on medical simples:** Galen, *De simpl. medic. temper. ac facult.* 6.6.3 (= 11.882.5–8 Kühn): ζῦθος [Nelson, ζύθος codd.] δριμύτερός ἐστι τῶν κριθῶν οὐ σμικρῷ, κακόχυμος, ὡς ἂν ἐκ σηπεδόνος γεγενημένος, ἔστι δὲ καὶ φυσώδης, καὶ τὸ μέν τι δριμὺ καὶ θερμαῖνον ἔχων, τὸ πλεῖστον δὲ ψυχρὸν ὑδατῶδες ὀξύ (‘*Zūthos* is more pungent than barley by no small amount, is bad for the humours since it may arise from that which is rotten, and also causes flatulence; some is pungent and warming while most is cold, watery, sour’). This was copied by Oribas., *Coll. med.* 14.10.10 (= *CMG* IV.1.2, 190.11–12) and 15.1.6.6 (= *CMG* IV.1.2, 253.16–19), Aët. Amid., *Libr. med.* 1.154, s.v. ζῦθος (= *CMG* VIII.1, 73.22–23), and Paul. Aegin., *Epit. med.* 7.3.6, s.v. ζῦθος (= *CMG* IX.1, 213. 13–15). Galen also mentions beer in passing in commentaries on works of Hippocrates, as seen in Chapter 3 and earlier in this chapter. **Harmful:** Ps.-Galen., *De affect. ren. insident. dignot. et curat.* 7 (= 19.693.3–8 Kühn): κεφαλῆς γὰρ ἅπτεται οἶνος, ὕδατος εὐκράτου πρότερον μεταλαμβάνων οὐκοῦν οὐδὲ τοῦ ψυχροῦ ὕδατος ἢ οἴνου ἢ ζύθου ἢ ἑτέρας σικέρας πόσις ἀβλαβής ἐστι. βλάπτουσι γὰρ καὶ αὐτὰ σαφῶς τήν τε γαστέρα καὶ τὸ ἧπαρ καὶ τὰ νεῦρα, ἢν οὐ τῇ κράσει, ἀλλὰ τῇ θίξει (‘Wine affects the head, having partaken earlier of

well-mixed water. Neither then is a drink of cold water or of wine or of *zūthos* or of another fermented drink harmless, since these actually harm the stomach and the liver and the sinews, not if in mixture, but by contact').

17 **Tonsils:** Ael. Aret., *De caus. et sign. acut. morb.* 1.9.4 (= *CMG* II, 11.24–26) (δριμὺ δὲ τὸ ἀπὸ τῶν κριθέων καὶ . . . πόμα). For more on this passage, see Jouanna 2002: 118–120, with whose final interpretation I disagree. **Breast milk:** Antyll. in Orib., *Coll. med.* 34.6–7 (= *CMG* VI.2.2, 128.28–35) and in Aët. Amid., *Libr. med.* 4.6 (= *CMG* VIII.1, 362.8, 30–363.9) (the recipes given are slightly different in each case and are not worth quoting in full). **Asp bite:** Philum., *De venen. animal. eor. remed.* 16.8 (= *CMG* X.1.1, 22.21–24), and copied with some changes by Aët. Amid., *Libr. med.* 13.22 (= *CMG* VIII.1, 280.20 + 282.1–3): σκόρδα λεάνας δίδου μετὰ ζύθος ('give crushed garlic with *zūthos*').

18 **Scrofulous tumours:** Plin. Sec., *De med.* 3.6: *ebuli folia conteruntur et mixta cum faece cervisiae super additis foliis eiusdem ebuli in linteolo alligantur* ('Leaves of danewort are ground and mixed with the dregs of *cervisia*; they are tied in linen on top of added leaves of the same danewort'). For the medical uses of wine lees, see Pliny, *Hist. nat.* 23.31–33.63–68. **Authorities:** Oribasius's other authorities on beer are not known. For his use of Galen and Antyllus, see above. **Cyrenaic beer:** Orib., *Coll. med.* 3.23.4 (= *CMG* VI.1.1, 83.8 + 13–14) = *Synops. ad Eust. fil.* 4.22.4 (= *CMG* VI.3, 136.16 + 22): ὅσα φυσώδη. . . .ζῦθος [Nelson, ζύθος codd.], ὀποὶ πάντες, καὶ μᾶλλον ὁ Κυρηναϊκός . . . ('All that causes flatulence: . . . *Zūthos*, every sort, and especially the Cyrenaic [type]'). **Worse:** Orib., *Coll. med.* 5.31.12 (= *CMG* VI.1.1, 151.3–5): οἱ δ' οἶνοι οἱ μύρτινοί τε καὶ ἀπὸ τῶν κηρίων καὶ κριθῆς γινόμενοι οὐδὲν ἀσθενέστεροί εἰσι τῶν ἀπὸ τῆς σταφυλῆς, ἀλλὰ πολλῷ βραδύτεροί τε καὶ χείρους ('Mulberry wines and those arising from honeycombs and wheat and barley are in no way weaker than those from the grape cluster, but are much slower [to make?] and are inferior').

19 **Coughs:** Marc. Empir., *De med.* 16.33 (= *CML* V, 126.40–127.2): *salis quantum intra palmam tenere potest qui tussiet in potionem cervesae aut curmi mittat et calidum bibat, cum dormitum vadit, neque postea loquatur, sed tacitus somnum capiat; cito sanabitur, si hoc vel triduo fecerit* ('Let the one who coughs throw into a drink of *cervesa* or *curmi* as much salt as he is able to hold in the palm [of his hand] and drink it hot; when he goes to sleep, he should not speak afterwards but obtain sleep while quiet. He will get better quickly, if he has done this perhaps for three days'). This is mentioned above in Chapter 5. **Worms:** Marc. Empir., *De med.* 28.13 (= *CML* V, 221.23–36): *ipsasque factas infundes in cervesiae novae sextariis duobus et mellis cyatho. quod si in ea provincia faciendum fuerit hoc medicamentum, in qua cervisia non est, ex aqua dabis . . .* ('you should pour these formed [suppositories] into two pints of new *cervesia* and one ounce of honey. And yet, if this medication was being made in a province in which there is no *cervisia*, you will administer [it] from water . . .'). **Followed:** The recipe is found distorted in Cass. Felix, *De med.* 72 (in Rose 1875: 175, n. [with changes of my own based on Marcellus]): *eas factas infundes in cervisae novae sextariis duobus. si inventa non fuerit ex aqua calida dabis* ('you should pour these formed [suppositories] into six pints of new *cervisa*. If it was not found, you should administer [it] from hot water'). **Copied:** See above. **Madwort in beer:** Aët. Amid., *Libr. med.*1.285, s.v. μυοσωτίς (= *CMG* VIII.1, 112.16, 17–18), 3.156 (= *CMG* VIII.1, 326.3, 5–6), and 9.37 (= *CMG* VIII.1, 369.31 + 370.15–16) (μετὰ ζύθου πινόμενος). **Arrow wounds:** 13.12 (= *CMG* VIII.1, 269.20–21): σίνηπι λεῖον μετὰ ζύθου ἐπιτίθει ('apply crushed mustard with *zūthos*').

20 **Moist, white substance:** Zosim. Panop., 3.29.8 (= 2.200.5–6 Berthelot-Ruelle) (where the reading should probably be ζῦθος <καὶν χυλός for ζύθου χυλός) and Olymp. Alch., *De arte sacri* 50 (= 2.100.2–4 Berthelot-Ruelle). Beer is also

mentioned as a liquid in Zosim. Panop., 3.25.1 (= 2.184.15–17 Berthelot-Ruelle) and a mixture with the consistency of beer is called for in yet another text (Ps.-Zosim. Panop., 4.8.2 [=2.278. Berthelot-Ruelle]). Another text mentions malt (Anon., *Lex. alch.* s.v. βύνη [= 2.6.12 Berthelot-Ruelle]) as the 'germination of *zūthos*' (βλαστάριον ζύθου). **Pearl whitener:** Ps.- Zosim. Panop., 5.9.4 (= 2.368.18–23 Berthelot-Ruelle) (with crushed scammony) and 5.9.11 (= 2.370. 8–9 Berthelot-Ruelle). **Detergent:** Zosim. Panop., 5.11.2 (2.373.1–5 Berthelot-Ruelle).

21 **Beer in Israel:** Kellermann 1977 and Dayagi-Mendels 1999: 120 and 122–125. For a different view, see McGovern 2003: 220 and 225.

22 **First Christian mention:** Jul. Afr., *Cesti* 1.19.17–23 Vieillefond (ὅσοι δὲ ἀμτέλους οὐκ ἔχουσιν, οὐδὲ τὸν ἀπὸ τῶνδε τῶν φυτῶν εὐτυχήκασι καρπόν, ἐμμήσαντο οἶνον ἑτέρων ἢ σπερμάτων ἢ ἀκροδρύων σκευασίᾳ ἢ ῥιζῶν συνθέσει, τὴν καθαροῦ ὕδατος πόσιν παραιτούμενοι. πίνουσι γοῦν ζῦθον Αἰγύπτιοι, κάμον Παίονες, Κελτοὶ κερβησίαν, σίκερα Βαβυλώνιοι. Διόνυσος γὰρ αὐτοὺς κατέλιπεν ὠργισμένος καὶ οὐδὲν ἐκείνοις ἀμπελουργίας ἐδωρήσατο, μόνοις τὰ ἐπινίκια γεωργοῖς Ἕλλησι τηρῶν).

23 **Oracle:** *Isaiah* 19: 1–15. '**And shame will seize':** 9–10 (καὶ αἰσχύνη λήμψεται τοὺς ἐργαζομένους τὸ λίνον τὸ σχιστὸν καὶ τοὺς ἐργαζομένους τὴν βύσσον, | καὶ ἔσονται οἱ διαζόμενοι αὐτὰ ἐν ὀδύνῃ, καὶ πάντες οἱ τὸν ζῦθον ποιοῦντες λυπηθήσονται καὶ τὰς ψυχὰς πονέσουσιν).

24 **Knew:** Euseb., *Praep. evang.* 2.2.4 (= *PG* 13.711A), cited above in Chapter 3. **Commented:** Euseb., *Comm. in Is.* 1.75 (= *PG* 24.227A–B) (στενάξειν δὲ πάντας φησὶ τοῦς ποιοῦντας οὐ τὸν ἐξ ἀμπέλου οἶνον, ἀλλὰ τὸν Αἰγυπτιακὸν ζῦθον· ὃς καὶ αὐτὸς νόθος ἦν καὶ τεθολωμένος· ᾧ ἐκέχρηντο ἀντὶ ποτοῦ πρὶν αὐτοῖς ἐπιδημῆσαι τὸν Κύριον οἱ Αἰγύπτιοι. καὶ τούτου δὲ ἐκκλίνοντος, εἰκότως στενάξειν λέγονται καὶ τὰς ψυχὰς ἀλγήσειν οἱ τούτου ποιηταί. ταῦτα μὲν οἶν πείσεσθαι τοὺς τῆς Αἰγύπτου σοφιστὰς ἀπειλεῖ, ζυθοποιούς τινας . . .).

25 **Explained:** Cyril, *Comm. in Is.* 2.4.287–288 (= *PG* 70.459CD), found in both a Greek and Latin version, though only in the Latin is the full quotation on beer found: *frigidus enim zythus. est autem Aegyptiorum quidam potus, sed frigidus et turbidus, . . . et ob vehementem frigiditatem morbos insanabiles pariunt* ('*Zythus* is also cold. It is, however, a certain drink of the Egyptians, but cold and cloudy. . . . and because of excessive cooling they cause incurable illnesses'). '**Gladdens':** *Psalm* 104:15 (εὐφραίνοντος καρδίαν ἀνθρώπου). **Around the same time:** Theodor., *Comm. in Is.* 6.283–288 Guinot (omitted in *PG* 81.351A) (. . . πόμα ἐστὶν ὁ ζῦθος ἐπινενοημένον, οὐ φυσικόν· καὶ αὐτὸ δὲ ὀξῶδές τε καὶ βλάβην, οὐκ ὄνησιν ἐργαζόμενον. τοιαῦτα δὲ καὶ τῆς ἀσεβείας τὰ δόγματα, οὐκ οἴνῳ προσεοικότα τῷ 'εὐφραίνοντι καρδίαν ἀνθρώπου').

26 **Noted:** Jer, *Comm. in Is. proph.* 7.19.5–11 (= *PL* 24.253A) (*hoc maxime utuntur Aegyptii, ut non puras aquas bibentibus tribuant, sed turbidus, et commixtarum fecium similes*). For Jerome's mention of *sabaium* beer just before this, see above in Chapter 3. For another mention of beer in passing in Jerome, see above in Chapter 1.

27 **Never conquered:** See Rankin 1987: 300–308.

28 **Government official:** Patr., *Conf.* 1 (his father is a deacon) and *Ep.* 10 (his father is a decurion). **Kidnapped:** Patr., *Conf.* 1–17. **Escaped:** 18–27. **Returned:** 28–62. '**Among barbarous peoples':** Patr., *Epist.* 1 (*inter barbaras . . . gentes*). **St. Brigit:** See *Vit. Sanct. Brigid.* 5 (=*ASS* 4.123B–F). **Domongart:** Anon., *Tripartite Life of Patrick* 1.121 Stokes.

29 **The sick wetnurse:** The earliest source seems to be an anonymous hagiography (*Vit. Sanct. Brigid.* 2.10 [= *ASS* 4.120D]) written in the seventh century AD at the latest, and perhaps ultimately the work of either Aileranus or Ultán (see McCone 1982: esp. 136, Sharpe 1982: 92, 94, and 101, and 1991: 15 [unwilling to guess

the author], and Howlett 1998: esp. 19–22). This miracle is also found quite embellished in the verse life of Chilienus (*Vit. Sanct. Brigid. virg.* 1.4–5 [= *ASS* 4.142B–C]) and in the very similar Old Irish life of St Brigit from the early ninth century AD (*Bethu Brigte* 8 [in O'Brien 1938: 123]), which may have relied on a source also used by this author (see Sharpe 1982: 95–96). For further Old Irish sources on Brigit's beery miracles, see Henken 1987: 325. **The bathwater beer:** Anon., *Vit. Sanct. Brigid.* 16.100 (= *ASS* 4.133C), copied by Cogitosus (*Vit. Sanct. Brigid. virg.* 2.11 [= *PL* 72.780B–C = *ASS* 4.136E]) and other anonymous hagiographers (Anon., *Vit. Sanct. Brigid.* 10.62 [= *ASS* 4.169E–F] and Anon., *Vit. Sanct. Brigid.* 8 [see Sharpe 1991: 120–121]). Further on in the hymn she seems to turn water into mead (84 = 347, ll. 10–11 and 348, ll. 11–14), a feat also supposedly performed by the tenth century AD St Dunstan (Anon., *Vit. Sanct. Dunst.* 10 [= *ASS* 17.349A]) as well as his student St Ethelwold (Wolstan, *Vit. Sanct. Ethelw.* 12 [= *PL* 137.89A–B]). In the Old Irish hymn conventionally ascribed to Ultán three members of Brigit's community are saved after drinking poisoned beer by praising Brigit (Stokes and Strachan 1903: 323). In the early twelfth century Laurence of Durham also has a version of this story which is much longer (*Vit. Sanct. Brigid.* 55 [= *ASS* 4.179C–D] = 47 in Heist 1965: 20–21). **'Red' beer:** This is found in the surviving hymn conventionally ascribed to Broccán the Squinting from the early seventh century AD (*Nícar Brigit* 36 in Stokes and Strachan 1903: 337, ll. 8–9). Irish red beer is also found in a poem discussed in Hornsey 2003: 264–266. **The water pitcher:** Anon., *Vita Sanct. Brigid.* 3.24 (= *ASS* 4.121F–122A). This miracle is also found in an Old Irish Life of St Brigit (*Bethu Brigte* 30 [in O'Brien 1938: 128]). **Wedding at Cana:** *John* 2:1–11. **Loaves and fish:** See *Matt*. 14:15–21, *Mark* 6:35–44, *Luke* 9:12–17, and *John* 6:1–13. **The Easter batch:** Anon., *Vit. Sanct. Brigid.* 3.18 (= *ASS* 4.121D). This account is also found in an Old Irish life of St. Brigit (*Bethu Brigte* 23 [in O'Brien 1938: 126]) and is alluded to in an eleventh century Old Irish poem ascribed to St Brigit (Greene 1954). A longer version of it in Latin is also found in the early twelfth century Laurence of Durham (*Vit. Sanct. Brigid.* 56 [= *ASS* 4.179D–E] = 48 in Heist 1965: 21–22).

7 GERMANIC EUROPE AND THE GREAT BEER REVIVAL

1 **East of the Rhine, north of the Danube:** For this as the conventional original territory of the Germans, see Tac., *Germ*. 1.1–2 and 2.1 (who notes how the rivers were no longer the actual borders in his day [29.3]), and those sources cited by Rives 1999: 100–101. **Took over:** See, for instance, Wallace-Hadrill 1996. **Valens:** Amm. Marc., 26.8.2. **Wine-drinking as sign of conversion:** This is improbably claimed by Sournia (1986: 27), who cites no evidence.

2 **Celts and Scythians:** See, for instance, Ephor., *FGrH*70F30a in Str., 1.2.28 (with Freeman 1996: 35–36).

3 **First Roman contact:** See, for instance, Tac., *Germ.* 37.2. **Cause of migrations:** See Str., 2.3.6 (= Posid., fr. 13 Theiler) (flooding) and 7.2.1–2 (= Posid., fr. 44a Theiler) (marauding). **The Cimbri became weak:** Cass. Dio, 27.94.2 (τῷ οἴνῳ τῇ τε μέθῃ κατακορεῖς παρὰ τὸ ἔθος ἐγίγνοντο).

4 **Unmixed wine:** Posid., *Hist.* 30, fr. 188 Theiler in Athen., *Deipn.* 4.153e. The eating habits of the Germans are also mentioned in Eust., *Comm. ad Hom. Il.* 13.6. **Caesar:** Caes., *De bell. gall.* 6.11–20 (Gauls) and 21–28 (Germans). **Invention of Caesar:** See Mattern 1999: 76.

5 **Refused to drink wine:** Caes., *De bell. gall.* 4.2.6. **'Very giddy':** App., *De bell. civ*. 2.64 (γελοιότατοι κατὰ τὴν μέθην ἦσαν).

6 **Up to the Elbe:** Aug., *Res gest.* 26.2. **Nero Drusus:** Cass. Dio, 55.1–3. **Domitius Ahenobarbus:** Cass. Dio, 55.10a.2. Strabo (7.1.4) claimed that Augustus forbade his generals from going further than the Elbe, and also said (7.2.4) that the area beyond it was unknown. Tacitus said (*Germ.* 41.2) that the Elbe was no longer well known in his day. **The Rhine as limit:** Florus, 2.30.39. This was despite the efforts of Germanicus (see Mattern 1999: 167). **The Teutoburg Forest:** See now Schlüter 1999. **Augustus and the Cimbri:** Aug., *Res gest.* 5.26. **Their most sacred cauldron:** Str., 7.2.1. **Beer vessel:** See, for instance, by Salin 1959: 45. **To catch blood:** Str., 7.2.3.

7 **Germanicus's campaigning:** Tac., *Ann.* 1.50–2.41. **Marsi:** Tac., *Ann.* 1.50–51. **Avenged:** Str., 7.1.4 and Tac., *Ann.* 2.26.

8 **Sleeping and eating:** Tac., *Germ.* 15.1. **Fighting rather than farming:** 14.3. **Hunts and military pursuits:** Caes., *De bell. gall.* 6.21 (*vita omnis in venationibus atque in studiis rei militaris consistit*). **Agriculture:** 6.22. Strabo (7.1.3) also says that the Germans hunt rather than farm. This contrasts with the Gauls, who were said to be fully involved both in warfare and agriculture (see, for instance, Polyb., 2.17.10). **Fertile in cereals:** Tac., *Germ.* 5.1. **Sharing the land and growing cereals:** 26.2–3. **Some more enthusiastically than others:** 45.3 (the Aestii from the far north). **Storing cereals:** 16.3. **Østerbølle:** Helbaek 1938, with van Zeist 1991: 119. **Eketorp:** Helbaek 1966, with Castelletti 1973–1974: 149 and van Zeist 1991: 120.

9 **'No other people':** 21.2 (*convictibus et hospitiis non alia gens effusius indulget*). **Hospitality:** Caes., *De bell. gall.* 6.23.9. **Drink rather than work:** Tac., *Germ.* 22.1–4. **Could not tolerate thirst and heat:** 4.3.

10 **Ceramic containers:** 5.3 (where it is said that aside from those living near the Roman Empire, the Germans did not consider silver or gold vessels any more precious). **German beer:** Tac., *Germ.* 23.1 (*humor ex hordeo aut frumento, in quandam similitudinem vini corruptus*). **Wine:** 23.1. **Defeated:** 23.2. **Monastic rule:** Anon., *Consuet. Floriac. antiqu.* 14 (= *CCM* I, 26.10–11) (*neque enim tantum cervisia in Germania quantum habundat vinum in Gallia*).

11 **Italicus:** Tac., *Ann.* 11.16.4 (*saepius vinolentiam ac libidines, grata barbaris, usurpans*). **Tencteri:** Tac., *Hist.* 4.64.3 (*instituta cultumque patrium resumite, abruptis voluptatibus, quibus Romani plus adversus subiectos quam armis valent*). **Drunk on wine:** Tac., *Hist.* 4.79.2. **Inflamed by wine:** 4.29. **Wine export forbidden:** Justin., *Cod.* 4.41.1.

12 **The vomit temple:** Greg. Tur., *Vit. patr.* 6.2 (= *PL* 71.1031A = *MGH-SRM* I.2, 231.15–16) (*diversis ornamentis refertum, in quo barbaries proxima libamina exhibens, usque ad vomitum cibo potuque replebatur*). **Barley market:** *CIL* XIII.10015. 108 (*forum hordiarium*). **Important for beer making:** Jullian 1920: 57, n. 3.

13 **Romans helped against the Scots and Picts:** Gild., *De excid. Brit.* 14–18, and see Nenn., *Hist. Brit.* 30. **Further invasion:** Gild., *De excid. Brit.* 19.1 (*quasi in alto Titane incalescentesque caumate de artissimis foraminum caverniculis fusci vermiculorum cunei, tetri Scottorum Pictorumque greges*). **Unsuccessful on their own:** 19–22. **Asked Anglo-Saxons:** 23–24. See *Angl. Chron.* s.a. 449. **Received as friends:** Nenn., *Hist. Brit.* 31. **Not paid:** 36. **First feast:** 37, where *vinum et sicera* are mentioned (I take the latter as a general term). Rowenna's name is given in the entry for this chapter in the table of contents in the beginning of Nennius's work. **Reinforcements**: 37–38. **Battles with Vortimer:** 43–44. **Second feast:** 45–46. **Badon Hill:** Gild., *De excid. Brit.* 25–26 and Nenn., *Hist. Brit.* 56. One biography of Gildas makes him a close friend of King Arthur (Caradoc, *Vit. Gild.* 5 and 6). Of course it goes without saying that most of the tradition concerning Arthur is not historically accurate.

14 **Ruins of Bath:** *The Ruin* 21–24 (in the *Exeter Book*) (*Beorht wæron burgræced,*

burnsele monige, | *heah horngestreon, heresweg micel*, | *meodoheall monig dreama full*, *oþþæt þæt onwende wyrd seo swiþe*). **Locus:** See Edwards 1980.

15 **In the early sixth century** AD**:** Beowulf's uncle Hygelac is universally acknowledged to be the Danish King Chochilaicus dated to this time by Gregory of Tours (*Hist. Franc.* 3.3; later abridged and slightly interpolated in Anon., *Lib. hist. Franc.* 19). **At some time between the seventh and eleventh centuries:** The date of *Beowulf* is highly debated, although it is universally accepted that it cannot be later than the early eleventh century, the date of the only surviving manuscript.

16 **Drinking in the hall:** Magennis 1999: esp. 11–12. ***Beor* as a honey-based drink:** Fell 1975, with 77, 84, and 89 for the translations from Latin. This was already argued by Kylstra (1974: 8–10), and see also Hagen 1995: 205 (with the evidence for the beverage at 205–207). In Old Norse *bjórr* was also a honey-based drink, and was used to translate Latin *mulsum* while *öl* (and *mungát*) was a cereal-based drink (Fell 1975: 87–89; see also Kylstra 1974: 12–13, who remains agnostic about the Old Norse terminology). Since *beor* at this period does not refer to beer I will not examine all the evidence for it. ***Celea* and *cervisa*:** Aelfr., *Gloss.* s.vv. *cervisia*, *celea* (*eala*) (= Wright and Wülcker I.128.3) (and see below for another reference to beer in Aelfric), Anon., *Gloss.* s.vv. *celeum*, *cervise* (*ealu*) (= Wright and Wülcker I.203.14), Anon., *Gloss.* s.v. *celia* (*ealo*) (= Wright and Wülcker I.281.26), Anon., *Gloss.* s.v. *cervisa vel celea* (*eale*) (= Wright and Wülcker I.329.8), Anon., *Gloss.* s.v. *caelia* (*ealo*) (= Wright and Wülcker I.369.34), and Anon., *Gloss.* s.v. *cervisia* (*ale*) (= Wright and Wülcker I.572.14). See also the translation *ale* for *cervisia* in the metrical vocabulary at Wright and Wülcker I.625. **From *bibere*:** See *OED* 1989: 2:58, s.v. beer, Hehn 1911: 152, Schrader and Nehring 1917: 143, Spiller 1955: 89, Forbes 1965: 132, Fell 1975: 77, with n. 7, Moulin 1984: 18, Kramer 1997: 211, Dayagi-Mendels 1999: 113, and Dietz 2000. **From *beura-**: See Fell 1975: 77, with n. 6. Bammesberger (2000) rather suggests the Germanic **beuz-a*. **From *bēo*:** This is my own suggestion, which must certainly be accepted with only much caution. Dietz (2000) rightly argues that the etymology remains a mystery. **Old High German cognate:** Fell 1975: 89–90. The only evidence for a Germanic 'ale' cognate is from the ninth century AD (Kylstra 1974: 11).

17 **No careful distinction:** Fell 1975: 82–83 and Whallon 1983a (with an analysis of the terms in *Beowulf*). **The building of Heorot hall:** *Beowulf* 53–85. **Mead hall:** 69, 484, 638, and 924. **Wine hall:** 654, 695, 714, 771, 993, and 2456. ***Beor* hall:** 482, 492, 1094, and 2635. ***Ealo* is drunk:** 495 and 1945. ***Ealo* benches:** 1029 and 2867. ***Ealo* cups:** 481, 495, and 2021.

18 **Grendel:** 86–836. **The drunken Danes:** 480–485. **Feast at Heorot:** 491–661. **Unferth:** 499–531. **Old Norse Lay:** *Biarki* 3. **A beer serving:** *Beowulf* 769 (*ealuscerwen*). The exact meaning of this word, the most debated in the poem, has been studied by countless scholars; see, most recently, Glosecki 1987 and Rowland 1990. **A mead serving:** *Andreas* 1526–1527 (*Meoduscerwen wearð* | *æfter symbeldæge*). **'That was a sorrow-load':** 1532–1535 (*þæt wæs sorgbyrþen,* | *biter beorþegu. Byrlas ne gældon,* | *ombehtþegnas. þær wæs ælcum genog* | *fram dæges orde dryncsona gearu.*). **Adaptation:** *Isaiah* 24:9. This has been argued by Cook 1925: 286–287.

19 **Celebration:** 991–1250. **A cup:** 1167–1196. **No drinking horns mentioned:** As noted by Klaeber 1922: 152. **Aurochs horns:** Caes., *De bell. gall.* 6.28.6 and Isid., *Etym.* 12.1.34. **Sutton Hoo finds:** Two sets of fittings from mound 1 (Bruce-Mitford 1975: 442, no. 120–121, with Davidson 1988: 41–44 and Carver 1998: 30 and 132, fig. 82) and one set from mound 2 (Carver 1998: 88 and 132, fig. 82). **Taplow Barrow:** Fitch 1988.

20 **Celts drank from aurochs horns:** See Mac Cana 1993. **Eidyn:** Aneirin, *God.* A.16.142–144 (in Koch 1997: 68–69). **Exact drink unimportant:** Mac Cana 1993: 88–89. **Hall of Rheged:** Taliesin, 59 (beer, wine, and mead). All three drinks are referred to throughout the poem. Throughout the laws of the early tenth century Welsh King Howel the Good there is a clear hierarchy of mead, bragget, and beer, with no mention of wine. **Ulster Cycle:** See, for instance, *Bricriu's Feast*, translated in Koch and Carey 2000: 76–105, and *The Intoxication of the Ulstermen* at 106–127. **Fothad:** See Koch and Carey 2000: 201.

21 **No attack:** See Magennis 1985. **Moralizing:** See Hagen 1995: 238–241 for pagan and Christian texts. Note also that the prohibitions against drinking at *Judges* 13:4 and *Luke* 1:15 in Old English texts are translated as prohibitions against drinking wine and *ealu* (in the first case) or *beor* (in the second case). **One man will amuse:** *Fort.* 76–78. **The man made intemperate by mead:** *Fort.* 48–50 (*Sumum meces ecg on meodulbence | yrrum ealowosan ealdor oþþringeð, | were winsadum*; *bið ær his worda to hræd*).

22 **The devil confesses:** Cyn., *Jul.* 483–490 (*Sume ic larum geteah, | to geflite fremede, þæt hy færinga | ealde æþoncan edniwedan, | beore druncne. Ic him byrlade | wroht of wege, þæt hi in winsele | þurh sweordgripe sawle forletan | of flæschoman fæge scyndan, | sarum gesohte.*). **Fine:** Ine, *Leg.* 6.5 (= *MEA* I.106 = Liebermann 1960: 92–93): *Gif ðonne on gebeorscipe hie geciden, and oðer hiora mid geðylde hit forbere, geselle se oðer XXX scill. to wite.* **Latin version:** *si quilibet in potatione decertent, et alter eorum cum patientia sustineat, reddat alius XXX sol. Wite (forisfacti).*

23 **Hierarchy:** See Hagen 1995: 204. **Necessities:** Alfr., *Boeth. Cons. Phil.* 6 (*land to bugianne and gifta and wœpnu and mete and ealo and claþas*), expanding on the original of Boethius. **'Bata':** See Gwara 1996: 2. Aelfric, however, spoke out against being drunk on beer and other intoxicants in a surviving homily (19.14 Godden). **School book:** Aelfr., *Colloq.* 298–302 (= Wright and Wülcker I.102.–103).

24 **Everyday nature:** See Hagen 1995: 214.

25 **Lease payments:** See Hagen 1995: 212–214. **King Ine:** *Laws* 70.1 (= *MEA* I.146 = Liebermann 1960: 118–119) (*XII ambra Wilisc ealað, XXX hluttres / duodecim ambre cervisie Wylisce, XXXX hluttres*). **Wulfred's lease:** *Chart.* 7 (Roberston 1956: 12) in *Anglo-Saxon Chronicle* s.a. 852: *. . . and he geselle eghwelce gere to Medeshamstede tua tunnan fulle luhtres aloh . . . and ten mittan Welsces aloð and þere cirican laforde gesell eghwelce gere hors and ðrittig scillinga and hine ane niht gefeormige fitene mitta luhtres aloð v mitta welsces aloð fiftene sestras liðes* ('. . . and every year he will give to Medeshamstede two full barrels of clear ale . . . and ten *mittan* of Welsh ale; and every year he will give to the lord of the church a horse and thirty shillings, and supply him with one day's food rent – fifteen *mittan* of clear ale and five *mittan* of Welsh ale and fifteen *sesters* of mild ale'). **As has been thought:** See Hagen 1995: 216–217 and 234. **Bishop Denewulf's lease:** *Chart.* 20 (Robertson 1956: 38) (*twelf seoxtres beóras and twelf geswettes wilisc ealoð and twentig ambra hluttor ealoð*). **Aethelwyrd's will:** *Chart.* 32 (Robertson 1956: 58): *XL sæstra ealað.* I will not deal with other such references which can be dated to after AD 1000. **Malt:** See, for instance, *Chart.* 39.4 from around AD 831 (Sweet 1885: 445), 40.4 from around AD 832 (Sweet 1885: 446), and 41.29 from AD 835 (Sweet 1885: 448).

26 **Help the voice:** *Lacnunga* 120 (in Grattan and Singer 1952: 168) (*hluttru eala*). **Lung disease:** *Leech Book* 2.65.2 (in Cockayne 1865: 292) (*hluttor eala* and *geswet eala*). **Purgative:** *Lacnunga* 42 (in Grattan and Singer 1952: 116) (*hluttor eala wel gesweted*). **Pain in the loins:** 70 (in Grattan and Singer 1952: 146) (*geswetta eala*). **Coughing:** 107 (in Grattan and Singer 1952: 166) (*geswettu ealo*), and see 180 (in Grattan and Singer 1952: 196) (ale made of wheat malt). **The 'dry' disease:** *Leech*

Book 3.30 (in Cockayne 1865: 324) (*god hluttor eala* and *wylisc ealu*). '**Dry rot':** 1.47.3 (in Cockayne 1865: 120) (*wylisc ealo* and *twybreown eala*). **Neck tumour:** *Lacnunga* 14 (in Grattan and Singer 1952: 100) (*wylisc eala*). **Another purgative:** 45 (in Grattan and Singer 1952: 118) (*sura eala* and *niwe*). **Ailing sheep:** A charm in Cockayne 1864: 388 (*niwe ealo*). **Lung disease:** *Fly Leaf Leechdoms* 3 (in Cockayne 1864: 374) (*ealða ealo*). **Bodily corruption:** Unnumbered (in Cockayne 1864: 376) (*vetus cervisa*). **Light-headedness:** 9 (in Cockayne 1864: 378) (*alð eala*). **Chest pains:** 11 (in Cockayne 1864: 378) (*hat ala*) and *Lacnunga* 71 (in Grattan and Singer 1952: 146 and 148) (*eala*). **The rheum:** *Lacnunga* 23 (in Grattan and Singer 1952: 104) (*eala*). **Seizures:** 69 (in Grattan and Singer 1952: 146) (*eala*). **Lung problems:** 55 (in Grattan and Singer 1952: 120) (*eala*), and again, somewhat differently, at 58 and 59 (in Grattan and Singer 1952: 120). **Dry Lungs:** *Leech Book* 2.51.3 (in Cockayne 1865: 266) (*eala*). **Emetic:** 2.52.1 (in Cockayne 1865: 268) (*ealo*). **Stitch in the side:** *Lacnunga* 124 (in Grattan and Singer 1952: 170) (*eala*). **Drunk for lice:** 131 (in Grattan and Singer 1952: 172) (*eala*). **Placed on the head for lice:** 139 (in Grattan and Singer 1952: 176) (*eala*). **Teary eyes:** 112 (in Grattan and Singer 1952: 166) (*gode eala*). **Chest pains:** 75 (in Grattan and Singer 1952: 148) (*god eala*), and see 73 (in Grattan and Singer 1952: 148) (*eala*) and 94 (in Grattan and Singer 1952: 180) (*mealteala*). **Beer dregs:** 97 (in Grattan and Singer 1952: 148) (*ealde grut*). **Christian saints:** 87–88 (in Grattan and Singer 1952: 158) (ingredients in *eala* against 'dwarf'). Note also the sleeping drink mentioned above in Chapter 2.

27 **Clovis:** See in general Wallace-Hadrill 1982. **His four sons:** Greg. Tur., *Hist. Franc.* 3.1. **Physician:** Anth., *De obs. cib. epist. ad Theud. reg. Franc.* 15 (= *CML* VIII.1, 10.6–11) (*cervisa bibendo vel medus vel aloxinum quam maxime omnibus congruum est ex toto, quia cervisa quae bene facta fuerit beneficium praestat et rationem habet et sicut tisana quam nos facimus alio genere. tamen generaliter frigida est. similiter et medus bene factum ut mel bene habeat, multum iuvat*). There are numerous different readings in various manuscripts for this short passage but I follow here the text of Grant (1996: 56).

28 **St Vedastes:** Jonas (?), *Vit. Ved. episc. Atreb.* 7 (= *MGH-SRM* III, 410.15–411.10) = *De Sanct. Ved. episc. Atreb.* 7 (= *ASS* 4.802C–D) (*cumque ergo adtonitus ad prandium vocatus venisset, domum introiens, conspicit gentile ritu vasa plena cervisiae domi adstare. quod ille sciscitans, quid sibi vasa in medio domi posita vellent, inquirerit, responsum est, se alia Christianis, alia vero paganis opposita ac gentile ritu sacrificata. cumque ita sibi denuntiatum fuisset, omnia vasa de industria signo crucis sacravit, ac omnipotentis Dei nomine invocato, cum fidei adminiculum, caelitum auxiliante dono, benedixit. cumque benedictionem cum crucis signo super vasa, quae gentili fuerant ritu sacrificata, premisisset, mox soluta legaminibus, cunctum cervisiae liquorem quem capiebant in pavimentum dejecerunt. unde rex miraculo perculsus ac omnes procerum caterva sciscitare, qui gestae rei causa fuerit, et sibi in propatulo narraret. cui venerandus vir Vedastus summusque pontifex ait: 'o rex, tuorum decus Francorum, cernere potes, quanta sit diabolicae fraudis astutia ad animas hominum decipiendas. nam quam putas hic demonum fuisse conjecturam, quae per hunc liquorem cervisiae corda infidelium, praevaricationem suffocata, aeterne mortis subdere studerent, sed nunc virtute divina pulsata ac effugata demonis arte? scire cunctis necessarium est, qualiter ad salubria medicamenta vere fidei Christiani descant confugire et has superstitiones gentilium omni nisu studeant pretermittere*). A slightly different account of the same miracle (with the Saint named Vedastus rather than Vedastes) is found in Alcuin, *Vit. Sanct. Ved.* 3.17 (= *PL* 101.674A–B = *ASS* 4.806F–807A).

29 **Clothar I and Radegund:** Greg. Tur., *Hist. Franc.* 3.7 and Ven. Fort., *Vit. Sanct. Radeg. reg.* 38–39. **Became a religious:** Greg. Tur., *Hist. Franc.* 3.7 and 9.40 (where it is said to have occurred during the time of Bishop Eufronius of Tours); the letter of foundation of the nunnery is preserved at 9.42. **Radegund's**

drinking habits: Ven. Fort., *Vit. Sanct. Radeg. reg.* 1.15 (= *PL* 72.657A and 88.504A = *MGH-SRM* II, 369.24–25) (*vini vero puritatem aut medi decoctionem cervisaeque turbidinem non contigit*); this fact is not mentioned in Baudonivia's life of St Radegund (see *MGH-SRM* II, 377–395). **Wine for her health:** Ven. Fort., *Carm.* 11.4, citing 1 Tim. 5:23. Venantius in fact wrote numerous poems addressed to Radegund (see George 1992: 161–177).

30 **Dagaulf:** Ven. Fort., *Append. carm.* 9.15–18 (= *MGH-AA* IV.1, 281–282): *sed Dagaulfum haec rumpat cervesia tristis, | faece lagunari turbida, tendat hydrops: | faucibus in stupidis talem bibat ille liquorem, | tam male sinceras qui vitiavit aquas*. **The notorious abbot:** See Greg. Tur., *Hist. Franc.* 8.19 (where he is called Dagulf). Alternatively, Venantius may be speaking about the Dagaulf whom he elsewhere consoles for having lost his wife Vilithute (*Carm.* 4.26). **Water healthier:** See the comments of Julius Africanus and Jerome in the previous chapter. **Well known:** The earliest references seem to be Pliny, *Hist. nat.* 31.23.2–3, Juv., *Sat.* 5.50, and Mart., *Epigr.* 2.85. These and further sources are cited by Baudrillart 1907: 606, n. 9.

31 **Friend of Radegund:** Gregory attended Radegund's funeral in AD 587 (*Hist. Franc.* 9.2 and *Lib. in glor. confess.* 104) and in fact Gregory's niece Justina became the prioress of Radegund's nunnery (*Hist. Franc.* 10.15). **Friend of Venantius:** Venantius wrote a poem to Gregory congratulating him on rebuilding the Cathedral of Tours after a fire (*Carm.* 10.6, and for the incident, see Greg. Tur., *Hist. Franc.* 10.31) and he also wrote a life of St Germanus known to Gregory (*Hist. Franc.* 5.8). **Miracle in Avernus:** Greg. Tur., *De glor. confess.* 1 (= *PL* 71.829BC + 830B = *MGH-SRM* I.2, 748.25–749.12) (*de virtutibus angelorum. igitur dum in Averno territorio commorarer, vir mihi fidelis retulit, et scio quia vera narravit, quia evidenter cognovi gesta fuisse quae dixit. iubet, inquit, fieri, ex annonis aqua infusis atque decoctis, messoribus poculum praeparari. hanc autem coctionem Orosius a coquendo cealiam vocari narravit. quod cum praeparatum fuisset, et in vase reconditum, atque ille apud urbem moras innecteret, ut mos servorum est, maxima parte exhausta, exiguam dominicis usibus reliquerunt. ille quoque fidus de iussione invitare messores iubet, ut eo ab urbe redeunte hos segetem decidere reperiret. quo facto iam operariis in segete collocatis circiter septuaginta, advenit dominus fundi, perscrutansque qualitatem quantitatemque potus, perparum reperit. tunc pudore confusus, et sibi factum ad verecundiam reputans, ne potus deficeret operariis, quod, ut ipse arbitrabatur, super quinque modiorum mensuram non erat, quid ageret, quo se verteret, in ambiguo dependebat. tandem inspirante Domino, conversus ad vasculum, nomina angelorum sanctorum, quae sacrae docent lectiones, super aditum eius devote invocat, orans ut virtus eorum parvitatem hanc in abundatiam convertere dignaretur, ne operariis deficeret quod haurirent. mirum dictu! tota die ab hoc extractum nunquam defuit bibentibus; se usquequo nox finem operandi fecit, omnibus fuit in abundantia ministratum*).

32 **Successfully converted many pagans:** Anon., *Vit. Gild.* 8–9. **Beer in monasteries:** Gild., *De paenit.* 22 (= *MGH-AA* XIII, 90 = *SLH* V, 62.28–31) or 15 (= *PL* 96.1316D) (*qui voluntate obsceno liquore maculatus fuerit dormiendo, si cervisa et carne habundat coenubium, III noctis horis stando vigilet, si sane virtutis est. si vero pauperem victum habet, XXVIII aut XXX psalmos canat stando suplex, aut opere extraordinario pendat.*).

33 **Gildas in Ireland:** Anon., *Vit. Gild.* 11–12, and see Caradoc, *Vit. Gild.* 5. **Friend of Brigit:** Anon., *Vit. Gild.* 10. **Monastery at Ruys:** Anon., *Vit. Gild*. 16. **Fertile:** 38. **Water into wine:** 17.

34 **Gildas's rule influenced Columban's:** Stevenson 1997: 208, and see in general Winterbottom 1976. **First mention of Gildas:** Columb., *Epist.* 1.4 (= *PL* 80.262D–263A = *MGH-E* III.158–159), where 'Giltas' is found in all the manuscripts. **Augustine:** Bede, *Hist. eccl.* 1.25–26 and Greg. Tur., *Hist. Franc.* 10.1.

35 **Leinster:** Jonas, *Vit. Columb.* 3 Krusch. On the question of his date of birth

(which is not exactly known), see Kendig 1949: 2–4. **Left Ireland:** Jonas, *Vit. Columb.* 4 Krusch. **Barely Christian:** 5 Krusch. **Anegray:** 6–9 Krusch. **Luxeuil and Fontaine:** 10 Krusch.

36 **Monastic rule:** 10 Krusch. **Other Irish rules:** For the various surviving Irish monastic rules, see Gougaud 1908 and 1911. For beer in Irish monasteries, see Bitel 1990: 209–210. For beer in European monasteries, see Rouche 1973: esp. 301–302 and Décarreaux 1980: 301–303. For beer in medieval English monasteries, see Knowles 1941: 717 (appendix xx). **Maelruain:** Anon., *Monast. Tall.* 39–40 (in Gwynn 1927: 22 and 24, and see Gougaud 1932: 97); other parts of this document do concern the drinking of beer (Gwynn 1927: 8, 22, 26, 28, 30, and 60, and see 64, 66, and 82). **Kilrose:** Anon., *Ordo monast. Kilrosi* (= *PL* 59.563C) (*pro potum aquam habuerunt puram et aliquando mixtam lacte, nam vinum et cerevisia illis ignota erant*). Gougaud (1927: 777, and see 1932: 80–81) argues that this rule is not to be dated to the fifth century AD (as assumed in the *PL*) but was written after AD 1217 when Kilrose was rebuilt. **Beer healthy:** Anon., *Pen.* 14 (= *SLH* V 261).

37 **Spilling beer:** Columb., *Reg. coen. fratr.* 3 (= *SLH* II, 146.21–29) or 10 (= *PL* 80.217A) (*quod si ex neglegentia vel oblivione seu transgressione securitatis tam in liquidis quam in aridis amplius solito perdiderit, longa venia in ecclesia dum duodecim psalmos ad duodecimam canunt prostratus nullum membrum movens paeniteat. vel certe si multum est quod effudit, quantos metranos de cervisa aut mensuras qualiumcumque rerum intercidente neglegentia effundens perdidit, supputans tot diebus illud quod in sumptus proprios rite accipere consueverat, sibi ea perdidisse sciat, ut pro cervisa aquam bibat. de effuso super mensam decidenteque extra eam veniam in discubitu petere dicimus sufficere*). Columban's *Regula monachorum* also has a section (3) on food and drink, but no mention is made there of beer, nor is beer mentioned in his penitential (in *PL* 80.223–230), which was based on that of Theodore, in which beer is mentioned (see below).

38 **The miracle at Luxeuil:** Jonas, *Vit. Columb.* 16 Krusch = 26 (= *PL* 87.1026B–1027A) = *Vit. Columb. abb. disc. eius* 1.16 (= *MGH-SRM* IV, 82.3–24) (*ut sic utriusque tristitiam Dominus voluisset avertere; ne si fratrum substantiam et imperantis et obedientis ardor diminuisset, ambo se a licitis alimentis abdicassent*). **Similar miracle:** Adso, *Vit. Sanct. Berch.* 1.10 (= *ASS* 55.1012D–E) (from the tenth century A.D).

39 **Definition:** Jonas, *Vit. Columb.* 16 Krusch = 26 (= *PL* 87.1026B–C) = *Vit. Columb. abb. disc. eius* 1.16 (= *MGH-SRM* IV, 82.5–8) (. . . *quae ex frumenti vel hordei succo excoquitur, quamque prae caeteris in orbe terrarum gentibus, praeter Scordiscis et Dardanis gentes, quae Oceanum incolunt usitantur, id est Gallia, Brittania, Hibernia, Germania caeteraeque quae ab eorum moribus non disciscunt*). A similar definition is given in Jonas (?), *Vit. Sadalb. abb. Laud.* 20 (= *MGH-SRM* V, 61.9–10) = *Vit. Sanct. Salab. abb.* 3.19–20 (= *ASS* 46.527F) = *Vit. Sanct. Salab.* 10 (= *PL* 156.1232D): *ius tritici vel ordei, quod cervisam nuncupant et arte conficitur humana, quo occidentalium pleraeque nationes utuntur* ('the juice of wheat or barley be made, that which they call *cervisa* and which is made by the skill of man, and which most nations of the West use'). **Scordisci and Dardani:** See Str., 7.5.12, who says that the Scordisci were Celts who mixed with Illyrians and Thracians, and Str., 7.5.7 on Dardani. *PL* mistakenly reads *Scoticas et barbaras*.

40 **The miracle at Fontaine:** Jonas, *Vit. Columb.* 17 Krusch = 28 (= *PL* 87.1028A) = *Vit. Columb. abb. disc. eius* 1.17 (= *MGH-SRM* IV, 84.10–19): *ait: 'sit vobis, o fratres, a Domino collata refectio.' quo audito, minister ait: 'Pater, crede mihi, non sunt nobis amplius quam duo panes et paulolum cervisiae.' ille, 'vade,' inquit, 'et defer hic.' concito ille gradu perrexit, duosque panes et parum cervisiae detulit. intuens in caelos Columbanus ait: 'Christe Jesu, unica spes orbis, tu hos panes et hunc potum multiplica, qui de quinque panibus quinque millis hominum satiasti in eremo.' mira fides! satiati sunt omnes, potuque austu prout voluntas cuique fuit, dupla minister fragminum spolia*

recollexit, potusque duplicavit mensura; sicque intellexit plus merere fidem digna divini muneris lucra, quam disperationem, quae solet diminuere etiam collata ('He [that is, Columban] said: 'May there be a feast for you, oh brothers, prepared by the Lord.' Hearing this, the steward said: 'Father, believe me, we do not have more than two loaves and a little bit of *cervisia*.' He answered, 'Go and bring that here.' He went with a quick step, and brought back the two loaves and the little *cervisia*. Columban, looking toward the heavens, said: 'Christ Jesus, single hope of the world, multiply these loaves and this drink, you who with five loaves satisfied five thousand men in the desert.' Wondrous faith! All were satisfied, and there was to drink and consume as much as the want of each. The steward collected again twice as much in fragments, and doubled the measure of drink. Thus he realized that faith is more deserving of the divine gifts than the opposite, which tends to diminish even what has been gathered [that is, what one has]').

41 **Starving in Nantes:** Jonas, *Vit. Columb.* 22 Krusch = 45 (= *PL* 87.1037B with n. a) = *Vit. Columb. abb. disc. eius* 1.22 (= *MGH-SRM* IV, 97.3) 22 Krusch: *braci unde cervisiam faciunt centum modios* ('one hundred *modii* of malt from which they could make *cervisia*'). **Suevi:** Jonas, *Vit. Columb.* 27 Krusch = 53 (= *PL* 87.1040C–1041B) = *Vit. Columb. abb. disc. eius* 1.27 (= *MGH-SRM* IV, 102.12–103.2) (*quo cum moraretur, et inter habitatores loci illius progrederetur, reperit eos sacrificium profanum litare velle, vasque magnum, quod vulgo cupam vocant, quod viginti et sex modia amplius minusve capiebat, cervisia plenum in medio habebant positum. ad quod vir Dei accessit, et sciscisatur quid de illo fieri vellent. illi aiunt Deo suo Vodano, quem Mercurium vocant alii, se velle litare. ille pestiferum opus audiens, vas eminus insufflat, miroque modo vas cum fragore dissolvitur, et in frusta dividitur, visque rapida cum fragore cervisiae prorumpit: manifestoque datur intelligi diabolum in eo vase fuisse occultatum, qui per profanum litatorem caperet animas sacrificantium. videntes barbari obstupefacti aiunt magnum virum Dei habere anhelitum, qui sic possit dissolvere vas ligaminibus munitum: castigatosque dictis evangelicis, ut ab his segregarentur sacrificiis, domibus redire imperat. multi ergo eorum tunc per beati viri suasum ad doctrinam et ad Christi fidem conversi, baptismum consecuti sunt; aliosque etiam, quos iam lavacro ablutos error detinebat profanus, ad cultum evangelicae doctrinae monitis suis ut bonus pastor Ecclesiae seminibus reducebat sparsis*). **The story of Athairne:** Found in Koch and Carey 2000: 63–64 (from the *Bretha Nemed*).

42 **Able to multiply beer:** Anon., *Vit. Sanct. Carth. sive Moch.* 48 (= *ASS* 16.386C–D). **Spontaneous fermentation:** Anon., *Vit. Sanct. Cron.* 23 (= *VSH* 2.29); interestingly, guests of the Saint are intoxicated by the drink. St Colmanus was also reputed to have caused beer to ferment properly (Plummer 1910: 264, n. 9) and shavings from the cross on which St Aedus was killed also purportedly had the same effect (Plummer 1910: 43, n. 13). **The vehicle accident:** Anon., *Vit. Sanct. Aid. sive Maed.* 2.14 (= *ASS* 3.729h–i = *VSH* 2.146) and Anon., *Vit. Sanct. Aid.* 14 (= *VSH* 2.299). **St Arnulf:** Anon., *Vit. Sanct. Arn. episc.* 2.30 (= *MGH-SRM* II, 444.1–11 = *ASS* 31.439F–440A). **St Goëricus:** Anon., *Vit. Sanct. Goër. sive Abb. episc.* 2.23 (= *ASS* 46.54A); in this version the other follower is named Notho. **Beer would not spoil:** Hincm., *Vit. Remig. episc. Rem.* 26 (= *MGH-SRM* III, 322.12–13). **Would not run out or spoil:** Jonas (?), *Vit. Sadalb. abb. Laud.* 20 (= *MGH-SRM* V, 61.8–10) = *Vit. Sanct. Salab. abb.* 3.19–20 (= *ASS* 46.527F–528A). **Not to be brewed on Sunday:** This is expressly forbidden in the late eighth or early ninth century AD Remedius Curiensis (*Capitula* 1 [= *MGH-L* V, 441.18 + 442.12–13, 14]): *de Dominicis diebus et reliquis festivitatibus Sanctorum: . . . de opera vero, quae abstinere decrevimus, iste sunt: . . . cerbisa facere . . .* ('Concerning the days of the Lord [that is, Sundays] and remaining festivals of the Saints: . . . . the works which we decree should be abstained from are: . . . making *cerbisa* . . .'). **The people of Wisa:** Anon., *Transl. reliq. Sanct. Chrys. et Dar.* 2.31 (= *ASS* 59.494B–C) (I leave aside a transcription of the rather prolix original,

though interestingly it makes reference to the hole for the tap in the barrel as the *cuniculus* or 'rabbit-hole'). I am unable to date this event and can only say that it must have occurred sometime after the saints were martyred in the late third or early fourth century AD. **Occasionally reported:** For instance, in the ninth century it was reported that beer (*cervisia*) in a barrel (*cupa*) was turned to wine posthumously in the resting place of Saints Marcellinus and Petrus who had been martyred in the early fourth century AD (Eginh., *Hist. transl. beat. Chr. mart. Marc. et Petr.* 4.44 + 45 (= *PL* 104.563D–564A + 564C = *ASS* 21.188D–E + F) = Einh., *Transl. et mir. Sanct. Marc. et Petr.* 4.11 (= *MGH-S* XV.1, 251.43–53 + 252.2–6) and in thirteenth century AD the venerable Ida of Louvain, Belgium purportedly turned beer (*cerevisia*) into wine, a miracle compared with that of Jesus at Cana (Anon., *Vit. vener. Idae Lov.* 5.28 [= *ASS* 11.166A–B]).

43 **Theodore:** Bede, *Hist. eccl.* 4.1–3 and 5.8 and *Vit. sanct. abbat.* 3. **First year:** Theod., *Lib. poenit.* 1 (= *PL* 99.935D, where the text is mistakenly printed as *mellita et cervisia*). **Irish penitentials:** This is found already in the early sixth century AD in David (*Exc.* 11 [= *SLH* V, 70.33 + 72.1–2] or 5 [= *PL* 96.1318D]) and later in an anonymous text (*Can. Hibern.* 2.12 [= *SLH* V, 166.11–13, col. 1]). There also exists an Old Irish penitential from the late eighth century in which beer is mentioned (7, 14, and 15 [= *SLH* V 260 + 261]). Beer is also allowed during a meat fast in the late ninth century author Wolfhard Haserensis (*Ex mirac. Sanct. Waldb. Monheim.* 3.9 [= *MGH-S* XV.1, 550.51 + 551.1], and see also the reference to beer at 3.2 [= *MGH-S* XV.1, 549.16–18]). Beer is not allowed at all for twelve days for clergy and three days for laymen in one penance for divining from the eight century written either by Bede or Egbert (*De remed. pecc.* [= *PL* 89 450D + 451A and 94.573D]). **Second year:** Theod., *Lib. poenit.* 1 (= *PL* 99.937B). **Intoxication:** 26.14 (= *MEA* 2.32) (*quando status mentis mutant, et linguae balbutiunt, et oculi turbantur, et vertigo erit capitis, et ventris distensio, ac dolor sequitur*). **Followed:** In the eighth century he was followed by Halitgarius (*Lib. poenit.* [= *PL* 105.705A–B + C = 726D + 727A on fasting and 700D–701A = 723B on intoxication]) and in the eleventh century by Burchard of Worms (*Decret.* 19.9 [= *PL* 140.980C–D]) and Ivo of Chartres (*Decret.* 189 [= *PL* 161.897A]). Burchard of Worms also wrote (*Decret.* 14.14 [= *PL* 140.892C]): 'A layman, if he produces vomit because of intoxication, is to abstain from meat, and wine, and *cervisia* for three [days]' (*laicus, si per ebrietatem vomitum facit, tres <dies>* [Nelson] *a carne, et vino, et cervisia abstineat*). In eighth century Irish texts (Ps.-Cumm., *Paenit.* 1.1 [= *SLH* V, 110.22–27 + 112.1–2] and Anon., *Pen.* 7 [= *SLH* V 260]) clergy intoxicated on wine or beer must fast for forty days on bread and water, while laymen must fast for seven days; in the latter text a lighter penance of thirty days is further given if a monk simply vomits up beer, presumably without having been intoxicated (15 [= *SLH* V 261]). **Church Council:** *Conc. Mogunt.* 11 (= *MGH-CAC* III, 26, 248.4, 7–10 = *MGH-CRF* II.1, 249, 189.14, 17–20 = *PL* 138.586B + C) (*III annos abstineat se a carne, vino, medone et cervisa mellita, exceptis festis diebus et gravi infirmitate*). This was copied in *Addit. ad capit. reg. Franc. orient.* 55a (= *MGH-CRF* II.2, 252, 242.26–27, col. 2) and 56 (= *MGH-CRF* II.2, 252, 244.16–17, 18–20, col. 1). At the Council of Worms of AD 868 a similar prohibition was decreed in the case of patricide and fratricide specifically (*Conc. Worm.* 13 [= *MGH-CAC* IV, 25, 268.17–18] or 30 [= *SCC* 15.875A–B]).

44 **The synod of Twyford:** Bede, *Hist. eccl.* 4.28 and Anon., *Vit. Sanct. Cuthb.* 1. **Relinquished:** Anon., *Vit. Sanct. Cuthb.* 11. **Abstained:** Bede, *Vit. Sanct. Cuthb.* 6. **Miracle:** Bede, *Vit. Sanct. Cuthb.* 35 (also mentioned in passing in Anon., *Vit. Sanct. Cuthb.* 18, without the detail of the beer). **Not inebriating:** See Magennis 1999: 111.

45 **Theodore's pupil John:** Folcard., *Vit. Sanct. Johannis* 1 (an eleventh century

source). **John's miracles:** Bede, *Hist. eccl.* 5.2–6, turned into verse by Alcuin, *Carm. de pontif. et sanct. eccl. ebor.* 1083–1214 and also copied in Folcard., *Vit. Sanct. Johannis* 4–8 (and see the further miracles in this life). **Osred's Dinner:** Folcard., *Vit. Sanct. Johannis* 9 (= *ASS* 15.170B–C). Alcuin (*Vit. Sanct. Willibr.* 18, 19, and 31) reported that St Willibrord on three different occasions multiplied wine (see further Magennis 1999: 110–111 for other examples of similar miracles).

46 **John taught Bede:** Folcard., *Vit. sanct. Johannis* 2. **John ordained Bede:** Bede, *Hist. eccl.* 5.24. **Bede's friend Egbert:** Bede, *Epist. ad Egb.* **Dead mouse in beer:** Bede (?) or Egbert (?), *De remed. pecc.* (= *PL* 89.447B–C and 94.571B); Holder (1907: 1208) here has *cerevisia*. **Beer in July and August:** Ps.-Bede, *Didasc.* (= *PL* 90.772B and 776B).

47 **St Guthlac's abstention:** Felix, *Vit. Sanct. Guthl.* 20 (*non ullius inebriantis liquoris aut alicuius delicati libaminis haustum, excepto communicationis tempore, gustavit*). **Two servants:** Felix, *Vit. Sanct. Guthl.* 43, and also in Ordericus Vitalis, *Hist. eccl.* 4.2.273. **Two flasks:** Felix, *Vit. Sanct. Guthl. anach.* 44 Colgrave or 30 (= *ASS* 11.46B): *deinde cum insulam devenissent, habentes secum binas flasculas celia impletas, facto consilio illas in via sub quodam palustri sablone absconderunt, ut iterum revertentes iter suum illa annona relevarent* ('Then when they had arrived at the island, having with them two little flasks, each filled with *celia*, having made a decision, they hid them on the way under a certain sandy part of marsh so that when they returned again on their journey this supply would ease it [that is, their journey]'). This story is also found in Ordericus Vitalis (*Hist. eccl.* 4.2.274) and there also exists an Old English translation of Felix's life, in which mention is made of 'two flasks filled with ale' (*twa flaxan mid aelað gefylde*) (15 [in Gonser 1909: 151, l. 3]). This story is based on one told by Pope Gregory the Great (*Dial.* 2.11 = *Vit. Sanct. Bened.* 18 [= *PL* 66.170A–B]) of a boy sent to St Benedict of Nursia with two flasks of wine, one of which he hid by the road. St Benedict knew about the hidden flask and when the boy returned to it he found a snake in it.

48 **Sparse:** Beer is further mentioned as a serf's tribute to a church in a law of Hlotharius II (AD 613–622) (*Lex alamann.* 22.1 [= *MGH-L* III, 51.23–24] = Lantfridana, *Lex alamann.* 20 [= *MGH-L* III, 96.10–11] = Carol., *Lex alamann.* 22 [= *MGH-L* III, 137.14–15 + 138.1]) and in a diploma of Chilpericus II dated to AD 716 (32 [= *PL* 88.1124B]).

49 ***Siceratores*:** Carol., *Capit. de vill. imp.* 45 (= *MGH-CRF* I, 32, 87.16–20 = *PL* 97.355A). ***Sicera*:** See the references in Chapter 1, n. 1. **Every drink which is able to intoxicate:** Jer., *Epist.* 52.11 (= *PL* 22.536–537). **Income:** Carol., *Capit. de vill. imp.* 62 (= *MGH-CRF* I, 32, 88.40 + 89.9–10 = *PL* 97.356C + 357A). **'Masters':** 61 (= *MGH-CRF* I, 32, 88.38–39 = *PL* 97.356C) (*magistri qui cervisam bonam . . . facere debeant*). **Cleanliness:** 34 (= *MGH-CRF* I, 32, 86.9–12 = *PL* 97.353B–C).

50 **Letter:** Rihc., *Epist.* (= *MGH-CRF* I, 127, 249). **Charlemagne's moderation:** Einh., *Vit. Carol.* 24. This passage, however, is partly inspired by Suetonius's description of the Emperor Augustus (Suet., *Aug.* 76–77). **Most popular drinks:** See, for instance, the mention of both wine and beer as provisions in Anon., *Tract. de con. miss. dando* 1 (= *MGH-CRF* II.1, 189, 11.4–8) = *Const. de miss. ableg.* (= *PL* 97.595A). **Complaint:** Alcuin, *Epist.* 5 Chase or 8 (*MGH-E* IV, 33.28–30): *ve, ve, mors in olla, o homo Dei; quia vinum defecit in sitharchiis nostris et celia acerba furit in ventriculis nostris et quia nos non habemus, tu bibe pro nostro nomine* ('Alas, alas, death in a pot, oh man of God! Because wine was lacking among our provisions and sour *celia* rages in our little stomachs and because we do not have [wine], you, drink to our name!'). **Anonymous poet:** *Carm. Scott. Lat.* 7.1.1–2 (*MGH-PLAC* III, 690) (*hinc, cervisa, abeas*). On the other hand, another anonymous poet thought he deserved a barrel full of beer for his verses (*Carm. centul.* 16.75–76 [= *MGH-PLAC* III, 300]).

51 **Mixed rules:** See Rosenwein 1977: 307–312. For the general influence of the Irish in Europe, see Gougaud 1922. **Council of Frankfurt:** See *MGH-C* 2/1.168, 13–14. **'Gave his heart':** Ardo, *Vit. Bened.* 27 (= PL 103.365B) (*dedit . . . cor suum ad investigandam beati Benedicti Regulam*). **Travelled and collected:** See especially Ardo, *Vit. Bened.* 50–54 (= *PL* 103.377B–381B). **Material on beer:** Bened., *Concord. regul.* 48.10 (= *PL* 103.1122B) and 71.5 (= *PL* 103.1342A), taken, with a few changes (such as applying it to monks rather than nuns), from Anon., *Reg. cuisd. patr. ad virg.* 10 (= *PL* 88.1062B–C) and 12 (= *PL* 88.1064B), respectively.

52 **Louis:** See Ardo, *Vit. Bened.* 40 (= *PL* 103.372A–B). **Location of Charlemagne's death and burial:** Einh., *Vit. Carol.* 30–32. **'We believe':** Bened. Nurs., *Reg.* 40 (= *PL* 66.641C + 642C) (*credimus heminam vini per singulos sufficere per diem*). **Should not drink wine:** Theod. in *MGH-E* II 154. **Sturmius:** Eigil Fuldensis, *Vita Sancti Sturmii* 13 (= *PL* 105.433B–C) (*consensu omnium decretum est, ut apud illos nulla potio fortis quae inebriare possit, sed tenuis cervisia, biberetur*).

53 **Decision at the First Synod of Aachen:** *Conc. Aquisgr.*, *act. prael.* 28 (= *CCM* I, 436.31–33). **Good beer:** *Conc. Aquisgr.*, *decr. auth.* 20 (= *CCM* I, 463.1–4 [not in *SCC*]) = Benedictus Levita, *Coll. capit.* 22 (= *CCM* I, 547.18–548.2) = *Capit. monach.* 22 (= *PL* 97.385A) (*cervisa bona*). A more complicated scheme is found for canons in *Conc. Aquisgr.*, *instit. can.* 122 (= *MGH-CAC* I.1, 401.10–15, 20–21) or 1.122 (= *SCC* 14.232B–C) = Amal. Trev., *Reg. canon.* 122 (= *PL* 105.917D–918B), and somewhat differently phrased in *Conc. Aquisgr., instit. sanct.* 13 (= *MGH-CAC* I.1, 447.4–10) or 2.13 (*SCC* 14.270A), based on the rule for canons by St Chrodegangus of Metz (*Reg. can.* 8 [= *PL* 89.1062C–1063A], and see 23 [= *PL* 89.1109D]; this was translated into Old English [see Napier 1916: 15]), in which the relative availability of wine and beer are taken into consideration. In a version of the synod's decision in one codex from the Vatican only wine is mentioned without any mention of beer (*SCC* 14.296E–297B).

54 **Agreed:** Hloth., *Capit. monast.* 22 (= *MGH-CRF* I, 170, 345.18–19). **The Plan of St Gall:** I am indebted throughout to the spectacular study of Horn and Born 1979 (and see also the studies in Duft 1962). For the plan's origins, see 1: 9–14 (for other possible candidates for the drafter, see 11); for its date, see 25. **No writings:** See Wartmann 1863 and 1866 for the writings up to AD 920. For beer and brewing at St Gall, aside from the sources below, see Arnold 1911: 207–215, Müller 1941, Hecht 1983: 250–251 (who also discusses wine there), and Corran 1975: 27. **In passing:** Waldr., *Carm.* 3.32 (= *MGH-PLAC* IV, 313), along with bread, fish, milk, honey, butter, and vegetables.

55 **The coopers' and wheelwrights' quarters:** See Horn and Born 1979: 3:68 (= no. 30.1 and 3). **The granary:** See ibid.: 2:222–224 and 3:69 (= no. 30.5). **The drying kiln:** See ibid.: 2:248–249 and 3:68 (= no. 29). They also suggest that the kiln may have been used to dry hops (2:261 and 263). **Mortars:** See ibid.: 2:235–248 (= no. 28). **Mills:** see 2:225–235 (= no. 27). For the granary, kiln, and mortars and mills, see also Price 1982: 60–65. For brewing and baking taking place together, see Horn and Born 1979: 2:249–252. **The brewery:** See ibid.: 2:253– 255, 258, 260–264 and 3:42–43 (= no. 9.3), with Price 1982: 57–59. For the baking ovens and brewing ranges, see 2:134–139. Horn and Born assume that yeast was cultivated at St Gall for the bread and beer (2:251). **The cellar:** For the cellar, see ibid. 1:102, 286, 292–307 (with calculations of the volume of wine and beer found in the cellar) and 2:261 (= no. 7), with Price 1982: 24–27, passim.

56 **House of the Distinguished Guests Brewery:** See Horn and Born 1979: 2:146, 151–154, 165, 256 and 3:44 (= no. 10), with Price 1982: 42–47. **House of the Pilgrims and Paupers Brewery:** See Horn and Born 1979: 2:141–142, 151, 153, 257 and 3:71 (= no. 32), with Price 1982: 48–51.

57 **Letter of 843:** Lupus Ferrar., *Epist.* 30 Levillain (= 109 *MGH-E* VI, 94.20–22):

raritas tamen fructuum id ipsum defuturum, ut prodamus veritatem, minatur, cervesiam vero sterilis annonae proventus ('However, so that we should declare the truth, a shortage of fruits threatens this very drink [that is, perry], [and] truly a infertile production of cereal [threatens] *cervesia*'). **Letter of 846:** 54 Levillain (= 46 *MGH-E* VI, 54.5–6): *desperatione quoque vini ad hoc perductus est, ut venali cervesia delectetur*. **Letter of 859:** Lupus Ferrar., *Epist.* 107 Levillain (= 112 *MGH-E* VI, 96–97). Lupus also speaks in this letter of the moderate use of wine, as he also does in 65 Levillain (= 60 *MGH-E* VI, 60–61).

58 **Hops:** Wilson 1975: 634–637, who notes that the similarity of hop pollen to that of *Cannabis sativa* L (that is, hemp) makes it very difficult to identify it certainly in many archaeological contexts. For partial but quite useful scholarship on the question of the historical use of hops, see, among the mass of literature, Steiger 1954, Forbes 1956: 140 and 1965, Wilson 1975, Hagen 1995: 209–212, and Hünemörder 1998: 714. Wilson (1975: 639) discusses the apocryphal tradition that the Jews in captivity in Babylon were free from leprosy since they drank hopped beer, arising from the incorrect medieval Latin translation of a Rabbinic source from the fourth century AD: *siceram veprium, id est, ex lupulis confectam*. The original does not refer to hops but to *Cuscuta* L. This tradition is found in Bickerdyke 1889: 26 (and see 66) and later, for instance, in Wright-St. Clair 1962: 513. Compare also the inferior accounts of early use of hops in beer in Arnold 1911: 226–234, Behre 1984: 117 and 119, and Moulin 1981 and 1984: 18–19.

59 **The willowy wolf:** Pliny, *Hist. nat.* 21.50.86 (*lupus salictarius*). **Vine shoots:** 14.23.119, and see 23.3.3–4. **Asparagus:** 19.42.145, with André 1985: 28. **Asparagus wine:** 14.19.105. This type of wine is also mentioned in Hebrew texts; see Frankel 1999: 293. **Martial:** *Epigr.* 9.26.6 (*appetitur posito vilis oliva lupo*). Both alternatives are given in *TLL* 7:1858–1859, s.v. Note that *lupus* could also be used later of a type of bean (see Souter 1949: 237, s.v. *lupus*).

60 **'Hop gardens':** Pep., *Dipl.* in *MGH-DC* I, 28, 39.37–38 (*humlonariae cum integritate*). See Steiger 1954: 91. **Cultivated hops:** Arnold 1911: 226, Steiger 1954: 91, and Serjeant 1964: 57; see further Hünemörder 1998: 713–714. **Wild hops:** Wilson 1975: 644. However, Wilson (1975: 637) does suggest that hops were cultivated before Merovingian times by 'the Germanic tribes of Scandinavia and North-west Europe'; see further below for the first certain evidence of hop cultivation. **St Germain-des-Prés and St Remi:** Steiger 1954: 91–92 and 92, respectively. See also Horn and Born 1979: 2:263.

61 **First certain reference:** Adalh. Corb., *Stat. ant. abb. Sanct. Petr. Corb.* 4.3 (25) (= *CCM* I, 400.14–401.4) or 2.15 Levillain (*sibi adquirat unde ad cervisas suas faciendas sufficienter habeat*). That this is the first certain reference is rightly pointed out by Kylstra 1974: 15, n. 19 (who, however, misdates the source to AD 882) and Wilson 1975: 644. This may not have been recognized previously because the *PL* (105.550) omits the key passage (even Steiger [1954: 92] in his excellent collection of evidence overlooks it); for the general neglect of Adalhard by scholars, see Verhulst and Semmler 1962: 91–92; for the circumstances surrounding the writing of the statutes, see Jones in Horn and Born 1979: 3:92–99. **Gathering hops:** Adalh. Corb., *Stat. ant. abb. Sanct. Petr. Corb.* 3 (12) (= *CCM* I, 379.7) or 1.7 Levillain (= *PL* 105.542C). As Wilson shows (1975: 644) there is no reference to grinding hops here, as thought, for instance, by Forbes 1956: 140 and 1965: 132, and Kylstra 1974: 15, n. 19 (with previous scholarship).

62 **Mills and malthouses:** Adalh. Corb., *Stat. ant. abb. Sanct. Petr. Corb.* 3 (12) (= *CCM* I, 378.22–379.30) or 1.7 Levillain (= *PL* 105.542B) and 4.3 (24) (= *CCM* I, 400.4–13) or 2.15 Levillain (omitted in *PL* 105.550). **The division of beer:** Adalh. Corb., *Stat. ant. abb. Sanct. Petr. Corb.* 2 (10) (= *CCM* I, 373.12–18) or 1.4 (= *PL* 105.539A–B). At 4 (13) (= *CCM* I, 381.25–382.2) or 2.1 (= *PL* 105.544B)

each gardener is to receive one *modius* of beer. Unfortunately, another section on beer (6.4 [25] [=*CCM* I, 401.5] or 1.8 Levillain) does not survive in full: *de pane autem et cervisa ista erit consideratio. <. . .>* ('However, concerning the bread and *cervisa* there will be this consideration: <. . .>). **Wine on special days:** Adalh. Corb., *Stat. ant. abb. Sanct. Petr. Corb.* 1.3 (7) (= *CCM* I, 369.32–370.8) or 1.2 (= *PL* 105.537B–C). **Christmas and Easter beer:** *Additio* 1 (= *CCM* I, 418.17–419.1) = 2.4 Levillain (*duo sextaria cervis<a>e aut unum sextarium vini*). **After AD 1123:** Verhulst and Semmler 1962: 97–98.

63 **Hopped beer tithe:** Anseg., *Const. abb. Fontan.* 66 (= *MGH-S* II, 300.23 [not in *CCM*]) (*sicera <ex>* [Nelson] *humolone quantum necessitas exposcit*). Steiger (1954: 92) reads *sicera, humolone* as if the two words were unrelated. See also Horn and Born 1979: 2:263. **Burgundy:** Horn and Born 1979: 3:126. **Malt and hop tithes:** Hilduin., *Reg. villar.* 2, 3, 5–20, 23–44. The text can be found in Levillain 1909: 86–89.

64 **Freisingen:** As noted by Wilson 1975: 644. The text can be found in Steiger 1954: 92, and see also Horn and Born 1979: 2:263. Corran (1975: 42) and Neve (1991: 25) claim, without citing any evidence, that the earliest reference to hop cultivation dates to AD 736 near Geisenfeld, Germany.

65 **Hop finds:** Behre 1984: 115–119 with the map at 118, fig. 2 (summarized by van Zeist 1991: 119 and 121), 1998: 63–75, and 1999: 39–41 with the maps at 38, fig. 4 and 40, fig. 6. Stika (1996a: 87) mentions the find of one 'charred nutlet of hops' from the early Celtic site of Freiberg, but admits that this may have nothing to do with brewing. **Sweet gale finds:** Behre 1999: 35 and 39. **Scottish meadowsweet:** Dickson and Dickson 2000: 79–82.

66 **Bitter things unpleasant:** Arist., *Nich. Eth.* 7.12 (1153a). **Sweet and bitter:** Mart., 9.94. **Most unpleasant:** Plut., *Quaest. conv.* 1.6.4 (= *Mor.* 624d). **Bitter beer spilled:** Altfr., *Vit. Sanct. Liudg.* 2.8 (= *MGH-S* II, 421, col. 1, 56 – col. 2, 18) = *Mir. Sanct. Ludg. episc. Mimig.* 2.14 (= *ASS* 9.653E–F). **Bitter beer thrown up:** Anon., *Vit. Sanct. Lug. sive Mol.* 42 (= *VSH* 2.220): *cervisia, quae parata erat ad illam cenam, amara contigit fuisse, et gustantes eam homines ilico vomebant* ('the *cervisia* which had been prepared for this dinner had become bitter, and the men tasting it threw it up').

67 **Preservative which causes melancholy:** Hild., *Phys.* 1.61 (2.74) (= *PL* 197.1153C) (*in amaritudine sua quasdam putredines de potibus prohibet, ad quos additur, ita quod tanto diutius durare possunt*). **Affects like strong wine:** Hild., *Phys.* 1.50 (2.94) (= *PL* 197.1149B–C). **Other additives:** Hild., *Subt. divers. natur. creat.* 3.27 (= *PL* 197.1236B–C) and 42 (= *PL* 197.1240D–1241A), and see 4.19 (= *PL* 197.1263A–B). **'Gruit':** See Wilson 1975: 643–644 on it being a type of beer made with various herbal ingredients (though never necessarily the same ones), along with Doorman 1955 (with an English preface at ix–xi), Behre 1998: 59–62, and Unger 2004: esp. 30–34 and 43–46 (with further references).

68 **'A very little small amount of very bad beer':** Anon., *Epist.* (= *MGH-E* VI, 195.20–22) (*immo vivere non possum in tali miseria, non habens ad manducandum et bibendum, nisi pessimum panem et minimam particulam de pessima cervisa. vae mihi misero!*). **'Thirst and hunger'**: Sedul. Scott., *Carm.* 9.1–24 (= *MGH-PLAC* III, 177–178) (*nos sitis atque fames conturbat, bestia duplex,* | *vulnificis rostris nos laceratque suis.* | *nec nos oblectat praedives copia rerum,* | *sed nos excruciat horrida pauperies;* | *nec nos oblectant dulciflua dona Lyaei* | *mellifluusque medus domata nostra fugit;* | *nec nos oblectat caccabis biscoctaque Mosa,* | *flavicomae Cereris gratia dulcis abest.* | *tenuida nos macerat, crudelis bestia, sophos;* | *optime Christe, rogo, respice nos, domine:* | *nec gustu facilis, nulli potabilis ipsa* | *est quia nec Cereris dulcida progenies;* | *non est Jordanis, non amnis filia Mosae,* | *sed torrens Cedron turbidus hanc genuit.* | *haec sophicae mentis cunctas obnubilat arces,* | *laetitiam removet tristitiamque gerit;* | *flavicomum Cereris mentitur habere colorem:*

| *di, talem terris hanc removete feram;* | *Laetheo fluvio vosmet summergite monstrum* | *seu Stygiis undis condite tale nefas,* | *illic quo valeat crudeles solvere poenas:* | *quae nos excruciat, praemia digna luat.* | *quid moror in verbis ventosque lacesso querelis?* | *o pater, has geminas, obsecro, vince feras;* | *large salutiferum contra vulnuscula, praesul,* | *Sedulio famulo da cataplasma tuo*). In *Carm.* 41 (= *MGH-PLAC* III, 204–207) Sedulius similarly speaks of not drinking 'the gifts of Bacchus' (*munera . . . Bachi* [*sic*]) or *sicera* (line 106) and instead having water from the Meuse (line 110). **End of the poem:** Lines 25–26. **Meuse River breweries:** Deckers 1970 (with ample references). **No beer in spring:** Sedul. Scott., *Carm.* 49 (= *MGH-PLAC* III, 211), with the quote from lines 5–6 (*non tristificis perturbat potio sucis, cum medus atque Ceres, cum Bachi* [*sic*] *munera desint*). Here 'Ceres' must refer to beer (just as beer is called the 'child of Ceres' in the previous poem), although the goddess usually symbolized bread, as Sedulius himself realized (see *In Don. art. maior.* 3, where he says: 'he [that is, Donatus] wishes in fact Ceres to be understood as bread' [*vult enim per Cererem panem intelligi*]).

69 **Evidently followed:** See the Middle English version of the rule in Kock 1902: 28. **Poetic rendering:** 1603–1610 (in Kock 1902: 92–93): *Softly sal þai tast, & fair,* | *Drynk þat may þer hedes inpair,* | *Als myghty wyne or nobil aile.* | *For þe wisman tels slik a taile:* | *'Wyne þat es myghty & strang* | *Mase witty men forto wirk wrang.'* | *þarfor es wit, to lest & mast,* | *Wine or aile softly to tast.* My translation is slightly loose for the sake of rhythm and rhyme.

70 **Forbidden to speak at table:** Bened., *Reg.* 38. **Old English sign language:** See Banham 1991: esp. 7–20. **Drink sign:** *Monast. indic.* 83. ***Beor* sign:** 85.

71 **Hops:** Ps.-Apul., *Herb.* 68.1 (in Cockayne 1864: 172) (*is to þam herigindlie þæt hy man þið gebune drenceas gemensgeað*). See the excellent discussion in Wilson 1975: 641–643. **Cure for sore eyes:** *Herb.* 36.4 (in Cockayne 1864: 136). The reference to *beor* at *Herb.* 11.2 (in Cockayne 1864: 102) may not refer to beer. **Graveney boat:** Wilson 1975: esp. 633–634, Fenwick 1978a: 171–172 (with figure 6.5 at 174), Wilson and Conolly 1978: 138 and 147–148 (with fig. 5.1.1 at 134–135), and Behre 1999: 40. **Common use:** See Unger 2004: 53–106.

72 **No eating or drinking in taverns:** Ecbr., *Can.* 18. Monckton (1969: 15–16) takes this as the first evidence for taverns in Britain. See also Clark (1983). **Long established:** Morris and Macready (1999: 253) suggest that already in Roman times British taverns served beer and cider. The Greeks (see Davidson 1997: 53–60) and the Romans (see Kleberg 1957 and Hermansen 1982: 125–205) had taverns where wine was drunk, and there is no reason to think that this tradition was not spread to other European peoples. **Belong to a chieftain:** *Crith Gabhlach* in Hancock *et al.* 1869: 340. See also the reference in Anon., *Annal* s.a. 677 (67.2) in Radner 1978: 24. **Quarrelling:** *Senchus Mor* in Hancock *et al.* 1865: 230, and see 232. **English legal texts:** See Ethelbert, *Laws* 2 (= *MEA* I.292). **Priest forbidden:** Edgar, *Can.* 58 (= *PL* 138.503A–B): *docemus etiam, ut nullus sacerdos sit cerevisiarius, nec aliquo modo scurram agat secum ipso, vel aliis; sed sit, sicut ordinem eius decet, prudens et venerandus*. **Northumbrian Elders:** *Leg. presbyt. Northumbr.* 41 (= *PL* 138.523B): *ebriosus aut scurrilis aut ealscop* [Nelson, *calscop PL*]); the Old English version of this law (= *MEA* II.296–297) states that a priest cannot love drunkenness or be a 'gliman [that is, a man who provides glee]' or an 'eala-scōp'. **An entertainer at taverns:** See Monckton 1969: 16–17. **Angles drank together:** Will., *Gesta reg. Angl.* 3.245.4. **Drunkenness was common:** 3.245.5. **Two habits passed on:** 3.245.5–6. ***Wassail*:** Lay., *Brut* 7149–7157 (spoken of as a Saxon and German tradition).

73 **Shift:** Bennett 1996: esp. 43–51, and see Hagen 1995: 215 for women as the main brewers in Anglo-Saxon times. For beer in Europe during the Middle Ages and the Renaissance, see now Unger 2004, with further bibliography.

BIBLIOGRAPHY

ABBREVIATIONS

AHB = Ancient History Bulletin
AHR = American Historical Review
AJ = Archaeological Journal
AJP = American Journal of Philology
ANRW = Aufstieg und Niedergang der römischen Welt
ASAN = Annales de la société archéologique de Namur
ASNSP = Annali della scuola normale superiore di Pisa
BAGB = Bulletin de l'association Guillaume Budé
BASBC = Bulletin of the American Society of Brewing Chemists
BASOR = Bulletin of the American Schools of Oriental Research
BASP = Bulletin of the American Society of Papyrologists
BHM = Bulletin of the History of Medicine
BICS = Bulletin of the Institute of Classical Studies
BO = Bibliotheca Orientalis
BT = Brewing Techniques
CE = Chronique d'Egypte
CJ = Classical Journal
CQ = Classical Quarterly
CR = Classical Review
CV = Classical Views
DAGR = Dictionnaire des antiquités grecques et romaines, C. Daremberg, E. Saglio, and E. Pottier (Paris 1877–1919). 5 vols (with one volume of tables)
DHA = Dialogues d'histoire ancienne
EA = Egyptian Archaeology
EC = Etudes celtiques
IEJ = Israel Exploration Journal
JAA = Journal of Anthropological Archaeology
JACS = Journal of the American Chemists' Society
JBHS = Journal of the Brewing History Society
JCS = Journal of Celtic Studies
JEA = Journal of Egyptian Archaeology
JHS = Journal of Hellenic Studies
JIB = Journal of the Institute of Brewing

JMRS = Journal of Medieval and Renaissance Studies
JRS = Journal of Roman Studies
JRSAI = Journal of the Royal Society of Antiquaries of Ireland
JSA = Journal of Studies on Alcohol
LIMC = Lexicon Iconographicum Mythologiae Classicae (Zurich and Munich 1992–)
LSJ = Liddell, H. G., R. Scott, H. S. Jones. *A Greek-English Lexicon*9 (Oxford 1996)
OCD = The Oxford Classical Dictionary[3], eds S. Hornblower and A. Spawforth (Oxford and New York 1996)
OED = The Oxford English Dictionary[2], ed. J. A. Simpson (Oxford 1989)
OJA = Oxford Journal of Archaeology
OLD = The Oxford Latin Dictionary, ed. P. G. W. Glare (Oxford 1996 [reprinted with corrections])
PRIA-C = Proceedings of the Royal Irish Academy – Section C
QJSA = Quarterly Journal of Studies on Alcohol
QUCC = Quaderni urbinati di cultura classica
RA = Revue archéologique
RB = Revue Bénédictine
RC = Revue celtique
RDSC = Rivista di studi classici
RE = Realencyclopädie der classischen Altertumswissenschaft, eds A. F. Pauly, G. Wissowa, *et al.* (Stuttgart 1894–)
REA = Revue des études anciennes
REG = Revue des études grecques
REL = Revue des études latines
RHE = Revue d'histoire ecclésiastique
SA = Scientific American
SIFC = Studi italiani di filologia classica
TAPA = Transanctions and Proceedings of the American Philological Association
TLL = Thesaurus linguae latinae (Leipzig 1900–)
VHA = Vegetation History and Archaeobotany
ZCP = Zeitschrift für celtische Philologie
ZPE = Zeitschrift für Papyrologie und Epigraphik

Adams, J. N. (1975) 'The Latin of the Vindolanda Writing Tablets', *BICS* 22: 20–24.
Africa, T. W. (1961) 'The Opium Addiction of Marcus Aurelius', *Journal of the History of Ideas* 22: 97–102.
Akurgal, E. (1955) *Phrygische Kunst*, Ankara.
Alcock, J. P. (2001) *Food in Roman Britain*, Stroud.
Alexander, D. (2003) 'Sweet Tooths in the Stone Age: Did Civilization Begin with Malted Milk?', *Archaeology Odyssey* 6.6: 17.
Allen, D. (1976) 'Some Contrasts in Gaulish and British Coins', in Duval and Hawkes (eds): 265–280.
Amouretti, M.-C. (1986) *Le pain et l'huile dans la Grèce antique: de l'araire au moulin*, Paris.
—— (1993) 'Céréales et médicine dans les traités hippocratiques', in Miège (ed.): 17–23.
Amouretti, M.-C., Brun, J.-P. and Eitam, D. (eds) (1993) *Actes du symposium international organisé par le centre Camille Jullian*, Athens and Paris.

André, J. (1981) *L'alimentation et la cuisine à Rome*, second edition, Paris.
—— (1985) *Les noms de plantes dans la Rome antique*, Paris.
Anonymous (2000) 'Ale Caesar . . . Those Wine-Loving Roman Invaders Liked a Pint of British Beer Too', *International Express* Aug. 29: 28.
Anonymous (Benjamin Buckler?) (1750) *ΟΙΝΟΣ ΚΡΙΘΙΝΟΣ: A Dissertation Concerning the Origin and Antiquity of Barley Wine*, Oxford.
Arcelin, P. (1999) 'Le monde de Gyptis autor de 600 av. J.-C.', in Hermary, Hesnard, and Treziny (eds): 29–33.
Archibald, Z. H. (1999) 'Thracian Cult – From Practice to Belief', in Tsetskhladze (ed.): 427–468.
Arnold, J. P. (1911) *Origin and History of Beer and Brewing from Prehistoric Times to the Beginning of Brewing Science and Technology*, Chicago.
Arnott, M. L. (ed.) (1975) *Gastronomy: The Anthropology of Food and Food Habits*, The Hague and Paris.
Artamanov, M. I. (1965) 'Frozen Tombs of the Sythians', *Scientific American* 22: 100–109.
Atkinson, R. *et al.* (eds) (1976) *Dictionary of the Irish Language Based Mainly on Old and Middle Irish Materials*, Dublin. Vol. 1.
Aymard, A. (1955) 'Nouveaux graffites de La Graufesenque', *REA* 53: 126–131.
Bacon, H. H. (1961) *Barbarians in Greek Tragedy*, New Haven.
Bacon, M. K. (1976) 'Alcohol Use in Tribal Societies', in Kissin and Begleiter (eds): 1–36.
Badler, V. R. (1995) 'The Archaeological Evidence for Winemaking, Distribution, and Consumption at Proto-Historic Godin Tepe, Iran', in McGovern, Fleming, and Katz (eds): 45–56.
Bagnall, R. S. (1993) *Egypt in Late Antiquity*, Princeton.
Bahntje, U. (1900) *Quaestiones Archilocheae*, Gottingen.
Bammesberger, A. (2000) 'The Etymology of West Germanic **beur-a-*', *Sprachwissenschaft* 25: 229–231.
Banham, D. (1991) *Monasteriales Indicia*, Frithgarth.
Barclay, G. J. and Russell-White, C. J. (eds) (1993) 'Excavations in the Ceremonial Complex of the Fourth to Second Millennium B.C. at Balfarg/Balbirnie, Glenrothes, Fife', *Proceedings of the Society of Antiquaries of Scotland* 123: 43–210.
Barclay, G. J. *et al.* (1983) 'Sites of the Third Millennium B.C. to the First Millennium A.D. at North Mains, Strathallan, Perthshire', *Proceedings of the Society of Antiquaries of Scotland* 113: 122–281.
Bard, K. A. and Shubert, S. B. (eds) (1998) *Encyclopedia of the Archaeology of Ancient Egypt*, London and New York.
Bartels, K. and Huber, L. (eds) (1965) *Lexikon der alten Welt*, Zürich and Stuttgart.
de Barthélemy, A. (1877) 'Vases sigillés et épigraphiques de fabrique Gallo-Romaine', *Gazette archéologique* 3: 172–181, with pl. 28.
Bately, J. (ed.) (1980) *The Old English Orosius*, London, New York, and Toronto.
Bats, M. (1986) 'Le vin Italien en Gaule aux IIème–Ier s. av. J.C. Problèmes de chronologie et distribution', *DHA* 12: 391–430.
—— (ed.) (1990) *Les amphores de Marseille grecque, chronologie et diffusion (VIe–Ier s. av. J.-C.)*, Lattes.
Bats, M., Bertucchi, G., Conges, G., and Treziny, H. (eds) (1992) *Marseille grecque et la Gaule*, Lattes and Aix-en-Provence.

Baudrillart, A. (1907) '*Potio, potus,* ποτόν', *DAGR* 4: 1: 606–607.
Becker, W. D. and Tegtmeier, U. (1999) *Archäologie im Rheinland 1998*, Cologne and Bonn.
Behre, K.-E. (1984) 'Zur Geschichte der Bierwürzen nach Fruchtfunden und schriftlichen Quellen', in van Zeist and Casparie (eds): 115–122.
—— (1998) 'Zur Geschichte des Bieres und der Bierwürzen in Mitteleuropa', in Both (ed.): 49–88.
—— (1999) 'The History of Beer Additives in Europe: A Review', *VHA* 8: 35–48.
Belfiore, E. (1986) 'Wine and *Catharsis* of the Emotions in Plato's *Laws*', *CQ* 36: 421–437.
Bennett, J. M. (1996) *Ale, Beer, and Brewsters in England: Women's Work in a Changing World, 1300–1600*, New York and Oxford.
Benz, M. and van Willigen, S. (eds) (1998) *Some New Approaches to the Bell Beaker 'Phenomenon'. Lost Paradise . . .?*, Oxford.
Benz, M., Gramsch, A., Wiermann, R. R., and van Willigen, S. (1998) 'Rethinking Bell Beakers', in Benz and van Willigen (eds): 181–191.
Bequet, A. (1895) 'La villa romaine de Ronchinne et sa brasserie (IIIe et IVe siècles)', *ASAN* 21: 177–208.
Berthelot, M. and Ruelle, C. E. (eds) (1888) *Collection des anciens alchimistes grecs*, Paris. 3 vols.
Bertucchi, G. (1992) *Les amphores et le vin de Marseille, VIe s. avant J.-C.– IIe s. après J.-C.*, Paris.
Bickerdyke, J. (1889) *The Curiosities of Ale and Beer: An Entertaining History*, London.
Biel, J. (1982) 'Ein Fürstengrabhügel der späten Hallstattzeit bei Eberdingen-Hochdorf, Kr. Ludwigsburg (Baden-Württemberg). Vorbericht', *Germania* 60: 62–104.
—— (1985) 'Die Ausstattung des Toten', in Planck, Biel, Süsskind, and Wais (eds): 78–105.
—— (ed.) (1996) *Experiment Hochdorf: keltische Handwerksunst wiederbelebt*, Stuttgart.
Billiard, R. (1913) *La vigne et le vin dans l'antiquité*, Lyons.
Billy, P. H. (1993) *Thesaurus Linguae Gallicae*, Hildesheim.
Binding, G. (1981) *Bemerkungen zum St. Galler Klosterplan vom 817–819*, Cologne.
Binsfeld, W. (1972a) 'Eine Bierverlegerin aus Trier. Zu CIL XIII 450*', *Germania* 50: 256–258.
—— (1972b) 'Moselbier', *Kurtrierisches Jahrbuch* 12: 135–137.
—— (2001) 'Julianus Caesar und das Bier', in Lodewijck (ed.): 49–50.
Binsfeld, W., Goethert-Polaschek, K., and Schwinden, L. (1988) *Katalog der römischen Steindenkmäler des Rheinischen Landesmuseums Trier*, Mainz. Vol. 1.
Birkhan, H. (1997) *Kelten: Versuch einer Gesamtdarstellung ihrer Kultur*, Vienna.
Birley, E. (1978) 'A Note on *Cohors I Aquitanorum', Derbyshire Archaeological Journal* 98: 59–60 (reprinted in 1988: 385–386).
—— (1986) 'The Deities of Roman Britain', *ANRW* II.18.1: 2–112.
—— (1988) *The Roman Army: Papers, 1929–1986*, Amsterdam.
Birley, R. (1977) *Vindolanda: A Roman Frontier Post on Hadrian's Wall*, London.
Bitel, L. M. (1990) *Isle of the Saints: Monastic Settlement and Christian Community in Early Ireland*, Ithaca and London.
Blakesley, J. W. (1854) *Herodotus, with a Commentary*, London.

Blockley, R. C. (1983) *The Fragmentary Classicising Historians of the Later Roman Empire*, n.p. Vol. 2.

Bober, P. P. (1999) *Art, Culture and Cuisine: Ancient and Medieval Gastronomy*, Chicago and London.

Boisacq, É. (1923) *Dictionnaire étymologique de la langue Grecque*, Heidelberg and Paris.

Bollée, A. and Kramer, J. (eds) (1997) *Latinitas et Romanitas: Festschrift für H. D. Bork*, Bonn.

Bookidis, N. (1990) 'Ritual Dining in the Sanctuary of Demeter and Kore at Corinth: Some Questions', in Murray (ed.) (1990b): 86–94.

Bordreuil, P. and Pardee, D. (1989) *La trouvaille épigraphique de l'Ougarit 1: concordance*, Paris.

Bossi, F. (1990) *Studi su Archiloco*, second edition, Bari.

Both, F. (ed.) (1998) *Gerstensaft und Hirsebier – 5000 Jahre Biergenuss*, Oldenburg.

Bottéro, J. (1971) 'Getränke. A. Nach sumerischen und akkadischen Texten', in Ebeling, Meissner, Weidner, and von Soden (eds): 302–306.

—— (1994) 'Boisson, banquet et vie sociale en Mésopotamie', in Milano (ed.) (1994b): 3–13.

—— (1995) 'Le vin dans une civilisation de la bière: la Mésapotamie', in Murray and Tecuşan (eds): 21–34.

Bouloumié, B. (1981) 'Le vin étrusque et la première hellénisation du Midi de la Gaule', *REA* 32: 75–81.

Bowman, A. K. and Thomas, J. D. (eds) (1983) *Vindolanda: The Latin Writing-Tablets*, London.

—— (eds) (1994) *The Vindolanda Writing-Tablets (*Tabulae Vindolandenses II*)*, London.

—— (1996) 'New Writing-Tablets from Vindolanda', *Britannia* 27: 299–328.

—— (2003) *The Vindolanda-Writing-Tablets (*Tabulae Vindolandenses III*)*, London.

Boyancé, P. (1951) 'Platon et le vin', *BAGB* ser. 3, vol. 4: 3–19.

Braidwood, R. J. (1952) 'From Cave to Village', *SA* 187.4: 62–66.

—— (1960) 'The Agricultural Revolution', *SA* 203.9: 130–134, 136, 138, 143–144, 146, and 148.

Braidwood, R. J., Sauer, J. D., Helbaek, H., Mangelsdorf, P. C., Cutler, H. C., Coon, C. S., Linton, R., Steward, J., and Oppenheim, A. L. (1953) 'Did Man Once Live by Beer Alone?', *American Anthropologist* 55: 515–526.

Braund, D. (1999) 'Greeks, Scythians and *Hippake*, or "Reading Mare's-Cheese"', in Tsetskhladze (ed.): 521–530.

Braund, D. and Wilkins, J. (eds) (2000) *Athenaeus and his World: Reading Greek Culture in the Roman Empire*, Exeter.

Breeze, D. (1984) 'Demand and Supply on the Northern Frontier', in Miket and Burgess (eds): 264–286.

Bremmer, Jr, R. H. (1993) '*Wered* "Sweet Drink" at *Beowulf* 496: Welsh *Gwirod* "Liquor, Drink"', *Notes and Queries* n.s. 40: 433–435.

Bresciani, E. (1999) 'Food Culture in Ancient Egypt', in Flandrin, Montanari, and Sonnenfeld (eds): 38–45.

Briggs, R. D. and Brinkman, J. A. (eds) (1964) *Studies Presented to A. Leo Oppenheim, June 7, 1964*, Chicago.

Briggs, D. E., Hough, J. S., Stevens, R., and Young, T. W. (1981) *Malting and Brewing Science*, second edition, London and New York. 2 vols.

Brogan, O. (1936) 'Trade Between the Roman Empire and the Free Germans', *JRS* 26: 195–222.
Brookes, M. (1999) 'Beastly Drunk', *New Scientist* 164.2214 (Nov. 27): 44–47.
Brothwell, D. and Brothwell, P. (1998) *Food in Antiquity: A Survey of the Diet of Early Peoples*, expanded edition, Baltimore and London.
Bruce-Mitford, R. (1975) *The Sutton Hoo Ship-Burial*, London. Vol. 1.
Brunner, T. E. (1973) 'Marijuana in Ancient Greece and Rome? The Literary Evidence', *BHM* 47: 344–355.
Bucheler, W. (1934) *Bier und Bierbereitung in den frühen Kulturen und bei den Primitiven*, Berlin.
Burkert, W. (1991) 'Oriental symposia: contracts and parallels', in Slater (ed.): 7–24.
Burnham, B. C. and Johnson, H. B. (eds) (1979) *Invasion and Response: The Case of Roman Britain*, Oxford.
Butrica, J. L. (2002) 'The Medical Use of Cannabis Among the Greeks and Romans', *Journal of Cannabis Therapeutics* 2: 51–70.
Cancik, H. and Schneider, H. (eds) (1997 and 1998) *Der Neue Pauly Enzyklopädie der Antike*, Stuttgart. Vols 2 and 5.
Carpenter, T. H. (1993) 'On the Beardless Dionysus', in Carpenter and Faraone (eds): 185–206.
Carpenter, T. H. and Faraone, C. A. (eds) (1993) *Masks of Dionysus*, Ithaca and London.
Carr, G. F., Harbert, W., and Zhang, L. (eds) (1999) *Interdigitations: Essays for Irmengard Rauch*, New York, etc.
Carver, E. (2001) *The Visibility of Imported Wine and its Associated Accoutrements in Later Iron Age Britain*, Oxford.
Carver, M. (1998) *Sutton Hoo: Burial Ground of Kings?*, Philadelphia.
Cary, H. (1843) *A Lexicon to Herodotus*, Oxford.
Casson, S. (1926) *Macedonia, Thrace, and Illyria*, London.
Castelletti, L. (1973–1974) 'Il significato della ricerca paletnobotanica', *Centro studi e documentazione sull' Italia Romana* 5: 145–160.
Chadwick, J. (1976) *The Mycenaean World*, Cambridge, etc.
Chalke, H. D. (1976) 'Alcohol and History', *Journal of Alcoholism* 11.4: 128–149.
Champier, V. (1887) 'Cervisia', *DAGR* 1:2: 1087–1088.
Champion, T. C. (ed.) (1989) *Centre and Periphery: Comparative Studies in Archaeology*, London.
Chaniotis, A. (ed.) (1999) *From Minoan Farmers to Roman Traders: Sidelights on the Economy of Ancient Crete*, Stuttgart.
Chantraine, P. (1968–1980) *Dictionnaire étymologique de la langue grecque: histoire des mots*, Paris. 2 vols.
Chapot, V. (1919a) 'Vinum', *DAGR* 5: 912–924.
—— (1919b) 'Zythum', *DAGR* 5: 1074–1077.
Chossenot, M. (1988) 'L'importance de la boisson et plus particulièrement du vin chez les Celtes champenois du VIe siècle av. J.-C. au début de notre ère', *Caesarodunum* 24: 81–87.
Civil, M. (1964) 'A Hymn to the Beer Goddess and a Drinking Song', in Briggs and Brinkman (eds): 67–89.
Clark, J. G. D. (1952) *Prehistoric Europe: The Economic Basis*, London.
Clark, P. (1983) *The English Alehouse: A Social History, 1200–1830*, London.

Clemens, L. *et al.* (1998) 'Jahresbericht des Landesamtes für Denkmalpflege', *Trierer Zeitschrift* 61: 408–409 and 413.
Cockayne, O. (1864) *Leechdoms, Wortcunning, and Starcraft of Early England*, London. Vol. 1.
—— (1865) *Leechdoms, Wortcunning, and Starcraft of Early England*, London. Vol. 2.
Collingwood, R. G. and Wright, R. P. (1965) *The Roman Inscriptions of Britain*, Oxford. Vol. 1.
—— (1992) *The Roman Inscriptions of Britain*, London. Vol. 2:4.
Compton-Davey, J. (1995) 'Some Evidence of Brewing in Roman Times', *JBHS* 80: 4–13.
Connolly, S. (1989) '*Vita Prima Sanctae Brigitae*: Background and Historical Value', *JRSAI* 119: 5–49.
Cook, A. S. (1925) 'Bitter Beer-Drinking', *Modern Language Notes* 40: 285–288.
Cornell, M. (2003) *Beer: The Story of the Pint*, London.
Cornish, F. W. (ed.) (1898) '*Cervesia, cervisia, cerevisia',* in *A Concise Dictionary of Greek and Roman Antiquities*, London: 157.
Cornish-Bowden, A. (ed.) (1997) *New Beer in an Old Bottle: Eduard Buchner and the Growth of Biochemical Knowledge*, Valencia.
Cornwall, E. E. (1939) 'Notes on the Use of Alcohol in Ancient Times', *Medical Times* 67: 379–380.
Corran, H. S. (1975) *A History of Brewing*, London.
Creighton, J. D. and Wilson, R. J. A. (1999) *Roman Germany: Studies in Cultural Interaction*, Portsmouth, Rhode Island.
Cumont, F. (1911) 'Sabazius', *DAGR* 4:2: 929–930.
Cunliffe, B. (1988) *Greeks, Romans and Barbarians: Spheres of Interaction*, New York.
—— (1997) *The Ancient Celts*, Oxford.
—— (2001) *The Extraordinary Voyage of Pytheas the Greek*, New York.
Cüppers, H. (1970) 'Wein und Weinbau zur Römerzeit im Rheinland', in Hinz (ed.): 138–145.
Dalby, A. (2000a) *Empire of Pleasures: Luxury and Indulgence in the Roman World*, New York and London.
—— (2000b) '*Topikos Oinos*: The Named Wines of Old Comedy', in Harvey and Wilkins (eds): 397–405.
—— (2003) *Food in the Ancient World from A to Z*, London and New York.
Dannell, G. B. (1979) 'Eating and Drinking in Pre-Conquest Britain: The Evidence of Amphora and Samian Trading, and the Effect of the Invasion of Claudius', in Burnham and Johnson (eds): 177–184.
Dannell, G. B. and Wild, J. P. (1987) *Longthorpe II: The Military Works-Depot: an Episode in Landscape History*, London.
Darby, W. J., Ghalioungui, P., and Grivetti, L. (1977) *Food: The Gift of Osiris*, London, New York, and San Francisco. Vol. 2.
Davidson, H. R. E. (1988) *Myths and Symbols in Pagan Europe: Early Scandinavian and Celtic Religions*, Syracuse.
Davidson, J. (1997) *Courtesans and Fishcakes: The Consuming Passions of Classical Athens*, London.
Davies, R. W. (1971) 'The Roman Military Diet', *Britannia* 2: 122–142 (reprinted in Davis 1989: 187–206 and 283–290).
—— (1989) *Service in the Roman Army*, New York.

Dayagi-Mendels, M. (1999) *Drink and Be Merry: Wine and Beer in Ancient Times*, Jerusalem.

De Romilly, J. (1993) 'Les barbares dans la pensée de la Grèce classique', *Phoenix* 47: 283–292.

Décarreaux, J. (1980) *Moines et monastères à l'époque de Charlemagne*, Paris.

Déchelette, J. (1904) *Les vases céramiques ornés de la Gaule romaine (Narbonnaise, Aquitaine et Lyondise)*, Paris. 2 vols.

Deckers, J. (1970) 'Recherches sur l'histoire des brasseries dans la région mosane au moyen âge', *Le Moyen Age* 76: 445–491.

Del Marmol, E. (1881) 'Villa d'Anthée', *ASAN* 14: 165–194 and 15: 1–40.

Del Monte, G. F. (1995) 'Bier und Wein bei den Hethitern', in Van den Hout and de Roos (eds): 211–224.

Derry, T. K. and Williams, T. I. (1960) *A Short History of Technology from the Earliest Times to A.D. 1900*, Oxford.

Desbat, A. (1991) 'Un bouchon de bois du 1er s. après J.C. recueilli dans la Saône à Lyon et la question du tonneau à l'époque romaine', *Gallia* 48: 319–336.

Detschew, D. (1957) *Die thrakischen Sprachreste*, Wien.

Dickson, C. (1989) 'The Roman Army Diet in Britain and Germany', in Körber-Grohne and Küster (eds): 135–154.

Dickson, C. and Dickson, J. H. (2000) *Plants and People in Ancient Scotland*, Brimscombe.

Dickson, J. H. (1978) 'Bronze Age Mead', *Antiquity* 52: 108–113 with pl. xva.

Dietler, M. (1989) 'Greeks, Etruscans, and Thirsty Barbarians: Early Iron Age Interaction in the Rhône Basin of France', in Champion (ed.): 127–141.

—— (1990) 'Driven by Drink: The Role of Drinking in the Political Economy and the Case of Early Iron Age France', *JAA* 9: 352–406.

—— (1992) 'Commerce du vin et contacts culturels en Gaule en premier Age du Fer', in Bats, Bertucchi, Conges, and Treziny (eds): 401–410.

—— (1996) 'Feasts and Commensal Politics in the Political Economy: Food, Power and Status in Prehistoric Europe', in Wiessner and Schiefenhövel (eds): 87–125.

Dietz, K. (2000) 'Sind engl. *beer* und dt. *Bier* Erb- oder Lehnwörter?', *Sprachwissenschaft* 25: 103–111.

Dineley, M. (1996) 'Finding Magic in Stone Age Real Ale', *British Archaeology* 19 (Nov.): 1–2.

—— (1997) 'Beer Brewing "Formed Part of Neolithic Ceremonies"', *British Archaeology* 27 (Sept.): 1–2.

Dineley, M. and Dineley, G. (2000) 'Neolithic Ale: Barley as a Source of Malt Sugars for Fermentation', in Fairbairn (ed.): 137–154.

Dionisotti, A. C. (1982) 'From Ausonius' Schooldays? A Schoolbook and Its Relatives', *JRS* 72: 83–125.

Doorman, G. (1955) *De middeleeuwse Brouwerij en de Gruit*, 's-Gravenhage.

Douglas, M. (1987a) 'A Distinctive Anthropological Perspective', in Douglas (ed.) (1987b): 3–15.

Douglas, M. (ed.) (1987b) *Constructive Drinking: Perspectives on Drink from Anthropology*, Cambridge etc.

Doumas, C. G. (1983) *Thera: Pompeii of the Ancient Aegean, Excavations at Akrotiri 1967–1979*, London.

Drexhage, H. J. (1997) 'Bierproduzenten und Bierhändler in der papyrologischen Überlieferung', *Münstersche Beiträge zur antiken Handelsgeschichte* 16: 32–39.
Duft, J. (ed.) (1962) *Studien zum St. Galler Klosterplan*, St. Gall.
Duridanov, I. (1969) *Thrakisch-dakische Studien*, Sofia.
—— (1985) *Die Sprache der Thraker*, Neuried.
Durkan, A. (1972) *Vendage: A Study of Wine and Other Drinks*, New York.
Duval, P.-M. (1952) *La vie quotidienne en Gaule pendant la paix romaine (Ier-IIIe siècles après J.-C.)*, Paris.
Duval, P.-M. and Hawkes, C. (eds) (1976) *Celtic Art in Ancient Europe: Five Protohistoric Centuries*, London, New York, and San Francisco.
Ebbinghaus, S. (1999) 'Between Greece and Persia: Rhyta in Thrace', in Tstetskhladze (ed.): 385–425.
Ebeling, N. E. and Meissner, B. (eds) (1938) *Reallexikon der Assyriologie*, Berlin and Leipzig. Vol. 2.
Ebeling, N. E., Meissner, B., Weidner, E., and von Soden, W. (eds) (1971) *Reallexikon der Assyriologie* , Berlin. Vol. 3.
Eddy, R. (1887) *Alcohol in History: An Account of Intemperance in All Ages*, New York.
Edwards, P. (1980) 'Art and Alcoholism in *Beowulf*', *Durham University Journal* 72: 127–131.
—— (1986) 'Alcohol into Art: Drink and Poetry in Old Icelandic and Anglo-Saxon', in Simek, Kristjánsson, and Bekker-Nielsen (eds): 85–97.
Eggers, H. J. (1951) *Der römische Import im freien Germanien*, Hamburg.
Empereur, J.-Y. (1993) 'Wine Production in Egypt During the Ptolemaic and Roman Periods', in Amouretti, Brun, and Eitam (eds): 39–47.
Eska, J. F. (1992) 'Miscellanea Gallica', *Bulletin of the Board of Celtic Studies* 39: 16–23.
Evans, A. J. (1921) *The Palace of Minos at Knossos*, London. Vol. 1.
—— (1935) *The Palace of Minos at Knossos*, London. Vol. 4, part 2.
Evans, D. E. (1967) *Gaulish Personal Names: A Study of Some Continental Celtic Formations*, Oxford.
Everett, M. W., Waddell, J. O., and Heath, D. B. (eds) (1976) *Cross-Cultural Approaches to the Study of Alcohol: An Interdisciplinary Perspective*, The Hague and Paris.
Ezard, D. O. (ed.) (1989) *Reallexikon der Assyriologie und Vorderasiatischen Archäologie*, Berlin. Vol. 7.
Fagan, B. M. (ed.) (1996) *The Oxford Companion to Archaeology*, New York and Oxford.
Fairbairn, A. S. (ed.) (2000) *Plants in Neolithic Britain and Beyond*, Oxford.
Farb, P. and Armelagos, G. (1980) *Consuming Passions: The Anthropology of Eating*, Boston.
Farnoux, A. (1992) 'Lykourgos I', *LIMC* VI.1: 309–319 and VI.2: 157–165.
Fell, C. E. (1975) 'Old English *Beor*', *Leeds Studies in English* 8: 76–95.
Fenwick, V. (1978a) 'Geographical and Historical Background', in Fenwick (ed.) (1978b): 165–178.
—— (ed.) (1978b) *The Graveney Boat: A Tenth-Century Find from Kent*, Greenwich.
Feuvrier-Prévotat, C. (1978) 'Echanges et sociétés en Gaule indépendante: à propos d'un texte de Poseidonios d'Apamée', *Ktéma* 3: 243–259.
Fitch, E. (1988) *Unknown Taplow*, Windsor.
Fitzpatrick, A. (1985) 'The Distribution of Dressel 1 Amphorae in North-West Europe', *OJA* 4: 305–340.

Flandrin, J.-L., Montanari, M., and Sonnenfeld, A. (eds) (1999) *Food: A Culinary History from Antiquity to the Present*, New York.
Flashar, H. and Gigon, O. (eds) (1986) *Aspects de la philosophie hellénistique*, Geneva.
Fleming, S. J. (2001) *Vinum: The Story of Roman Wine*, Glen Mills, Pennsylvania.
Flobert, P. (1995) Review of Lambert 1994. *EC* 31: 266–269.
Fol, A. and Marazov, I. (1977) *Thrace and the Thracians*, London.
Forbes, C. A. (1951) 'Beer: A Sober Account', *CJ* 46: 281–285 and 300.
Forbes, R. J. (1948) *A Short History of the Art of Distillation from the Beginnings up to the Death of Cellier Blumenthal*, Leiden.
—— (1954) 'Chemical, Culinary, and Cosmetic Arts', in Singer, Holmyard, and Hall (eds): 238–298.
—— (1956) 'Food and Drink', in Singer, Holmyard, Hall, and Williams (eds): 103–146.
—— (1965) *Studies in Ancient Technology*, Leiden. Vol. 3.
Forni, G. (1975) 'The Origin of Grape Wine: A Problem of Historical-Ecological Anthropology', in Arnott (ed.): 67–78.
Fortenbaugh, W. W. (1984) *Quellen zur Ethik Theophrasts*, Amsterdam.
Franke, P. R. and Marathaki, I. (1999) *Wine and Coins in Ancient Greece*, Athens.
Frankel, R. (1999) *Wine and Oil Production in Antiquity in Israel and Other Mediterranean Countries*, Sheffield.
Freeman, P. M. (1996) 'The Earliest Greek Sources on the Celts', *EC* 32: 11–48.
Friedländer, L. (1908) *Roman Life and Manners Under the Early Empire*, trans. J. H. Freese and L. A. Magnus, New York. Vol. 2.
Friedman, R. and Adams, B. (eds) (1992) *The Followers of Horus: Studies Dedicated to Michael Allen Hoffman, 1944–1990*, Oxford.
Frisk, H. (1954) *Griechisches etymologisches Wörterbuch*, Heidelberg. 2 vols.
Gabba, E. (ed.) (1983) *Tria Corda. Scritti in onore di Arnaldo Momigliano*, Como.
Gale, N. H. (ed.) (1991) *Bronze Age Trade in the Mediterranean*, Jonsered.
Galling, K. (ed.) (1977) *Biblisches Reallexikon*, Tübingen.
Garnsey, P. (1999) *Food and Society in Classical Antiquity*, Cambridge.
Garnsey, P., Hopkins, K., and Whittaker, C. R. (eds) (1983) *Trade in the Ancient Economy*, London.
Garvie, A. F. (1969) *Aeschylus'* Supplices*: Play and Trilogy*, Cambridge.
Gastineau, C. F., Darby, W. J., and Turner, T. B. (eds) (1979) *Fermented Food Beverages in Nutrition*, New York, San Francisco, and London.
Gayre, G. R. (1948) *Wassail! In Mazers of Mead*, London.
Gefou-Madianou, D. (ed.) (1992a) 'Alcohol Commensality, Identity Transformations and Transcendence', in Gefou-Madianou (ed.) (1992b): 1–34.
—— (ed.) (1992b) *Alcohol, Gender and Culture*, London and New York.
Geller, J. (1992) 'From Prehistory to History: Beer in Egypt', in Friedman and Adams (eds): 19–26.
—— (1993) 'Bread and Beer in Fourth-Millennium Egypt', *Food and Foodways* 5: 255–267.
—— (1998) 'Brewing and Baking', in Bard and Shubert (eds): 178–179.
George, J. W. (1992) *Venantius Fortunatus: A Latin Poet in Merovingian Gaul*, Oxford.
Georgiev, V. I. (1983) 'Thrakisch und Dakisch', *ANRW* II.29.2: 1148–1194.
Gerber, D. E. (1976) 'Archilochus, Fr. 42 West', *QUCC* 22: 7–14.

—— (1988) 'The Measure of Bacchus', *Mnemosyne* 41: 39–45.
Ghalioungui, P. (1979) 'Fermented Beverages in Antiquity', in Gastineau, Darby, and Turner (eds): 3–18.
Glosecki, S. O. (1987) '*Beowulf* 769: Grendel's Ale-Share', *English Language Notes* 25: 1–9.
Goldsworthy, A. K. (1996) *The Roman Army at War: 100 B.C.–A.D. 200*, Oxford.
Gonser, P. (1909) *Das angelsächsische Prosa-Leben des hl. Guthlac*, Heidelberg.
Goodman, J., Lovejoy, P. E., and Sherratt, A. (eds) (1995) *Consuming Habits: Drugs in History and Anthropology*, London and New York.
Gougaud, D. L. (1908) 'Inventaire des règles monastiques irlandaises (I)', *RB* 25: 167–184 and 321–333.
—— (1911) 'Inventaire des règles monastiques irlandaises (II)', *RB* 28: 86–89.
—— (1922) 'Les saints irlandais dans les traditions populaires des pays continentaux', *RC* 39: 199–226.
—— (1927) 'Etudes sur l'*ordo monasticus* de Culross', *RHE* 23: 764–778.
—— (1932) *Christianity in Celtic Lands*, London.
—— (1936) *Les saints irlandais hors d'Irlande*, Louvain.
Grant, J. (1930) 'Brewing in Ancient Times', *Antiquity* 4: 232–233.
Grant, M. (1996) *Anthimus, de observatione ciborum*, Totnes, Devon.
—— (1999) *Roman Cookery: Ancient Recipes for Modern Kitchens*, London.
—— (2000) *Galen on Food and Diet*, London and New York.
Grattan, J. H. G. and Singer, C. (1952) *Anglo-Saxon Magic and Medicine Illustrated Specially from the Semi-Pagan Text* 'Lacnunga', London, New York, and Toronto.
Graves, R. (1960) *The Greek Myths*, revised edition, London, etc. Vol. 1.
Green, M. J. (ed.) (1995) *The Celtic World*, London and New York.
Greene, D. (1954) 'St. Brigid's Alefeast', *Celtica* 2: 150–153.
Grenier, A. (1934) *Manuel d'archéologie gallo-romaine*, Paris. Vol. 2:2.
Grieve, M. (1959) *A Modern Herbal*, New York. 2 vols.
Griffith, J. G. (1983) 'The Myth of Lycurgus, King of the Edodian Thracians, in Literature and Art', in Poulter (ed.): 217–232.
Griffiths, B. (ed.) (1991) *Alfred's Metres of Boethius*, Pinner, England.
Gruner, C. G. (1814) *Zosimi Panopolitani de zythorum confectione fragmentum, nunc primum graece ac latine editum. Accedit historia zythorum sive cerevisiarum, quarum apud veteres mentio fit*, Sulzbach.
Grünert, H. (1988) 'Was die Germanen aßen und tranken', *Das Altertum* 34: 96–105.
Gutsfeld, A. (1997) 'Bier, in Griechenland und Rom', in Cancik and Schneider (eds): vol. 2, 653.
Gwara, S. (1996) *Latin Colloquies from Pre-Conquest Britain*, Toronto.
Gwynn, E. J. (1927) *The Rule of Tallaght*, Dublin.
Haffner, A. (1991) 'The Princely Tombs of the Celts in the Middle Rhineland', in Kruta *et al.* (eds): 173–190.
Hagen, A. (1995) *A Second Handbook of Anglo-Saxon Food and Drink: Production and Distribution*, Norfolk.
—— (1998) *A Handbook of Anglo-Saxon Food: Processing and Consumption*, revised edition, Norfolk.
Hägg, R. and Marinatos, N. (eds) (1983) *The Greek Renaissance of the Eighth Century B.C.: Tradition and Innovation*, Stockholm.

Haggarty, A. (1991) 'Machrie Moor, Arran: Recent Excavations at Two Stone Circles', *Proceedings of the Society of Antiquaries of Scotland* 121: 51–94.
Hahm, D. E. (1989) 'Posidonius's Theory of Historical Causation', *ANRW* II.36.3: 1325–1363.
Hahn, E. (1927) 'Die Auftreten des Hopfens bei der Bierbereitung und seine Verbreitung in der Frühgeschichte der Völker', in Schulze-Besse (ed.): Vol. 2, 9–14.
Hall, E. (1989) *Inventing the Barbarian: Greek Self-Definition through Tragedy*, Oxford.
Hallo, W. W. (1993) 'The Oldest Cookbooks in the World', *Bible Review* 9.4 (Aug.): 26–31 and 56.
Hamilakis, Y. (2000) 'The Anthropology of Food and Drink Consumption and Aegean Archaeology', in Vaughan and Coulson (eds): 55–63.
Hancock, W. N. *et al.* (1865) *Ancient Laws of Ireland*, Dublin. Vol. 1.
—— (1869) *Ancient Laws of Ireland*, Dublin. Vol. 2.
Hardwick, W. A. (1979) 'The Brewing of Beer', in Gastineau, Darby, and Turner (eds): 133–140.
Harrison, J. E. (1903) '*Mystica Vannus Iacchi*', *JHS* 23: 293–324.
—— (1922) *Prolegomena to the Study of Greek Religion*, third edition, Cambridge.
Hartman, L. F. and Oppenheim, A. L. (1950) *On Beer and Brewing Techniques in Ancient Mesopotamia*, Baltimore.
Hartmann, W. (1989) *Die Synoden der Karolingerzeit im Frankenreich und in Italien*, Paderborn, etc.
Harvey, D. and Wilkins, J. (eds) (2000) *The Rivals of Aristophanes: Studies in Athenian Old Comedy*, London.
Haslauer, E. (1992) 'Sitzen am Ufer der Trunkenheit – Bier im alten Ägypten', in Ruprechtsberger (ed.) (1992c): 5–8.
Hawkes, C. F. C. and Smith, M. A. (1957) 'On Some Buckets and Cauldrons of the Bronze and Early Iron Ages', *Antiquaries Journal* 37: 131–198 and pll. xx–xxiii.
Heath, D. B. (1976a) 'Anthropological Perspectives on Alcohol: A Historical Review', in Everett, Waddell, and Heath (eds): 41–101.
—— (1976b) 'Anthropological Perspectives on the Social Biology of Alcohol: An Introduction to the Literature', in Kissin and Begleiter (eds): 37–76.
—— (1987) 'A Decade of Development in the Anthropological Study of Alcohol Use: 1970–1980', in Douglas (ed.) (1987b): 16–69.
Hecht, K. (1983) *Der St. Galler Klosterplan*, Sigmaringen.
Hehn, V. (1911) *Kulturpflanzen und Haustiere in ihrem Übergang aus Asien nach Griechenland und Italien sowie in das übrige Europa*, Berlin.
Heichelheim, F. M. (1933) 'Monopole', *RE* XVI.1: 147–199.
—— (1958) *An Ancient Economic History*, Leiden. Vol. 1.
Heinen, H. (1985) *Trier und das Treverland in römischer Zeit*, Trier. Vol. 1.
Heist, W. W. (ed.) (1965) *Vitae sanctorum Hiberniae*, Brussels.
Helbaek, H. (1938) 'Plantaevl', *Aarbøger for Nordisk Old-kyndighed og Historie*: 216–226.
—— (1952) 'Early Crops in Southern England', *Proceedings of the Prehistoric Society* 18: 194–233.
—— (1964) 'The Isca Grain, A Roman Plant Introduction in Britain', *New Phytologist* 63: 158–164.
—— (1966) 'Vendeltime Farming Products at Eketorp on Öland, Sweden', *Acta Archaeologica* (Copenhagen) 37: 216–221.

Helck, W. (1971) *Das Bier im alten Aegypten*, Berlin.
—— (1975) 'Bier', in Helck and Otto (eds): 789–792.
Helck, W. and Otto, E. (1956) 'Bier', *Kleines Wörterbuch der Aegyptologie*, Wiesbaden. 63–64.
Helck, W. and Otto, E. (eds) (1975) *Lexikon der Aegyptologie*, Wiesbaden. Vol. 1.
Helgeland, J. (1978) 'Roman Army Religion', *ANRW* II.16.2: 1470–1505.
Henderson, J. J. (1987) *Aristophanes:* Lysistrata, Oxford.
Henken, E. R. (1987) *Traditions of the Welsh Saints*, Cambridge etc.
Hermansen, G. (1982) *Ostia: Aspects of Roman Life*, Edmonton, Alberta.
Hermary, A., Hesnard, A., and Treziny, H. (eds) (1999) *Marseille grecque. La cité phocéenne (600–49 av. J.-C.)*, Paris.
Hesseltine, C. W. (1979) 'Some Important Fermented Foods of Mid-Asia, the Middle East, and Africa', *JACS* 56: 367–374.
Hesseltine, C. W. and Wang, H. L. (1986) *Indigenous Fermented Food of Non-Western Origin*, Berlin and Stuttgart.
Hillman, G. C. (1982) 'Evidence for Spelt Malting at Catsgore', in Leech (ed.): 137–141.
Hodges, H. (1970) *Technology in the Ancient World*, New York. 114–116.
Hoffman, M. (1956) *5000 Jahre Bier*, Berlin.
Hoffner, H. A., Jr. (1974) *Alimenta Hethaeorum: Food Production in Hittite Asia Minor*, New Haven, Connecticut.
Holder, A. (1896) *Alt-celtischer Sprachschatz*, Leipzig. Vol. 1.
—— (1907) *Alt-celtischer Sprachschatz*, Leipzig. Vol. 3.
Honigmann, J. J. (1979) 'Alcohol in its Cultural Context', in Marshall (ed.): 30–35.
Hood, S. (1971) *The Minoans: Crete in the Bronze Age*, London.
Hopf, M. (1976) 'Bier. I. Allgemeines zur Bier Herstellung und älteren Geschichte des Bieres', *Reallexikon der germanischen Altertumskunde* 2: 530–533.
Horn, W. and Born, E. (1979) *The Plan of St. Gall: A Study of the Architecture and Economy of, and Life in a Paradigmatic Carolingian Monastery*, Berkeley, Los Angeles, and London. 3 vols.
Hornsey, I. S. (1999) *Brewing*, Cambridge.
—— (2003) *A History of Beer and Brewing*, Cambridge.
How, W. W. and Wells, J. (1928) *A Commentary on Herodotus*, revised edition, Oxford. Vol. 1.
Howlett, D. (1998) '*Vita I Sanctae Brigitae*', *Peritia* 12: 1–23.
Hrozný, B. (1949) *Les inscriptions crétoises: essai de déchiffrement*, Prague.
Hrozný, F. (1910) *Über das Bier im alten Babylonien und Ägypten*, Vienna.
Huber, E. (1926a) 'Bier und Bierbereitung im alten Ägypten', in Schulze-Besse (ed.): Vol. 1, 33–54.
—— (1926b) 'Bier und Bierbereitung im alten Babylonien', in Schulze-Besse (ed.): Vol. 1, 9–28.
—— (1927) 'Die Völker unter babylonischen Kultureinfluß. Auftreten des gehopften Bieres', in Schulze-Besse (ed.): Vol. 2, 15–95.
—— (1928) 'Das Bier im fernen Osten und in Äthiopien', in Schulze-Besse (ed.): Vol. 3, 21–96.
—— (1938) 'Bier und Bierbereitung in Babylonien', in Ebeling and Meissner (eds): 25–28.

Humphrey, J. W., Oleson, J. P., and Sherwood, A. N. (1998) *Greek and Roman Technology: A Sourcebook*, London and New York.
Hünemörder, C. (1998) 'Hopfen', in Cancik and Schneider (eds): Vol. 5, 713–714.
Irby-Massie. G. L. (1999) *Military Religion in Roman Britain*, Leiden.
Irby-Massie, G. L. and Keyser, P. T. (2002) *Greek Science of the Hellenistic Era: A Sourcebook*, London and New York.
Isaac, B. (1986) *The Greek Settlements in Thrace until the Macedonian Conquest*, Leiden.
—— (2004) *The Invention of Racism in Classical Antiquity*, Princeton and Oxford.
Jacoby, F. (1957) *Die Fragmente der griechischen Historiker*, Berlin and Leiden. Vol. 1A.
Jacques, J.-M. (1996) 'La conservation du vin à Pergame au IIe siècle après J.-C', *REA* 98: 173–185.
Jalmain, M. D. (1988) 'L'amphore, le fût et l'outre', *Caesarodunum* 24: 149–153.
James, P. and Thorpe, N. (1994) *Ancient Inventions*, New York.
James, T. G. H. (1996) 'The Earliest History of Wine and its Importance in Ancient Egypt', in McGovern, Fleming, and Katz (eds): 197–213.
Joffe, A. H. (1998) 'Alcohol and Social Complexity in Ancient Western Asia', *Current Anthropology* 39: 297–322.
Johansen, H. F. and Whittle, E. W. (1980) *Aeschylus. The Suppliants*, Copenhagen. 3 vols.
Johnson, S. E. (1984) 'The Present State of Sabazios Research', *ANRW* II 17.3: 1583–1613.
Jouanna, J. (1996) 'Le vin et la médicine dans la Grèce ancienne', *REG* 109: 410–434.
—— (2002) 'Le vin chez Arétée de Cappadoce', in Jouanna and Villard (eds): 113–126.
Jouanna, J. and Villard, L. (eds) (2002) *Vin et santé en Grèce ancienne*, Paris.
Jullian, C. (1920) *Histoire de la Gaule*, Paris. Vol. 5.
Kaenel, G. (1985) 'Boire et manger à la fin de La Tène en Suisse occidentale', *Archäologie der Schweiz* 8: 150–159.
Kahn, L. C. (1996) 'Beer and Brewing', in Fagan (ed.): 90–91.
Kassel, R. and Austin, C. (eds) (1983) *Poetae Comici Graeci*, Berlin and New York. Vol. 4.
Katz, P. C. (1979) 'National Patterns of Consumption and Production of Beer', in Gastineau, Darby, and Turner (eds): 143–155.
Katz, S. H. (ed.) (2003) *Encyclopedia of Food and Culture*, New York, etc.
Katz, S. H. and Maytag, F. (1991) 'Brewing an Ancient Beer', *Archaeology* 44.4: 24–33.
Katz, S. H. and Voigt, M. M. (1986) 'Bread and Beer: The Early Use of Cereal in the Human Diet', *Expedition* 28.2: 23–34.
Kavanagh, T. (1994) 'Archaeological Parameters for the Beginnings of Beer', *BT* 2.5: 44–51.
Keller, M. (1958) 'Beer and Wine in Ancient Medicine', *QJSA* 19: 153–154.
Kellermann, D. (1977) 'Bier', in Galling (ed.): 48–49.
Kendig, P. F. (1949) *The Poems of Saint Columban*, Philadelphia.
Kenney, J. F. (1929) *The Sources for the Early History of Ireland: Ecclesiastical*, New York.
Kerényi, C. (1976) *Dionysos: Archetypal Image of Indestructible Life*, trans. R. Manheim, Princeton.
Kidd, I. G. (1972) *Posidonius. Volume I. The Fragments*, first edition, Cambridge.
—— (1986) 'Posidonian Methodology and the Self-Sufficiency of Virtue', in Flashar and Gigon (eds): 1–28.

—— (1988) *Posidonius. Volume II. The Commentary*, Cambridge.
—— (1989) *Posidonius. Volume I. The Fragments*, second edition, Cambridge.
—— (1997) 'What is a Posidonian Fragment?' in Most (ed.): 225–236.
—— (1999) *Posidonius. Volume III. The Translation of the Fragments*, Cambridge.
Kindstrand, J. F. (1981) *Anacharsis: The Legend and the Apophthegmata*, Uppsala.
King, F. A. (1950) *Beer has a History*, London, New York, etc.
Kissin, B. and Begleiter, H. (eds) (1976) *Social Aspects of Alcoholism*, New York and London.
Klaeber, F. (1922) *Beowulf and the Fight at Finnsburg*, Lexington, Massachusetts.
Kleberg, T. (1957) *Hôtels, restaurants et cabarets dans l'antiquité romaine*, Uppsala.
Knapp, A. B. (1991) 'Spice, Drugs, Grain and Grog: Organic Goods in Bronze Age East Mediterranean Trade', in Gale (ed.): 21–68.
Knowles, D. (1941) *The Monastic Order in England*, Cambridge.
Koch, J. T. (1997) *The Gododdin of Aneirin: Text and Context from Dark-Age North Britain*, Cardiff, Wales.
Koch, J. T. and Carey, J. (eds) (2000) *The Celtic Heroic Age: Literary Sources for Ancient Celtic Europe and Early Ireland and Wales*, Oakville, Connecticut and Aberystwyth.
Kock, E. A. (1902) *Three Middle-English Versions of the Rule of St. Benet*, London.
Körber-Grohne, U. (1985) 'Pflanzliche und tierische Reste aus dem Fürstengrab von Hochdorf. Die Biologie als Hilfswissenshchaft der Archäologie', in Planck, Biel, Süsskind, and Wais (eds): 116–123.
Körber-Grohne, U. and Küster, H. (eds) (1989) *Archäobotanik: Symposium der Universität Hohenheim (Stuttgart) vom 11.–16. Juli 1988*, Berlin and Stuttgart.
Kossatz-Deissmann, A. (1992) 'Maron', *LIMC* VI.1: 362–364 and VI.2: 182.
Kotek, G. (ed.) (1887) *Dreizehnter Jahresbericht des königlichen katholischen Staats-gymnasiums in Hernals*, Wien.
Kovačev, G. (1997) 'Ancient Cults in the Sliven Area in the 2nd–3th (*sic*) Century', *Bulgarian Historical Review* 4: 111–133.
Kramer, J. (1997) 'Bier in der Antike und der Romania', in Bollée and Kramer (eds): 195–214.
Krausse, D. (1996) *Hochdorf III: Das Trink und Speiseservice aus dem späthallstattzeitlichen Fürstengrab von Eberdingen-Hochdorf (Kr. Ludwigsburg)*, Stuttgart.
Krenkel, W. (1965) 'Bier', in Bartels and Huber (eds): 465.
Kretschmer, H. (1996) 'Brauen früher und heute: praktische hinweise zur Nachahmung empfohlen', in Biel (ed.): 76–81.
Kroll, H. (1991) 'Bier oder Wein', *Bericht der römisch-germanischen Kommission* 72: 165–177.
—— (2000) 'Literature on Archaeological Remains of Cultivated Plants (1998/1999)', *VHA* 9: 31–68.
Krötzl, C. (ed.) (1991) *Mediaevalia Fennica*, Helsinki.
Krumeich, R., Pechstein, N., and Seidensticker, B. (eds) (1999) *Das griechische Satyrspiel*, Darmstadt.
Kruta, V. *et al.* (eds) (1991) *The Celts*, Milan.
Künzl, S. (1991) 'Ein Biergefäss aus Mainz: barbotinedekorierte Terra Sigillata mit Inschriften', *Mainzer Zeitschrift* 86: 171–185.
Küster, H. (1984) 'Neolithic plant remains from Eberdingen-Hochdorf, southern Germany', in van Zeist and Casparie (eds): 307–312.
—— (ed.) (1988) *Der prähistorische Mensch und seine Umwelt*, Baden-Württemberg.

Kylstra, H. E. (1974) 'Ale and Beer in Germanic', in Turville-Petre and Martin (eds): 7–16.
Lambert, J. B. (1997) *Traces of the Past: Unraveling the Secrets of Archaeology through Chemistry*, Reading, Massachusetts.
Lambert, P.-Y. (1994) *La langue gauloise*, Paris.
Lane, E. N. (1985) *Corpus Cultus Iovis Sabazii II: The Other Monuments and Literary Evidence*, Leiden.
—— (1989) *Corpus Cultus Iovis Sabazii III: Conclusions*, Leiden.
Lapidge, M. (ed.) (1997) *Columbanus: Studies on the Latin Writings*, Woodbridge, Suffolk.
Laubenheimer, F. (1989) 'Le vin gaulois', *REA* 91: 5–22.
—— (1990) *Le temps des amphores en Gaule: vins, huiles et sauces*, France.
Lauffer, S. (1971) *Diokletians Preisedikt*, Berlin.
Laurenti, R. (1987) *Aristotele. I Frammenti dei Dialoghi*, Naples. 2 vols.
Leech, R. (ed.) (1982) *Excavations at Catsgore 1970–1973*, Bristol.
Legrand, P.-E. (ed.) (1963) *Hérodote, histoires livre II*, Paris.
Leinwand, T. B. (1989) 'Spongy Plebs, Mighty Lords, and the Dynamics of the Alehouse', *JMRS* 19: 159–184.
Lemaire, F. *et al.* (2000) *Villae et sites ruraux de Gaule Belgique*, Ath, Belgium.
Lenfant, D. (2002) 'Le vin dans les stéréotypes ethniques des grecs (du rôle de la norme en ethnographie)', in Jouanna and Villard (eds): 67–84.
Lesko, L. H. (1996) 'Egyptian Wine Production During the New Kingdom', in McGovern, Fleming, and Katz (eds): 215–230.
Lesne, E. (1925) 'L'économie domestique d'un monastère au IXe siècle d'après les status d'Adalhard, abbé de Corbie', in *Mélanges d'histoire du moyen âge offerts à M. Ferdinand Lot par ses amis et ses élèves*, Paris: 385–420.
Levillain, L. (1900) 'Les statuts d'Adalhard', *Le Moyen Age* 13: 233–386.
—— (1909) 'Un état de redevances dues à la mense conventuelle de Saint-Denis (832)', *Bulletin de la société de l'histoire de Paris* 36: 79–90.
Liebermann, F. (1960) *Die Gesetze der Angelsachsen*, Aalen.
Lloyd, A. B. (1976) *Herodotus Book II, Commentary 1–98*, Leiden.
—— (1988) *Herodotus Book II, Commentary 99–182*, Leiden.
Lloyd, G. E. R. (1964) 'The Hot and the Cold, the Dry and the Wet in Greek Philosophy', *JHS* 84: 92–106.
Locke, J. (1859) 'On the "Heath-Beer" of the Ancient Scandinavians', *Ulster Journal of Archaeology*, first series, 7: 219–226.
Lodewijck, M. (ed.) (2001) *Belgian Archaeology in a European Setting*, Louvain.
Loeschcke, S. (ed.) (1928) *Die Erforschung des Tempelbezirkes im Altbachtale zur Trier*, Berlin.
—— (1933) *Denkmäler aus der Zeit der Römerherrschaft an Mosel, Saar, und Ruwer*, Trier.
Long, D., Milburn, P., Bunting, J. M., Tipping, R., and Holden, T. G. (1999) 'Black Henbane (*Hyoscyamus niger* L.) in the Scottish Neolithic: A Re-evaluation of Palynological Findings from Grooved Ware Pottery at Balfarg Riding School and Henge, Fife', *Journal of Archaeological Science* 16: 45–52.
Longo, O. (1999) 'The Food of Others', in Flandrin, Montanari, and Sonnenfeld (eds): 153–162.
Loth, J. (1924) 'Les graffites gaulois de La Graufesenque', *RC* 41: 1–64.
Lucas, A. and Harris, J. R. (1962) *Ancient Egyptian Materials and Industries*, fourth edition, London.

Lucia, S. P. (1963a) *A History of Wine as Therapy*, Philadelphia.
—— (1963b) 'The Antiquity of Alcohol in Diet and Medicine', in Lucia (1963c) 151–166.
—— (ed.) (1963c) *Alcohol and Civilization*, New York, etc.
Ludowici, W. (1905) *Stempel-namen römischer Töpfer von meinen Ausgrabungen in Rheinzabern, 1901–1904*, Munich.
Lust, J. B. (1974) *The Herb Book*, Sini Valley, California.
Lutz, H. F. (1922) *Viticulture and Brewing in the Ancient Orient*, Leipzig.
Mac Cana, P. (1993) 'Ir. *Buaball*, W. *Bual* 'Drinking Horn", *Ériu* 44: 81–93.
McCone, K. (1982) 'Brigit in the Seventh Century: A Saint with Three Lives?', *Peritia* 1: 107–145.
McGovern, P. E. (1997) 'Wine of Egypt's Golden Age: An Archaeochemical Perspective', *JEA* 83: 69–108.
—— (1998) 'Wine's Prehistory', *Archaeology* 51.4 (July/Aug.): 32–34.
—— (2001) 'Meal for Mourners', *Archaeology* 54.4 (July/August): 28–29.
—— (2003) *Ancient Wine: The Search for the Origins of Viniculture*, Princeton.
McGovern, P. E., Fleming, S. J., and Katz, S. H. (eds) (1996) *The Origins and Ancient History of Wine*, Philadelphia.
McGovern, P. E., Glusker, D. L., Exner, L. J., and Voigt, M. M. (1996) 'Neolithic Resinated Wine', *Nature* 381: 480–481.
McGovern, P. E., Glusker, D. L., Moreau, R. A., Nuñez, A., Beck, C. W., Simpson, E., Butrym, E. D., Exner, L. J., and Stout, E. C. (1999) 'A Funerary Feast for King Midas', *Nature* 402 (Dec. 23–30): 863–864.
McGovern, P. E., Hartung, U., Badler, V. R., Glusker, D. L., and Exner, L. J. (1997) 'The Beginnings of Winemaking and Viticulture in the Ancient Near East and Egypt', *Expedition* 39.1: 3–21.
McKinlay, A. P. (1946) 'The Wine Element in Horace', *CJ* 42: 161–168 and 229–236.
—— (1948) 'Ancient Experience with Intoxicating Drinks: Non-Classical Peoples', *QJSA* 9: 388–414.
—— (1949) 'Ancient Experience with Intoxicating Drinks: Non-Attic Greek States', *QJSA* 10: 289–315.
—— (1950) 'Bacchus as Health-giver', *QJSA* 11: 230–246.
—— (1951) 'Attic Temperance', *QJSA* 12: 61–102.
MacLeod, A. M. (1977) 'Beer', in Rose (ed.): 43–137.
McNeal, R. A. (1986) *Herodotus, Book 1*, Boston and London.
Maeir, A. M. and Garfinkel, Y. (1992) 'Bone and Metal Straw-tip Beer-strainers from the Ancient Near East', *Levant* 24: 218–223.
Magennis, H. (1985) 'The *Beowulf* Poet and his *Druncne Dryhtguman*', *Neuphilologische Mitteilungen* 86: 159–164.
—— (1999) *Anglo-Saxon Appetites: Food and Drink and their Consumption in Old English and Related Literature*, Portland, Oregon.
Maksoud, S. A., El Hadidi, M. N., and Amer, W. M. (1994) 'Beer from the Early Dynasties (3500–3400 cal. B.C.) of Upper Egypt Detected by Archaeochemical Methods', *VHA* 3: 219–224.
Malitz, J. (1983) *Die Historien des Poseidonios*, Munich.
Mallory, J. P. and Adams, D. Q. (eds) (1997) *Encyclopedia of Indo-European Culture*, London and Chicago.

Mandelbaum, D. G. (1979) 'Alcohol and Culture', in Marshall (ed.): 14–30.
Marangou, A. (1999) 'Wine in the Cretan Economy', in Chaniotis (ed.): 269–278.
Marazov, I. (1976) 'Les rhytons Thraces (IVe–IIIe s. av. n. ère)', *Plovdiv* 1: 206–212.
—— (1978) *Ritonite v drevna Trakija*, Sofia.
Marichal, R. (1988) *Les graffites de La Graufesenque*, Paris.
Marlière, E. (2002) *L'outre et le tonneau dans l'Occident romain*, Montagnac.
Marshall, M. (ed.) (1979) *Beliefs, Behaviors, and Alcoholic Beverages: A Cross-Cultural Survey*, Ann Arbor, Michigan.
Martin, J. (1931) *Symposion: Die Geschichte einer literarischen Form*, Paderborn.
Martin, R. (1966) 'Virgile et la "Scythie" (*Géorgiques*, III, 349–383)', *REL* 44: 286–304.
Masonen, J. (1991) 'De cerevisia. Oluen ryydittämiä ajatuksia varhaishistorian tutkimuksesta ja tieteidenvälityydestä', in Krötzl (ed.): 35–47.
Mattern, S. P. (1999) *Rome and the Enemy: Imperial Strategy in the Principate*, Berkeley, Los Angeles, and London.
Maurizio, A. (1933) *Geschichte der gegorenen Getränke*, Berlin.
Mayer, A. (1939) 'Illyrisches', *ZVS* 66: 75–127.
—— (1957) *Die Sprache der alten Illyrier*, Vienna. Vol. 1.
—— (1959) *Die Sprache der alten Illyrier*, Vienna. Vol. 2.
Medaglia, S. M. (1977) 'Note archilochee (frr. 42 e 188 West)', *BPEC* 25: 61–69.
Meeks, D. (1993) 'The Production of Oil and Wine in Pharaonic Egypt', in Amouretti, Brun, and Eitam (eds): 3–38.
Megaw, R. and Megaw, V. (1989) *Celtic Art*, London.
Meibom, J. H. (1668) *De cervisiis potibusque et ebriaminibus extra vinum aliis commentarius*, Helmestad.
Meid, W. (1986) 'Remarks on the Celtic Ethnography of Posidonius in the Light of Insular Celtic Tradition', *Anzeiger der philosophisch-historischen Klasse der österreichischen Akademie der Wissenschaften* 123: 60–74.
Meier, F. M. (ed.) (1954) *Westöstliche Abhandlungen*, Wiesbaden.
Menjot, D. (ed.) (1984) *Manger et boire au Moyen Age. Actes du colloque de Nice (15–17 octobre 1982*, Nice. Vol. 1.
Mennell, S., Murcott, A., and van Otterloo, A. H. (1992) *The Sociology of Food, Eating, Diet, and Culture*, London.
Merrington, J. (1994) 'Liquid Gold of the Pharaohs', *EA* 4: 10.
Mertens, M. (1995) *Les alchimistes grecs, tome IV, 1re partie: Zosime de Panopolis, Mémoires authentiques*, Paris.
Michel, R. H., McGovern, P. E., and Badler, V. R. (1992) 'Chemical Evidence for Ancient Beer', *Nature* 360: 24.
—— (1993) 'The First Wine and Beer: Chemical Detection of Ancient Fermented Beverages', *Analytical Chemistry* 65.8: 408A–413A.
Miège, J.-L. (ed.) (1993) *Les céréales en Méditerranée*, Marseilles.
Miket, R. and Burgess, C. (eds) (1984) *Between and Beyond the Walls: Essays on the Prehistory and History of North Britain in Honour of George Jobey*, Edinburgh.
Milano, L. (1994a) 'Vino e birra in Oriente: confini geografici e confini culturali', in Milano (1994b): 421–440.
—— (ed.) (1994b) *Drinking in Ancient Societies: History and Culture of Drinks in the Ancient Near East (Bere e bevende nel Vicino Oriente antico). Papers of a Symposium Held in Rome, May 17–19, 1990*, Padua.

Millett, M. (1990) *The Romanization of Britain*, Cambridge.
Mohen, J.-P. (1991) 'The Princely Tombs of Burgundy', in Kruta *et al.* (eds): 116–122.
Monckton, H. A. (1966) *A History of English Ale and Beer*, London.
—— (1969) *A History of the English Public House*, London, Sydney, and Toronto.
Morcos, S. R., Hegazi, S. M., and El-Damhougy, S. T. (1973) 'Fermented Foods of Common Use in Egypt II: The Chemical Composition of *Bouza* and its Ingredients', *Journal of the Science of Food and Agriculture* 24: 1157–1161.
Morris, J. and Macready, S. (1999) *Londinium: London in the Roman Empire*, London.
Moulin, L. (1981) 'Bière, houblon et cervoise', *Bulletín de l'académie royale de langue et littérature françaises* 59: 111–148.
—— (1984) 'La bière, une invention médiévale', in Menjot (ed.): 13–31.
Müller, J. (1941) 'Das Bier in den ältesten Geschichtsquellen des Klosters St. Gallen', *Schweizerische Brauerei – Rundschau* 52: 78–81.
Murphy, G. R. (1999) '*Mid alofatun*: Secular Beer, Sacred Ale', in Carr, Harbert, and Zhang (eds): 183–188.
Murray, G. (1940) *Aeschylus: The Creator of Tragedy*, Oxford.
Murray, M. A., Boulton, N., and Heron, C. (2000) 'Viticulture and Wine Production', in Nicholson and Shaw (eds): 577–608.
Murray, O. (1982) 'Symposion and Männerbund', in Oliva and Frolikóvá (eds): 47–52.
—— (1983a) 'The Greek Symposium in History', in Gabba (ed.): 257–272.
—— (1983b) 'The Symposium as Social Organisation', in Hägg and Marinatos (eds): 195–199.
—— (1990a) 'Sympotic History', in Murray (ed.) (1990b): 3–13.
—— (ed.) (1990b) *Sympotica: A Symposium on the* Sumposion, Oxford.
—— (1995) 'Histories of Pleasure', in Murray and Tecuşan (eds): 3–17.
Murray, O. and Tecuşan, M. (eds) (1995) *In Vino Veritas*, London.
Mylonas, G. E. and Raymond, D. (eds) (1953) *Studies Presented to David Moore Robinson*, St. Louis, Missouri. Vol. 2.
Nagy, A. M. (1994) 'Sucellus', *LIMC* 7.1: 820–823 and 7.2: 578–580.
Napier, A. S. (1916) *The Old English Version of the Enlarged Rule of Chrodegang together with the Latin Original*, London.
Nelson, M. (2001a) 'Beer in Greco-Roman Antiquity', Ph.D. Thesis, University of British Columbia.
—— (2001b) 'ζυτουργεῖον: A Scholarly Ghost Word', *Mnemosyne* 54: 721–723.
—— (2003a) 'The Cultural Construction of Beer among Greeks and Romans', *Syllecta Classica* 14: 101–120.
—— (2003b) 'On a Beautiful Girl and Some Good Barley Beer', *EC* 35: 257–259.
Nencioni, G. (1939) 'Innovazioni africane nel lessico latino', *SIFS* n.s. 16: 3–50.
Neumann, H. (1997) 'Bier, alter Orient', in Cancik and Schneider (eds): Vol. 2, 652–653.
Neve, R. A. (1991) *Hops*, London.
Nicholson, P. T. and Shaw, I. (eds) (2000) *Ancient Egyptian Materials and Technology*, Cambridge.
Nierhaus, R. (1954) 'Kaiserzeitliche Südweinexport nach dem freien Germanien?', *Acta Archaeologica* (Copenhagen) 25: 252–260.
Nougayrol, J. (1955) *Le palais royal d'Ugarit III: textes accadiens et hourrites des archives est, ouest et centrales*, Paris.

O'Brien, J. M. (1980) 'The Enigma of Alexander: the Alcohol Factor', *Annals of Scholarship* 1: 31–46.
—— (1992) *Alexander the Great. The Invisible Enemy*, London and New York.
O'Brien, M. A. (1938) 'The Old Irish Life of St. Brigit', *Irish Historical Studies* 1.2: 121–134.
O'Connor, B. (1980) *Cross-Channel Relations in the Later Bronze Age*, Oxford.
Olck, F. (1899) 'Bier', *RE* III.1: 457–464.
Oliva, P. and Frolikóvá, A. (eds) (1982) *Concilium Eirene, XVI/1*, Prague.
Olivier, J.-P. (ed.) (1992) *Mykenaïka*, Paris.
Olmsted, G. S. (1979) *The Gundestrup Cauldron*, Brussels.
Olson, S. (ed.) (1998) *Aristophanes.* Peace, Oxford.
Olsson, S.-O. R. (2003) 'Beer: Origins and Ancient History', in Katz: 171–175.
Otto, W. F. (1965) *Dionysus: Myth and Cult*, trans. R. B. Palmer, Bloomington and Indianapolis.
P., L. (1999) [no title] *Discovering Archaeology* 3.
Page, D. (1981) *Further Greek Epigrams*, Cambridge etc.
Page, D. L. (1941) *Select Papyri: Poetry*, Cambridge, Massachusetts and London. Vol. 3.
Page, T. E. (1951) *P. Vergili Maronis Bucolica et Georgica*, London.
Pailler, J.-M. (1995) *Bacchus: figures et pouvoirs*, Paris.
Pain, S. (1999) 'Greek Grog', *New Scientist* 164.2214 (Nov. 27): 54–57.
Palmer, R. (1992) 'Wheat and Barley in Mycenaean Society', in Olivier (ed.): 475–495.
—— (1994) *Wine in the Mycenaean Palace Economy*, Liège.
—— (2002) 'Beer in the Linear B Records?' Lecture given at the Archaeological Institute of America annual meeting.
Peacock, D. P. S. and Williams, D. F. (1986) *Amphorae and the Roman Economy: An Introductory Guide*, London and New York.
Peck, H. T. (1965) '*Cervesia, cervisia,* or *cerevisia*', in *Harper's Dictionary of Classical Literature and Antiquities*, New York: 321.
Peruzzi, E. (1947) 'A propos de l'origine gréco-égyptienne ζύθος', *Humanitas* 1: 138–140.
Pfeiffer, R. (1968) *History of Classical Scholarship from the Beginning to the End of the Hellenistic Age*, Oxford.
Philippe, M. (1926a) 'Die Braukunst der alten Ägypter im Lichte heutiger Brautechnik', in Schulze-Besse (ed.): Vol. 1, 55–57.
—— (1926b) 'Die Braukunst der alten Babylonier im Vergleich zu den heutigen Braumethoden', in Schulze-Besse (ed.): Vol. 1, 29–31.
Phillips, R. (2000) *A Short History of Wine*, London, New York, etc.
Piening, U. (1988) 'Verkohlte Pflanzenreste aus zwei römischen Gutshöfen bei Bad Dürkheim (Pfalz). Gekeimtes Getreide aus archäologischen Ausgrabungen', in Küster (ed.): 325–340.
Pierce, J. S. (ed.) (1982) *European Brewery Convention Flavour Symposium* (Monograph VII), Darmstadt.
Pini, G. (1972) 'Osservazioni sulla *Pitica* XI', *SIFC* 44: 216–217.
Piteros, C., Olivier, J.-P., and Melena, J. L. (1990) 'Les inscriptions en linéaire B des nodules de Thèbes', *BCH* 114: 103–184.
Planck, D., Biel, J., Süsskind, G., and Wais, A. (eds) (1985) *Der Keltenfürst von Hochdorf: Methoden und Ergebnisse der Landesarchäologie*, Stuttgart.
Platnauer, M. (1921) '*Adnotationes variae*', *CR* 25: 149–150.

Plummer, C. (1910) *Vitae sanctorum Hiberniae*, Oxford. Vol. 1.
—— (1922) *Bethada Náem nÉrenn: Lives of Irish Saints*, Oxford. 2 vols.
Pokorny, J. (1994) *Indogermanisches etymologisches Wörterbuch*, third edition, Tübingen and Basel. Vol. 1.
Polomé, E. C. (1954) 'Notes sur le vocabulaire religieux du germanique. 1. Runique *alu*', *La Nouvelle Clio* 5: 40–55.
—— (1996) 'Beer, Runes and Magic', *Journal of Indo-European Studies* 24: 99–105.
Poulter, A. G. (ed.) (1983) *Ancient Bulgaria*, Nottingham. Part 1.
Powell, E. A. (2001) 'This Dung's For You', *Archaeology* 54.6 (Nov./Dec.): 10.
Power, P. (ed.) (1914) *Life of St. Eclan of Ardmore and Life of St. Mochuda of Lismore*, London.
Pralon, D. (1992) 'La légende de la fondation de Marseille', in Bats, Bertucchi, Conges, and Treziny (eds): 51–56.
Préaux, C. (1939) *L'économie royale des Lagides*, Brussels.
Price, L. (1982) *The Plan of St. Gall in Brief*, Berkeley, Los Angeles, and London.
Privitera, G. A. (1970) *Dioniso in Omero e nella poesia greca arcaica*, Rome.
Purcell, N. (1985) 'Wine and Wealth in Ancient Italy', *JRS* 75: 1–19.
Quick, R. and Simon, S. J. (1999) 'Wheat Production and the Romanization of Northern Gaul', *The Ancient World* 30: 59–62.
Radin, M. (1924) '*Roma Praevolstaediana*', *CJ* 19: 484–489.
Radner, J. N. (ed.) (1978) *Fragmentary Annals of Ireland*, Dublin.
Radt, S. (1985) *Tragicorum Graecorum Fragmenta*, Göttingen. Vol. 3.
Rankin, D. (1987) *Celts and the Classical World*, London and New York.
Rankin, H. D. (1977) *Archilochus of Paros*, Park Ridge, New Jersey.
Rathbone, D. W. (1983) 'Italian Wines in Roman Egypt', *Opus* 2: 81–98.
Read. (1868) 'Vase gallo-romain avec inscription', *RA* n.s. 18: 225–227 with pl. xxii.
Reil, T. (1913) *Beiträge zur Kenntnis des Gewerbes im hellenistischen Ägypten*, Borna and Leipzig.
Renfrew, J. M. (1995) 'Vegetables in the Ancient Near Eastern Diet', in Sasson (ed.): Vol. 1, 191–202.
Rest, J. G. P. and De Vries, N. M. W. (eds) (1989) *Thracians and Macedonians*, Leiden.
Reynolds, P. (1995) 'The Food of the Prehistoric Celts', in Wilkins, Harvey, and Dobson (eds): 303–315.
Reynolds, P. J. and Langley, J. K. (1979) 'Romano-British Corn-Drying Oven: An Experiment', *Archaeological Journal* 136: 27–42.
Richardson, N. J. (1974) *The Homeric Hymn to Demeter*, Oxford.
Richey, A. G. (ed.) (1879) *Ancient Laws of Ireland*, Dublin and London. Vol. 4.
Rieckhoff, S. (1992) 'Eine römische "Brauerei" aus Regensburg', in Ruprechtsberger (ed.) (1992c): 27–33.
Riginos, A. S. (1976) *Platonica: The Anecdotes Concerning the Life and Writings of Plato*, Leiden.
Ritchie, A. (ed.) (2000) *Neolithic Orkney in its European Context*, Cambridge.
Ritchie, C. I. (1981) A. *Food in Civilization: How History has been Affected by Human Tastes*, New York.
Rives, J. B. (1999) *Tacitus. Germania*, Oxford.
Rivet, A. L. F. (1969) *The Roman Villa in Britain*, London.
Robert, P. and Rey, A. (eds) (1985) *Le grand Robert de la langue française*, second edition, Paris. Vol. 1.

Robertson, A. J. (1956) *Anglo-Saxon Charters*, Cambridge.
Rodrigues, L. J. (1998) *Sixty-Five Anglo-Saxon Riddles*, second edition, Felinfach, Wales.
Rolle, R. (1989) *The World of the Scythians*, trans. F. G. Walls, Berkeley and Los Angeles.
Rolleston, J. D. (1927) 'Alcoholism in Classical Antiquity', *British Journal of Inebriety* 24: 101–120.
Röllig, W. (1970) *Das Bier im alten Mesopotamien*, Berlin.
—— (1992) 'Die Anfänge der Braukunst im Zweistromland', in Ruprechtsberger (ed.) (1992c): 9–14.
Römer, C. E. and Gagos, T. (eds) (1996) *P. Michigan Koenen*, Amsterdam.
Rösch, M. (1999) 'Evaluation of Honey Residues from Iron Age Hill-top Sites in Southwestern Germany: Implications for Local and Regional Land Use and Vegetation Dynamics', *VHA* 8: 105–112.
Rose, V. (ed.) (1875) *Plinii Secundi quae fertur una cum Gargilii Martialis Medicina*, Leipzig.
Roseman, C. H. (1994) *Pytheas of Massalia:* On the Ocean. *Test, Translation and Commentary*, Chicago.
Rosenwein, B. H. (1977) 'Rules and the "Rule" at Tenth-Century Cluny', *Studia Monastica* 19: 307–320.
Ross, A. (1967) *Pagan Celtic Britain: Studies in Iconography and Tradition*, London and New York.
—— (1970) *Everyday Life of the Pagan Celts*, London and New York.
Rostovtzeff, M. (1922) *A Large Estate in Egypt in the Third Century B.C.: A Study in Economic History*, Madison.
—— (1930) 'Note sur deux inscriptions latines de Trèves et de Bonn', *Comptes rendus de l'Académie d'inscriptions et de belles-lettres*: 250–260.
—— (1941) *Social and Economic History of the Hellenistic World*, Oxford. 3 vols.
Rouche, M. (1973) 'La faim à l'époque carolingienne: essai sur quelques types de rations alimentaires', *Revue historique* 250: 295–320.
Rowland, J. (1990) 'OE *Ealuscerwen*/*Meouscerwen* and the Concept of "Paying for Mead"', *Leeds Studies in English and Kindred Languages* n.s. 21: 1–12.
Rudenko, S. I. (1970) *Frozen Tombs of Siberia: The Pazyryk Burials of Iron Age Horsemen*, trans. M. W. Thompson, London.
Rudgley, R. (1993) *The Alchemy of Culture: Intoxicants in Society*, London.
Ruprechtsberger, E. M. (1992a) '"Wirtin, füll' die Flasche mit Bier!" Bier in griechisch- römischer Zeit: ein Überblick', in Ruprechtsberger (ed.) (1992c): 15–24.
—— (1992b) 'Bier bei den Kelten', in Ruprechtsberger (ed.) (1992c): 25–26.
—— (ed.) (1992c) *Bier im Altertum: ein Überblick*, Linz.
Russu, I. I. (1959) *Limba Thraco-Dacilor*, Bucharest.
S., M. (1993) 'Beer: Civilization's Greatest Boon', *Bible Review* 9.4 (Aug.): 28–29.
Saint-Denis, E. de (1960) *Virgile Géorgiques*, Paris.
Salin, E. (1959) *La civilisation Mérovingienne*, Paris. Vol. 4.
Salinas de Frías, M. (1986) *Conquista y romanización de Celtiberia*, Salamanca.
Sallares, J. R. (1996) 'Cereals', in *OCD* 312–313.
Salonen, E. (1970) *Über das Erwerbsleben im alten Mesopotamien: Untersuchungen zu den Akkadischen Berufsnamen*, Helsinki. Vol. 1.

Sams, G. K. (1977) 'Beer in the City of Midas', *Archaeology* 30: 108–115.
—— (1995) 'Midas of Gordion and the Anatolian Kingdom of Phrygia', in Sasson (ed.): Vol. 2, 1147–1159.
Samuel, D. (1993) 'Ancient Egyptian Cereal Processing: Beyond the Artistic Record', *Cambridge Archaeological Journal* 3.2: 276–283.
—— (1994) 'A New Look at Bread and Beer', *EA* 4: 9–11.
—— (1995) 'Rediscovering Ancient Egyptian Beer', *Brewer's Guardian* 124.12 (Dec.): 27–31.
—— (1996a) 'Archaeology of Ancient Egyptian Beer', *JASBC* 54: 3–12.
—— (1996b) 'Investigation of Ancient Egyptian Baking and Brewing Methods by Correlative Microscopy', *Science* 273 (July 26): 488–490.
—— (1999) 'Breadmaking and Social Interactions at the Amarna Workmen's Village, Egypt', *World Archaeology* 31: 121–144.
—— (2000) 'Brewing and Baking', in Nicholson and Shaw (eds): 437–576.
Sasson, J. A. (ed.) (1995) *Civilizations of the Ancient Near East*, New York etc. 2 vols.
Savage, J. J. H. (1965) 'The Wine of Maron', *TAPA* 96: 375–401.
Schienerl, J. (1998) 'Viele Völker, viele Biersorten', in Both (ed.): 137–164.
Schlenk, F. (1997) 'Early Research on Fermentation – A Story of Missed Opportunities', in Cornish-Bowden (ed.): 43–50.
Schlüter, W. (1999) 'The Battle of the Teutoburg Forest: Archaeological Research at Kalkreise near Osnabrück', in Creighton and Wilson (eds): 125–159.
Schrader, O. and Nehring, A. (1917) 'Bier', in *Reallexikon der Indogermanischen Altertumskunde*, Berlin: Vol. 1, 142–146.
Schrot, G. (1964) 'Bier', in Ziegler and Sontheimer (eds): 900.
Schulten, A. (1914–1931) *Numantia*, Munich. 4 vols and atlas.
Schulze-Besse, H. (ed.) (1926–1928) *Bier und Bierbereitung bei den Völkern der Urzeit*, Berlin. 3 vols.
Schwyzer, E. (1939) *Griechische Grammatik*, Munich. Vol. 1.
Scullard, H. H. (1979) *Roman Britain: Outpost of the Empire*, London.
Scully, T. (1995) *The Art of Cookery in the Middle Ages*, Woodbridge, Suffolk and Rochester, New York.
Seltman, C. (1957) *Wine in the Ancient World*, London.
Selz, G. (1983) *Die Bankettszene. Die Entwicklung eines 'überzeitlichen' Bildmotivs in Mesopotamien, von der frühdynastischen bis zur Akkad-Zeit*, Wiesbaden.
Serjeant, R. (1964) *A Man May Drink: Aspects of a Pleasure*, London.
Sharpe, R. (1982) '*Vitae S. Brigitae*: The Oldest Texts', *Peritia* 1: 81–106.
—— (1991) *Medieval Irish Saints' Lives: An Introduction to* Vitae Sanctorum Hiberniae, Oxford.
Sharples, R. W. (1995) *Theophrastus of Eresus: Sources for his Life, Writings, Thought, and Influence: Sources on Biology*, Leiden and New York. Vol. 5.
Shaw, B. D. (1982–1983) '"Eaters of Flesh, Drinkers of Milk": The Ancient Mediterranean Ideology of the Pastoral Nomad', *Ancient Society* 13–14: 5–31.
Sherratt, A. (1987) 'Cups that Cheered', in Waldren and Kennard (eds): 81–114, reprinted in Sherratt (1997): 376–402.
—— (1995) 'Alcohol and its Alternatives: Symbol and Substance in Pre-Industrial Cultures', in Goodman, Lovejoy, and Sherratt (eds): 11–46.
—— (1997) *Economy and Society in Prehistoric Europe: Changing Perspectives*, Edinburgh.

Sidwell, K. (2000) 'Athenaeus, Lucian and Fifth-Century Comedy', in Braund and Wilkins (eds): 136–152.

Siebert, A. V. (1998) '. . . es fehlt nirgendwo in der Welt and dergleichen', in Both (ed.) 111–133.

Simek, R., Kristjánsson, J., and Bekker-Nielsen, H. (eds) (1986) *Sagnaskemmtun: Studies in Honour of Hermann Pálsson*, Wien, Köln, and Graz.

Singer, C., Holmyard, E. J., and Hall, A. R. (eds) (1954) *A History of Technology*, New York and London. Vol. 1.

Singer, C., Holmyard, E. J., Hall, A. R., and Williams, T. I. (eds) (1956) *A History of Technology*, New York and London. Vol. 2.

Singleton, V. L. (1996) 'An Enologist's Commentary on Ancient Wines', in McGovern, Fleming, and Katz (eds): 67–77.

Slater, W. J. (ed.) (1991) *Dining in a Classical Context*, Ann Arbor, Michigan.

Smith, W., Wayte, W., and Marindin, G. E. (eds) (1890) *Dictionary of Greek and Roman Antiquities*, third edition, London. Vol. 1.

Sommerstein, A. H. (1990–1993) 'Aesch. *Suppl.* 952s ('Beer no drink for men')', *Museum Criticum* 25–28: 59–64.

Sournia, J.-C. (1986) *Histoire de l'alcoolisme*, Paris.

Souter, A. (1949) *A Glossary of Later Latin to 600 A.D.*, Oxford.

Spiller, B. (1955) 'The Story of Beer: I. The First Five Thousand Years', *Geographical Magazine* 28.2 (June): 86–94.

Stakenborg-Hoogeveen, J. (1989) 'Macedonian Thrace from the Fifth till the Third Century B.C.: A Summary', in Rest and De Vries (eds): 181–189.

Steiger, A. (1954) 'Vom Hopfen', in Meier (ed.): 87–106.

Steiner, G. (1971) 'Getränke. B. Nach hethitischen Texten', in Ebeling, Meissner, Weidner, and von Soden (eds): 306–308.

Stevenson, J. B. (1997) 'The Monastic Rules of Columbanus', in Lapidge (ed.): 203–216.

Stika, H.-P. (1996a) 'Traces of a Possible Celtic Brewery in Eberdingen-Hochdorf, Kreis Ludwigsburg, southwest Germany', *VHA* 5: 81–88.

—— (1996b) 'Keltisches Bier aus Hochdorf', in Biel (ed.): 64–75.

—— (1998a) 'Zu den biologischen Grundlagen des Brauens und der Kultivierungsgeschichte der Getreide', in Both (ed.): 11–38.

—— (1998b) 'Prähistorische Biere: archäobotanische Funde und Experimente zum Nachbrauen', in Both (ed.) 39–47.

—— (1998c) 'Bodenfunde und Experimente zu keltischem Bier', *Experimentelle Archäologie in Deutschland* 19: 45–54.

Stokes, W. and Strachan, J. (1903) *Thesaurus Palaeohibernicus: A Collection of Old-Irish Glosses, Scholia, Prose, and Verse*, Cambridge. Vol. 2.

Stol, M. (1971) 'Zur altmesopotamischen Bierbereitung', *BO* 28: 167–171.

—— (1989) 'Malz', in Ezard (ed.): 322–328.

—— (1994) 'Beer in Neo-Babylonian Times', in Milano (ed.) (1994b): 155–183.

—— (1995) 'Private Life in Ancient Mesopotamia', in Sasson (ed.): Vol. 1, 485–502.

Stone, J. (1991) 'Big Brewhaha of 1800 B.C', *Discover Magazine* 12.1 (Jan.): 12, 14, and 16.

Strübing, E. (1960) 'Vom Wein als Genuss- und Heilmittel im Alterum mit Plinius und Asklepiades', *Ernährungsforschung* 5: 572–594.

Stuhl, K. (1928) 'Die Sumerer-Semnonen und das Bier bei den Sumerern und Indern', in Schulze-Besse (ed.): Vol. 3, 9–20.

Sutton, D. F. (1975) 'A Series of Vases Illustrating the Madness of Lycurgus', *RDSC* 23: 356–360.

Sweet, H. (1885) *The Oldest English Texts*, London.

Tassignon, I. (1998) 'Sabazios dans les panthéons des cités d'Asie Mineure', *Kernos* 11: 189–208.

Taubenschlag, R. (1955) *The Law of Greco-Roman Egypt in the Light of the Papyri: 332 B.C.–640 A.D.*, second edition, Warsaw.

Tchernia, A. (1983) 'Italian Wine in Gaul at the End of the Republic', in Garnsey, Hopkins, and Whittaker (eds): 87–104.

—— (1986) *Le vin de l'Italie romaine: essai d'histoire économique d'après les amphores*, Rome.

Teodorsson, S.-T. (1989) *A Commentary on Plutarch's* Table Talks, Göteborg, Sweden. Vol. 1.

Thomsen, T. (1929) 'Egekistfundet fra Egtved, fra den Aeldere Bronze Alder', *Nordisk Fortidsminder* 2: 165–214.

Thorpe, B. (1840) *Ancient Laws and Institutes of England*, London. 2 vols.

Tolles, D. (1943) *The Banquet-Libations of the Greeks*, Ann Arbor, Michigan.

Tomaschek, W. (1894) *Die alten Thraker: eine ethnologische Untersuchung*, Vienna. Vol. 2.

Tsetskhladze, G. R. (ed.) (1999) *Ancient Greeks: West and East*, Leiden, Boston, and Köln.

Tucker, T. G. (1889) *Aeschylus:* The Supplices, London.

Tuplin, C. (1999) 'Greek Racism? Observations on the Character and Limits of Greek Ethnic Prejudice', in Tsetskhladze (ed.): 47–75.

Turcan, R. (1989) *Les cultes orientaux dans le monde romain*, Paris.

Turville-Petre, G. and Martin, J. S. (eds) (1974) *Iceland and the Mediaeval World: Studies in Honour of Ian Maxwell*, Melbourne.

Tzedakis, Y. and Martlew, H. (eds) (1999) *Minoans and Mycenaeans: Flavours of their Time*, Athens.

Unger, R. W. (2004) *Beer in the Middle Ages and the Renaissance*, Philadelphia.

Unwin, T. (1991) *Wine and the Vine: An Historical Geography of Viticulture and the Wine Trade*, London and New York.

Vaillant, V.-J. (1885) 'A propos des vases pastillés et épigraphiés de l'époque gallo-romaine trouvés dans le Boulonnais', *Bulletin de la commission des antiquités départementales ou monuments historiques du Pas-de-Calais* 6: 219–220.

Valiño, A. (1999) 'La cerveza en las fuentes romanas: base textual y fidación de su importancia', *AHB* 13: 60–71.

Van den Hout, T. P. J. and de Roos, J. (eds) (1995) *Studio Historiae Ardens: Ancient Near Eastern Studies Presented to Philo H. J. Houwink ten Cate on the Occasion of his 65th Birthday*, Istanbul.

Van der Veen, M. (1989) 'Charred Grain Assemblages from Roman-Period Corn Driers in Britain', *AJ* 146: 302–319.

Van Minnen, P. (1991) 'Lentils from Pelusium: A Note on Vergil's *Georgics* 1, 228', *Mnemosyne* 44: 167–170.

Van Vilsteren, V. T. (1996) 'From Herbs to Hops: Outlines of the Brewing Process in Medieval Europe', *Halve Maen* 69.3: 41–46.

Van Zeist, W. (1991) 'Economic Aspects', in Van Zeist, Wasylikowa, and Behre (eds): 109–130.
Van Zeist, W. and Casparie, W. A. (eds) (1984) *Plants and Ancient Man: Studies in Palaeoethnobotany*, Rotterdam and Boston.
Van Zeist, W., Wasylikowa, K., and Behre, K.-E. (eds) (1991) *Progress in Old World Palaeoethnobotany*, Rotterdam.
Vaughan, S. J. and Coulson, W. D. E. (eds) (2000) *Palaeodiet in the Aegean*, London.
Vencl, S. (1994) 'The Archaeology of Thirst', *Journal of European Archaeology* 2: 229–326.
Ventris, M. and Chadwick, J. (eds) (1973) *Documents in Mycenaean Greek*, second edition, Cambridge.
Verhulst, A. E. and J. Semmler. (1962) 'Les statuts d'Adalhard de Corbie', *Le Moyen Age* 68: 91–123 and 233–269.
Vermaseren, M. J. (1983) *Corpus Cultus Iovis Sabazii I: The Hands*, Leiden.
Vieillefond, J.-R. (1970) *Les 'Cestes' de Julius Africanus*, Paris.
Villard, F. (1960) *La céramique grecque de Marseille (VIe–IVe siècle), essai d'histoire économique*, Paris.
Villard, L. (2002) 'Du vin pour la santé des troupes', in Jouanna and Villard (eds): 55–65.
Villard, P. (1988a) 'Les barbares et la boisson', *Caesarodunum* 24: 247–252.
—— (1988b) 'Le mélange et ses problèmes', *REA* 90: 19–33.
Volke, K. (1998) 'Die Anfänge alkoholischer Getränke – Bier, Wein und Alkohol im Spiegel der Geschichte', *Das Altertum* 44: 123–149.
Waddell, W. G. (1939) *Herodotus, History Book 2*, London.
Waldren, W. H. and Kennard, R. C. (eds) (1987) *Bell Beakers of the Western Mediterranean: Definition, Interpretation, Theory, and New Site Data*, Oxford.
Wallace, S. L. (1938) *Taxation in Egypt from Augustus to Diocletian*, Princeton.
Wallace-Hadrill, J. M. (1982) *The Long-Haired Kings*, Toronto, Buffalo, and London.
—— (1996) *The Barbarian West: 400–1000*, revised edition, Oxford.
Wartke, R.-B. (1998) 'Bier in den altvorderasiatischen Hochkulturen', in Both (ed.): 91–108.
Wartmann, H. (1863) *Urkundenbuch der Abtei Sanct Gallen*, Zurich. Vol. 1.
—— (1866) *Urkundenbuch der Abtei Sanct Gallen*, Zurich. Vol. 2.
Wasson, R. G., Ruck, C. A. P., and Hofmann, A. (1978) *The Road to Eleusis: Unveiling the Secret of the Mysteries*, New York and London.
Watkins, C. (ed.) (2000) *The American Heritage Dictionary of Indo-European Roots*, second edition, Boston and New York.
Wells, P. S. (1980) *Culture Contact and Culture Change: Early Iron Age Central Europe and the Mediterranean World*, Cambridge, etc.
—— (1995) 'Trade and Exchange', in Green (ed.): 230–243.
—— (1999) *The Barbarians Speak: How the Conquered Peoples Shaped Roman Europe*, Princeton and Oxford.
—— (2001) *Beyond Celts, Germans and Scythians: Archaeology and Identity in Iron Age Europe*, London.
Wells, P. S. and Bonfante, L. (1979) 'West Central Europe and the Mediterranean: the Decline in Trade in the Fifth Century B.C', *Expedition* 21: 18–23.
Wessely, K. (1887) 'Zythos und Zythera', in Kotek (ed.): 38–48.
West, M. L. (1990) *Studies in Aeschylus*, Stuttgart.

—— (1994) 'Some Oriental Motifs in Archilochus', *ZPE* 102: 1–5.
—— (1997) *The East Face of Helicon: West Asiatic Elements in Greek Poetry and Myth*, Oxford.
West, S. (1999) 'Introducing the Scythians: Herodotus on Koumiss (4.2)', *Museum Helveticum* 56: 76–86.
Westendorf, W. (1973) Review of Helck (1971). *BO* 30: 40–42.
Whallon, W. (1983a) 'When in *Beowulf* is Beer Drunk, or Mead, when Ale or Wine?' in Whallon (ed.) (1983b): 82–100.
—— (ed.) (1983b) *Inconsistencies: Studies in the New Testament, the* Inferno*,* Othello*, and* Beowulf, n.p.
Whatmough, J. (1953) 'Some Lexical Variants in the Dialects of Ancient Gaul', in Mylonas and Raymond (eds): 477–482.
—— (1970) *The Dialects of Ancient Gaul*, Cambridge, Massachusetts.
Whitaker, I. (1981–1982) 'The Problem of Pytheas' Thule', *CJ* 77: 148–164.
Wickham-Jones, C. *et al.* (1990) *Rhum: Mesolithic and Later Sites at Kinloch Excavations, 1984–86*, Edinburgh.
Wiessner, P. and Schiefenhövel, W. (eds) (1996) *Food and the Status Quest: An Interdisciplinary Perspective*, Providence, Rhode Island and Oxford.
Wightman, E. M. (1970) *Roman Trier and the Treveri*, London.
—— (1985) *Gallia Belgica*, London.
Wilkins, J., Harvey, D., and Dobson, M. (eds) (1995) *Food in Antiquity*, Exeter.
Williams, N. (1996) 'How the Ancient Egyptians Brewed Beer', *Science* 273: 432.
Wilson, C. A. (1973) *Food and Drink in Britain from the Stone Age to Recent Times*, London.
Wilson, D. G. (1975) 'Plant Remains from the Graveney Boat and the Early History of *Humulus lupulus* L. in W. Europe', *New Phytologist* 75: 627–648.
Wilson, D. G. and Conolly, A. P. (1978) 'Plant Remains Including Evidence for Hops', in Fenwick (ed.) (1978b): 133–150.
Wilson, H. (2003) *Wine and Words in Classical Antiquity and the Middle Ages*, London.
Winterbottom, M. (1976) 'Columbanus and Gildas', *Vigiliae Christianae* 30: 310–317.
Woodbury, L. (1961) 'Apollodorus, Xenophanes, and the Foundation of Massilia', *Phoenix* 25: 134–155.
Worms, A.-L. (2002) 'Ivresse de l'âme et santé du corps: à propos de l'interprétation allégorique du *Banquet* de Platon (203b) dans le traité III, 5 (50) des *Ennéades* de Plotin', in Jouanna and Villard (eds): 233–241.
Wright, J. C. (ed.) (2004) *The Mycenaean Feast*, Princeton.
Wright, T. and Wülcker, R. P. (1884) *Anglo-Saxon and Old English Vocabularies*, second edition, London. 2 vols.
Wright-St. Clair, R. E. (1962) 'Beer in Therapeutics: An Historical Annotation', *New Zealand Medical Journal* 61 (Oct.): 512–513.
Yates, J. and Flather, J. H. (1890) 'Cervesia, Cervisia, Cerevisia', in Smith, Wayte, and Marindin (eds): 407.
Yerkes, D. (ed.) (1984) *The Old English Life of Machutus*, Toronto, Buffalo, and London.
Young, P. A. (1991) 'Recreating an Ancient Beer', *Archaeology* 44.4 (July–Aug.): 2.
Younger, W. (1966) *Gods, Men, and Wine*, Cleveland.
Ziegler, K. and Sontheimer, W. (eds) (1964) *Der Kleine Pauly*, Stuttgart. Vol. 1.
Zohary, D. and Hopf, M. (2000) *Domestication of Plants in the Old World*, third edition, Oxford.

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