PROLEGOMENA TO THE DIFFUSION OF WINEMAKING IN ANTIQUITY.
A STUDY IN CULTURAL GEOGRAPHY.

by

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ABSTRACT

This is a study of wine in antiquity. An attempt to describe the spatial diffusion of winemaking in ancient times and to acknowledge the principal factors which spurred that diffusion has produced a study which is simple in structure, but wide-ranging in temporal and geographical compass as well as in its topical diversity. Basically, it consists of two sections, corresponding to the dual preoccupation of diffusion and function.

Part I traces winemaking's diffusion from its likely beginnings to the end of the Roman Empire. Although casual Palaeolithic fermentation was probably practised, organised winemaking awaited the systematic viticulture which arrived with the Neolithic. From a generally agreed origin in Armenia, winemaking's story is followed through a series of lands: Babylonia and Assyria, Egypt, Anatolia, Persia, the Levant, Greece, Italy, and the Roman Empire in Africa and Europe. The oenological variety of these lands is made apparent. Major patterns of wine trading and their influence or lack of it on winemaking's spread are studied. What emerges from this account is the startling vigour of this diffusion story, indicative of the high esteem in which ancient man held wine.

Part II attempts to identify the reasons for such esteem in order to understand the diffusion momentum of winemaking. The utility of wine to the ancients is examined systematically in some detail. The following themes are treated: wine for the body, that
is, wine as liquid, wine as food, wine as medicine (and aphrodisiac); wine for recreational drinking—its value to the individual and its role in society; wine for religious observance and man's existential well-being. An endeavour is made to avoid mere cataloguing of examples in favour of assessing wine's role in these various domains. At every turn, the great importance of the beverage in ancient life becomes apparent.

A wide range of writing—ancient and modern, primary and interpretative—has been culled for information, including materials drawn from the biological, medical, and social sciences, technology, archaeology and epigraphy, art history, classical literature, linguistics, comparative religion, and Biblical exegesis. Even so, it would be unwise to consider the present examination more than an introduction to a rich and complex theme in the history of Western man.
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Skol!
He who plants a vine becomes entangled in its branches.

(Flaubert)

A man who lives apart from other men is like a ripe grape. And a man who lives in the company of others is a sour grape.

(Abbot Moses)
To Dick

and the vineyards of Pignan--

two turning points.
INTRODUCTORY REMARKS

My ideal introduction is that which does not outstay its welcome. Accordingly, I shall hasten to a close.

The purpose of this thesis is simple: it is to tell of wine in the ancient world. What I intend to do is this. To begin with (in Part I), I shall present an explanatory account of the spatial diffusion of winemaking from its origins—inaasmuch as these can be ascertained—to the period of the death throes of the Roman Empire. Given certain key characteristics of this diffusion pattern, it will be possible to conclude (in Interim Remarks) that wine enjoyed an especial significance in the ancient world. Thereupon (in Part II), I shall make tentative examination of why wine was accorded such importance by detailing the diverse ways in which it served the needs of ancient man.

In essence, then, this thesis is twofold—a diffusion study and a functional study. I do not pretend to have made the link between the two as strong as I might have wished. While I believe firmly that the aggregate of functions performed by wine illuminates in large measure the conclusions to be drawn from the examination of winemaking's diffusion, I have not advanced to the point of proposing that a specific element of the former can explain a particular aspect of the latter. That would be to proceed beyond the competence of the evidence available. Thus it is that I stress the structural simplicity of this study.
The pages which follow tell only the early episodes in the story of wine, more recent events remaining unsaid. The choice of temporal limit is not arbitrary. By the end of the Roman Empire in the west, winemaking had achieved a territorial extent which it was not to surpass for over a millennium. Indeed, the imminent menace of Muslim orthodoxy, implacable enemy of wine, was to herald a viticultural recession. In diffusion terms, therefore, the declining Roman Empire marked the end of an era. And as the mediaeval world has a spirit or personality which makes it quite distinct from the ancient world, so wine's later story bears a character different from that which I intend to tell.

I cannot claim to be charting virgin territory. As my bibliography reveals, others have devoted studies to wine in antiquity. However, only four merit mention as recent attempts at major contributions on the subject. Charles Seltman's *Wine in the Ancient World* belies the promise of its title. Seltman's ancient world rarely extends beyond the Greek realm. In addition, his material is both ill-balanced and thin. (Lest I be accused of...er...sour grapes, one need only turn to Renard's review of this book.) The remaining three works are general histories of wine. I have examined but not drawn upon *A History of Wine* by H. Warner Allen: unfortunately, this begins far into historic times when the saga of wine had already run much of its course. Quite useful is Edward Hyams' *Dionysus*. A social history of the wine vine, especially since Hyams is often at pains to propose possible diffusion paths for
winemaking. Yet this account, heavily dependent on a relatively small number of sources, falls far short of the meticulous assemblage of diverse data which the subject demands. Finally, a more erudite tome is *Gods, Men and Wine* by William Younger, who has ventured vigorously into the arena of archaeological research. Perhaps because of such diligent culling, Younger highlights a weakness which to a greater or lesser extent characterises all endeavours to come to terms with the complexity of wine's history--the lack of an overall guiding structure. At times, *Gods, Men and Wine* reads as a compendium, and I do not think it uncharitable to suggest that Younger, as all others, fails to convey the immense significance of wine to the ancients.

(Incidentally, to the best of my knowledge, works of equivalent scope are rare or lacking altogether in other modern Western tongues. I have encountered no references to such studies during lengthy bibliographic search in several languages and amongst authors with a broad linguistic command. Thus, in French, Billiard's *La vigne dans l'antiquité*, written in 1913 and necessarily out of date, remains the standard work.)

As I say, the territory I enter is not new. Yet I am far from following dutifully in the wake of the above writings. It can be said with a good measure of confidence that there is still no comprehensive and detailed consideration of winemaking's diffusion in the ancient world, despite several appeals for one. Nor do I know of any author who has undertaken a sustained scrutiny of the
considerable breadth of functions performed by wine. Hopefully, the pages which follow can make some contribution in these two separate areas. I would further wish that this study may to some extent take in rein (where others have been submerged by) the complexity of its subject material and thereby show the significance of wine in antiquity to its best advantage. One final intent: since statements rash rub shoulders with statements rational all too frequently in the wine literature, at intervals throughout the following chapters I shall be at pains to expose some of the wilder claims. This, however, is not said in cavalier tone, for as Will Durant once remarked in another context, "It is easy for us to see better and farther than Aristotle, since we stand on his shoulders."

Lastly, some terminology and sundry matters. The ancients and the ancient world, the players and backcloth of this study, are solely those of the Western tradition. The East has been ignored (pace Joseph Needham). In addition, wine should always be understood as grape wine unless otherwise qualified or, except in affairs etymological, placed in quotation marks as 'wine'; alcohol is employed both in the precise sense of ethyl alcohol (= ethanol) and in the everyday sense of the alcoholic beverages as a group. Measurements are given in metric units. No uniform approach has been taken towards proper names beyond the desire to present them in a clear and familiar manner. A useful atlas to accompany the text would be Westermann's Atlas zur Welt Geschichte.
CHAPTER 1

BEGINNINGS

The story goes something like this.

Long ago—in ancient Persia, to be exact—there lived a king called Jamshid who was exceedingly partial to grapes. Dismayed by their absence during winter, he resolved to store huge quantities of the fruit in large vats to satisfy his wintertime cravings. Alas, before long the grapes ran to juice which began to surge and seethe in a manner most mysterious and quite alarming. The verdict was poison. Jamshid, saddened at his loss but ever-resourceful, ordered the vats to be set aside among the palace poisons. Now there lived in the palace a rather attractive young lady called Gulnare the Beautiful. Poor Gulnare had resolved to kill herself (it is hinted that she had been upstaged, for, you see, in a harem much upstaging goes on). True to her sex's sense of flair, she pondered to find the most histrionic exit possible. Eventually her mind lighted on the vats of the strange new poison. Screwing up her courage, she took a long draught of the liquid. The poison soon acted. Strange to relate, however, she felt herself going out with a giggle rather than a whimper. Or rather, she didn't go out at all, which added incompetence to impropriety. Indeed the more of the poison she drank, the less ill-disposed did she feel towards the world she had intended to bid sorrowful adieu to. Finally, she sought audience with Jamshid and, a-laughing and a-dancing, confronted the astonished
monarch with her tale of the miraculous 'poison'. He too sampled the vat and was delighted with its liquid which, for reasons that aren't too clear, came to be called 'wine'.

So runs the Persian legend of Jamshid and Gulnare,¹ one of several ancient world explanations of the origins of winemaking. It embodies an important truth: wine was a chance discovery. Man discovered alcohol.² It was no creative invention in the strict sense. Thus it has been dubbed a "natural phenomenon," "a triumph not of human imagination but of human curiosity."³

This chapter is concerned with the origins of winemaking. When was the discovery made? Where was the discovery made? A necessary prelude, I feel, is to have a stronger idea of what actually was discovered—namely, the fermentation process. And with this I shall begin.

The Fermentation Process

Alcohol is from plants.⁴ Yet it is rare to find any in plant tissues.⁵ Not a difficult paradox to resolve, this. "The chemical constituents of plants are more or less the direct result of photosynthesis and cell respiration,"⁶ that is, a consequence of the formation of complex molecules and their degradation or catabolism. And the fact is that neither of these processes can result in more than trace quantities of ethyl alcohol (ethanol).⁷ For alcohol to form, a special condition must be imposed—anaerobiosis. There are, then, two forms of cell catabolism, that occurring under aerobic
conditions (respiration) and that under anaerobic (fermentation). Only the latter yields alcohol.

Ethanol is invariably the result of glucidic carbohydrate fermentation (whereas higher alcohols are acquired in part from amino acids). The basic fermentation process is written thus:

\[ C_6H_{12}O_6 \rightarrow 2C_2H_5OH + 2CO_2 + 33 \text{ cal. energy} \]

Every plant cell is capable of creating a small quantity of alcohol when deprived of oxygen, the phenomenon being limited by the death of the cell to which alcohol acts as a toxin. But naturally occurring anaerobic conditions are relatively limited and such intracellular fermentation is therefore uncommon. It is seen perhaps most obviously when oxygen has difficulty penetrating the interior of compact or large fruits, especially if senescent, since the epicarp of fruit is resistant to gaseous exchange. For practical purposes, that is to say anthropocentric purposes, such intracellular fermentation has never been of any consequence. Alcohol as ancient man knew it was the product of not one plant, but two--an appropriate carbohydrate base material, granted, but also the yeast.

The yeast's role is to promote the process of base material catabolism to alcohol (which it achieves by means of a complicated series of enzymatic catalyses). While it was said that every plant can create some alcohol, the yeast cell is in a sense specialised,
being a thoroughly fecund manufacturer with a marked resistance to the toxic attack of alcohol. Essentially, however, the yeast cell is being exploited when the fermentation equation above is employed by man: it has no use for the resultant alcohol, nor yet for the carbon dioxide. Its reward is the energy released, much of which, to be sure, dissipates as heat, but about half of which it captures and directs towards the chemical work of synthesising the substance of more yeast cells, that is, towards yeast growth. (For yeasts, unicellular organisms, are devoid of photosynthetic power and rely on organic carbon—any material containing fermentable sugars or substances easily hydrolised to such sugars—as a source of energy and carbon.)

For present purposes, no examination of the complicated fermentation sequence, the so-called Embden-Meyerhof biochemical pathway, is necessary. But worthy of mention in greater detail, for it will be seen later to have historical bearing, is the antagonism between oxygen and the winemaker.

Oxygen stimulates yeast growth but not alcoholic fermentation. Given a plentiful air supply, the yeast acts upon sugars as if to burn them, that is, by changing them to carbon dioxide and water:

\[ C_6H_{12}O_6 + 6O_2 \rightarrow 6H_2O + 6CO_2 + 673 \text{ cal. energy} \]

\[ \text{glucose} \quad \text{oxygen} \rightarrow \text{water} \quad \text{carbon dioxide} \]
This is what every yeast dreams of—more energy return for unit effort compared with the anaerobic situation. On the other hand, it has never been an overriding trait of mankind to be impressed by the turning of potential 'wine' into water. Therefore, for man, yeast anaerobiosis is all-important. Some sort of container becomes necessary to achieve airless conditions since then only the surface of the fermenting base material mash, be it grape must or whatever, will be exposed to oxygen and because there will be a dominant upward movement as the carbon dioxide escapes through the juice. The need for this fermentation container will be returned to presently.

Oxygen remains the villain of the piece even after fermentation has been completed. In the finished beverage spoilage was very prevalent until quite recent times. I shall explain in terms of the specific case of wine. As the alcohol concentration increases in the fermenting must the various yeast species reach their particular limit of ethanol tolerance and die off. (Thus a sequence of fungal 'performers' show their mettle: certain so-called 'wild yeasts', notably *Kloeckera apiculata*, initiate fermentation only to perish by the time 4% alcohol has been reached; thereafter, *Saccharomyces* species dominate the process, particularly the premier wine yeast *Saccharomyces cerevisiae* which may withstand 15% alcohol levels; *Saccharomyces oviformis*, highly resistant, sometimes completes the fermentation at 18-19%. But neither high ethanol concentrations nor wine's high acidity (generally, pH 3-4) can prevent certain
microbial spoilage if oxygen is allowed to reach the finished wine. In that case, a very few yeasts can grow in alcohol. For example, the aerobe _Candida mycoderma_, incapable of fermentation, will convert the alcohol to carbon dioxide and water at the surface of the wine. More serious is the fact that several species of _Acetobacter_ rank among the limited number of microorganisms, yeasts excepted, which can flourish in wine. Again aerobic organisms, their multiplication is achieved at the expense of oxidising more and more of the alcohol to acetic acid. A 'vinegary' wine results. The historical significance of such microbial activity is evident. For the most part, ancient technology could not guarantee an hermetic environment for the finished wine. Hence early drinkers were required to consume their liquor immediately or to seek preservative measures to mitigate its speedy souring. This feature of ancient vinification will be raised again later.

**Man's First Alcoholic Steps**

Enough of the fermentation process _per se_. Its earliest recognition and purposeful regulation by man is now of concern. To begin at the beginning, however, is no simple matter for one must contend with the spectre which treads on the tail of so many diffusion studies--the issue of single innovative nucleus versus multiple, independent foci of invention. One beginning for wine-making or many? But given the wide range of beverages fermented by man, I prefer to confront the issue in terms of the more general
level of alcohol-making. Is it likely that numerous peoples, independent of each other, discovered the means to make alcohol from local products? Or are the many beverages the inheritors all of one breakthrough, one discovery which diffused in every direction with appropriate substitutions in base material being made in different environments? Either situation, if deemed the more probable, would illuminate the early days of wine. On the one hand, it would be reasonable to suppose several or many beginnings for winemaking rather than one; on the other, there is the likelihood that the temporal and spatial character of incipient vinification was strongly influenced by the broader diffusion pattern.

No categorical answer is possible, but it does seem to me that the situation of multiple, independent origins is the more tenable conclusion. A case can be made for this founded upon two factors—the widespread availability of materials for the fermentation process and the simplicity of the process itself.

A cursory acquaintance with the relevant literature reveals the astonishing variety of carbohydrate material which has been fermented by man. It would seem that every possible material possessing fermentable sugars or substances easily converted to such sugars has been investigated as a source for alcohol. Major starches (first requiring enzymatic conversion) which have been employed are the staple grains—wheat, barley, rye, maize, millet, sorghum, and rice—plus such vegetables as the potato and Jerusalem artichoke, and the tropical sweet potato, manioc, agave, and pepper
root \textit{(Piper methysticum)}.^{30} Notable sugar sources have been grapes, figs, pomegranates, carobs, dates, bananas, pineapples, and mesquite beans, as well as honey, palm sap, and sugar cane.\textsuperscript{31} Distinct from these is the utilisation of animal sugars, chiefly the lactose in mares' milk which ferments to give the mildly alcoholic beverage kumiss.\textsuperscript{32} Comprehensiveness would require the additional mention of a host of now minor or unorthodox bases--various tree saps, berries and roots, certain cacti, even tree ferns, pine cones, the flower of the \textit{Bassia} plant, and fish!\textsuperscript{33}

This positive profusion of fermentable bases (albeit some more easily fermented than others) means that available to mankind has been the near-universal presence of a source material for alcohol. Significantly, few are the peoples of the world who traditionally have not made some sort of alcoholic beverage.\textsuperscript{34} In light of such pandemic distribution, it is surely more reasonable to canvass for many centres rather than but one where alcohol-making began.

True, I have not yet taken into consideration the distribution (therefore local availability) of that other prerequisite for fermentation, the yeast. The 'geography' of yeasts at a given juncture in history is something we may never know. But for that distribution specifically to confound my conclusion above, it would be necessary to suppose that yeasts were lacking from all parts of the earth's land surface save that area where the one fermentation breakthrough was reputedly achieved and, furthermore, that only subsequently did the microorganism diffuse throughout the world.
presumably with the intentional or unknowing aid of man. This reconstruction seems most unlikely. It certainly accords ill with what is known of yeasts today, when there is no denying their ubiquity. An ecological versatility, observed clinically and empirically, has taken the yeasts, as a group, to most, perhaps all, parts of the globe. Their toleration of diverse growth media and climatic conditions, prime considerations at the world scale, may make this point more emphatically.

From the days of Pasteur on, much attention has been given to the media in which yeasts can grow or at least pass part of their life cycle. Wealth rather than ecological limitation impresses. Fruits, particularly decomposing fruits, may be la dolce vita for yeasts, but the plant world offers many habitats to the micro-organism--agarics and tree exudates in particular, but also grain ears, root crops, and the leaves and nectar of various plants. Yeasts are now recognised as a component of soil flora, are increasingly reported in the oceans, and can be collected from the air (although this is a distinctly temporary medium). Moreover, all the things that creep therein may not be yeastless. The alimentary tract of several insects has been established as a regular yeast habitat; a few examples of high counts in fish gut and skin have come to light; some seabirds maintain a dense intestinal yeast flora; and it is certain that the digestive systems of many animals harbour both permanent (obligate saprophytes) and temporary (facultate saprophytes and passers-by) fungal populations. Man
is no exception. His faeces may be yeast-rich and yeasts are a commonplace in his mouth, in his sputum, on his skin and scalp.

Similarly, a tolerance for diverse climatic conditions marks the yeast. Experiments have shown thermotolerant species to flourish at 40°-48°C, and tropical and equatorial lands, to their cost, know certain yeasts as crop pathogens. Equally, there exist psychrophilic examples. Vigorous fungal growth has been stimulated at -2°C. Outside the laboratory, di Menna has recorded a variety of yeast flora in soils from Antarctica and eastern Greenland, while colonies (including *Saccharomyces* spp.) grew from mud samples taken at a depth of 3,450 metres below the ice near the North Pole. Most wine yeasts seem able to survive temperatures below freezing by hibernating. Humidity as an ecological variable has received less attention: a moist environment would seem to be preferred by yeasts, but there is also empirical evidence indicative of drought resistance.

Clearly, it is impossible to gainsay the ecological versatility and widespread distribution of yeasts. This is not to deny, however, marked areal differentiation in the amount and kind of yeast flora (the latter being a factor in the French notion of vineyard terroir). But my present point is this: if the yeast, which appeared early in the evolution of life forms, can be so easily satisfied as to habitat—which in some cases is vector as well—and climatic environment, there can be scant reason to suppose that
they were not more or less as widespread when man made his first alcohol as they are today. Just as fermentable base materials were available throughout most of the world, so were the necessary yeasts.

The fact of the widespread availability of the active ingredients for fermentation, accompanied by the dearth of peoples lacking a tradition of alcohol-making, encourages belief in multiple origins rather than one gift of alcohol's secret to the world. Encourages belief, but that is all. However, the balance swings further against the latter proposition if we remark on the simplicity of the process involved (i.e., the gathering and processing of materials to give alcohol). It is often the case that technical advance attends the particular genius of one questioning mind, but there is no need to suppose so for fermentation, the "natural phenomenon." A cache of fruit, forgotten in a container, may ferment; likewise, though less easily, a pottage of grain. Masson waxes paradisaic (though not without chronologic hyperbole): "If, some millions of years ago ripe grapes had fallen into a hollow stone, The First Wine would have been there waiting for The First Man to arrive and enjoy it." Others have noted that it may be difficult not to obtain alcohol if appropriate base materials are left a-standing. Such simplicity, I believe, placed the discovery and utilisation of alcohol well within the capacities of Palaeolithic man and adds weight to the case for multiple origins.
To argue thus is to oppose Forbes, perhaps the foremost authority on the history of ancient technology. Forbes reasons that prepared ferments were not a product of the Palaeolithic, but awaited the revolutionised world of the Neolithic (though he arms himself with an escape clause—honey; mead, he is ready to concede, may date back "as far as early Neolithic times and even earlier"). He gives three premises for his position, premises which suggest I may have overestimated the simplicity of the alcohol-making process. These are: that fermentation required fire and pottery; that regular production of cereals suitable for fermentation came in Neolithic times only; that, as alternative bases, wild fruits and berries lacked adequate sugar to "make a suitable base material for fermentation," presumably until domestication occasioned compositional changes. Forbes' arguments demand rejoinder, for if alcohol-making was indeed part of the congeries of techniques which characterised the Neolithic breakthrough, then we need not look for its beginnings beyond the early Neolithic hearths, few rather than many in number. The case for multiple origins would evaporate.

Firstly, why fire and pottery for fermentation? I remain baffled by Forbes' advocacy of fire. For a start, the sun would have been heat source enough; but ignoring this, Forbes cannot seriously believe use of fire diagnostic of Neolithic technology (for universal fire-making appears to be 40,000 years old, while its use may extend back at least 350,000 years). Nor is pottery
an essential. True, as was acknowledged earlier, a container is required, but to stipulate a man-made container and, moreover, a specific artifact seems unduly restrictive. A hollow in a tree, a fissure in a rock—these may have been receptacle enough. To this day, an Australian tribe employs a hole in the ground, into which tree sap is allowed to run. As for artifacts, man may have fashioned containers from materials other than clay—from wood or possibly stone, from depithed fruits and coconut shells, from the horns or skins of animal prey, perhaps even from large egg shells or skulls. Thus Mexican pulque is still fermented in gourd rinds.

Forbes is on surer ground where base materials are concerned. His conclusions about cereals can be endorsed with few misgivings. Casual gathering of a sufficient grain provision does seem unlikely, and, in addition, cereal fermentation would have been a more sophisticated matter than preparing alcohol from sugar bases owing to the preliminary starch conversion required. The fact of low sugar content in wild fruits and berries, the grape included, is at first sight a telling point (and one that might usefully temper glib references to the inevitability of fermentation). Several writers have noted this characteristic in the grape, though whether it nullifies all possibility of alcohol or merely restricts alcoholic strength to mild proportions is not made too clear. Must we then abandon the notion of alcohol from pre-domesticated fruits, of wine prepared from the wild vine? Not if we accept Andrews' passing
allusion to Isonica, a wine from Hercegovina, Yugoslavia, still made from wild grapes. How Hercegovina succeeds where Forbes would fear to tread, I do not know. But I can guess. Let me cautiously advance three possible means to overcome Forbes' sugar-content objection, none of which I have yet seen considered in the present context. The focus is largely restricted to the vine.

The first, also the most tenuous, is simply to remember the relationship between climate and grape sugar content. In transalpine Europe today's vine often struggles to accumulate adequate sugars before the advance frosts of winter besiege it, whereas in the Mediterranean it may suffer from too high a ratio of sugar to acid in the berry, resulting in a 'flat' wine. It may therefore be that the wild vine could have achieved reasonable sugar levels in certain climatically favoured areas. In Transcaucasia's forests, where wild vines still grow in profusion, sour grapes predominate, but Vavilov also encountered some edible fruit; other Asian wild grapes have been found with sugar contents in no way inferior to those of cultivated varieties. Secondly, the sugar-concentrating power of dessication may have been an avenue by which ancient man obtained wine from the wild grape. While today's cultivated grape, when fresh, may contain up to 25% sugar, this figure may reach 80% for raisins. That yeasts cannot grow in sugar concentrations exceeding 30% has been declared, but even an elementary acquaintance with the appropriate microbiological literature reveals osmotolerant yeasts able to ferment such sugar
levels with ease. Moreover, it is certain that the Greeks and Romans dried grapes in the sun as a prelude to fermenting certain wines: Homer, Hesiod, and Pliny instruct on this. Lastly, it would have been quite feasible to sweeten a grape mash by means of sugar-rich additives. Honey springs to mind. The Roman honeyed wines may even have been a legacy of such practice, Egyptian kyphi likewise. Indeed, for efficient fermentation, a compote of materials --often including honey--rather than a single base may have been commoner than not. (An overriding tendency of modern statements on ancient beverages is to superimpose today's taxonomy, with its particular discrete categories, upon past experience. But our world of difference between, say, wine and mead may not hold true for a different world, especially one where assured quantities of a single substance to be fermented may sometimes have been lacking.) A superficial search reveals some evidence for this suggested modus operandi. To the examples above may be added the following. Swiss and Italian prehistoric deposits have furnished occasional masses of wild grape pips together with the stones and seeds of other wild berries (elderberry, blackberry, bittersweet nightshade), indicating the composite refuse from 'wine'-making. Middle Bronze Age bowls from Jutland tombs have been found to contain the remains of a drink made from wheat, myrtle berries, myrrh, and honey. Residues in ancient German beer vessels have yielded not only fragmentary starch grains and yeast cells but also pollen from honey-producing flowers, which presence "is always an indication that honey
had been added to the beer while it was brewing, to give the yeasts a more concentrated sugar solution to work on, and thus produce a higher alcohol content." Later, the Germanic peoples possessed a beverage made from honey and mulberries. 'Mixed drinks' have a long history, we must conclude.

All in all, Forbes, despite his considerable reputation, reasons first unsoundly, then inadequately. His case for Neolithic beginnings for alcohol-making lacks foundation. There is no need to presume that Palaeolithic man could not have made alcohol. Fermentation, I repeat, is a simple rather than complex procedure, and the materials required (fermentable base, yeast, container) were available and widespread long before organised plant husbandry ushered in a new era. Not in one place, but in many throughout the world, must Palaeolithic man have raised liquor to eager lips. And some of that liquor was rudimentary wine.

The Origins of Winemaking

The grape vine, the genus *Vitis*, belongs to the botanical family Ampelidaceae (or Vitaceae), a heterogeneous assemblage of some ten genera distributed throughout the world. All these genera, *Vitis* included, predate man. *Vitis* itself has been traced back to lower Eocene deposits of the Tertiary era. Prolonged evolution since then has culminated in the 'recent' (i.e., Quaternary) situation of almost 50 *Vitis* species scattered across the land-masses of the northern hemisphere as follows:
North America (about 35 species), Asia (about twelve), and Europe (one). This solitary European example, *Vitis vinifera* L., is the concern of this thesis. Here is the grape of Western history, now the resource of diverse parts of the globe.

"Les troubles d'ici-bas sont presque tous grammairiens" (Montaigne). Some terms should be made clear. The modern, cultivated *Vitis vinifera* L. plant, that is *Vitis vinifera sativa* (confusingly abbreviated to *Vitis vinifera*), is the cultivar of the wild *Vitis vinifera* L. plant, termed *Vitis vinifera silvestris* (usually abbreviated to *Vitis silvestris*). Both these plants, the cultivar and the wild ancestor, will be encountered if we wish to know the spatial and temporal beginnings of winemaking. They are very different beasts, it should be realised. Ranks of manicured vines sweeping in verdant formation across dry hillsides—the panorama from so many Mediterranean heights—bear scant resemblance to the plant which has never known man's yoke. In its wilder moments, the vine is a liana of the forest. Transcaucasia harbours the finest remaining examples. There "in the woods, the vine, thick as a man's arm, still climbs into the loftiest trees, hanging in wreathes from summit to summit, and temptingly displaying its heavy bunches of grapes." Hehn's description is vivid. Vavilov was later to echo him: "In the autumn, when the fruit is ripening, a traveller passing through the forests of Transcaucasia might think himself in the Garden of Paradise."
Palaeolithic man made wine from grapes. Where he began to do so cannot be fixed with precision: any number of places within the distribution of *Vitis silvestris* may have been the scene of primitive winemaking. The best that can be done is to define that distribution.

Even this is no simple matter, given the dynamic character of the wild vine's territory, and the poverty of prehistoric data. While it seems likely that *Vitis silvestris* evolved somewhere in the (present-day) south-eastern Mediterranean area during the late Pliocene, it speedily diffused to attain a much wider territory—including western, central, and Mediterranean Europe—by the time of early food-gathering man. Unfortunately, the Pleistocene period has received less attention than the earlier Tertiary events in the *Vitis* story. It would appear that the Ice Age saw the vine in general retreat to a refuge "dans les forêts circum-méditerranéennes et sud-caspiennes," as witnessed by its imprint in interglacial materials in Languedoc or by its pollen in deposits of the Late Glacial Period in Spain's Sierra Nevada and in Macedonia. (If such was the case, the climatic amelioration of interglacial times must have encouraged a resurgence northwards, for traces of the vine have been unearthed from interglacial deposits across the North European Plain, from East Anglia to Poland.) Once Europe had shaken off the environmental fetters of the glacial epoch, there is more evidence at our command. Pips from wild grapes gathered by Neolithic man and preserved in his village sites reveal that *Vitis silvestris* was by then present in Spain, in Greece and
Yugoslavia, in the lake country of northern Italy and Switzerland, in parts of central Europe, and even in Belgium. Indeed, Levadoux's meticulous studies have allowed him to conclude that by this time maximum distribution—encompassing Mediterranean Europe and Africa's Barbary Coast, much of western and central Europe, Asia Minor, and the Caucasus—had been attained. But this is relatively late in post-glacial times. There is less evidence of the Upper Palaeolithic distribution: it does not appear to be known as yet how speedily the vine moved out of its southern sanctuary to recolonise the lands north of the Alps, that is, to achieve its wider Neolithic province. So, it is impossible to arrest this process at a chosen date in the Upper Palaeolithic to ascertain the then territory of *Vitis silvestris*. Perhaps all that can be said is this: that in the early post-glacial period, Palaeolithic man had access to the wild vine throughout a substantial east-west stretch of territory centred upon the Mediterranean and extending from the Atlantic to the Armenia-Caucasus-northern Persia area, that this territory never advanced far southwards (there is no evidence of the wild vine in Egypt, Mesopotamia, or Palestine), and that its northern extension into transalpine Europe is increasingly evidenced as Neolithic times are approached. Within such a distribution—not so very different from today's vestigial pattern of *Vitis silvestris*—primordial winemaking may have commenced in many places.
But the wild grape and its wine are merely the overture to the story of winemaking. The supply of this Palaeolithic liquor, gleaned adventitiously from nature, was both limited and uncertain. The wild vine crop is small and infrequent, not the basis for the wine industry of historical times. Even the addition of extraneous fermentable materials, honey or various berries, can scarcely have altered this fact. Early winemaking must certainly have been rare, by no means a thing to be casually undertaken. The catalyst ushering in changed circumstances, creating the conditions which allowed wine's rise to eminence within the early Western tradition, was, of course, domestication.

Domestication was the herald of quantity. Even the most primitive patch of cultivated vines promised a greater and more assured supply of fruit than before. The metamorphosis of the vine itself from wild plant to cultivar was to have the same effect, for among its gradual consequences was a heavier and more regular fruiting. Perhaps more important, the calibre of the domesticated grape as a source material for alcohol was developed to the highest, quite overshadowing the qualities of its wild forebear and alternative fruits. The briefest character sketch bears this out. Above all, the domesticated grape is an admirable carbohydrate source. It may easily accumulate sugars to a total of 25% of its weight (unlike *Vitis silvestris*); qualitatively, these sugars are of the most readily fermentable types, the monosaccharides glucose and fructose (whereas most fruits store part of their carbohydrates in
starch or sucrose form). In addition, grape must is ordinarily an adequate basis for yeast growth: the necessary minerals and vitamins are generally sufficient for yeasts to flourish; significantly, grapes are unique among fruits in possessing ample available nitrogen for such purposes (whereas other sugar bases such as honey or fruit juice normally require added nitrogen—raisins would do—for "satisfactory fermentation"). Lastly, it may be worth reiterating that the grape skin, particularly when ripe, represents a most desirable substrate for yeasts. Cells collect on the visible, waxy coating of the berry, perhaps as many as 50,000 yeasts/mm² of surface (whereas the wild grape and many other fruits may have a less rich flora). In summary, the potential of the domesticated vine as a source of alcohol was great. This potential was to be realised to the full.

The history of effective winemaking therefore commenced only with Neolithic man and the art of viticulture. Where, then, and when were the beginnings of viticulture made?

The area of origin which appears to have gained universal acceptance is the historical Armenia (mountainous and dissected plateau country in present-day eastern Turkey, the Armenian S.S.R., and penetrating the Georgian and Azerbaijani Republics) or perhaps a somewhat wider territory centring upon that area. The varietal diversity of the wild vine is astonishingly rich here, and there is no doubt that this is a local rather than imported phenomenon.

"Here we find all transitions from the real wild grape . . . to ancient,
cultivated local varieties of the wine type. As modern botanists point to this region, so does ancient tradition. On Ararat in the Armenian mountains Noah's ark came to rest and, in the words of the ninth chapter of Genesis, "Noah began to be an husbandman, and he planted a vineyard: And he drank of the wine, and was drunken." Obligingly enough, wild vines are still to be found on the very slopes of Ararat.

Another mode of reasoning to arrive at Armenia is possible. It is commonly held that, unlike fermentation, the independent discoveries of plant domestication were few, scarcely more than a handful scattered across the globe. This revolutionary innovation was then diffused outwards from these hearths. One such centre was in the Near East, where by about 7000 B.C. there had begun to crystallise a nuclear area of plant domestication comprising the rugged country of the Lebanon and Judaea, the south-eastern flanks of the Anatolian Plateau, and the Zagros foothills curving into modern Persia. Significantly, the territory of Vitis silvestris ranges nearest this domestication hearth in the Armenian region. Moreover, the coordinates of the wild vine's distribution on the one hand and the origin and diffusion lines of Neolithic skills on the other have allowed Hyams to pinpoint Armenia through elimination. From the distribution of Vitis silvestris, he discards those lands where there is knowledge of the receipt from outside of viticulture as well as those whose inhabitants at an early date "were almost certainly not in a condition to devise and carry out a settled
form of husbandry." Only the broad tract of territory between the Caucasus and Mesopotamia remains.

Armenia's viticultural breakthrough must have occurred at a very early date. Agricultural skills had arrived from the south by 4000 B.C. at latest, but it would seem that primitive viticulture long preceded this date. The best indication we have is botanical. The dioecious wild vine has unisexual flowers. This notwithstanding, rare hermaphrodite examples are found amongst wild populations: the male stamens, the pollen-bearing organs of the flower, then surround a fully-developed pistil, the female part. In contrast, cultivated vines are invariably hermaphroditic, this being a prerequisite for a reliable harvest in that the more efficient process of self-pollination replaces the vagaries of insect or wind pollination as the dominant means. Such a difference between the wild and cultivated populations can only have been due to artificial selection, following the realisation that some vines bore no fruit at all (males), some bore unreliably (females), and a very occasional plant fruited consistently (hermaphrodites). But the consequent transformation would have been slow. Now, the earliest records and subsequent classical writings tell little or nothing of barren vines nor of the required interplanting of male and female stock (as even today is obligatory for one dioecious species of the Muscadiniae). This suggests that by the time we have knowledge of the vine as an exotic in Mesopotamia and Egypt—that is, by the 4th millennium—a high proportion of hermaphrodites had arisen.
To achieve this pushes the actual origins of some sort of viticulture into times very remote. Hence we should not be surprised by the opinion of the noted Soviet botanist Negrul, whose examination of wild vines in the southern margins of the U.S.S.R. has led him to propose that 10,000 years must have elapsed for *Vitis vinifera sativa* to have developed its present characteristics.\(^{136}\) Of course, a certain measure of doubt must clothe any such dating, but the extreme antiquity pointed to by Negrul and by others\(^{137}\) is impressive.

Somewhere in the mountainous country of the historical Armenia, at a date the antiquity of which is worth stressing, the first steps in the domestication of the vine were taken. That is to say, the necessary preconditions for winemaking as we know it became established. From such beginnings organised winemaking spread outwards in the shape of the cultivar itself plus knowledge of vinification and/or the idea of domesticating the wild vine for vinting purposes. This diffusion to other lands is the theme of the following chapter.
CHAPTER 2

THE SPREAD OF ORGANISED WINEMAKING

For the land, whither thou goest in to possess it, is not as the land of Egypt, from whence ye came out, where thou sowedst thy seed, and wateredst it with thy foot, as a garden of herbs: But the land; whither ye go to possess it, is a land of hills and valleys, and drinketh water of the rain of heaven.

Deuteronomy 11:10-11

The Exodus mirrors a leitmotif in the world of the ancient Near East and classical Mediterranean: the distinction between hill and plain. A vital distinction for wine, this. The true home of the vine is the slope of the hill, not the flatness of the plain.

Strike a path inland from Languedoc's étang-fringed coast across the vine-smothered plain of deep, heavy marls to meet the distant silhouette of the garrigue, with its pockets of skeletal soils, light, stony and arid. How the wines gain stature! Vintages undistinguished in every respect save quantity suddenly yield before subtle, attractive wines. The plain is left behind for the slopes.¹

To a considerable extent, this viticultural distinction between hill and plain reflects their contrasting edaphic environments.² It is feasible to cultivate vines on a markedly wide variety of soils.³ This said, one immediately encounters a paradox, a truism to vine-growers throughout the ages which modern science still struggles to explain adequately: the poorer the soil, the better the wine.
A soil of high nutrient fertility is more likely to guarantee high quantity of wine than superior quality. In contemporary France, the rich, fertile earths of Languedoc-Roussillon's coastal plain bring forth undistinguished vin ordinaire, whereas Burgundy's oolitic debris has prompted the aphorism: "If our soil weren't the richest in the world it would be the poorest."

Give a vine stock a deep, rich soil, the soil of the plain, and it can achieve adequate nourishment without establishing a particularly deep root system; by contrast, a vine planted in meagre, stony ground will send its roots many metres deep in search of water and nutrient sustenance. A critical distinction, this. For a deep, extensive root complex appears to favour strongly both the viability of the plant and the quality of its fruit and resultant wine. Attempts to account for this consider as crucial the greater constancy of edaphic conditions attained with increasing depth—"the vine seeks regularity" (Theophrastus). The case for viability is readily discerned: the deep-rooted plant enjoys enhanced immunity to debilitating fluctuations in the soil environment—the hazards of flooding or drought, variations in food supply resulting from man's increased or decreased manuring of the surface horizons, etc.—over its shallow-rooted companion. However, why such conditions should betoken a superior quality of harvest is, to my knowledge, imperfectly understood.
Who roots deeply his vine drinks the better wine? If indeed this be an accurate relationship, then not nutrient richness (for, in this light, an infertile soil is preferable to a fertile one) but specific physical properties are of the essence. Above all, a "micro-climat aride," conducive to root development, seems the pedological prerequisite for the production of a wine of even moderate quality. Now, a well-drained soil, speedily warmed (characteristics which would fulfil this requirement), is strongly related to structural and, especially, textural qualities. Fine-textured clays which retain moisture and are traditionally 'cold' provide a far from ideal environment for the vine. Conversely, gravels and stony soils are likely to be possessed of attractive thermal and moisture regimes. A commonplace in better vineyards is a surface litter of stone and rubble, not the least advantage of which is its capacity to conserve the sun's heat for some length of time, encouraging thereby the "micro-climat aride" and helping to moderate thermal variation within the soil. During winter nights, this property may serve as a natural prophylaxis against frosts attacking surface roots.

So, in summary, the sloping lands of hill and foothill, their soils arid, stony, often infertile, should be favoured for viticulture before the horizontal world of the plain. Ancient husbandry knew this well. Indicative of a systematic understanding, although expressed in pedological rather than topographical terms, is
Theophrastus' formula for soil-type utilisation. He writes:

Use your rich soils for grains and thin soils for trees. Grains and all other annuals take the nutriment from the surface soil, which therefore ought not to be thin or of a quality to be quickly exhausted, as happens in a shallow layer of earth. But trees, equipped with long and strong roots, draw their nourishment from the depths. In rich soils, trees run to wood and foliage, but yield little or no fruit. Hence a thin soil is superior from both standpoints; it produces a balanced foliage and fruitage.

De causis, II, 4, 2-3

To make the distinction was probably part of common rather than specialised knowledge. Palladius puts it this way: "Campi largius vinum, colles nobilius ferunt." "Apertos Bacchus amat colles," remarks Vergil of his Italian countryside. And even in so ostensibly removed a pursuit as chorographical astrology can be found an instance of vineyard differentiation according to terrain.

This distinction between hill and plain comprised an integral part of the story of wine in each of the lands to which the vineyard spread. But additionally, it was a vital factor, although not necessarily the only one, helping distinguish between such lands as potential receptors of viticulture. (It is, in fact, at this inter-regional or inter-national level that is framed the Deuteronomic division—a division within the ancient world which transcends the context of the Exodus—between the agricultural ecology of the nation on the plain and that of the nation in the promised "land of hills and valleys.") Thus, on the one hand, Mesopotamia and Egypt,
quintessentially the plain, offered relatively hostile environments to viticulture: the mark of vine and wine was muted upon the two great riverine civilisations. On the other hand, in the upland chains and arcs curving around Mesopotamia, in the rugged, mountain-spined lands of the Mediterranean, and later in Hercynian Europe could the vine find conditions much more to its liking.

Below, I have employed this fundamental division in describing and explaining the spreading pattern of winemaking and wine drinking within the ancient world.

The Early Civilisations: Hazardous Environments

A. Mesopotamia

History begins at Sumer, the phrase runs. The Sumerians, a non-Semitic people, came to occupy the flat, marshy plains where the Tigris and Euphrates, disorganised and capricious, seek the sea. By the early 4th millennium, they were developing a culture (apotheosis after 3000 B.C.) which marked the advent of the earliest writings. So began recorded history. For Mesopotamia this meant a few thousand years as a hearth of Western civilisation, brilliant at first, afterwards surpassed, years in which the rise and fall of dynasty and empire is writ large. Sumerian hegemony over the deltaic lands remained unchallenged until the late 3rd millennium ascendancy of her Semitic neighbour, the Akkadians; and despite a Neo-Sumerian renaissance under the Third Dynasty of Ur at the turn
of the millennium, it was this Semitic stock that gave birth to the two famous later civilisations--the Babylonians in the Akkadian homeland and the Assyrians far to the north.

Wine was produced in Mesopotamia at a very early date. This much is certain. Exactly when is a matter for speculation. "Wine was almost certainly established in Tigris-Euphrates soils before 4000 B.C., and perhaps much before." Hyams argues this on the basis of a stylised vine-leaf on some of the earliest tablets bearing pictographic writing, discovered at Sumerian Kish. Since the wild vine was not native to the Mesopotamian flood-plain, the sole plausible explanation is that this representation depicts the cultivated variety.

Confirmation from the written record is of more recent age. Tablets of the 3rd millennium from the city of Lagash reveal the existence of temple vineyards--"the vine-plantation of Karsum," "the plantation of the vine of the bank (of Bau-hengala)"; at least by 2900 B.C., vines were cultivated there and wine "kept in ground floor cellars." An interesting mention dates from the reign of Gudea of Lagash: "The Ne-sag was like a mountain of vines." This reflects the apparently invariable practice of establishing grapevines on mounds raised artificially above the plain. And from farm accounts of the Third Dynasty of Ur we learn that vines were interplanted with other trees, notably the date palm.

Oenological reference appears also in the earliest extant work of literature, the powerful Gilgamesh Epic. This has been pieced
together from various fragmentary findings—Sumerian, Akkadian, Hittite, Hurrian—often of comparatively late date. It seems, however, that the context of the action typifies the 3rd millennium, while the tradition may date back into preliterate times.\textsuperscript{34}

Gilgamesh, King of Uruk, in his quest for eternal life, encounters Siduri,\textsuperscript{35} the divine tavern-keeper\textsuperscript{36} and overseer of a miraculous vineyard:\textsuperscript{37}

\begin{verbatim}
Amethyst it bore as its fruit,
Grape-vine was trellised, good to behold;
Lapiz-lazuli it bore as grape clusters.
Fruit it bore magnificent to look upon.
\end{verbatim}

Moreover, later, in the story of the flood, Utnapishtim (the equivalent of Noah) encourages the builders of his ark with wine as refreshment:\textsuperscript{38,39}

\begin{verbatim}
Must, red wine, oil and white wine
I gave the workmen to drink, as though river water.
\end{verbatim}

All in all, there is evidence enough to point to a very early presence of the grapevine in Mesopotamia, with the possibility even that its introduction may have occurred before 4000 B.C. Now, trading contacts, the most likely means of such diffusion, were in progress by early Sumerian times. The flat alluvial plains of Sumer and Akkad (lacking the timber, stone, and metals with which to construct cities) encouraged trade.\textsuperscript{40} The Persian Gulf lands and beyond, Elam, Armenia, the Levant, even Egypt—these all were reached by caravan or boat.\textsuperscript{41} In the Armenian case, there is abundant evidence of the export of
obsidian, ceramic ware, and other products to Mesopotamia from the 4th millennium. Given such contacts, it is surely unlikely that early Mesopotamian traders or travellers reaching Armenia would have failed to take back the strange and wondrous potion which came to be called wine. Quickly they would have attempted to transplant the vine into their own country. While the truth of the matter may never be known, this, I feel, is at least a plausible reconstruction.

Yet there was never to be a triumphant viticultural conquest of Mesopotamia, never an establishing of wine as an essential element in the lives of its successive civilisations. The only exception to this negative was in Assyria where, particularly in the early 1st millennium, records suggest that vineyards were considerable and wine a drink of importance. To help explain both the phenomenon of this never-to-be-more-than-inchoate viticulture and the Assyrian anomaly, certain elements of the physical environment demand emphasis.

First of all, Mesopotamia is two, not one. The incoming vine faced the separate challenges of two environments, not one. While southern Mesopotamia (under the Sumerians, Akkadians, then Babylonians) provided a distinctly discouraging environment for the vine, northern Mesopotamia (where held sway the comparatively late-flowering Assyrian Empire) offered much more favourable conditions. Hereinafter, these domains are distinguished as Babylonia and Assyria respectively.

Alone, without the mitigating effect of the Tigris and Euphrates as moisture sources, the climate of Babylonia would have presented
an impossible environment to the vine. A phrase of Semple's catches
the vine's predicament: "It had to run the gauntlet of the dry
summer months." No sinecure this in Babylonia. An initial hazard:
the thermal regime. Excessive heat during the grape's ripening period
may upset the balance of the berry constituents and so produce an
unattractive wine. Or, worse, it may encourage growth cessation and
fruit shrivelling. In that temperatures exceed 35°C on most days
throughout summer in southern Mesopotamia today, spoilage would have
been a very possible danger. (There occur, furthermore, occasional
'hot spells'--27°C has been recorded--during winter months. Upsets
to the dormancy pattern in the rhythm of the deciduous vine are
likely to reduce fruiting efficiency.) A difficult environment
assessed in thermal terms becomes an insuperable environment where
precipitation is the measure. To be sure, an ability to balance the
water supplied through its root system with that lost through
evapotranspiration and still to maintain a low level of activity
does indeed characterise the drought-resistant grapevine. This
yet presumes some minimum of soil moisture. Soil storage of winter
rains as a reservoir for spring growth is a most effective means of
moisture supply for the vine. But while such a Mediterranean
rhythm typifies almost the entire Near East and Mediterranean Basin,
precipitation amount and consequent efficacy varies markedly from
area to area. To descend from Armenia to Babylonia is to barter
conditions of generally adequate moisture for a desert climate with
total annual rainfall of below 125 mm. No reservoir of soil moisture characterises this climate. And so "to run the gauntlet" of aridity became feasible in Babylonia only because of the irrigation waters of its two rivers. All the same, while it is true that viticulture and irrigation are not incompatible, this is never a union to be consummated without thought for the consequences. The particular hydrological circumstances involved are crucial to the outcome of the venture. Any attempted statement of the Babylonian condition must needs emphasise that here is alluvial plain par excellence. Unrelieved flatness; imperceptible slope. On entering the flood plain just north of modern Baghdad, the Euphrates over 890 km has an average fall of only 5cm/km, the Tigris covers 970 km at less than 3.5 cm/km. Sluggishly, the rivers move seaward in channels built up above the surrounding land. While their maximum flow arrives in spring, they "rise unpredictably and fitfully." Extensive, uncontrolled flooding of the plains, resulting in abundant marsh and chaotic drainage pattern, is characteristic.

Standing irrigation (the water remains on the land until it sinks or evaporates) was practised, a reflection of the considerable problem, posed by the above conditions, of draining off the water once released on to the land. There's the rub. Such an irrigation system in this arid land contained the seeds of its own destruction--by salinisation. The Mesopotamian rivers carry considerable quantities of soluble salts--mostly calcium and magnesium, but
some sodium too--on to the cultivated plains. Given that salts move and accumulate in the soil largely as a consequence of water movement, the presence or absence of adequate soil drainage becomes critical. But just as the irrigation procedure contained no provision for surface run-off, so the lateral movement of ground water was limited in these extensive plains. Not only then did the ground water become extremely saline, but the addition of new water (in flood or irrigation) would have raised the water-table level permitting capillary movement and subsequent evaporation to precipitate salts in the root zone of the soil. Most fruit crops, the date palm excepted, are particularly sensitive to such accumulations of salts. The grapevine, moderately tolerant, can be affected severely by large amounts. Babylonia's soils were thus destined to become increasingly inimical to it. Moreover, as a perennial, the vine could not utilise the soil amelioration technique of fallowing in alternate years in order to allow the water-table to recede.

Two other water regime problems opposed successful viticulture. Firstly, the perennial vine is a significant investment of time and labour to hazard to an environment at the mercy of capricious flooding. Secondly, the vine cannot tolerate soil saturation for prolonged periods except during dormancy: in the growing season this causes root death. But the Tigris and Euphrates, we have seen, reach maximum flood in the spring, not in winter, so that the standing irrigation practised was seasonally inopportune for the vine plant. This latter problem was obviated by establishing vineyards on
artificially raised mounds—"like a mountain of vines." Standing water was replaced by hand irrigation, allowing the water to drain downwards. To some extent at least, this method of cultivation would have mitigated both the severity of soil salinity and the hazard of destructive, uncontrolled flooding.

Despite the above measure, viticulture never took hold in Babylonia. In other words, here is a situation in which the vine arrived at an early date indeed but was never destined to flourish. The various Sumerian wine gods were superseded; chief amongst them, Geshtin or Ama-geshtin, "the mother vinestock," was gradually transformed into Nina, "the lady of the waters." The rich perhaps indulged in wine and libation with wine appears to have been esteemed, but in all likelihood the general populace never drank it. This is recounted in myth: Dionysus, the wine god, turned back from his attempt to enter Mesopotamia, angered at learning that its inhabitants enjoyed beer.

That other beverages dominated wine is true. As the Babylonian plains provided a difficult environment for the incoming vine, so alternative beverage sources were much more attuned to the prevailing conditions. The agricultural economy revealed in the tablets of the Third Dynasty of Ur, and there is no reason to suppose this picture atypical, involved chiefly barley, wheat and emmer, sesame, onions, pulses, as well as dates, pomegranates, and figs. Most versatile and most valued were barley and the date. Both supplied alcohol. Beer (from barley or, sometimes, emmer), known in numerous
varieties, long ranked first among Babylonia's beverages: it became a dietary staple, distributed daily to workers as part of their wages. If, as has been suggested, 40% of all cereal production was destined for brewing, then that industry must have been important indeed. The popularity of date wine was also considerable, and from the time of the Kassite incursions against the First Babylonian Dynasty about the middle of the 2nd millennium it gradually ousted beer from its leading position. Sesame wine was apparently a third preparation. Wine could make little headway against these.

While Babylonia was thus hostile territory to the culture of the vine, such was not the case further north. With Assyria we are on different ground, both literally and metaphorically.

The physical environment of northern Mesopotamia, the Assyrian homeland, is radically different. North of a low shelf running from modern Ramadi to Baghdad begins the rolling country of Al Jazira. The alluvial plain is left behind. In Assyria, the geological strata of the Syrian Desert stretch across to meet the Kurdistan slopes; the Tigris and Euphrates, cutting through this land, have incised valleys with relatively limited potential for irrigation. On the other hand, precipitation is generally adequate for viticulture: it is approximately three times that experienced on the southern plains. And a less hazardous thermal regime is in the vine's favour.
How early the vine was grown here is not known. All that can be said with confidence is that in the zenithal period of the Assyrian Empire (during the first half of the 1st millennium down to the sack of Nineveh) the vine was cultivated, probably to some considerable extent. Rab-shakeh, envoy from Sennacherib (705-681 B.C.) to the Jews under siege in Jerusalem, describes his homeland as "a land of corn and wine, a land of bread and vineyards" (II Kings 18:32). Confirming this, an Assyrian 'Domesday Book' of the 7th century inventories vineyards of 2,000 and 29,000 plants in north-west Mesopotamia.

Evidence is insufficient to allow me to know whether wine was a popular alcoholic beverage among all classes. Certainly, the Sargonid rulers were oenophilic. Ashurnasirpal III (885-860 B.C.), rebuilders of Kalah, planted vineyards there; likewise, the bellicose Sennacherib established vines ("Palm groves and grape vines I planted in the meadow") when resuscitating a derelict city. Extensive wine cellars were kept by Sargon II (722-705 B.C.), and wine figures on administrative tablets, discovered in Kalah's North-West Palace, dating from his reign. The following is a communication addressed to an unidentified king:

To the king, our lord, thy servants . . ., Bel-iqîša, and Bâbîlâ! Greeting to our lord the king! May Ašur . . ., Bel, and Nabû grant length of days for never-ending years to our lord the king!

The king, our lord, shall decide. Since the receipt for the month Tebet is bottled, and there are no places of shelter (for it), we would (wish to) put it into
the royal store-houses for wine. Let our lord the king pass an order that the (proper store-) houses may be indicated to us, and we shall be relieved of embarrassment. The wine of our lord the king is of great quantity; where shall we put it?

Supporting such textual evidence is the testimony of Assyrian art. The vine is no strange motif on the bas-reliefs of Sargonid times: a particularly famous example from Nineveh, now in the British Museum, shows Ashurbanipal (669-626 B.C.), reposing on a couch shaded by overhanging vine, in the process of celebrating in wine his defeat of Teuman, King of Elam. 90

Although certain of the above evidence could reflect a viticulture of foreign provenance—and that wine was indeed imported we shall see later—still the indications of Assyrian winegrowing are incontestable. Assessment of its significance is another matter, but I take Rabshakeh's statement as having at least a measure of truth. 91 In terms of Mesopotamia as a whole, Assyria was obviously quite anomalous. 92 Its viticultural equivalents lay not south but north in the lands I shall describe presently as the northern foldlands.

B. Egypt

A phrase of John Wilson's sticks in the mind: "The essential part of Egypt is a green gash of teeming life cutting across brown desert wastes." 93 That gash is the Nile. All agriculture 94 depends on its waters, since only the delta in the north truly lies within reach of the Mediterranean's winter rains. 95
Life-bringing waters wending through a desert land—superficially, the situation parallels that of Babylonia. But contrasting with the endless flatness of the Tigris-Euphrates plains, the Nile has cut a narrow valley, often no more than 10 km wide, into the surrounding plateau surfaces. This valley has a slightly concave cross-section, so a gradient was present in Egypt where in Babylonia there was none. A significant distinction, this. For a start, increased possibilities of water management by man possessed of no very sophisticated technology characterised the Nile Valley. Standing irrigation (as previously defined) was not necessary since lateral water movement could be utilised here. Thus was diminished the danger of salinisation. The lower dissolved salt content of the Nile waters reduced this further. So, although certain areas of high water-table may have suffered salinity problems as is the case today, a major factor in Babylonian agriculture was not repeated in the Egyptian context. A second repercussion: the propensity of a piece of land to be flooded could be assessed with greater confidence. In the Nile Valley proper, the gentle concavity encouraged the felaeen to distinguish between rei-fields (those invariably inundated by the annual floods) and sharaki-fields (land, upgradient, generally undisturbed by the floods and requiring artificial irrigation). Now, Perrin writes that it does not seem that ancient Egyptian vineyard irrigation consisted in the direct circulation of floodwater among the vines. But, we have seen, he should not normally expect this. It was, in fact, the sharaki-land, watered
by hand from local tanks or canals, that housed the vineyards and orchards. And in the flat delta, flooding hazards were countered by resorting to artificially raised plots, in the manner of Babylonian viticulture.

In sum, the Egyptian river, like its Mesopotamian counterparts, offered the necessary water supply for viticulture but, unlike the Tigris and Euphrates, did not create at the same time growth conditions particularly discouraging to the vine. As a result, vineyard distribution in Egypt's generally rainless lands was influenced markedly by the Nile.

The greatest concentration of vineyards and those producing some of the more hallowed Egyptian wines were to be found in the Nile delta—a situation which appears to have prevailed throughout antiquity. Here is the territory of the "wine of the North" of the Pyramid Texts. Especially notable grape-growing areas were the delta's north-eastern and north-western extremities, beside Lakes Menzaleh and Mareotis respectively: "The wine-press of the Eastern nomes and the Western nomes," amongst the very earliest of written references to wine, may well have referred to these particular lands. The north-western wines included that from Zoser's "vineyard of the red house of the king's house in . . . Sen(?)pu," perhaps the variety called Hm or "wine of the fishermen-village," and, renowned above all, Mareotic. Esteemed by Athenaeus, this latter was reputedly the finest and undoubtedly the most famous of ancient Egypt's wines. As for the north-east,
the products from Imet (near Tanis) and from Pelusium were ranked amongst the choicest brands in record from Dynasty XIX. 114

The delta, in addition to the ancient Memphis area, represented the early core of Egyptian viticulture. 115 Thence it spread southwards, always within call of precious waters (oasal as well as of the Nile, it would appear). How far south is the problem. There can be no doubt that the delta possessed Egypt's optimum climatic conditions for the vine. Winter rains there would have provided valuable moisture, reducing somewhat the degree of artificial irrigation required; the tempering effects of the Mediterranean Sea, soothing the intense heats of summer, would have been viticulturally advantageous. 118 But it is at the macroscale that a more telling environmental differential may well have operated within Egypt. For the latitude of the Nile delta (approximately 30°N, which corresponds to that of southern Babylonia) has been declared the practical southern limit of grape growing in the northern hemisphere, that is "one of the geographical limits to viticulture." 119 We may wish to be dubious at so precise a figure but must accept that the normal growth pattern of the vine is increasingly overthrown as tropical latitudes are approached. 120 Left behind are the photoperiodic and thermal regimes favoured by the plant. The grapevine does not appear particularly sensitive to variations in the former aspect. 121 All the same, since flower-bud formation is more contingent on day-length than is growth-bud, decrease in latitude may possibly encourage an increasingly unfruitful vine whose vegetative growth is but little
impaired. Of greater proven consequence is the thermal change involved. Specifically, the rise in winter temperature levels may deny the vine the "dormancy requirements" which it customarily demands. One outcome may be that the plant does not 'break dormancy' properly, though experiment has not shown this to be a salient characteristic. An alternative result, assuming sufficiently high temperatures, is that dormancy is abandoned in favour of an evergreen regime. This is deleterious to fruiting. (Note, parenthetically, that an increase in altitude could presumably compensate thermally in some measure for decrease in latitude.)

In light of the above arguments, expansion far southward of the vine—or, at least, of a healthy and considerable viticulture—would have been most unlikely in ancient Egypt. It is no surprise to learn from Theophrastus that vines of evergreen character were customary in Upper Egypt (and were found even in northern Memphis). True, the wines of Faiyum oasis were famed afar, but Faiyum is still of the north. Somewhat more surprising is the evidence of vineyards in the outlying southern oases of Khârga and Dakhla, where, according to the Papyrus Harris, Ramses III established 'wine-gardens'. It is unlikely, however, that this constitutes "a healthy and considerable viticulture." Sporadic vineyards also followed the Nile deep into the south—to Abydos and Thebes, and even beyond. A district near the First Cataract was known as Irp, a word meaning 'wine', but Montet, disbelieving that the vine grew so far south, suggests that Irp may merely imply a trading post for wine
transported upriver. He protests unwisely, perhaps. For there are persuasive indications of Nubian winemaking along the Nile between its First and Second Cataracts, a fitful and flaccid affair, to be sure, but nonetheless indicative of a signal interest in the vine. On the other hand, a final case for southern expansion, Lichine's identification of Mareotic wine with Meroë near the Fourth Cataract, stretches credibility on more than one count.

Undoubtedly, the vine and winemaking arrived in northern Egypt at a very early date. The answer to the questions 'when?' and 'from where?' can be formulated with much less assurance.

A labyrinth of contradictory assertions and conflicting chronologies faces he who surveys statements on the temporal beginnings of Egyptian viticulture. The most recent of datings which I have discovered points to 3rd millennium origins; at the opposite end of the scale, several authors specify or imply the 5th millennium. Any explanation for such disparity must inevitably turn to the parallel lack of agreement among Egyptologists on the subject of the absolute chronology for ancient Egypt—although not one of the writers who has concerned himself with the vine appears to have included this factor in his calculations. Briefly, there have developed two chronological schools, one favouring a so-called high chronology, the other advocating a low chronology. Lack of accord focuses upon the date of commencement and the duration of the first two dynasties, since by the time of the Old Kingdom (beginning Dynasty III) the variation between the two schools is reduced to some twenty-odd years.
In the high chronology, the beginnings of Dynasty I have been dated to 3400 B.C. (Breasted, 1912), 3200 B.C. (Hayes, 1953), and 3100 B.C. (Hayes, 1962); corresponding low datings have argued 2830 B.C. (Stock, 1949) and 2900 B.C. (Helck, 1956). Upon such representative key statements are the differences founded.

There is no doubt that some of the variation in dating wine's origins in Egypt can be ascribed to this more general chronological dispute. But only some. A radical alteration of even the high chronology would be required to accommodate any of the following positions. Neuburger, for example, writes of an established viticulture by the time of the Old Kingdom, which he dates as beginning around 3900 B.C. (that is, with Dynasty III commencing at least 500 years before the high chronology Dynasty I). Likewise, according to de Candolle, de Mortillet, and Lucia, wine's existence is documented from pictographs in the tomb of Ptah-Hotep of Dynasty IV who lived about 4000 B.C.

The deviation has increased! Such pronouncements, although they lack complete internal consistency, can perhaps be accounted for in terms of some long defunct, extremely high chronology, almost certainly of the 19th century. But to complicate matters, obsolete chronology and error are not uncommonly married. Thus Halász notes the discovery of hieroglyphic terms for five varieties of wine in the tomb of Pharaoh Pepi of Dynasty II, dated at 3500 B.C. Yet Pepi I reigned in Dynasty IV. Pique mentions detailed viticultural representations on a bas-relief of 4500 B.C. at Beni-Hasan,
but these belong to Dynasty XII which came long after the 5th millennium.

Caveat emptor: one must be chary in accepting statements on this matter. Still, the above writers are united in attributing wine production to the early Egyptian dynasties. And, in my opinion, there is evidence enough to indicate that this was indeed the case in the very earliest dynastic times. The Dynasty I tombs at Abydos contain references to "the wine-press of the Eastern nomes and the Western nomes," "wine of various kinds from the place of the Golden Bull," "wine from the fortress Khent," and "the wine-store of the Hog."\textsuperscript{144} Vine leaves and grape remains are reported as having been found in the most ancient tombs,\textsuperscript{145} and a date in the second half of the 4th millennium has been established for a sample of grape pips by the distinguished Danish palaeobotanist Helbaek.\textsuperscript{146} Moreover, wine jars with individual clay sealings are claimed for Dynasty I.\textsuperscript{147} In short, viticulture is attested for the earliest dynasty, which quite possibly implies predynastic origins.\textsuperscript{148} Allowing for the high-low chronology distinction, it is possible to seek a date for initial wine production in Egypt almost anywhere in the 4th millennium or in the earliest decades of the 3rd millennium.\textsuperscript{149} The former seems to me much more likely. For the Abydos inscriptions suggest more than an incipient stage of viticulture; secondly, there has been a mild tendency for carbon-14 dating, with its new half-life, to favour some sort of high chronology.\textsuperscript{150}
Whence came the vine to Egypt is less problematic. Serious contenders are two, Mesopotamia and the Levant. The argument for the first area would emphasise that the lands of the Tigris and Euphrates practised viticulture at a very early date and appear to have been in contact with Egypt. A stronger case can be made for the Levant. Firstly, relative location ensured that Egyptian contact with other parts of the ancient Near East was faced for the most part with traversing some section of the Levant. At an early date, the Levantine coastal cities began to exploit their advantageous cross-roads location; contact between Byblus and the Nile may stretch back into the 4th millennium. Given also that at least by the following millennium wine was exported from Palestine to Egypt, a Levantine source for the art of winemaking is not out of the question. Secondly, the Canaanite word ka(r)mu (vineyard) was borrowed by Egypt in the form of kzmw at a date before Dynasty II. But this etymological link is somewhat equivocal since 'vineyard' was at times employed in the sense of 'fruit-orchard': in that case, the vine plant itself need not have been involved. Finally, according to Egyptian mythology, Osiris and his consort Isis—in myth, the earliest monarchs, later deified—introduced the knowledge of cultivation into the land of the Nile. Thus Tibullus:

It was Osiris in truth who was the plow's inventor, turning the virgin earth with an iron share; he was the first to drop seed in the furrow, and gather from nameless trees the fruit they began to bear. He learned, and taught men, how the vine is tied to the pole and how the hook must lop the leaves from the vine.
Out of the grape clusters that heavy feet had trampled, none before him had ever brought forth wine— and men, having drunk it, were moved to what would some day be singing, once they had smoothed it out, and to rustic dance.

Tibullus, I, vii

Osiris brought his discovery of wine to Egypt from his native Nysa. Now as places go, Nysa was singularly peripatetic: it has been located in diverse corners of the ancient world. But when associated with Osiris (rather than Dionysus), we should probably look for it in the Levant.

I have spent some time attempting to clarify if not resolve these matters of origins. This effort, added to the previous distributional discussion, must not be allowed to give the erroneous impression of an abundance of wine, available to all, in ancient Egypt. Such was anything but the case. In saying this, I stand opposed to McKinlay. "The Egyptians," he writes, "did not need to fear a shortage in their wine supplies since their vines, irrigated by the Nile, yielded plentifully." Nonsense! More characteristic of Egypt throughout the centuries was a wine deficit, a situation reflected in its consistent recourse to wine importations from neighbouring lands (a phenomenon to be examined presently) and in the social stratification which marked the type of alcoholic beverage consumed.

The latter point bears elaboration. Originally, viticulture may have been solely a royal prerogative. Amphora seals, bearing inscriptions of identification, witness the existence of frequent
royal domains, producing for palace tables or, commonly, for funerary and other religious purposes. Lutz has proposed that the titles given to vineyards often emphasise this religious role—"Praise of Horus, the First of Heaven" (King Zoser's famous vineyard, possibly located in the Khârga oasis) and "Praised be the soul of Horus," amongst others. In particular, the New Kingdom rulers laid out vineyards, both for the temples and for their own tables. Private vineyards, by contrast, appeared in any numbers only in Hellenistic times when the influence of Greece permeated the Nile's civilisation. Wine consumption for most of Egypt's history was therefore an elitist luxury, available to the ruling and religious body; otherwise, none but the rich could aspire to drink this gift of Osiris. As in Babylonia, beer remained the supreme alcoholic beverage, produced from the rei-land cereal crop. Those of standing might drink wine; hoi polloi made do with beer. Again paralleling Babylonia, alternative sugar bases for 'wines' were sought among plants better adapted than the vine to the Nilotic environment. Drinks fermented from dates, palm-sap, figs, and pomegranates were not unimportant. In other words, wine was far from being the universal beverage of ancient Egypt.

There remains to suggest one possible exception to this subdued role played by wine: the senescent Egypt of Hellenistic and Roman times. Those eras saw the rise of the private vineyard. The impetus to change was the colonising Greek plus the Ptolemaic policy of tying such settlement to the land. Vine plantations were established on
reclaimed land in the delta and, according to Ptolemaic practice, became the property of the planter. Viticulture flourished. Documents from the estate of Apollonius in the Arsinoite nome tell of the importation of vine cuttings from Thrace, Cilicia, Phoenicia, and elsewhere; in one letter, Apollonius speaks of 10,000 plants and 1,700 shoots. Nor did this momentum die once Augustus had established Roman dominion over the Nile. Thus by the 3rd century A.D., there had arisen a powerful landlord faction whose economy was balanced primarily on wine—although, thereafter, the decay which was endemic throughout the Empire took its toll on the Egyptian vineyards.

So, in those late centuries, we can usefully presume that wine production rose and that wine drinking was somewhat popularised, though to what extent is difficult to say. In this context, a statement by Rostovtzeff has interesting implications: he relates that the Ptolemies imposed "heavy customs duties of a compensatory or protective character on imported wine," including the equalising of the prices of imported and local vintages. From this I conclude that the late flourish of viticultural activity yet belied the basic Nilotic weakness—that Egypt remained substantially an adverse environment.

C. Trade: The Civilisations Import

Environmental hostility tempered the southern advance of wine production. Vineyards were oddities in Mesopotamia (saving Assyria), more common in Egypt but not yet a way of life. (It can also be
mentioned at this point that there is some evidence suggestive of
winemaking in one or two particularly favoured locales in the
Arabian Peninsula.) In wine's stead reigned alternative beverages.
One can perhaps concede that this made plain economic sense.

Now, the ancient distribution of wine production was probably
never coextensive with that of wine consumption. Writing in an age
which genuflects before trade balances, this statement appears
merely a truism; it assumes greater moment in the context of earliest
historic times, when trade was but poorly developed and a high degree
of self-sufficiency was the norm for any given area. Relatively few
types of products could sustain the expenses of transportation without
the demand being channeled towards some surrogate material or being
eroded altogether. In Ullman's phraseology, this would be the
attribute of transferability. Before all others, highly valued
commodities of low bulk enjoyed transferability: examples in the
ancient world were such luxury goods as precious metals and gems,
cosmetic materials and silks, items with apotropaic or other religious
significance, and among foodstuffs, spices, salt, and honey. Not
at first, but at least by the time of Athens, the movement of
essential staples in bulk also became feasible. Depending on time
and place, wine could rank in either category.

Wine, then, was one of the earliest objects of international
trade; and it became, in time, a principal such item in the ancient
world. Both Mesopotamia and Egypt augmented their own meagre production
with wine imports.
There was one land, in particular, to which both powers turned, the Levant—for there abounded those materials scarce in an arid, alluvial environment. Thus Egypt took covetous interest in the territory beyond Sinai: Byblus, for example, was throughout a long period little less than an Egyptian colony. In similar manner, successive Mesopotamian civilisations fixed mercenary gaze westwards. Several of their rulers, Sargon the Great of Akkad, Gudea of Lagash, and Assyria's Ashurnasirpal III among their number, marched to and claimed sovereignty over the Levant. One Levantine prize—the spoils of war or the commerce of peace—was wine. I have argued earlier that the viticultural ties between Egypt and Osiris' native land were of the most ancient sort. This interaction grew. Exported from both Palestine and Syria, wine reached the Nile by sea from such ports as Byblus or by caravan route via Gaza through the desert. When Strabo was writing, Egypt was acting as a transshipment point for the Syrian product. In addition, a militarily strong Egypt 'invited' wine as tribute: thus Thutmose III received wines when Megiddo in Palestine fell to his armies. Equally, the beverage was carried eastwards. Here, advantage could be taken of the river as a cheap means of transport. Old Babylonian documents disclose that wine was shipped down the Euphrates, often from Carchemish in north-western Syria, to the transit centre of Mari and thence downstream to Babylonia. "With this messenger," wrote Aplañanda, king of Carchemish, to his counterpart in Mari, "I am dispatching to
you excellent wine; drink!" Drink the Babylonians did too, for Carchemish wine jars have been recovered there. We must envisage a considerable importing of Levantine wines, the antiquity of which eastward trade may even have matched its Egyptian equivalent if, as has been presumed, Siduri's 'lapiz-lazuli' vineyard in Syria reflected the contact of rudimentary commerce.

Other winegrowing lands competed with the Levant as the source area for imports. In Egypt's case, Greece was the rival supplier, exchanging wine for the Nile's grain. Outside modern Alexandria, ancient rubbish mounds provide sizeable herds of amphora stamps, among which Greek examples, Thasian, Cnidian, Rhodian, and others, are decidedly dominant. Wine imports from Greece became prominent much later than those from the Levant. Hence before 300 B.C., Greek amphora sherds were restricted to the Greek settlements (e.g., Naucratis) in the delta; thereafter, stamps and sherds travelled as far up the Nile as Thebes, the abundance of finds indicating a considerable trade. Mesopotamia (Assyria as well as its wineless south) looked north and east for additional sources of wine. Armenia was one. Herodotus tells of the transport of its produce downriver to Babylon. Sargon II, during the Assyrian zenith of the 1st millennium B.C., liked best the imported wines from Lake Van in southern Armenia. And from the peoples settled along their northern and eastern marches, the militant Assyrian rulers—in particular, Ashurnasirpal III, waging his campaign of "calculated
frightfulness"--extorted wine as tribute, part of the price of vassalage. Elam may have been another source. According to Younger, the Sumerians imported wine from "the mountains of the East," from Hulbunu and Izallu in Elam, and, much later, the people of Babylon had such trading ties with "the land of Asallu." Something is amiss. Izallu cannot be located where Younger wishes. Famous for its wines (prized by Nebuchadnezzar and worthy of mention still by the Byzantine historian Theophylactus in his "Izalae montis descriptio"), it was without doubt in the Anatolian foothills, north of Assyria. All the same, I have found reference elsewhere to wine from the eastern mountains, and from Elam seems to have been imported the wine called Bit-Kubati.

In summary, during early times indeed, when organised international trading was still in its infancy, this valued commodity wine was on the move. "But that which surprises me most in the land, after the city itself . . ."--so began Herodotus in describing for his readers Babylon and its empire. And what he proceeded to recount was the freight traffic in wine down the Euphrates from Armenia. This surprisingly early and vigorous momentum is an image which we must keep in mind.
A. The Northern Foldlands

Northeast and northwest from Mesopotamia, the Alpine folds of the former Tethys geosyncline present a complicated series of mountain chains and intermontane basins. These are the lands of Anatolia, Armenia, and Persia. According to the reasoning of Chapter 1, in the heart of this arcuate expanse of highland began the initial viticultural steps from which the great wine tradition of the Western world is inherited.

Favourable lands, these. Or, more strictly, the hilly country of the mountain arcs would often have yielded conditions propitious for viticulture, whereas the interior basins of Anatolia and, more markedly so, of Persia commonly represented an inimical steppe or desert environment. Important was the Mediterranean climatic rhythm which predominated, with winter rains providing the moisture reservoir in the soil for the vine to survive summer's unrelenting aridity. The generally cold winter temperatures of these elevated lands doubtless facilitated the needed period of dormancy.

Yet a lengthy lacuna yawns after the initial breakthrough in viticulture. Wine's subsequent development and historical importance is written in the civilisations to the south and west. These northern foldlands remain in oenological darkness until relatively late; and, thereafter, they appear to cultivate their own garden, as it were, overshadowed by the Mediterranean dynamic in the history of wine.
Whether this characterisation is falsely conditioned by a relative
dearth of available information is a moot point.

(i) Anatolia-Armenia

Discussions on wine in prehistoric and early historic Anatolia
and Armenia are conspicuous only by their brevity; I know of no
sustained examination. This surely is a reflection of the relatively
recent nature of archaeological concern for this large area. We
should then not be surprised that tangible evidence of winemaking
begins only after 2000 B.C., but, equally, we may anticipate that
this date will be pushed back.

Archaeological findings to date are not entirely inauspicious.
To be sure, Mellaart's recent excavations at the important Neolithic-
Early Chalcolithic (7000-5000 B.C.) village site of Hacilar revealed
no signs of any grape gathering or cultivation. At Çatal Hüyük,
a sophisticated plant husbandry reigned by the 7th millennium--
but no wine. On nearby hillsides hackberries (Celtis australis) were
gathered, apparently with a view to fermenting them. However, in
eastern Anatolia, at Korucutepe, some wild grape pips appear in
vegetal remains dating from 4500-2300 B.C. (but not thereafter).
More promising still is the Beycesultan site. Among the contents
of the votive vessels offered at its Early Bronze Age (ca. 2400 B.C.)
shrines have been discovered grape pips; moreover, stains preserved
in pottery vessels may possibly indicate wine. But if this be
evidence, it is tenuous and fragile. Further excavations are
essential to allow any definite statement on wine production here in prehistoric times.

The beginnings of the 2nd millennium mark the early irruptions of the Indo-European tribes—a *Völkerwanderung* from a disputed source—into many parts of Europe, the Near East, and beyond.\(^{225}\) In Anatolia, the Hittites rose to international eminence, wielding an empire from their capital, Hattusas (Boghazkoy). Their extant texts, now translated, identify these people as grape growers and wine drinkers.\(^{226}\) An inscription, found south of Lake Tuz in central Anatolia, refers to the god "Tarhui of the vine," and part of it reads as follows: "And (the God) Tarhui will favor(?) this vineyard, and the vine (will grow?)."\(^{227}\) A section of the Hittite Law Code, which is permeated by an unusual humanity, indicates a respect for viticulture.\(^{228}\)

If anyone sets [brushwood (?)] on fire and [leaves] it there and the fire seizes a vineyard, if vines, apple-trees, pomegranates and pear-trees (?) burn up, for one tree he shall give [six] shekels of silver and replant the plantation. If it be a slave, he shall give three shekels of silver.

A further section runs thus:\(^{229}\)

[From the obligation] of castle-guarding [during] a royal campaign and of plucking [grapes in] the vineyard none of the metalworkers is free.

It may be possible to infer a considerable importance for wine in Hittite life\(^{230}\) from the famous rock carving of their fertility god at Ivriz, in the mountains north of Tarsus. This stele dates from
the end of the 1st millennium. It portrays the god, a figure of commanding stature, a vine shoot twisting round his body, holding out grapes and corn ears to a dwarfed, adoring king. 231

The Hittite Empire was overthrown about 1200 B.C. In its wake, various kingdoms rose to power. By this period wine appears to have become well-established.

In the east, viticulture was renowned in Urartu, Armenia's first nation state (9th-7th century B.C.). Centred upon the Lake Van area, its territory reached Lake Urmia and extended northwards towards the Caucasus foothills and westwards into Anatolia. 232 Records from the Assyrian expedition, led northwards in 714 B.C. by Sargon II, extol the vineyards planted near Lake Van. These excited the envy of even the king. 233 Archaeological investigation has confirmed this picture. A practice of the Urartian state was to stockpile foodstuffs in every fortress in the event of besiegement by hostile army or protracted winter. Wine supplies were amassed in such depositories. In two large cellars excavated at Altintepe, large pithoi, each inscribed with the quantity of its contents, were arranged in regular rows; total capacity must have been considerable. 234 Similarly, Soviet excavators have discovered two great wine storerooms (plus several smaller) at the site of Karmir-Blur, beside Yerevan, in the Armenian S.S.R. Their combined capacity is estimated to have been 150,000 litres of wine, the equivalent of 600 akarki (the Urartian unit of liquid measure). 235 But this storage volume cannot have been exceptional for King Menuaš speaks of building cellars capable of holding 900 akarki. 236
First Phrygia, then the Lydians, dominated the western lands from 1200 until 546 B.C. when the area fell to Persian conquest. Helbaek's examination of the Late Bronze Age (ca. 13th century) plant remains at Beycesultan on the upper Meanderes recognised only one grape pip—which permits no useful conclusions to be drawn. Nevertheless, it is likely that the Phrygians had wine from the first. Shortly after this period, there can be no doubt that wine was a commonplace in Anatolia. Because western Anatolia came increasingly within the Aegean orbit, its wines soon entered the pages of Greek, then Roman, writers. In the Iliad we hear of "Phrygia, the land of vines." Younger has gathered several other references: to good Naspercenian wine from Pontus; to Monarite wine from Melitene in Cappadocia, a vintage which "rivals the Greek wines," Strabo concedes; to the vineyards of Pamphylia in the south, notably Selgean wine. Likewise from the south, the produce of Cilicia enjoyed favourable esteem.

Thus, where suitable conditions reigned, vineyards became a characteristic of the western Anatolian landscape. Some peaceful rural images have been bequeathed us by the Emperor Julian in a letter to his friend Evagrius: he offers Evagrius his Bithynian estate, especially "a humble monument of my husbandry, a small vineyard that produces a fragrant, sweet wine, which does not have to wait for time to improve its flavour." There must have been many such patches of vines across the breadth of Asia Minor.
(ii) **Persia**

It is likely that viticulture in Persia is of considerable antiquity. In its north-western marches at least Persia adjoined the Armenian homeland of the cultivated vine. But, as was the case in the foldlands farther west, evidence of winemaking here appears only belatedly. Two factors make it seem likely that the origins of Persian viticulture will eventually be pushed back: firstly, increased archaeological attention is being directed towards Persia's prehistory and, secondly, there are indications from more than one area that an early agricultural sophistication reigned in parts of the Zagros chain and its foothills. 241

In the 3rd millennium there emerged Persia's first civilised state—Elam. To begin with, this was centred upon the plain of Susiana, a "natural extension" 242 of Mesopotamia, which accordingly enjoyed similar advantages and disadvantages. Elam later expanded to encompass parts of the Zagros Mountains, 243 an environment more suitable for cultivation of the vine. The question of Elamite wine has already been broached in the context of wine imports to Babylonia from Sumerian times onward. 244 If indeed, as is plausible, "the mountains of the east" referred to the territory of Elam, then wine production characterised this area at least by the 3rd millennium.

Northwestwards, in the Lake Urmia region of the Zagros, Hasanlu and neighbouring sites formed the core of the Mannaean kingdom of the early centuries of the 1st millennium. 245 The Mannaean...
noted for their wine. Material recovered from the so-called Grey Ware Phase (very early 1st millennium) seems to confirm this: storage jars from excavations at Hasanlu give distinct sign of having contained wine or beer. However, at this relatively late date and with wine-producing Assyria close at hand, it might be more surprising if vines were absent rather than present. To the more intriguing question of how early viticulture was practised here no answer can be given. A rich and advanced culture, probably with knowledge of agriculture, existed in this area as early as the 6th and 5th millennia—but that is all that can safely be said.

As we advance in time, viticulture is more frequently encountered in Persia and for more than just the relatively benign environment of the Zagros periphery. A series of Indo-European invasions began in the 2nd millennium when mounted nomads conquered the interior plateau lands. By the 6th century B.C., under the Achaemenid Dynasty, the Persian nation had taken shape. Many of the territories which then came under its sway grew the vine and their wines were a source of wealth and delight to the Achaemenid rulers. But the arid Persian homeland likewise hosted the vintner's art. To illustrate, one tablet from the Persepolis treasury, dating from the ninth month of the nineteenth year of Xerxes, records a payment of money, supplementing previous payment in wine, to workers described as "winemakers at the winepress for whom Otanes the wine-bearer is responsible." Another document, almost contemporaneous, salaries the same employees who are now titled "vintners." We learn
further from this tablet that Otanes dwells in Shiraz, a city subsequently world-acclaimed for its wine and whose very name may mean "having good vineyards." There is assuredly a case to be argued that "wine from this area was just as famous in the days of the Achaemenian kings." Then as today, irrigation (especially the qanat) held the key to a viable agriculture in much of the territory we now call Persia. It is unlikely that vineyards could have flourished to any extent without irrigation's aid, and their distribution would have been influenced accordingly. Thus it is no surprise that irrigation rights are mentioned in two vineyard transactions, recorded on parchments recovered from a cave in Persian Kurdistan. (Such a role for irrigation receives some further warranty from Strabo's account of the vines of Bactriana, where Persia encroached on central Asia: their trunks could scarcely be encircled by two men with outstretched arms and their fruitfulness was prodigious. Additionally, Chinese texts tell of grapes the size of fowl's eggs from the same area. In other words, the vines of Bactriana were the rampant, swollen trees of oasis land.)

Whether Persia ever really ranked as a major winemaking land is debatable. That the Persians were, or rather became, enthusiastic wine drinkers would seem less so. Royalty and the upper classes at least consumed the beverage with a passion. To be carried out unconscious from a banquet was no rarity--so says Xenophon. An inscription from Persepolis, the capital, itemises 50 congius
(a measure equivalent to about 3½ litres) of sweet wine and 5,000 of ordinary wine as the daily delivery to the royal household. A figure exceeding 18,000 litres per diem suggests a certain penchant for the beverage! All the same, if the Greek writers, notable compilers of Persia's bibulous traits, are to be credited, this important status of wine must have reflected a comparatively late date. Herodotus characterises the early Persians as abstemious: "They make no use of wine but drink water." Similarly, Xenophon relates that at one time the Persians interrupted their day's work but once to eat and drink (though from the time of Cyrus, he adds, they still dined once only, but this a continuous feast the day long).

Two factors must temper any statement about the place of wine in ancient Persian society. The first concerns the restricted nature of our evidence. In ancient times, the ways of the royal or noble oesophagus were rarely those of the common man's. So wine may have been ubiquitous or may merely have been the hallmark of the rich and titled. Evidence is insufficient on this point. Secondly, there is the complicating presence of haoma (homa) in ancient Persia. Haoma—linguistically equivalent to and, in all probability, constitutently identical to the Vedic soma—has been identified as, simply, wine. This it was not. A fermented beverage violates the Rig-Veda text and we must look instead to some plant with 'inebriating' properties. A plethora of identifications have been made over the years; suffice to say that following Gordon Wasson's
researches, culminating in his *Soma: Divine Mushroom of Immortality*, all recent discussions rally round or attempt to refute Wasson's identification of haoma/soma as the hallucinogenic *Amanita muscaria*, the so-called Sacred Mushroom.271 Be all this as it may, haoma in Persia was a cultic device, the centrepiece of rite, within the Magi-dominated worship of the forces of nature; later, it became subsumed within the Zoroastrian purification of the Magian religion (ca. 6th century B.C.).272 If only in a religious role, haoma must have been a strong competitor to wine. But "the householder himself produced the intoxicant [haoma]."273 So, although its impact cannot be quantified, here may have been a serious alternative to wine.274 In light, then, of these two 'unknown quantities', it would be unwise to overstress the significance of wine in ancient Persia.

The above picture is the best which I can piece together; both fragmentary and wanting, it is yet the most complete discussion of wine in the northern foldlands that I know of. Nonetheless, to look therein for satisfying generalisations is to search in vain. Wine may well have attained a considerable importance in these lands. It was surely fermented here at an early date but is attested only at a comparatively late period. The intervening lacuna invites questions, but responses are not yet possible.
B. The Mediterranean Trail

The turning point in the story of wine came with the rise of viticulture in the Mediterranean Basin. Among the ancient Mediterranean peoples, wine attained an importance it had not achieved before and which, arguably perhaps, it was never to equal again.

Significantly, viticulture in the Mediterranean found a physical environment much to its liking. As has already been argued at some length, the vine is not a plant of the plain. But neither is the Mediterranean Basin, Fleure's "region of difficulty," a land of plains: it is a rugged and mountainous environment where lowland is generally at a premium. Cereals coveted the latter. The vine (like the olive) 'made do' with the slope, but this proved a felicitous marriage. As conditions of relief proved favourable to winegrowing, so were those of climate. Few rains (unlike the case further north) fall in summer to spoil the maturing fruit; sufficient rain (unlike the case further south) arrives during winter's months to ensure for the vine's deep-delving roots adequate soil moisture throughout the remainder of the year. In terms of the latter, it has been calculated that a mere 300 mm precipitation from the end of harvest to fructification the following year (i.e., during winter-spring) enables the vine to withstand summertime's drought. Finally, dormancy requirements were satisfied by the Mediterranean winters while frosts were rarely of a dangerous severity. In short, throughout a large area
(and, for the most part, I do not intend to reiterate these environmental influences for individual regions examined) conditions were such as to promote a successful viticulture.

(i) The Levant

Between sea and desert lies the Levant. Move 200 kilometres inland from the Mediterranean littoral and the wilderness dominates completely. Intervening are the ranges and plateaus and sparse valley land of Syria and Palestine.

The Children of Israel realised that the land to which they were journeying was not like that which they had left behind. The Levant enjoyed the Mediterranean characteristic which Egypt possessed not: "Of the rain of heaven it drinketh water." The point I suggested in general terms in the section above, that in most of the Mediterranean winter's rains can carry the vine through summer's drought, I can verify here by example. In Palestine, late autumn witnesses the 'former rains' of the Scriptures (25-125 mm); the bulk of moisture arrives between december and february (250-500 mm); the 'latter rains', heavy showers in march and april (25-125 mm), make the final, decisive contribution. Taking the lowest figure in each case, the 300 mm necessary for the vine will still be attained (though not necessarily in exceptional years). And so, while certain areas in the Levant were in fact irrigated, much could be cultivated as 'Baal's land', that watered by the activities of the rain god. The Levant was a land rich in vines, flowing with wine. Other beverages were certainly produced—particularly date wine, but
palm sap, pomegranates, figs, and honey were also fermented, and an 'apple' wine was prepared— but the primacy of wine, wine from the grape, was never challenged. Its significance we can conclude from textual evidence reinforced by some material remains uncovered by archaeology.

To the north stood Syria, once proposed as the wine country par excellence of the ancient Near East. It has been shown already that by an early date Syria was engaged in wine export to the civilisations of the Nile and Tigris-Euphrates; in particular, wine from Helbon, somewhere on the leeward side of the Lebanon-Amanus coastal ranges, enjoyed reputation abroad. Texts, foreign and local, record the oenological richness of Syria. The tale of the early Egyptian traveller Sinuhe, which appears fictional but based upon actual Egyptian contacts with the Levant, gives this description of the Syria-Palestine borderlands for a date broadly around 2000 B.C.: 

It was a good land, named Yaa. Figs were in it, and grapes. It had more wine than water. . . . Bread was made . . . as daily fare, wine as daily provision.

"The wine in the presses of Daha is as copious as running water," announces an inscription of Egypt's Thutmose III for some section of coastal Syria (probably Phoenicia). Local sources confirm these commentaries. The Canaanite texts from Ugarit are replete with references to wine. Among their number appears a vintage song or vineyard fertility chant telling of the season's ministrations
to the vine. And lately there has been discovered a Canaanite deity, Trt (literally 'grape-juice'), apparently a wine goddess from whose name the Hebrews derived their poetic word tirōš for 'wine'.

In similar manner, tablets from Alalakh, lying in the plain of Antioch to the north, indicate a substantial viticulture: one 15th century B.C. tablet informs us that there existed 81 vineyard HOLDERS in a single village.

This richness in wine persisted throughout the centuries. The above examples date to the 2nd millennium, but as late as Roman times a comparable fruitfulness is recorded. The 4th century A.D. Expositio totius mundi portrays Syria as a land "overflowing with grain, wine, and oil;" various Syrian vintages reached Italy and wine from Laodicea was exported to Egypt, thence to Ethiopia, East Africa, Southern Arabia and India. Also worthy of mention is the fact that Roman administration and hydraulic engineering encouraged a considerable agriculture in the interior--thus "regio Chalcidena fertilissima Syriae"--to complement that of the coast. Much wine was produced.

It can be added at this point that Aphrodite's island of Cyprus, within sight of Syria, likewise manufactured wines in antiquity. They did not lack reputation. Some at least were exported: it has been said that, in Ptolemaic times, expatriate Jews in Cypriote cities may have been charged with the task of sending wines from the island to Jerusalem's temple. Jars of wine were a commonplace in burial procedure, and there is evidence to
suggest that wine was employed in libations. Still, to propose Cyprus as a notably important wine producer in ancient times would require greater documentation than this.

A Syria rich in wine had its counterpart to the south in Palestine. Numerous place-names on the ancient map suggest a land of vines: Abel Kramim ('Plain of the Vineyards'), Nahal Eshcol ('Brook of the Cluster'), Nahal Sorek ('Brook of the Vine Tendril'), Enav ('the Grape'), Mount Carmel ('Hill of the Vineyard of the Lord'), and others besides. It has been estimated--how, I do not know--that the population of this land used as much as 3-4 litres of wine per capita each day. No surprise then is the fact that ancient winepresses abound in the countryside here and figure prominently in archaeological excavations. The winery at Gibeon, now unearthed, possessed a storage capacity of 150,000 litres. Biblical references to winepresses, literal (Isaiah 5:2; Matthew 21:33) or metaphorical (Revelation 14:19-20; Revelation 19:15), are many.

In the Bible, of course, we have an incomparable record. The entire range of Scripture is punctuated with allusions to the vine, the vineyard, and its wine; their numbers total many hundreds. This fact alone is significant. The information such references yield is equally revealing. A seemingly endless list of these could now be provided, but a few examples must suffice to establish that the Bible portrays a significant wine-producing land. For a start, the very nation of Israel is symbolised as a vine in Psalms 80:8-15; similarly, the land of Judah is personified thus in "perhaps the most voluptuous picture in the Old Testament":
Binding his foal unto the vine, and his ass's colt unto the choice vine; he washed his garments in wine, and his clothes in the blood of grapes: His eyes shall be red with wine, and his teeth white with milk.

Genesis 49:11-12

There are suggestions, too, of sizeable viticultural enterprises, notably in the use of itinerant labour (Jeremiah 49:9; Obadiah 5) and in the occurrence of absentee landlordism (Mark 12:1). Finally, the numerous rulings, strictures, and fulminations on the matter of wine which appear in Levitical ordinance (Leviticus 19:10 and 23:13) and later didactic writing (Proverbs 20:1 and 13:4-7) combine to imply that wine was plentiful in ancient Palestine.

As in Syria, this condition was no ephemeral characteristic (despite the experience of temporary viticultural setbacks such as the military despoiling of vineyards or Domitian's imperial legislation designed to stay the overproduction of wine). In later times, the historian Josephus (A.D. 37-95) reveals a Palestine rich in fruit, particularly the vine. Comments and advice on viticulture abound in the various Hebraic works, notably the Mishnah. And while the New Testament may by its very purpose contain fewer oenological references than its predecessor, it still witnesses the importance of the beverage. Mark 12:1 largely echoes Isaiah 5:2. Indeed, for all that the Old Testament is heady with wine, it is Jesus who glorifies it.
It can be said, then, that wine was produced throughout the Levant within the relatively narrow belt of productive country hemmed between the Mediterranean and the desert. While the plains such as Philistia (where Samson fired the vineyards of the Philistines—Judges 15:5) and Sharon grew grapes, it was the foothill and mountain territory that dominated viticulture. In the imagery of Amos 9:13, "the mountains shall drip sweet wine, and all the hills shall flow with it"; the prosperous days of King Uzziah of Judah saw that monarch encourage farming enterprise, particularly "vine dressers in the mountains, and in Carmel" (II Chronicles 26:10).

Many of the important wine-producing areas overlooked the Mediterranean—the Syrian lands which slope down to the coast (according to Strabo, the mountain above Laodicea was carpeted with vines almost to its summit), the Lebanon range, Mount Carmel, and the hill country of Judaea. But grapes were pressed also in the lands to the lee of these ranges, in interior north-western Syria, in Coele-Syria, and in Ammon and Moab farther south. It is thought that vineyards extended even into the arid wastes of the Negeb in southern Palestine, although not a little controversy has warred over whether the Negeb's telelāt el-'anab (artificial stone heaps) do or do not represent evidence of former viticulture.

Irrigation invited such advance desertward. Where water was at hand, there crops, orchards, and vineyards could thrive. In the Wilderness of Judaea beside the Dead Sea, Engedi's spring, cascading forth from its limestone escarpment, sustained a haven of life. "My
beloved is unto me as a cluster of camphire in the vineyards of Engedi," runs a verse from the Song of Solomon. Nearby, we may believe, lies part of the treasure of Qumran's Copper Scroll: "In the reservoir which is in the Place of the Vineyard, (Beth Kerem), ten cubits on its left as you enter: sixty-two talents of silver." Another famous oasis, Petra in ancient Nabataea, similarly produced some wine. And in the north the Roman transfiguration of parts of Syria's interior has already been alluded to.

One problem remains—origins. Approximately when did this Levantine wine production arise, and from where was the innovation borrowed? (Borrowed it almost certainly was, for there is no dependable indication that Vitis silvestris ever flourished in the Levant.)

Its beginnings may be dated back at least to the Early Bronze Age (commencing at the close of the Chalcolithic, towards the end of the 4th millennium). According to Reifenberg, a sizeable complex of crops, including wheat, barley, millet, various vegetables, olives, dates, figs, and the vine, was in cultivation throughout the Near East of the 4th millennium. This statement is somewhat too sweeping. But the fact that Egyptian wine production had commenced almost certainly by the 4th millennium is important, for I have argued earlier that the Nile peoples probably received this innovation from the Levant. Significant also is the exporting of Levantine wines at least by some time in the 3rd millennium (part of a larger and probably older trade).
Two points of etymology lend some support to grape-growing amongst the Canaanite peoples by 3000 B.C. The first has already been considered: the Canaanite loan-word ka(r)mu (vineyard) appears in Egyptian texts of early dynastic times. Secondly, towns predating 3000 B.C. have been shown to bear Canaanite names. Amongst these, the famous Ugarit is closely connected with the name of the mythological figure Gapnu-wa-Ugâru (vineyard and field).  

Palaeobotanical findings have not given the unequivocal confirmation that might have been wished. True, carbonised grape remains have been recovered at several sites. Helbaek has examined such material from Hama in Syria, Lachish in Palestine, and, on the island of Cyprus, from Apliki and Kalopsidha. At Salamis on Cyprus further finds have been made. The Cypriote evidence, respectively from the middle 2nd millennium, the late 2nd millennium, and the Iron Age, is too recent to be helpful. The imprint of a grape pip in a potsherd from Hama is another matter, for this dates from the second half of the 4th millennium B.C.; and the Lachish pips belong to the early 3rd millennium. However, Helbaek concludes that the evidence points to the use of grapes as raisins rather than as wine. This, of course, does not preclude wine having been made. Hopf's study of Jericho's plant residues casts no further light on the matter. Both pips and carbonised berries occur there from the time of the Early Bronze Age (late 4th millennium) but Hopf is not concerned with their use.
While the above evidence is sparse, it does seem to exhibit sufficient correspondence to encourage belief in the beginnings of Levantine winemaking shortly before 3000 B.C., at latest.\textsuperscript{339} I must suppose that this innovation came from the north\textsuperscript{340} (Syria traded with Armenia at a very early date).\textsuperscript{341} Or such at least is the standard explanation. I know of no substantial corroborating evidence and given the period involved we may never receive any. Attention has been drawn to the fact that Noah, primordial vigneron, is associated both with Ararat in ancient Armenia and with the very ancient settlement of Hebron in Palestine\textsuperscript{342}—but the connection is not a little tenuous.

All in all, the earliest days of what was destined to become a major agricultural industry in the Levant remain largely obscured from view.

(ii) The Aegean World

To seek the beginnings of winemaking in the Aegean world one must first exorcise a ghost—that of Sir Arthur Evans, excavator of Knossos in Crete. For his diagnosis, now several decades old, that wine was unknown to the Minoan civilisation of Crete before Late Minoan times (beginning around 1600 B.C.), has long enjoyed the relatively unchallenged reign of dogma.\textsuperscript{343} Recent scholarship belatedly questions his assertion.

There seems good reason to do so. The evidence of grape remains alone is suggestive. It is certain that the wild vine was
native at least to northern Greece: its vestiges are attested for the sites of Sitagroi and Dikilitash from about 4500 B.C. onwards. In the only recently excavated former site, the remains, initially wild, exhibit increasing features of domestication in the successive levels; before the onset of the Early Bronze Age, domestication had been achieved. For the most part, however, grape findings have been domesticated examples from Bronze Age times (approximately 2600-1100 B.C.). They are dated according to this crude classification:

<table>
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<tr>
<th>Crete</th>
<th>Mainland Greece (south)</th>
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<td>Early Minoan 2600-2000 B.C.</td>
<td>Early Helladic 2600-1900 B.C.</td>
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<tr>
<td>Middle Minoan 2000-1600 B.C.</td>
<td>Middle Helladic 1900-1600 B.C.</td>
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<tr>
<td>Late Minoan 1600-1100 B.C.</td>
<td>Late Helladic 1600-1100 B.C.</td>
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On mainland Greece, grape remnants at Orchomenos in Boeotia date from Middle Helladic times, while considerable quantities of Late Helladic pips have been recovered at Tiryns in the Peloponnese. On Crete, grape pips have been found in storage jars of Middle Minoan date at both Phaistos and Monastiraki.

No certainty of wine in such finds. These residues could conceivably represent mere use of fresh grapes or raisins as a food source. Nevertheless, the compressed nature of the Orchomenos pip masses and the similar character of remains at Hissarlik (Troy) suggest the detritus of winemaking. Significant, too, would appear to be the discovery of grape pips in a pithos at Aghios Kosmas in Attica since the vessel was clearly intended to hold liquid—grape juice or wine, hazards Renfrew. In other words, and not
the words of Evans, winemaking at least by the first half of the 2nd millennium is indicated.

So the Minoan civilisation drank wine? Modern Minoan scholars are willing to sanction such a view. Presuming that the mainland peoples were unlikely to have learned their winemaking from the north, Hutchinson argues that the Cretans must have fermented wine during Middle Minoan times and probably also in the 3rd millennium. Hood is willing to accept that the beverage was made as early as the beginnings of the Bronze Age (ca. 2600 B.C.). Still, the weight of corroborating evidence is not as great as might be wished.

For a start, representational evidence is minimal. In Minoan art the vine motif is rare indeed. Whether much should be made of this is another matter: in later Mycenaean art the vine is again uncommon, although the presence of wine in Mycenaean life can easily be shown. As for epigraphic testimony, it must await substantial and approved transliteration of Linear A. (Ignoring early hieroglyphs, Crete has yielded two scripts, Linear A and Linear B, the former in a general sense the progenitor of the latter. Linear A, occurring throughout the island, dates from Middle rather than Late Minoan times; as such, it was the script of the Minoan civilisation sensu stricto, essentially Middle Minoan and Crete-bound save for a very few colonies. Unfortunately, this script has resisted attempts at decipherment. Linear B, by contrast, has revealed wine's use in everyday life. But with its Late Minoan currency it was not truly Minoan, since after 1600 B.C. civilisation's impetus stood with
Mycenae on the mainland; that is to say, Linear B will reflect the Mycenaean world, Peloponnese based, which encroached upon Crete only at the palace domain of Knossos. For the present discussion, it is not relevant.)

The artifact as a source of evidence is more promising. Renfrew argues at some length—in fact, he is not the first to so do—that the dramatic increase in frequency of cups and jugs, vessels for pouring and receiving liquids, during the Early Bronze Age represents "corroboration for the use of a beverage such as wine." He considers that the cups are too small to be useful for much besides drinking, a belief encouraged by the fact that certain types cannot stand upright; he suggests further that since not even a modest draught of beer can be accommodated by such cups and since distillation is a recent phenomenon, the case for wine is strengthened.

Somewhat more direct indication of wine amongst the Minoans is provided by the Early and Middle Minoan winepresses which have been claimed for certain Cretan sites. Hood asserts that such a press exists to the south of Knossos. The Early Minoan village of Myrtos may house another, though its use as an olive separator has been proposed. Recent excavations at Zakros, at the eastern extremity of Crete, have revealed a Minoan port with several winepresses of Middle Minoan dating; these, supplemented by further examples inland, are claimed as proof that "fine wines were produced in great quantities."
This conclusion is perhaps precipitate—though, equally, it may be vindicated as more knowledge about the Minoans comes to light. Renfrew's vessels tell nothing about Greek wine production; the existence of a few winepresses, their authenticity sometimes disputed, is not evidence enough to demonstrate "great quantities." All that can reasonably be said at the moment is that the Minoans, or possibly some privileged sections of their society, produced and consumed some wine by an early date in their history. To elaborate would be unwise.

Both viticulture and winemaking were present in Greece at a relatively early date, certainly in Crete, quite possibly in parts of the mainland. Where these techniques could have been learned is a vexed question. Broadly speaking, two routes of vinous advance into Greece can be postulated.

One is from the south. A case can be made for a maritime route from the south-eastern littoral of the Mediterranean to Crete, thence perhaps to the mainland, where Minoan contacts were many if colonies few. This argument would require indication of 3rd millennium (Early Minoan) or perhaps 2nd millennium (Middle Minoan) liaison between Crete and areas which were already making wine. Now, by the late 3rd millennium, Crete traded a variety of goods particularly with Egypt but also with the Levantine coast. From either could have come the knowledge of winemaking and, since it is improbable that the vine was native to Crete, the plant itself. This is conjecture. And not much 'concrete evidence' can rally to its support. Two
points merit mention, however, both having reference to the Levant. Firstly, Cyrus Gordon has used the transliterated Linear B symbols to transliterate backwards to Linear A (an attempt which has been dubbed plausible but speculative). This has allowed him to claim strong connections between Syria's Ugarit and Crete, as revealed in the economic-administrative tablets from Hagia Triada. He identifies the Cretan deity Gu-pa-nu with the vine god known from Ugarit. Furthermore, the word for wine, ya-ne, incised on a wine jar fragment from Knossos, appears borrowed ("the Northwest Semitic nature of Minoan is established") from the Northwest Semitic yain. The second point I can introduce by some lines from Hesiod:

at that season,
one might have the shadow under the rock,
and the wine of Biblis . . .

Hesiod:  *Works and Days*, 588-89

The idyllic life for the Boetian bard was a spot shaded from the june sun and a flask of Bibline wine. Strange, for the peasant context of Hesiod would make one expect some local vintage. An import of Phoenician wine from Byblos would seem unlikely. But 'Bibline' wine was later produced in Magna Graecia (southern Italy, including Sicily), and the repetition gives a clue. 'Bibline' appears to have been the name of a type of vine, or perhaps a style of wine, originating in a specific locale (possibly corresponding to the modern proliferation of Riesling). Here then is the possibility of the movement of
Levantine vine-stock or vinification skills into the Greek world, but, unfortunately, no date can be given this.

If a movement from the south as outlined represents the first likely route of vinous advance, a path from the north is the other possibility. Given the unique sequence of grape vestiges at Sitagroi, it has become possible to state that certainly the domestication of the vine and perhaps the rise of organised viticulture and winemaking occurred as a local (northern Aegean) affair. This is the most persuasive case in favour of a movement from the north.

It is as well to point out finally that I see no reason to consider these two possible routes mutually exclusive. Both may have been involved. All the same, while I am willing to acknowledge the feasibility of the north Aegean winemaking hearth, the major thrust of viticultural colonisation would seem more appropriate to the relatively sophisticated Minoans rather than to the northern tribes.

The Minoans enjoyed the first European civilisation--certainly in Europe and beginning to be of Europe. They drank wine, but it is impossible to judge the importance of the beverage in their culture. It is much less difficult to show that wine held a not inconsiderable significance in Mycenaean life (mainland: Late Helladic times; Knossos: Late Minoan). It may be premature to claim an "enormous popularity" for wine in the Late Bronze Age, but there are pointers enough to take us past Chadwick's unduly cautious diagnosis: "Wine was drunk, although in what quantities
we cannot tell.\textsuperscript{374} For now, indisputable archaeological indicators are supplemented by the written record.

Echoing Minoan days, the lump of compressed grape pips\textsuperscript{375} and the winepress--as the fine example at Palaikastro, discovered as long ago as the turn of the century\textsuperscript{376}--witness Mycenaean vinting. But the fruits of Mycenaean digging have been greater. Excavations led by Blegen at Nestor's Palace in Pylos have resulted in the discovery of a wine magazine containing, in various states of survival, three or possibly four rows of wine pithoi. "We can say," writes Blegen, "that at least 35 still stood in place on the day the palace was reduced to ruins in the great fire, and there may have been a good many more."\textsuperscript{377} A minimum capacity of 6,000 litres is indicated.\textsuperscript{378} That these pithoi held wine is evidenced by the adjacent presence of stemmed drinking cups and clay sealings, four of which bear the ideogram designating 'wine'.\textsuperscript{379} On the subject of sealings, two interesting examples from the Mycenaean city near Sparta still bear the impression of vine leaves on their lower surfaces. These leaves were laid over a wine jar's mouth to prevent the initially soft clay seal from falling into the liquid.\textsuperscript{380}

From Linear B tablets, recovered in numerous places, can be pieced together glimpses of the economic conditions of Mycenaean Greece. The ideogram for 'wine' is well-established--probably it originally represented a vine grown on a trellis\textsuperscript{381}--and the beverage is known to us from a number of tablets, in the form of ration or offering. One tablet from Mycenae, possibly a ration list, records
the equivalent of 24 litres of wine. An example from Pylos mentions
wine four times, totalling over 200 litres, as an offering to the
Mycenaean Poseidon, while yet another offers double this figure to the
same god. No society has ever given all its wine to its gods, so
the fact that Poseidon receives the liquor in such amounts can be
taken probably to suggest a healthy viticulture.

Finally, the towering works of Homer add a dimension to our
understanding of Mycenaean life. At once, however, a difficulty
arises. Ostensibly descriptive of the Mycenaean world, the works of
Homer may rather reflect conditions ranging from the actual Mycenaean
period down to the 8th century B.C., when 'Homer' lived, or perhaps
even the 6th century, at which time a standard Athenian version was
edited. A useful review of this problem, examined in terms of the
dietary regimen portrayed in the epics, has been undertaken by
Younger: he concludes that the Homeric treatment of wine essentially
reflects the old Mycenaean order.

Homer's picture is one of relative abundance of wine. He
knows of slopes clothed in vines—"Epidaurus full of vines" in the
eastern Peloponnese; from north-western Euboea "Histiaia rich in
vines"; and somewhere in Boeotia "Arne rich in vineyards," which
were almost certainly of Mycenaean date since they had already
vanished by the 8th century. Most famous of Homeric vintages was
Maronean, grown on an isolated mountain chain overlooking the
Thracian coast. This wine it was which lulled the unsuspecting
Cyclops into unconsciousness, a dark red wine, fragrant and strong.
These examples suggest widespread viticulture. And if the following event in the *Iliad* can bear a Mycenaean dating, a considerable production of wine is indicated. We hear of "many ships from Lemnos" carrying wine to the Greeks camped before Troy; similarly, Nestor says to Agamemnon: "Thy huts are full of wine that the ships of the Achaïans bring thee by day from Thrace across the wide sea."\textsuperscript{389} In other words, a sizeable trading venture is underway.\textsuperscript{390} It can be noted lastly that wine is portrayed as a common accompaniment to meals\textsuperscript{391} and as an essential for special occasions. Excessive drinking--panegyrics to Homeric temperance to the contrary--was a not infrequent aspect.\textsuperscript{392}

By the time Homer was writing at the beginnings of classical Greece, wine was becoming an everyday item for the ordinary citizen. Even in Mycenaean times viticulture had probably been insufficiently developed to permit such adjectives as 'daily' and 'ordinary' to be used. But now "with vineyards spreading widely through the Islands and over the mainland of Greece,"\textsuperscript{393} plus the existence of an increasingly rational agricultural practice from the 6th century onwards\textsuperscript{394} (for Hesiod's literary farming treatise had already been composed by this date and the methodical mind of Theophrastus was not so very far ahead), wine was drunk universally and frequently. And so in classical Greece it achieved the status of a dietary staple, taking its place alongside grain--as bread, cake, and porridge--and olive oil to comprise the famous 'Mediterranean triad'. (To these were
added some pulses and vegetables, cheese, figs, honey, and preserved fish.)  

For the rich there were wines enough to permit the quest for connoisseurship, a trail that was to culminate in the encyclopaedic vintage catalogue of Athenaeus. Wine lubricated leisure time: Attic intellects were sharpened by its indispensable presence at the symposium; more flippant gatherings were often marked by a game of kottabos, which consisted in ejecting wine lees into a distant container, both accuracy and style being evaluated. And the 'good life'? A Middle Comedy poet replies for us: "Cheesecakes, sweet wine, eggs, cakes of sesame, perfumes, and crowns, and female flute-players."  

Wine production in the Aegean world attained its acme in this classical period. Vineyards became important and widespread throughout both the mainland and the islands; no less so, they clothed the littorals of Thrace and Asia Minor. A measure of their importance may be the fact that the vintage, more than any other single product of trade, was advertised on the one form of ancient 'printed' matter capable of wide and speedy dissemination--coinage (in those days money talked even more than it does now). Thus, looking only at the islands which garnish the shores of Asia Minor, some wine motif--grapes, amphora, winecup, and suchlike--decorated coins from Lemnos, Tenedos, Lesbos, Chios, Samos, Icaria, and Rhodes. Another measure of significance is surely the relative frequency with which the oinos root appears in Aegean toponymy. But if wine production was widespread, quality (or, at least, reputations) varied considerably.
The grands crus came not from mainland Greece: Attica's strength was quantity not excellence, the Peloponnese was little better. Northwards, however, on the Thracian coast, Mende and Maronea possessed famous vineyards. And among the islands--Athenaeus lauds the island wines above all--the vintages from Chios and Thasos, mere mountains bursting up from the Aegean, were renowned. Esteemed also were the wines of Lesbos and Peparethos. 402

A catalyst to this expanded Aegean viticulture was the establishment of numerous Greek colonies from the 8th to 6th centuries in diverse parts of the Mediterranean and Black Seas. A rationalisation of arable production between the motherland and the new colonies crystallised in terms of the former specialising in wringing wine from her emaciated lands. Gradually Greece saw a shift from the traditional subsistence viticulture to widespread commercial exploitation, 403 a transformation encouraged by state-given 'farm subsidies', low-interest loans designed to enable the farmer to weather the initial absence of tree crop yield. 404 One impetus to these changes was environmental. The soils of Greece were commonly too skeletal and the plains too restricted to favour more than mediocre grain harvests, but such conditions were, of course, no discouragement to the vine. In addition, the fortunes of trading may have jeopardised grain farming in parts of mainland Greece even before colonial agriculture became a major factor. 405 At any rate, during classical times wine exports from the Aegean states--testified by the substantial amphora remains in various colonies 406 --largely sufficed 407 to cover
the expense of the necessary imports, the 'daily bread', the sundry trappings of opulence, and the raw materials required to maintain the whole panoply of military might which seemed so indispensable to ensure these needs. Thus a considerable interdependence of economic production was achieved.

After the apogee, the fall. Winemaking's decline was emeshed in the larger-scale fading of the once-buoyant Greek economy into prolonged crisis, but its role was a significant one. Undoubtedly, a major wound to Greece was the rise of local wine production in many of her colonies and the resultant market loss. The equilibrium of interdependence was disturbed. Eventually, wine prices plummeted; those of grain, less available, reached new heights. The combination threatened Greece's capacity to survive. Added to this, the "ceaseless wars" of the 4th century B.C. (the political struggles, the class wars, the foreign encounters) sapped and irrevocably debilitated Hellas, quite apart from their obvious destructive consequences in the vineyard. Rostovtzeff, the most cautious of scholars, says of Greece that "as soon as she ceased to be the purveyor of oil and wine and manufactured goods for the rest of the world she was bound to decay." Later subservience to Rome brought with it no reversal of this decline. The Greek wines never regained their former production level, and in terms of their once high esteem les neiges d'antan had melted forever.
(iii) Italy

In Italy, wine came before Rome. This much is certain. Yet it is no simple matter to clarify the nature of winemaking's beginnings in a land destined to become famed for its vintages. One can posit four external sources, more or less likely, of organised viticulture and wine preparation in Italy. But before turning to these, an initial question merits attention: did organised Italian winemaking begin in situ with the native Vitis silvestris?

The distribution of the wild vine extended into at least parts of Italy. Certainly, palaeobotanical remains from northern Italy, particularly from the Bronze Age swamp dwellings of Aemilia and Lakes Garda and Varese, have proved rich in grape pips. Whether wine was made is not known. Rudimentary fermentation is a possibility, although the pips more likely speak of grapes or raisins as a food source. Further south looks potentially more fruitful. Hyams records that lumps of pressed grape pips, winemaking detritus beyond doubt, have been recovered from village sites of the early Iron Age peoples who inhabited the lands where now stands Rome. Here is wine from Vitis silvestris agree all but one of the sources which he has drawn upon (though it may be worth noting that the scholars cited by Hyams hail from an era preceding that of modern palaeobotanical research).

Significantly, this Iron Age discovery allows the possibility of a major indigenous impetus in the rise of Italian viticulture.
Such an occurrence would require that the Iron Age Indo-European tribes—among their number the Latins, Oscans, and Umbrians—who had invaded the peninsula shortly after 1000 B.C. did not bring winemaking with them as a cultural trait but discovered the process once established in their new land. We must further assume that once settled in Italy these peoples did not receive the idea of fermentation from some external source (e.g., Greek sailors). Is this reconstruction likely? It is possible but, to my knowledge, there is insufficient evidence to support or refute it beyond all cavil.

There is a complicating element to be considered. Hyams meets opposition in the work of Helbaek. The latter argues that, botanically, Italy was two, that whereas *Vitis silvestris* was common in the north, the central peninsula and the south possessed no native vines.\(^416\) If so, Latium harboured no wild vines. Now Helbaek, too, has examined plant residues from pre-urban Rome, discovering amongst them numerous grape pips. Such finds he explains in terms of the introduction of the *cultivar*. Noting that no pips antedate the period of Etruscan influence in the area, he understands the remains as "a novelty connected with this foreign cultural influence"\(^417\) (which would seem a more reasonable solution than to credit that the wandering Indo-European herdsmen carried with them the cultivated grape vine.)\(^418\)

I do not intend to arbitrate between these conflicting positions, but there is one point worth making. Even if the detritus from Latium represents an Indo-European discovery *in situ*, we cannot necessarily presume from this any substantial fermenting of wine.
Now, it might be intuited that a pastoralist people would more readily turn to honey than to the grape berry to prepare alcohol. This appears true of the Indo-Europeans: philologists stress that these peoples had mead as their most characteristic intoxicant; Plutarch believed that before wine was known to the Romans, mead alone was available to them. Moreover, it will be shown presently that the youthful Rome was little friend to wine. In other words, while the early Iron Age peoples at the site of Rome may have fermented wine from *Vitis silvestris*, it is most unlikely that this breakthrough influenced appreciably the subsequent course of Italian winemaking.

How, then, was organised wine production introduced into the peninsula? As was indicated earlier, four sources may have been involved—the Mycenaeans, Phoenicians, Etruscans and Greeks. Each of these groups made contact with Italy in some capacity or another.

The first two can have made minor impact at most. Early Mycenaean trade contacts with southern Italy are attested, but we have no surety that wine figured in this trading. Even assuming it did, the agricultural skills of the peninsular peoples would scarcely have been able to sustain an organised viticulture. The Phoenicians present a stronger case. They appear to have introduced winemaking into parts of Sicily, but the restricted area of their colonisation, perhaps added to the fact of the more numerous, contemporary Greek colonies alike producing wine in Magna Graecia, vitiated against any major Phoenician momentum in the rise of the Italian wine industry.
The Etruscan contribution is the most difficult to assess. It is customary to label the Etruscans as a people shrouded in mystery. Of relevance here is their original homeland—which, if not a total mystery, is at least disputed, and has been so since the Romans first posed the question. One current school of thought has stressed autochthonous origins in Etruria; the opposing faction identifies migratory beginnings in Lydia, Asia Minor. Bloch, among the principal modern Etruscologists, argues cogently in favour of the latter, but it may be more realistic to abandon the rigidity of dichotomy and reason that an elite element arrived from the east to act as a cultural catalyst. Whatever the exodus, it must have occurred in the first quarter of the 1st millennium B.C. It is surely unthinkable that this migrating people, doubtless acquainted with vine and wine in Asia Minor and accorded a reputation as bon vivants, would have failed to capitalise on their vinous lore once in Italy.

Unfortunately, Etruria has yielded sparse evidence of winemaking (and, accordingly, almost every discussion of wine avoids inspection of the Etruscans). At first sight, the artistic representation of things oenological would appear to give impressive testimony. De Mortillet cites the examples of a mirror decorated with vines and vintage scene and of a cup in bronze and silver, ornamented with vine leaves and grapes, recovered in a sacred thermal spring. Other designs engraved on the back of bronze hand-mirrors can be noted: one example from the British Museum possesses a floral border of what must be the vine (the leaves are inaccurate, but the fruit is very
characteristic), while on another example, now in Baltimore, a vine trails upwards to overhang a group of four figures, one of whom is identified as Fufluns, the Etruscan derivative of Dionysus. And then there are the famous tomb paintings, beloved of D. H. Lawrence. Numerous banqueting scenes show drinking vessels of a design that is thought to have held wine. Thus the Tomba dei Vasi Dipinti records a charming family meal, husband and wife supping wine together from a large kylix (wine bowl), their children at their side. In fact, the value of such representational evidence is questionable. The earliest art of the Etruscans was strictly non-representational, consisting of abstract, geometric symbolism. But as early as the declining 8th century, Greek artifacts made their way to Etruria, and the following century has been christened the 'orientalising' period. In brief, Etruscan art was heavily influenced by the eastern Mediterranean. The engraved mirror, to give an example, was an Etruscan invention rather than a Greek borrowing, but the inspiration for the specific designs was overwhelmingly Greek. So, if we look for confirmation that the Etruscans brought wine-producing skills into Italy, the value of the above vinous motifs is as nought. If we are content, however, to suggest that viticulture and wine drinking figured in the Etruscan way of life once settled in Italy, they may have some worth as evidence. But we cannot be sure.
The picture is not all bleak. One design, a household scene, is more promising. From the Golini Tomb near Volsinii, it reveals a kitchen episode in which a harassed cook is attempting to discharge the simultaneous demands of two serving-girls. On a table beside him rest various foodstuffs, including bunches of grapes. The striking domesticity of the scene makes it likely that here is a straightforward depiction of Etruscan life. If so, grapes were known. Also, the researches of Mayani must be considered. He claims to have made substantial inroads into a task that long seemed almost insoluble—the decipherment of the Etruscan language; he has achieved this by comparing it with the Illyrian nucleus present in Albanian. If his method is sound, then wine (as well as beer) was drunk by the peoples of Etruria. For several epigrammatic inscriptions counsel on the topic of wine: "A little wine smooths the channel throat," "a little wine is soothing," and the like.

On the whole, it can probably be concluded that the Etruscan peoples produced and consumed wine, although we should be shy of estimating the importance of the beverage. But it has not been proved that they introduced the same into Etruria. Indeed, given their considerable Greek contacts—what Lawrence has styled the "long intercourse with the Greeks"—there is always the alternative possibility that viticulture saw an early leap northwards from the colonies of Magna Graecia.

Enough of the Etruscans. Even if we accept Helbaek's conclusion that their winemaking influenced the incipient Rome, the
dominant dynamic in ancient Italian wine production came from the south, came from the Greeks. At intervals along the Sicilian coastline and much of the littoral of the southern peninsula, and largely between 800 and 700 B.C., the Greek states established colonies. Syracuse, Catana, Locri, Sybaris, Neapolis.... And these colonies planted the vine, almost certainly imported from Greece. Thus Naxos, in the shadow of Etna with its volcanic soils favouring viticulture, followed the motherland lead by advertising her wine-producing role on her coinage. On the mainland, Sybaris—to be immortalised in the adjective for luxury—maintained extensive vineyards and exported wine. Likewise the southern coast of Sicily, centring upon Acragas, engaged in such trade during the 6th and 5th centuries. Indeed, competition for the wine (and oil) trade was one of the causes of the conflict which smouldered long between the Greek and Phoenician colonies. So important did these vineyards of Magna Graecia become that in time the south received the epithet Oenotria (vineland). From this land of vines, then, vinous skills diffused northwards towards Rome and central Italy. Moreover, many of the later Roman vineyards, which were for long concentrated in the southern half of the peninsula, were the direct descendants of these Greek plantations. To repeat, the winemaking momentum in early Italy was predominantly from the south.

Then came Rome. The notion of a Rome awash with wine, sated and decadent, could perhaps prove accurate for the senescent Empire,
but not before. The Rome that was a Kingdom and then a Republic was far from fulfilling such an image. It is quite clear that wine drinking evolved but slowly in the maturing Rome, paralleling a limited development of vineyards at first. Pliny points to this when he states that agriculture in Italy is much older than viticulture. Alternative drinks were important. It has been suggested that the early Romans were in fact water drinkers. Another clue comes from Pliny: "Romulus used milk and not wine for libations." This would have been a natural selection for a pastoralist people, and it is plausible to infer secular usage of milk. Wine was known, but its status seems to have been that of a luxury restricted to festive occasions for the masses, perhaps commoner but not commonplace among the elite.

To some considerable extent, this situation must be ascribed to the conservative frown of authority, within which may well have been contained the disapproval with which the pastoralist tradition has often vetted the sedentary mores. Certainly, early Roman law was singularly illiberal towards wine. Its use was sanctioned only for certain members of society. It was forbidden to slaves and, seemingly, to young men under thirty. Equally, it was denied to women. If Cato is to be believed, husbands would kiss their wives less out of amorous passion than the desire to detect any lingering aroma of wine. Such alcoholic halitosis was a serious offence. A sorry end awaited the wife of one, Egnatius Maetennus, when caught tippling on the sly: her outraged spouse beat her to
death with a self-righteousness which was later upheld in court.\textsuperscript{461} Those were the days! One final piece of legislation against wine is of interest. King Numa's Postumia Law outlawed the sprinkling of funeral pyres with the liquid.\textsuperscript{462} This action can perhaps be interpreted as a reactionary striving to preserve or reinstate traditional Latin values in the face of exotic contamination—in this case, wine's eschatological significance.\textsuperscript{463}

The rise of the wine industry during the early centuries of Rome was slow. The social and political eddies of Roman history provide the framework within which its changing importance must be measured. Although information is lacking, the peninsula-bound days of the early Republic were, as before, relatively wineless: 4th century Rome, for instance, was a world of peasant husbandry directed towards grain production.\textsuperscript{464} But with the appearance of a unified central Italy under Latin tutelage by the beginning of the 3rd century, Rome entered the arena of Mediterranean politics. A long, pulsating struggle with Carthage ended with Roman mastery over the western Mediterranean. Then the 2nd century witnessed the subjugation of the cracking Hellenistic world to the east.\textsuperscript{465}

"Par une sorte de loi de corrélation, à mesure que l'empire de Rome s'étend dans le monde méditerranéen, la vigne se répand en Italie."\textsuperscript{466} For conquest brought wealth, accompanied by a sort of nouveau riche desire for sophistication, a mark of which was wine drinking.\textsuperscript{467} Conquest also lay behind the new agricultural dispensations which arose at home and abroad.
At home, Rome waxed rich on the spoils and tribute of vassal lands. Not all Rome. There was an enriched senatorial class. Perhaps the most significant outcome was to nurture an influential group of businessmen, the opportunists of wartime. On the other hand, the peasant suffered. If participation in the army had not ruined his holding through neglect, then Hannibal, scourge of the peninsula for over a decade, had devastated the lands. The peasantry lacked the capital to resuscitate agriculture. Not so the increasing capitalist class, encouraged by recognition of an apparently secure investment and by a state begging private capital to restore agricultural capacity at home and to exploit the new-gained provinces. The result, in Italy as in the ravished Sicily, was the 2nd century rise of large, consolidated landholdings, controlled by a city capitalist class and utilising the labour of a flood of slaves and tenant farmers. In particular, viticulture was established, often taking advantage of Hellenistic slaves already wise to the ways of vineyard operation.

This latter trend was reinforced by the resource base of the new provinces. Shrunken Carthage abdicated to Rome the major grain producers of the ancient world--Sicily, Sardinia, and parts of southern Italy--previously subject to or, at least, oriented to the alimentary needs of the African city. The estates of central Italy could not grow wheat as cheaply as these granaries but could assume Carthage's former role of wine supplier. Indeed, not only did Rome then furnish the western Mediterranean with Latin vintages,
she turned also to exploit the markets to the north, avid for wine. Eventually, Italian wines were to travel far.\(^{478}\)

Such is the background to the enormous surge of Italian viticulture in the 2nd century B.C., to the arrival of the \textit{vignoble en masse}. During the declining decades of the Republic, Varro tells us, Italy had become covered with vines.\(^{479}\) (Ferrero suggests ingeniously that these altered agricultural circumstances are reflected in the contradictory attitudes of Rome towards the scourges of Hannibal and Spartacus. "Attendant avec patience l'heure où cesserait le fléau," was the general reaction towards Hannibal's long nightmare of devastation in the peninsula. Later, however, a much more powerful Rome trembled in front of the undisciplined hordes led by the escaped slave. Why? Ferrero's answer is that the Italy which Hannibal confronted lived from grain crops and pasture. The burning of the former represented a loss of one year's input, while much of the stock could be transported away from Punic menace. But Spartacus—a century and a half later, near the close of the Republic—waged war in a land of vines and olives, where the stored capital of many years could be destroyed at one blow. The threat to the Roman economy was therefore much more telling).\(^{480}\)

In another sense it can be claimed that the Italian wine industry came of age in the 2nd century, particularly with the renowned vintage year of the Consul Opimius (121 B.C.).\(^{481}\) Before this time no local wine had rivalled in esteem the imported brands,
particularly the Greek vintages. Pliny remembers that "wines imported from oversea held the field for a long time and right down to our grandfathers' day." Lesbian, Chian, and wine from Cos retained some of their fame, and the 'Greek style' of adding salt or brine to wine lingered somewhat as an inherited predilection, but the monopoly of the eastern vintages was sundered, and they were slowly eclipsed by Italian rivals. In brief, with the Opimian wines began the golden century of Italian production.

Wine came to be produced throughout the length of Italy. Ranking supreme above other areas, however, was the central and south-central peninsula, specifically Latium and Campania. Of the eleven choicest Italian vintages, nine hailed from these two: from Latium came Alban, Caecuban, Fundanian, Massic, Setine, and Statanian, while Campania prepared Calenian, Surrentine, and the incomparable (for a time at least) Falernian. These tended to seek the slope—Massic on Mons Massicus, Falernian displaying marked variation according to slope nuances. Wine output from this region was far from meagre. Excavations in the Campanian countryside around Pompeii have revealed its importance. The landscape there was truly dotted with estates, _villae rusticae_ operated by local or absentee landlords. These "real agricultural factories" produced wine in bulk: the cellar capacity of one villa has been calculated as 84,000 litres, and even if several vintages were to be stored there this villa's vineyards must have been sizeable.
Brief homage must be paid to Falernian, without doubt the most famous wine of all antiquity. With near unanimity, Latin writers rank Falernian before all rival vintages, and it became a reference against which other brands were gauged. Its prestige was earned early since it was the first local wine to penetrate the aristocratic ranks of the great Greek crus; while its primacy lasted long, by Pliny's time its distinction was being sullied by the quest for profit, that is, "through the fault of paying more attention to quantity than to quality." Its reputation lingered on--"Falernum vinum vocatum a Falerna regione Campaniae," Isidore of Seville could later recall, "ubi optima vina nascuntur"--but the once great wine was destined to become a generic name for a type of wine manufactured it mattered not where.

That fickle Roman taste rendered obeisance to the product of central Italy's vineyards and little besides should not be allowed to obscure the quantity and quality of wines made to the north and south. No physical advantages favoured Latium and Campania, only fashion.

North from Rome, Tuscany produced wine which never gained much repute. Aemelia and Venetia were likewise vineyard lands. More favourably viewed, these northern marches yielded the esteemed Rhaetic wine, acclaimed thus by Vergil: "What poem can do justice to Rhaetic?" This brand, which ranked with the grands crus to the south, came probably from the Alpine foothills. With time, northern wine output must have become considerable for Aquileia,
a town in Venetia, waxed rich and prosperous on its wine traded to Danubian lands.\textsuperscript{498} A long tradition of winemaking marked the territories southwards from Rome. It is probable that the quality of these southern wines was second to none, but still they were not accorded great reputation by the citizens of the capital, though they were better received than their north Italian counterparts.\textsuperscript{499} Numerous vintages are known to us.\textsuperscript{500} Most famous was Mamertine, from Messina in Sicily, which would have found a place on the most fastidious of Roman tables. At a banquet during his third consulship, Caesar served Mamertine along with Falernian, Chian, and Lesbian,\textsuperscript{501} which patronage (and vinous company) probably assured its prestige in a fashion-conscious city. On the whole, however, Roman policy was to retain these southern lands primarily as grain producers.\textsuperscript{502}

Pausing for a moment, it can be said that by the time of the early Empire Italy had joined the ranks of the major wine producers. (In a sense, with Rome as the unrivalled arbiter of taste in the ancient world, it overshadowed all its fellows.) Output of wine was considerable and was distributed throughout the entire country. The beverage had become indispensable to everyday life, and the old moral strictures regarding drinking had vanished.\textsuperscript{503}

Even by this date, however, it must have become apparent that everything in the vineyard was far from lovely. Symptoms domestic as well as foreign boded ill for Italian wine production. Their combination was to bring crisis.
The history of wine had encountered a new phenomenon with the Romans—the mass-production of the beverage in those "real agricultural factories." Problems attended this changed system, problems evidently grave enough for Pliny to sigh that "latifundia perdidere Italiam." It seems that, in time at least, these vineyards came to be regarded as an increasingly dubious investment. A superficial glance might easily overlook this. After all, do not the principal farming treatises of the late Republic and youthful Empire advocate viticulture and extol its profitability? Cato's De agricultura (154 B.C.) gives the following advice to prospective farm purchasers:

If you ask me what sort of farm is best, I will say this: One hundred jugera of land consisting of every kind of cultivated field and in the best situation; [of these] the vineyard is of first importance if the wine is good and the yield is great.

Cato, I, 7

Varro's counsel on the subject of vineyard ownership, in De re rustica (37 B.C.), echoes the favourable verdict of Cato, although, as an agronomist, Varro was a dilettante rather than a professional. Finally Columella, unexcelled among classical agronomists, reaffirms viticulture as a remunerative pursuit in his De re rustica, written about A.D. 65. It is likely, nonetheless, that such concerted advocacy was so much sweetness wasted on the desert air. For the times were sullen towards wine production. Indeed, there lay the spur to Varro and Columella: their texts must be understood as the championing of a cause, the striving to counter the pragmatic
mood of the day which saw no financial security in vines. Columella laments that "there are even some who would avoid and are afraid of land planted as vineyard, considering that one should rather wish to have in one's possession meadow, pasture or coppice-wood." But things had been no different a century before him. Witness Cicero's invective against an item of agrarian reform proposed in the Senate in 63 B.C. by a tribune of the Plebeians. In particular, this measure would have involved the sale of certain state woodlands to raise needed funds. Cicero's retort: "Luxuriosus est nepos, qui prius silvas vendat quam vineas"--which, argues Aymard, has the ring of truism behind it. In other words, vineyards were not regarded as a good investment.

So the agronomic writings must not mislead us into seeing prosperity where something less than that existed. Yet, if slightly propagandist, their purpose was surely not to deceive. Their theory evidently fell short of reality. Several factors could explain this disparity but the one I wish to stress returns to the theme of latifundia. A distinction requires to be made between the small-holding under the watchful eye of a resident owner, intimately tuned to the pulse of farming, and the large estate held by an absentee landlord who delegated its management to subordinates. The latter case, commonly lacking firm overseeing and the guidance of vested interest, gave greater scope for maladministration in its daily operating. And the demanding nature of the vine would only have magnified this possibility. Hence the dubious investment
status of the large vineyard estates. It was thus to such ventures and to the "classes aisées" of Roman society that Cato and Varro and Columella addressed their exhortations. 516

The inefficiencies in peninsular wine production would have become more critical through time, that is, as the level of home output rose steadily from the 2nd century B.C. onward to make wine more plentiful and cheaper (indeed, perhaps creating conditions of over-production at times). 517 Equally, changes in the market situation abroad would have had repercussions on Italy's wine industry with its important export function. Such changes came.

The provinces began to produce their own wines. Some, of course, such as Greece, had been lands of wine long before Roman legions raised dust on their roads. But others had had limited or no vineyards before Roman contact—these were of critical concern. Above all, Spanish and French winemaking was destined to obliterate the previous trading pattern. The impact of this colonial surge on home production was twofold. Firstly, former markets were denied Italian access due to their own wine preparation or to their provisioning by a more efficient competitor. But as peninsular production faltered, a second phenomenon developed: imported wines began to enter the Roman market in increasing quantities. 518 Columella identifies imports "ex insulis cycladibus ac regionibus baeticus gallisque." 519 Greece was a traditional supplier; the other two, however, were important newcomers in international trade and newcomers to Rome. This trend was to intensify later (during the mid-2nd century A.D.), when
Spanish vintages dominated the Roman scene and when Monte Testaccio (over 40 metres high and more than 1,000 metres in circumference), composed entirely of clay jars which had carried wine from Spain, could spawn behind the docks at Rome. 520

It was not to be expected that Rome would stand idly by. Legislation, clearly protectionist in inspiration, was enacted in an effort to rein or suppress the colonial output of wine. 521 History has never shown such statutes to enjoy unmitigated success. The Roman attempt merely seems to have slackened the pace of the inevitable. Besides this, it is doubtful whether Italian production could ever have resumed its former authority: attempts to revive the home viticulture suffered greatly when faced with a peninsula increasingly engulfed in periodic turmoil (from plagues to currency devaluations). 522 Still, wine was mandatory for the citizenry of imperial Italy--it was cakes and ale both. Its shortage spelled political unrest. 523 Supplies were finally ensured by the controlled economy of the later Empire, which, in effect, nationalised the production and distribution of the beverage. 524 But by that time the days of Italian primacy had slipped irrevocably away.

C. Trade: The Civilisations Export

Once again to the wine trade. But now, given Heraclitus' stream, we are faced with circumstances quite different from those which had prevailed before. Early commerce in wine, it has been argued, was dominated by the markets of Mesopotamia and Egypt.
That is to say, wine travelled into the territory of the high civilisations. In its wake had followed no major winemaking breakthrough, for conditions of the physical environment were relatively hostile to the vine plant. But with the ascent of the Mediterranean powers (and their viticulture) arose a new dispensation: wine tended to travel out from the territory of the high civilisations. This trading circumstance was to have conspicuous effect on the distribution of winemaking.

The key powers involved were the Phoenicians, the Greeks, and the Romans. Under their surveillance, willing or reluctant, winemaking spread both westwards and northwards. The process was simple. Motivated by gain, trading posts or colonies were established by these peoples in the less civilised lands lying to the west and north. These outposts served to make neighbouring resources (e.g., precious metals) tributary to the appetite of the distant motherland; they further permitted access to the local native peoples of goods sent from the parent state. In this latter category was wine, a lucrative item, avidly solicited by many a tribe. It was therefore greatly to the best interests of, say, the Greeks to keep a firm monopoly on such wine supplies. But so keen was demand for the beverage that attempts were commonly made to initiate viticulture at the colonies themselves, probably utilising imported vine stock from the motherland. Significantly, less environmental antagonism was encountered in such movement to west and north than characterised the earlier efforts to transplant the vine southwards. In this
manner, then, did the cultivated vine gain a foothold in diverse lands.

An examination of the impact upon winemaking's distribution of the above-mentioned three—the Phoenicians, Greeks, and Romans, in that order—can now be made.

The Phoenicians, Canaanite remnants restricted by the 1st millennium B.C. to a portion of the Levant's cramped coastal plain, were the supreme traders of the ancient world. Wine dominated the exports which left their principal ports, Sidon, Byblus, and Tyre. Trade, particularly in a high-value commodity such as wine, was perhaps the most efficient means of guaranteeing a livelihood from their confined territory. It may be that the profitability of this wine trade encouraged the Phoenicians to found colonies practising viticulture nearer to the western markets, but, if so, this is merely part of the rationale for the 1st millennium flowering of Phoenician colonies in the western Mediterranean. At any rate, Cyprus, Malta, Sicily, Sardinia, southern Spain, and sections of North Africa (specifically, the area later to constitute the Roman province of Africa, nearby Tripolitania, and that part of Mauritania which lunges north to meet Iberia) saw selected coastal sites under Phoenician dominion. In addition, explorations to coasts far distant were made.

Our knowledge of Phoenician wine production in the west approaches the satisfactory only for northern Africa and, in truth, for but a part of it. This is no accident. For there, Carthage--
in fact, a relatively late colony, founded somewhere about 800 B.C. --rose to a supremacy which understood the subservience of every other Phoenician outpost as well as emancipation from the Levantine motherland.

Agriculture ranked second only to commerce as a Carthaginian preoccupation. To ensure both strategic Lebensraum and adequate lands to victual the city, Carthage established her authority over a considerable hinterland, Tripolitania included. Vineyards were tended from the first. Early production was not great, and its modest beginnings may be reflected in Plato's recollection that wine was forbidden to soldiers, magistrates in office, judges, sea pilots, slaves, and to both sexes before coitus. But, in time, it rose to significance. On Carthaginian coins can be found vine emblems; in fact, this theme "figure en tous cas sur les monnaies phéniciennes de la côte africaine" (and thus it is believed that Punic vineyards flourished, for example, at Lixus in Mauritania). An important winemaking industry may also be inferred from the distinguished farming treatise of the Carthaginian Mago, an agronomist of premier influence in the ancient world. Cultivating vines and fermenting wines were featured in his manual. Mago's sophistication of technique and capitalist stance argue for progressive, large-scale agricultural enterprise in the coastlands tributary to Carthage.

Innumerable wine jars recovered attest the popularity of wine drinking among the Carthaginians as well as substantial trading in the beverage. Amphorae originating in Rhodes become particularly
plentiful in the 3rd and 2nd centuries B.C. suggesting considerable importation of wine. This, however, is not an argument against local wine output, since Carthaginian amphorae, in their turn, have been found in many parts of the Mediterranean. Apparently the inferior local product was exported to pay for the vintages brought in from Greece. The dominance of the African city over the other Phoenician 'colonies' permitted such manipulation. What became ipso facto her provinces—coastal Spain, western Sicily, and Sardinia—were specifically discouraged from competing with Carthage's wine production: their role was as granary for Africa and captive market for her exports of wine. Sardinian fruit trees are recorded as having been cut down by the Carthaginians. Replanting carried a penalty of death. But the Second Punic War against Rome lost Carthage her empire and endangered her economic survival. As a reaction, agricultural exploitation of her African territory was intensified, with increasing emphasis placed upon wine manufacture in order to pay for grain imports. That "Carthago est delenda" and finally was destroyed utterly by Rome in 146 B.C., may perhaps have sprung in part from the success and importance of this later Carthaginian wine industry.

Evidence from the settlements in Spain, Sardinia, and Sicily is scant. If the Phoenicians from Tyre had introduced vineyards, it is quite likely that the Carthaginians subsequently eradicated most traces (an event which authors encountering this topic tend to ignore). Trade with Spain may have led to the establishment of
Iberian vineyards: "possiblemente," demurs Cuadrado. Punic origin has been ascribed to the Balearic vineyards and to those of the Jerez region. It seems also that the Phoenicians took the art of winemaking to Sicily and to Sardinia. (A clue in the Sicilian case may be its subsequent 'Bibline' wine.) And settling Phoenicians, it is claimed, introduced the vine and its husbandry to the island of Malta. Finally, a like case which has been advanced for the Provençal coast of France is totally speculative, since it is by no means certain that a trading post existed at pre-Greek Massilia (Marseille).

The role of Phoenician colonisation in the diffusion of winemaking was, in the final analysis, muted. (Of course, at a much earlier date, the Aegean had welcomed vinous innovation from the Levantine coast—but that is another matter.) Its contribution was a pioneering extension westward of the vine, but without any accompanying displacement of the ancient world's oenological centre of gravity. The success of Carthage's protectionist policy militated against the latter, and final defeat at the hands of Rome eradicated most of the former.

Greece, then Rome, continued this diffusion process. Much greater was their impact and more enduring their heritage (the latter point springing partly from the ultimate failure of any protectionist measures they employed). Moreover, a new dimension was added to the distribution of winemaking: for while western expansion along the Mediterranean Basin was intensified, a not quite contemporary
northern movement—traversing the major ecological divide between
the Mediterranean and transalpine Europe—was innovation indeed.
For the first time, the vine was to penetrate what may be called
the cool-temperate latitudes.

Wine—the means to warm the savage breast, as it were—
represented the foremost single trading item to cross this boundary.\[557\]
Desired it manifestly was. References among classical writers to
abstaining tribes are few,\[558\] tales of drunkenness legion. The
Gauls, "exceedingly addicted to the use of wine," according to
Diodorus Siculus, were willing to exchange a servant for a jar of
the so-desired liquor.\[559\] Appian portrays them as simple in diet,
flabby in flesh, and intemperate by nature. An assured way to
conquer Germans, advises Tacitus shrewdly, was to send them as
much wine as they could (or rather could not) hold. Indeed, many
a tribe—for example, the Istrians, a Balkan people who lived near
the head of the Adriatic—had fallen victim to Roman legions whilst
incapacitated by the beverage.\[560\] So wine flowed northwards. It
is possible to delineate the major lines of movement of this trade
as witnessed by the archaeological recovery of various wine
receptacles.\[561\] Now, water transportation, cheap compared with
haulage by land, acted as the lynchpin of ancient commerce, especially
in the case of the bulky commodity wine. Moving north, that incompar-
able avenue of exchange, the Mediterranean, was left behind save
for its Black Sea extension. It is therefore in the important river
valleys that the detritus of the wine trade is most commonly
for barges, sometimes specially constructed to hold amphorae, plied such notable arteries as the Rhone.

On the heels of wine came the vine plant itself. It was transplanted northwards, an "apport étranger incontestable" in the eyes of Levadoux. Thus the Poumestre variety grown in modern Provence descends from stock introduced there in antiquity under the name of *busmastus* (Gk. *boumastos*). However important, such introduction represented but part of the parentage of transalpine viticulture: cross-pollination with autochthonous vines undoubtedly occurred and these local varieties were themselves brought into cultivation.

It is worth pausing here to examine the botanical feasibility of northward expansion of vineyards. According to van Royen, this is limited in areas of maritime climate by a minimum amount of heat required during summer to ensure ripening (the colonisation of Gaul by the vine in Roman times would have encountered this factor), and in those of continental climate by the severity of the winters (a difficulty which would have been faced alike by the Greek vineyards beside the Black Sea and the Roman plantings in Pannonia). It may be as well to be more explicit on the subject of frost perils since, in one sense, these are ubiquitous throughout Europe, a hazard to the vine in the contrasting climes of Sicily, the Bordeaux country, and the slopes which overlook Lake Balaton. This universal frost, the *gelée blanche*, threatens in spring when the precocious vine has already budded. Damage is quick and serious.
Thus the German winegrowers breathe easily only once the days of
the Eis Heiligen are past: May 12 to 15, respectively the days of
St. Pancratius, St. Servatius, St. Bonifacius, and finally die kalte
Sophie, cold St. Sophia. By way of contrast, the gelée noire, the
depth frost of winter, becomes a conspicuous danger and limiting
factor only in lands of continental climate. Actually, the vine
plant, with its buds encased in wood and when its water and sap
circulate sparingly or no longer, can withstand well winter's
cold. Subfreezing temperatures attaining -15°C can generally
be weathered. Even so, the depths of winter menace significantly
the vineyard industry in the European areas of continental climate.

Prophylactic measures, learned empirically, were employed by
the ancients to counter these minima of summer warmth and winter
chill: thus the adret-ubac contrast was early instilled in
farming lore, thus burying the vine stock or covering it with straw
has been resorted to throughout history in lands of severe winter,
thus the vineyard smudge pot survives still. Modern man at least
has a second weapon at his disposal--genetic manipulation. Long
experimentation allows him to emphasise certain desired character-
istics which improve the performance, however measured, of a vine
in a specific environment. To give but one example, the Soviet
agronomist Michurin, by crossing extremely hardy Vitis species
from Canada with vinifera varieties, obtained fruitful plants able
to withstand the winter temperatures of Russia's Ufa Province or
indeed Tomsk Province in Siberia, areas marginal for even the
apple tree.\textsuperscript{579} But neither were the ancients without an elementary understanding of breeding strains. The last few centuries before Christ had seen considerable progress in such matters.\textsuperscript{580} The important relationship between local environment and the character of a vine variety was recognised, as Pliny makes evident:

For in fact some vines have so strong an affection for certain localities that they leave all their reputation behind there and cannot be transplanted elsewhere in their full vigour. This occurs . . . with the Rhaetian and Allobrogian grapes . . . which are famous at home but not worth recognition elsewhere.

Pliny, XIV, iv, 25-26

Given such knowledge, it is not difficult to envisage a northwards advance of vineyards in terms of the purposeful selection of those introduced cultivars which flourished best in the frontier plantations (i.e., phenotypic selection) or of any rare impressive mutant (genotypic selection).\textsuperscript{581} In addition, local \textit{Vitis silvestris} strains will commonly have been brought into cultivation,\textsuperscript{582} as the above Allobrogian example in Burgundy, while the cross-pollination, premeditated or unforeseen, of such plants with the exotics would have resulted in a hardier hybrid.

The conclusion must be that we should beware of underestimating the ability of the Greeks and Romans to diffuse viticulture northwards in the face of the climatic hazards mentioned. In point of fact, only the advent of 20th century science has enabled man to
take European vineyards beyond the distribution which they had attained when the Dark Ages overwhelmed the continent!

The role of Greece in the diffusion of winemaking fell short of the spectacular impact which Rome was later to make. Still, a powerful western movement of vineyards along the Mediterranean plus a secondary advance northwards by way of the Black Sea—such was the not inconsiderable contribution of Greece.

Behind the germination of a swarm of Greek colonies from the 8th to 6th centuries B.C. lay a complex of motives. In Stanislawski's opinion "one of the chief reasons for their colonisation abroad was wine production." Perhaps so (assuming that he means as market for the Aegean's output rather than as source of wine production), though I feel less sanguine than he about the distinction between cause and effect. While trading prospects surely stimulated colonisation in some cases, it would be blind to dismiss as unimportant the factor of population pressure in Greece and the wish to start a new life abroad, or the migratory implications of war. At all events, a trading role for the colonies was soon apparent—as a market for an expanded Greek wine industry and, in return, a source of certain imported materials. What upset this arrangement was that the colonies began to plant their own vines. With this act Greece suffered and the saga of winemaking took a significant step forward.

Within the Mediterranean, Greek settlement interests had focused upon Magna Graecia. There is no need to repeat what has
already been said about this territory which quickly enjoyed vinous emancipation from the motherland and came to be titled Oenotria. As the likely fount of subsequent Roman wine production, its viticultural career was critical to the spread of winemaking. Nearby, scattered colonial enclaves on the Illyrian coast appear to have prepared wine though on a much more modest scale. And to the south, the Greeks who settled in Cyrenaica began to grow the vine. Further west, vineyards were introduced to the Mediterranean coast of France by the efforts of the Phocaean colonists at Massilia (Marseille), founded about 600 B.C. In contrast to the experience of Magna Graecia, local wine manufacture here did not, cuckoo-like, outgrow and discard its Aegean parent, though the reasons for this can only be guessed at. Imports from Greece continued, as has been testified by the fascinating underwater exploration of wrecked ships which has recently come of age as part of the archaeological repertoire. Almost certainly the vine arrived in Corsica with the Greeks. The economic and administrative power in ancient Corsica lay where it now does not—in the eastern plain, where Alalia was settled towards 565 B.C. by Phocaeans. There the vine arrived and was planted. By the 5th century the plain stretching out from the town was "terre à vigne par excellence," and wine featured in local religious ceremony. Later, the vine plant was taken inland from here. Finally in the Mediterranean realm, Spain. It is a moot point whether the Greek colonial flowering introduced winemaking into the eastern littoral of Spain. The
two early settlements of Hemeroskopeion and Mainake may have acted as vectors after the manner of Alalia. Opinions veer in this direction. But the initial momentum seems to have been slow and wine continued to be imported from Greece.

The eyes of the Greek colonists also turned north and north-eastwards. Closest lay Thrace. The territory of the various Thracian tribes approximated that of modern Bulgaria; south of the Haemus range was Thrace proper, to its north Moesia sloped down to the Danube. Colonies, tuned to the rhythm of trade and growing their own vines at an early date, were established on both coasts, the Aegean (e.g., Maroneia and Abdera) and the Pontic (e.g., Apollonia and Odessos). It is argued that the social and economic development of the Thracians was accelerated by such contact, but whether the art of winemaking featured in this 'development' is problematic. For, as was shown earlier, Thracian vintages were renowned by the time Homer was writing: Odysseus received jars of precious wine from Maron, priest of Apollo, and lesser northern wines provisioned the Greek army besieging Troy. The question then becomes: did all Thrace prepare wine at this early date, thereby relegating any Hellenic contribution to a secondary significance? I simply don't know. It is worth mentioning, however, that Homer's Thrace was restricted to a limited section of the Aegean coast, the peoples of which were considerably more 'advanced' than the interior tribes; moreover, although the Thracians were a notoriously intemperate lot, Pomponius Mela records that some
tribes knew not wine. But if I seek to suggest that interior Thrace was wineless and may therefore have benefited from the viticultural skills of Greek colonists, there is one difficulty: in the interior of the Balkan lands was located the legendary empire of Euantes, offspring of Dionysus and Ariadne—and that is as good a lineage as any oenologist might wish. All in all, then, it is perhaps wisest to leave unanswered the question of winemaking's origins in interior Thrace.

Further north, the role of Greek colonists as viticultural innovators is more assured. The distinguished Russian poet, Osip Mandelstam, celebrates this in verse:

I said the grape vines live on like an antique battle, with gnarled cavalry tangling in curving waves. Here in stone-starred Tauris is an art of Hellas: here, rusted, are the noble ranks of the golden acres.

Undoubtedly by the 6th century B.C. such Black Sea settlements as Olbia, Chersonesus, Panticapaeum, and Tanais consumed imported Aegean wines. Incipient local grape growing and winemaking had begun, notably at Chersonesus, at least by the following century or so. That part of the coast which is now Romania possessed vineyards by the 3rd century. Particularly in the Crimea and in the nearby Taman Peninsula across the Straits of Kerch', viticulture surged to importance. Increasingly, winepresses, storage cellars, harvesting knives, and the like are being unearthed there. Soviet archaeologists have shown that from perhaps the 4th century B.C. onwards to the 4th or 5th century A.D., vine plantations in
the Crimea's Heraclean Peninsula occupied some 5,000 hectares or an astonishing 45% of the agricultural land. 

And so to Rome. By now the plot has a familiar ring. A key element in Roman economic policy, we have seen, was to encourage provincial grain surpluses as a means to guarantee food for the peninsula. The corollary to this, in a sense, was to discourage colonial wine output so that the lucrative wine market could then fall to peninsular production. This strategy, manifest as the determined attempt to temper or halt the spread of winemaking, distinguishes the Romans from the Greeks before them. It is a policy well worth examining here given its possible influence on the diffusion process under study.

I refuse to accept Younger's assertion that "Rome was remarkably unprotectionist about the growing of wine." In my opinion, the evidence suggests strongly the contrary. Three acts by Rome, taken in conjunction, surely allow no alternative explanation.

The first concerns the auld enemy, Carthage. After histrionic fig-waving and much "Carthago est delenda"-ing from Cato, the African metropolis was finally razed in 146 B.C. There is no doubt that a military wariness of the Carthaginians still haunted the Roman people. But it has been proposed that part of Cato's implacable ruthlessness may well have sprung from the protectionist lobbying of his influential fellow estate owners. African winemaking was buoyant; it was potentially a formidable rival to Rome's economic interests. The annihilation of Carthage would thus have served more than one end.
If the above proposal cannot be substantiated, a second Roman action is somewhat more revealing. Of concern is a passage from Cicero: 620

We ourselves, indeed, the most just of men, who forbid the races beyond the Alps to plant the olive or the vine, so that our own olive groves and vineyards may be more valuable, are said to act with prudence in so doing but not with justice.

Cicero: *De republica*, III, 16

These words, words intended to play the part of devil's advocate, appear in a didactic dialogue constructed by Cicero between figures who had actually existed. *De republica* dates to 54-51 B.C., but the context of the fictive debate can be pinpointed accurately as 129 B.C. 621 Who were the "transalpinas gentes" thus forbidden? Classicists disagree. One faction, including Reinach, has argued that the Roman measure was a punishment meted out to two Ligurian tribes which, in 154 B.C., had had the temerity to menace Antipolis and Nikaia, Provençal settlements of Greek origin under the authority of Marseille, a staunch ally of Rome. 622 Strange punishment. It is difficult to see how this action against two groups of wild mountain people could have been remotely relevant to Italy's wine industry. 623 Yet Cicero insists on Italian self-interest. An opposing position, that which Aymard takes, understands the interdiction as having jurisdiction over the newly-acquired province of Gaul (Narbonensis), 624 which could perhaps have been foreseen as an area well suited to vineyard colonisation. 625 But this
provincial conquest did not begin until 124 B.C., so Aymard requires a small error in Cicero's chronology. Still, as Reinach notes altruistically, the dearth of viticulture in 1st century B.C. Narbonensis can be explained in but two ways: by proposing that the Gauls did not enjoy wine, which was manifestly untrue; or by admitting the promulgation of some decree, as yet undiscovered, prohibiting native wine production. Aymard's re-chronology becomes compelling.

It is difficult to deny the protectionist motive in this case. Yet, here is but a minor snag in the fabric composing the history of winemaking. The territorial extent of this rebuttal to the spreading vine was quite restricted. And mitigating its severity were two further factors: the prohibition extended to planting (serere), not to tending any vines already established; the decree would not have been applicable to Roman citizens dwelling in Narbonensis.

Days were early yet. Italian wine production was still far from its fecund peak, provincial competition was in its infancy. The times were not ready for more stringent protectionist measures. The times changed. It has already been shown that peninsular viticulture met increasing internal problems and that these were greatly compounded by the swelling wine industries of certain provinces. Another twist made the situation intolerable. Rome traditionally viewed the provinces as having a grain-producing role, but with the vine usurping cereal lands serious food shortages
ensued. The capital did not suffer, for it commandeered an ensured supply. But certain provinces were less fortunate—Greece, for instance, long an area of grain deficit, was threatened by dwindling exports from a Black Sea littoral now clogged with vines, and a passage from the Revelation to St. John (Revelation 6:6), apparently dating from the reign of the Emperor Domitian, is interpreted as reflecting widespread famine in Asia Minor.

In A.D. 92 came Domitian's reaction to the crisis. His legislation prohibited any new vineyard plantings in Italy and required the grubbing up of half the vines in all parts of the Empire. This edict was to have currency for two centuries until its repeal by Probus in A.D. 280. Its effect was not all that it might have been. Suetonius, biographer of Domitian, addended this comment on the imperial implementation: "nec exsequi rem perseveravit." This may mislead. "Exsequi" should be taken in the sense of to carry out to the letter of the law rather than merely to carry out. Given this emphasis, the implementation of the edict was indeed quite lax. For a start, the eastern provinces pleaded and received exemption: this is confirmed by their lack of mention in the wording of Probus' later repeal. Nor indeed is there evidence indicating a significant reduction of vineyards in the established viticultural centres of the west. On the other hand, it would be wrong to regard Domitian's edict as something inconsequential. It is notable that the countermeasure of Probus is mentioned in all extant accounts of the short reign of that emperor. This, moreover,
for a ruler whose outstanding victories against the eastern barbarians overshadowed his every other deed. His repeal must then have been significant, and, logically, Domitian's ban must have carried some restraining influence.

In the final analysis, Rome's attempts to check the spread of winemaking were unsuccessful. Legislation notwithstanding, viticulture established itself throughout the Empire. Ultimately there was no province which did not produce some wine.

Of concern for the remainder of this chapter are the lands of the western Mediterranean and transalpine Europe where there had been no winemaking or an industry of embryonic sort before the Roman eagle spread its wings--North Africa, the Iberian peninsula, France, the Germanic lands, Hungary and the Balkans, and Britain.

The customary ploy for those discoursing on wine in the ancient world is to render brief homage to the Carthaginian vineyards and then relegate the remainder of North Africa, be it in time or space, to a vinous vacuum. This is to ignore the wine industry which flourished in Roman times.

Although North Africa became an integral part of the Roman Empire, there can be little question of proposing its vineyards as a Roman innovation (at least at a regional scale). The winepress there preceded the rule of Rome. The Phoenicians had grown the vine in western Mauritania, Tripolitania, and what became the Roman province of Africa; the Greeks in Cyrenaica. This leaves eastern Mauritania and Numidia, but numismatic material may argue against
a Roman introduction in these two. Numerous coins bearing grape motifs and dating from an era before considerable Roman contact have been discovered throughout Mauritania, minted from more than one Mauritanian city.\textsuperscript{642} And despite the claim that no evidence suggests Numidian wine production before the time of Christ,\textsuperscript{643} grape-bunch designs on the obverse side of coins issued by Numidia's ruler Mastenissa (81-48 B.C.) may indicate some experience of vine growing.\textsuperscript{644} In point of fact, far from being viticulturally innovative, the beginnings of Roman domination were quite inauspicious for North African winemaking. It is presumed that the Carthaginian vineyards had been destroyed for the most part and that no encouragement was given to replanting\textsuperscript{645} (and, certainly, the 1st century B.C. saw Italian wines imported into the defeated territory).\textsuperscript{646} Nor did the vine figure in Roman designs elsewhere in North Africa. For a world in which all routes converged on Rome had ushered in changed economic circumstances. What Rome needed was grain. Thus Ceres reigned in Africa (Pliny),\textsuperscript{647} and indeed all the North African provinces engaged in feeding the city and her Empire.\textsuperscript{648} Such lands as Cyrenaica, where the swell of the Jebel el Akhdar collected rain, became legendary for their fertility and grain production.\textsuperscript{649}

This near monoculture endured until the end of the 1st century A.D. Thereupon, the vine reasserted itself.\textsuperscript{650} Its resurgence is significant in that it occurred at precisely the time of Domitian's edict. Here then may be further indication that
"nec exsequi rem perseveravit," the more so since Probus' repeal did not bother to mention the southern Mediterranean provinces. On the other hand, it is possible that much of this vineyard planting was undertaken on imperial land, where viticulture was apparently authorised. An inscription at Lambaesis on the Numidian limes tells us that the veterans of the Tertia Augusta not uncommonly resumed civilian life by growing the vine on imperial lands in the vicinity of the camp where they had served. Whatever be the explanation, it is clear that beginning in the 2nd century A.D. vineyards grew to become a typical feature in the North African landscape. This was the essential contribution of Rome—to make vineyards frequent and widespread along the southern Mediterranean coast.

I think there is evidence enough to warrant such a conclusion. Much is representational, and mosaics, in particular, give revealing glimpses of agricultural life. One powerful composition from Caesarea portrays labourers in the fields: probably a 3rd century work, it consists of four tableaux, two concerned with the struggle to plough and sow the grain crop, two depicting maintenance in the winter vineyard. It may be that here we see the dominant components of the local husbandry. Such a role for the vine is encouraged by another design from Caesarea which shows the harvesters treading the grapes to make wine. A third mosaic, discovered at Thabraca, along the coast towards Carthage, discloses what may have been a common mode of exploitation in the 4th century—-the
vineyard estate. A villa is pictured surrounded by its orchards; vines predominate, although interspersed among them are other fruit trees. The operation looks sizeable. From such representations it is tempting to infer a flourishing wine industry. Some support for this view is offered by various physical remains which have been found throughout the countryside. Local amphorae are the commonest finds, but a few winepressing complexes, notably at Tipasa in Mauritania and Taparura further east, have been uncovered.

Vineyard distribution was certainly widespread. In that part of Mauritania which turned towards the Atlantic (and where today's Cape Spartel once bore the name Ampelusia, a fine oenological toponym), the vine ranked with wheat as a dominant crop, while several thousand miles to the east, Cyrenaica, which at first imported wine, later had a surplus for export. But another fact of distribution is more striking. Most evidence for ancient winemaking has come from the coastlands, where a greater and more reliable rainfall could be expected. And yet vine holdings ventured far inland, where increasing aridity made irrigation essential. The veterans at Lambaesis tilled arid soil. More remarkable are the bas-reliefs from Ghirza, truly in dry interior Tripolitania. They show the daily life of this desert outpost in images of horses and camels ploughing wadi beds and corn and grapes being harvested—all this where rainfall may have been below 25 mm as an annual average.
Such, then, is the beginnings of a picture of winemaking in the southern Mediterranean lands—wine as a typical product of the countryside there. Production was never great enough to make of this area a notable exporting centre, and it is unlikely that quality was of the best (for example, Strabo portrays the Mauritanian vines as having gargantuan trunks and prodigious berries, characteristics scarcely conducive to fine wines even in Roman eyes). Still, the beverage had pervaded North African life. Subtly affirming this is the fact that in local art the vine and wine became the symbols of autumn. A mosaic from Roman Carthage, depicting the seasonal rhythm on a large estate, characterises autumn as an orchard scene with a worker carrying a basket of grapes to his seated master. More explicitly, a mosaic in the atrium of an African villa personifies the season as a half-naked woman, garlanded with necklace and wreath of vines, pouring out wine. But this rustic triumph of the vine was fleeting. A few centuries off, Moslem zealotry was to extirpate its every trace.

To the north, Iberia became a notable land of wine. The Phoenicians and Greeks had initiated winemaking here, but for some time thereafter mead vied with and probably outstripped wine in popularity. Only with the Romanisation of the peninsula do major advances in wine production appear to have been made.

Those areas which came to dominate Iberian output of the beverage were precisely those which had enjoyed longest exposure to the winds of civilisation from the east—the Mediterranean
littoral of Spain (with an extension inland along the Ebro, where Pliny locates the suggestively named town of Oenos), the Balearic Islands and the southern province of Baetica, now Andalusia. This latter became the heart of the Iberian wine industry. A witness to the prosperity it derived from wine is the portrayal of vine themes on the coins of two of its towns, Julia Traducta and Osset. Portugal, the Roman Lusitania, must be approached with circumspection. Seltman has written of "the famous wine of Lusitania," but there is nobody to echo his enthusiasm. All the same, the likelihood is that southern Lusitania cultivated some vineyards during Roman times: Strabo at least indicates this for an island at the mouth of the Tagus. Wineless, however, were the various Atlantic outposts of Iberia. Nothing suggests that Madeira or the Azores were inhabited before Prince Henry the Navigator's explorers arrived in the 15th century. Only with the Portuguese did the vine establish itself on these islands. And despite the fact that the Canary Islands both supported an indigenous population, the Guanches, from early times and, also, were chanced upon by a few expeditions from the Mediterranean, there is really no evidence to suggest that wine-making was introduced into the archipelago in ancient times. In fact, the Guanches, indifferent agriculturalists, fermented a liquor from gathered laurel berries.

Iberia at first imported wines from Italy, but by the time the Empire was well established her own production ranked as an important force in international commerce. The decisive hold of
her wines on the 2nd century Roman market was demonstrated earlier. Moreover, a number of Spanish wines were classed among the elite vintages of the entire Roman world--Lauronensian (from modern Valencia province), Tarraconensian (Tarragona), and Baliarican (Balearic Islands). Curiously, there seems to have been no move by the motherland to obstruct the rise to eminence of Iberian winemaking. On the contrary, there is evidence of Roman concern for the quality of Baetican vintages, since on an inscription we read of a procurator charged with encouraging the growth of Falernian vines in the province. As quid pro quo, the agronomic wisdom of Columella, a native of Cadiz, was later to benefit the mother country.

On France, we have much more information. While the Greeks actually introduced winemaking, the glorious oenological tradition of France is rather "un monument romain." By the time the Dark Ages anaesthetised Europe, almost every modern wine region in the country had begun its career.

Yet before the civilising influence of Rome advanced northwards, the Gauls had lacked winemaking skills. The tales of their voracious thirst for the southern beverage would suggest this. The historian Macrobius (4th century A.D.) states that Rome had risen to greatness by the time the Gauls learned to grow the vine; Strabo knows of no vineyards in the northern lands; De bello Gallico contains not one reference to the vine. This final point, although an argumentum ex silentio, cannot be dismissed casually: Caesar, canny strategist, would not have overlooked the role of the vineyard
as refuge or barrier, argues Roger Dion, nor yet (for there were precedents enough) the influence of inopportune wine drinking on the fortunes of war. But just as Strabo's attention was directed beyond the Cevennes, so Caesar's campaigning had by-passed Gallia Narbonensis, organised as a Roman province since about 120 B.C. There vineyards were known. It is likely, however, that its wine industry was of the most rudimentary sort: as has been noted, Greek viticultural overtures had borne little fruit, literal or metaphorical, and the Roman legislation against "transalpinas gentes," although inapplicable to the province's Roman citizenry and the city of Marseille, had reinforced this tendency. In brief, wine was largely wanting and hugely wanted throughout France.

In those days of early Roman contact, then, Italy's wines were channeled into the capacious northern gullet. The rivers, large and small, bore the brunt of this wine traffic, ever moving Celt-ward. Its penetration north followed the two supreme routeways --acknowledged as such even in Strabo's time--which led off from the Narbonensian ports.

The first turned northwestward, taking the easy passage afforded by the valleys of the Aude and Garonne; the axis of Narbonne, Toulouse, whence the Garonne was navigable, and Bordeaux defined this "route des vins campaniens." We have good evidence of this. Revealing is the litigation, the crimen vinarium, brought against Fonteius, governor of Narbonensis from 76-74 B.C. Fonteius had imposed a transit tax (portorium) on wines travelling
the Narbonne-Toulouse road towards the tribes of western Narbonensis and beyond. Common, indeed customary, procedure—yet an action which for some reason precipitated charges. Cicero's defence of the governor, bequeathed to us in the mutilated text of Pro Fonteio, hints why: the items taxed were "fructus nostri," Italian wines. That a body of Roman senators should heed the grievances of the taxed tribes and then engineer charges was no altruism, merely the self-interest of a group anxious about the impact of the portorium on the so-lucrative northern demand for wines and ultimately their own coffers. As Cicero tells of the wine traffic and the towns involved therein, so the debris of that commerce proves informative. A wealth of amphorae has been recovered from excavations at Toulouse; none can be ascribed to local manufacture, rather they appear all to be of southern Italian origin. From the distribution centre of Toulouse (important enough to attract Italian wine merchants in search of a profitable base), these wine jars travelled to markets in western Narbonensis and beyond the Roman frontier—southwards to the peoples of the Pyrenees, north to the territory of the Ruteni who had spoken against Fonteius, to Cahors, and to Bordeaux, in its turn a redistribution point for the tribes of the Dordogne valley.

The second line of penetration was the more important because of the greater territory to which it gave access. This was the Rhone valley. The great highway by means of which Mediterranean life diffused north, the Rhone was additionally a commercial
channel of the first importance in the Roman world. Wine, it has
been claimed, was the largest single commodity of trade on the river. A bas-relief, carved from Vaucluse sandstone and now in an Avignon museum, illustrates the haulage of amphorae in shallow-draft vessels. The detritus of such trade often forms the fruits of river dredging: clay sealings have been fished up from the waters at Lyon, and at Chalons-sur-Saone the pointed bases of 24,000 amphorae were recently recovered in one period of dredging. Indeed, abundant remains of this sort have been used as land-fill. In a position to control this immense traffic, the settlements of Vienne and especially Lyon, "cité du vin," grew rich. There, negotiatores vinarii established themselves, manipulating "un brillant commerce" with the markets in northern Gaul, Germany, and even Ireland. Once again, Italian merchants transferred their headquarters to these frontier redistribution centres. An inscription reveals the existence of the Association of Wine Dealers of Lyons Residing in the Canabae, indicative of a well-organised system of entrepreneurship in the city.

The reign of Italian domination slowly faltered. Accelerated local wine production was underway in parts of southern Gaul. Younger believes that during the 1st century B.C. the "transalpinas gentes" statute must have been severely eroded, perhaps abrogated. But since it was only during the following century that Gallic wines attracted attention there is no need for their rise to have predated the Augustan era (possibly attending the considerable
influx of Roman citizens, Caesar's veterans included). The pioneering areas of Narbonensian production were the Provençal coast and sections of the Languedoc plain. "Si vous n'êtes en lieu pour vendre votre vin," asked Olivier de Serres, "que ferez-vous d'un grand vignoble?" To be "en lieu" was essential for commercial viticulture. Thus winemaking in Narbonensis, a capitalist undertaking with an eye to the export market, developed in striking relationship to major routeways—sometimes an important paved road, as the Via Domitia which skirted the Mediterranean coast, more commonly a navigable river, the Rhone being a signal example. These circumstances were not to change as vineyards proceeded northwards.

We have some knowledge of vintages and reputations. Pliny informs us that two brands of Marseille wine were known; Martial sneers at "Massilia's vile smoke-rooms," where wines were prematurely aged, but he may have confused brands which were shipped through Marseille with the city's own product. The aromatic beverage from Beziers, Baeterrensan by name, enjoyed some repute. Much of this wine production was exported. While northern markets were doubtless provisioned, Pirenne's opinion that little wine travelled to the south is simply not true. The basis of his position is perhaps Pliny's assertion that "the importance of the wine of Beziers does not extend outside the Gallic provinces." If the case in Pliny's time, Baeterrensan was later quaffed in Rome, and wine constituted part of the umbilical link between such cities as Arles or Narbonne and the capital. Amphora inscriptions,
recovered in the latter, allow no doubt on this score.\textsuperscript{721} Besides, Pirenne's stance makes nonsense of Columella's list of whence imperial Rome sucked wine: "Ex insulis cycladibus ac regionibus baeticus gallisque."\textsuperscript{722}

In the wake of the wine which travelled northwards followed vineyards. By the close of the 1st century A.D., a convenient watershed date, their advance was considerable, reaching or surpassing the limits of the original Roman province. Once again the two major arteries which forged north channeled the expansion.

In the west, where formerly Toulouse had distributed imported wines, local fabrication had now commenced. The wines of Gaillac (Ruteni territory) seem to have been fermented in the early Christian era;\textsuperscript{723} the legendary 'black' wine of Cahors made its appearance in Roman times,\textsuperscript{724} perhaps during this 1st century flourish of vine growing. Northwestwards, the Bordeaux region began production about A.D. 50, probably to emancipate itself from the fiscal whims of Toulouse.\textsuperscript{725} Its vineyards grew the resistant Biturica grape,\textsuperscript{726} able to "withstand wind and cold."\textsuperscript{727} In time, the Bordeaux vintages, presaging their later glory, earned the appreciation of Rome's elite,\textsuperscript{728} but the commercial dynamism of Bordeaux--as that of Lyon and Vienne--was a product of the northern thirst. The Roman conquest of Brittany and other northern territories merely fueled Bordeaux' prosperity, since the additional legionary market, eventually scores of thousands strong, craved its customary liquor.\textsuperscript{729}
The story was no different in the Rhone artery. The ancestors of now famous vineyards were established on the slopes overlooking the river or one of its tributaries. Viticulture during the 1st century is attested for Gigondas in the shadow of the Ventoux and for Die, the Roman Dea Augusta, whose wines pleased the palates of the emperors themselves. The beginnings of the now celebrated Côte-Rôtie production beside Vienne, then within the territory of the Allobroges, were made towards the middle of the century. This Allobrogian vine, which "ripens in frost," was mentioned in an earlier context. (Marres ventures that it may have been the forerunner of today's incomparable Pinot, but a penetrating examination by André and Levadoux points to more plausible alternatives.) There are suggestions that it quickly became the basis of a sizeable wine industry. A splendid mosaic from a private house excavated at Vienne is in the form of a rustic calendar: wine and vine themes figure in this more than does any other agricultural activity. Indeed several such 'viticultural' mosaics have been recovered at Vienne. The wine of the Allobroges found markets to north and south. Younger, detecting sarcasm in a reference to it by Pliny, accords it a dubious reception in Rome, but, in my opinion, his reading of Pliny is mistaken; Plutarch, moreover, tells that the wine was much esteemed by the Romans.

Domitian acted in A.D. 92. By that time it is certain that winemaking had attained both the Bordeaux country and the territory of the Allobroges. But had it advanced further?
An affirmative response in the case of the Rhone corridor might conceivably be given based upon a textual emendation of Pliny. That author cites three grape varieties in connection with the Allobroges—Taburno, Sotano, and Ellinco. As commonly modified to Arverno, Sequano, and Helvico, it becomes tempting to locate these beyond Allobrobian territory, in the Auvergne (where dwelled the Arverni people), in Franche-Comté (the Sequani), and perhaps Vivarais (the Helvii). This done, the Bordeaux-Allobroges frontier proposed for winemaking by Domitian's day cries out for revision. Such reasoning is probably spurious. The emendations to Pliny are rejected by many as etymologically unsound, and the foremost French wine historians are convinced that Taburno, Sotano, and Ellinco flourished in the immediate vicinity of Vienne.

If there is no evidence favouring an extension of vineyards beyond the frontier proposed above, Dion has drawn attention to two points which perhaps militate against such progress. The first, an argument ex silentio, concerns Gallo-Roman tomb inscriptions. Custom demanded the cultivation of a patch of plants beside tombs to furnish products for funerary rite. Curiously, of the six extant inscriptions which make reference to this adjacent patch of land, four which specifically mention the vine grown there lie south of the Bordeaux-Allobroges limits, whereas the remaining two, which speak of hortus (garden) and pomaria (orchard) without necessary viticultural implications, are located to the north.

The second point is that Lyon was visibly flourishing at the end
of the 1st century. Yet if the vine had progressed north of the
city, especially to Burgundy, then an 'intervening opportunity'
between the northern markets and the Lyonnais negotiatores would
surely have sapped the city's prosperity.  

Domitian's legislation effectively froze the Gallic spread of
the vine (whether it resulted in a reduction of existing vineyards
is much more debatable). There is no evidence that his decree
was not enforced in Gaul—though, subsequently, rare imperial
indulgence may have bestowed the right to establish vineyards in
certain locales—and why else should Probus later have seen fit
to grant license to plant to "omnis Gallia"? Thus it is that those
who claim the northward advance of the vine to have been slow
because the plant "s'enfonçait en pleine région hostile" must
beware of overemphasising the friction of the physical environment.
In truth, the vine's progress was anything but slow. For after
Probus' countermand in A.D. 280, winemaking spread rapidly northwards
such that it had embraced Burgundy, the Loire valley, Paris,
possibly Champagne and Alsace (not to mention the Moselle valley
in Germany, southern Belgium, and southern England) by the second
half of the 4th century. In other words, in less than 100 years
the remainder (and larger portion) of Gaul, albeit "pleine région
hostile," was speedily colonised. 

These northern regions need not be the subject of lengthy
documentation. Only Burgundy presents problems. Three scholars
clash over the date of viticulture's introduction to this famed
land of wine, centred upon the Côte d'Or: Roupnel makes a case for the 6th century B.C., while Dion indicates the 3rd century A.D.

Déchelette can be dismissed first. His is a casual remark based upon Pliny's text and can scarcely fail to be a reference to the Allobrogian vines, whose distribution was considerably to the south of Burgandy. (This taking of geographic liberties by Déchelette is perpetuated in the very same sentence with a claim for vineyards at Boulogne-sur-Mer by the 1st century A.D.!) Poor Pliny, much abused as he is, deserves better than this.) Roupnel and Dion both found their positions upon the same piece of evidence, the Incerti Gratiarum Actio Constantino Augusto of A.D. 312. This document, part panegyric, part diatribe, was addressed to the Emperor Constantine by the townsfolk of Autun. Things are not well, they inform him, in the Pagus Arebrignus, their famed territory "known for its culture of the vine." There is general decay (which doubtless His Imperial Majesty has the means to right). The once admired vines are "so exhausted by age" that their care has become difficult. Their roots, "whose age we no longer know," form an interlaced mass, preventing the maintenance of proper furrows. The picture is clear enough (though I should point out that the propagation method employed is evidently layering); the inferences to be drawn from it are not. Roupnel is impressed by the portrayed antiquity of the viticulture. Recognising, however,
that the pattern of land holding in Burgundy shows the vine to have been introduced after the prehistoric landscape of the Hallstatt culture had evolved, he settles for 6th century B.C. beginnings and a path of penetration via the Rhone from Switzerland. In striking contrast, Dion is impressed by the inexperience of vigneron unaccustomed to recognise a normal and unworrisome condition of layer propagation (and one which could have developed within a handful of decades after the initial planting of stock). Nor does he accept that renown predicts antiquity: "un demi-siècle peut suffire à l'établissement d'une gloire viticole." For him the Pagus Arebrignus in the year 312 displayed the naïvité of a recent convert to the viticultural ranks, unthinkable where a long winegrowing heritage could have been drawn upon. But the years between 280 (Probus) and 312 would have been inadequate to bring about the predicament of the Autunois. Imperial dispensation to plant some time in the early or middle 3rd century is a reasonable assumption. Personally, I find Dion's argument persuasive.

Roupnel poses problems. Why should Burgundian wine production have begun its career when the entire western Mediterranean was still at the incipient stages of winegrowing? In what manner did the Swiss learn to grow the vine in the early centuries of the 1st millennium B.C.? And why did Lyon bloom on its shipments of wine sent north if all the time Burgundy, to the north, was manufacturing wine? (a question made more potent by the fact that when finally we have irrefutable indication of Burgundian production, the
eclipse of Lyon commenced.) Given the evidence we have, it is much safer to conclude that Burgundy's great wine tradition began some time in the 3rd century A.D.\textsuperscript{757}

Of the remaining northern regions perhaps only two provide certain testimony of winemaking by the 4th century. One is the Moselle, to be examined in the German context. The other is the city of Paris. For its local vintages were praised with fervour by the Emperor Julian the Apostate (A.D. 331-363; emperor: 361-363), an admirer of all things Parisian.\textsuperscript{758}

With these two locations admitted for the 4th century, it may reasonably be expected that certain adjacent pagi likewise tended the vine by that time. It is surely improbable that the Loire valley would have been by-passed, for it lay south of Paris, while yet relatively close to the Bordeaux country and linked to Vienne by a noted trade route as early as Strabo's time.\textsuperscript{759} Gregory of Tours, in his 6th century \textit{History of the Franks}, more than once laments as a serious disaster the damage done to the local grapes by the vagaries of weather: the implication is that a vine crop of economic importance existed shortly after the Roman decline.\textsuperscript{760} But evidence for the 4th century there is not. Moving on, it would also seem likely that Champagne, between Paris and the Moselle, made some wine.\textsuperscript{761} Gathering the grape harvest is featured on the seasonal calendar carved on the Porte de Mars at Reims, which Renard believes to reflect local inspiration rather than stylistic device.\textsuperscript{762} All the same, there is no common verdict on the antiquity
of Champagne's viticulture. It can be added at this point that, beyond Champagne, southern Belgium is said to have made wine in Roman times.

Finally, Alsace. There are no indications of winemaking in Alsace before Carolingian days. The dilemma is: is this dearth fortuitous or meaningful? Two factors may lend weight to the latter view. Firstly, the Alsatian reaches of the Rhine remained unnavigable throughout the Roman era, denying Alsace a cheap, convenient, transport artery for wine or any other export; significantly, the nearby Moselle, cloaked in vines, was "ship-bearing as the sea." Moreover, it may be that the deployment of Roman military strength on the German lines acted against Alsace's interests. The main legionary market was to the north in the Köln-Koblenz-Mainz area, more readily serviced by the Moselle's products. So although there are those to credit Alsatian winemaking in the Vosges foothills while the vigilant eagle guarded the Rhine, the general tenor of reaction is negative.

The story of wine in the northern Empire was not only a French story. In two parts of the Germanic lands, one in the north, the other far to the south, grapes were harvested and wine was made during the Roman period. But documentation is adequate only in the northern case.

There we have the lines of Ausonius. The works of this 4th century poet from Bordeaux are now terra incognita for the most part, but his most ambitious piece, the Moselle (ca. A.D. 371), affords...
a generous glimpse of the land and life along that meandering river.

After long walking, Ausonius suddenly finds the Moselle landscape before his gaze:

the roofs of country-houses, perched high upon the overhanging river-banks, the hill-sides green with vines, and the pleasant stream of Moselle gliding below with subdued murmering.

Ausonius: Moselle, 20-22

Vineyards recur in several passages in his sustained encomium, as in this more florid example:

Yon is a sight that may be freely enjoyed: when the azure river mirrors the shady hill, the waters of the stream seem to bear leaves and the flood to be all o'ergrown with shoots of vines. . . . Whole hills float on the shivering ripples: here quivers the far-off tendril of the vine, here in the glassy flood swells the full cluster.

Ausonius: Moselle, 189-95

There can be no doubt that in the poet's day vineyards clothed the Moselle's valley sides. The political and economic centre of the Moselle country and much beyond was Trèves (Trier). From here the armies of the Rhine were victualled: "She feeds, . . . she clothes and arms the forces of the Empire." Ausonius tells us that the river was navigable and that many ships plied its waters. An avid market and easy transit to that market were thus available to wine producers. The Trèves merchants, their numbers swollen by Roman entrepreneurs, must have been only too willing to
invest their money in an undertaking which pledged substantial returns. But exactly when production began cannot easily be said.

Those parts of the Rhine close to the Moselle also appear to have possessed vineyards, perhaps slightly after the Trèves region did. In the area of Roman settlement around Speyer and Worms have been unearthed carbonised vine wood fragments, possibly an ancestor of today's Riesling, dating from about the 4th century A.D.; Hyams believes that vineyards are indicated. A relatively limited stretch of Rhine valley slope can have been involved. North, increasing environmental hostility would have been encountered; south, where the river became unnavigable, lay (probably) wineless Alsace.

Still within Germanic compass, but far to the south, the Alpine lands--Austria, Switzerland, and even Liechtenstein, which, as part of Raetian territory, received provincial status in 13 B.C.--are said to have received organised viticulture under the Empire. Questions of antiquity and importance, I have not been able to answer.

The viticultural impact of the Romans on the Balkans is largely a matter for speculation. Certainly the coastal fringes knew the art of winemaking before Roman legions were loosed on the peninsula: coastal Thrace enjoyed an ancient wine tradition and the roving Greek settlers had established pockets of viticulture along the littorals. But what of the interior Danube lands?
One viewpoint holds that this large territory—Pannonia, Dacia, and the greater part of Moesia—awaited a Promethean Rome to establish its first vineyards, the legislation of Probus being commonly cited as a beginning point. A feasible alternative is that viticulture could have spread inland from the coasts before Domitian's time. To prefer one explanation is to engage in conjecture. Still, it does seem to me unlikely that the Danube lands below the Iron Gates would not have received winemaking knowledge from the south or east. The basin above the Danube gorge is another matter, for the Adriatic had not been an important focus of Greek colonisation. But another point intrudes here. About 135 B.C., long before Domitian or Probus, the Romans began to subjugate and civilise Dalmatia (vineyards were planted before the time of Christ), and 20 years later the Danube was sighted. It may therefore be possible still to conceive of the Romans as vinous innovators in this part of the Danube Basin but at a date long in advance of Probus' promulgation.

Be all this as it may, it is more than likely that the Romans, specifically Probus, had a considerable catalyst effect on Balkan viticulture. There are suggestions of sizeable wine production in several areas. As is the case today, Pannonia's Badacsony slopes were clothed with the vine. Its vineyards are portrayed for us on frescoes decorating a recently unearthed Roman villa in that region. The Latin heritage is still felt: today's harvesting knife is reminiscent of its ancient forebear and "the wine-growers
still walk along the stone road built by the Romans." On the basis of archaeological finds in various parts of modern Hungary, it is possible to suggest a considerable wine industry in Roman Pannonia (and even beyond the imperial frontier, since the Celtic tribes in the Tokaj region had also learned the skills of the winegrower). Ancient Pannonia, it should be noted, extended some distance into modern Yugoslavia, where, significantly enough, the several everyday languages employed possess a common Latin derivative for their term 'wine'. As for the Dalmatian coast, it was the arena for the typical trappings of Romanisation--urban life, villas, and Mediterranean agriculture, with vineyards prominent. Eastwards, in Dacia and Moesia, the story was no different. Dacian vine plantations flourished once Rome had moulded a frontier province out of the Carpathian tribes. The enormous popularity of the Dionysus-Bacchus cult here would not have been inappropriate to a land rich in wine. It may even be that the intriguing toponym Ampelum, a Transylvanian town where legionaries were stationed, is a reflection of this same fact. In like manner, Moesia was reputed for its vineyards. It has been proposed that the Mysia referred to in the Corpus iuris civilis should be taken as the Hellenised form of Moesia rather than the territory in north-west Asia Minor: the passage in question, in a listing of provincial offences of a punishable nature, cites the destruction of vines in Mysia. But this should be regarded in a tentative light.
Last and least, Britain. This scepter'd isle may have got round to some elementary winemaking, but the local penchant was for beer. About 300 B.C. the Massilian navigator Pytheas had reached British shores and recorded the inhabitants as drinking beer and mead. It does not seem likely that this situation was altered substantially in Roman times. True, for a time a war of propaganda was waged between two pre-conquest kinglets, one sporting on his coinage the Romanophile symbol of the vine leaf, the other adopting an ear of barley, and older friend and emblem of independence. But wine was never to seize hold of Britain as it had done other lands.

Imports of the beverage had preceded Roman rule (amphorae found in Cornwall and elsewhere attest this) and the demand from the legions cannot but have augmented this trade. Yet such imported liquor would have been a luxury, beyond the means of the common man. As is the case today, some wine may even have been produced locally. Some grapes were grown: vine stems have been identified on a sheltered south-western slope beside a Romano-British villa in Hertfordshire; grape pips discovered recently in faecal remains from a lavatory in Roman York's military bathhouse could indicate vine growing, since importation of fresh fruit from abroad would be unlikely, but might equally reflect raisin imports. Still, whether grapes were trodden for wine is another matter. Probus permitted winemaking in Britain, but his sanction may merely mean that the northern limits of
substantial viticulture were imprecisely known to him. In this land, so marginal climatically, winemaking was surely never more than a very minor enterprise.
INTERIM REMARKS

The preceding chapters document the birth and rise to eminence of wine in the ancient world. This is a story which unfolds through the sweep of millennia and across a vast and diverse tract of the Old World. But these remarkable dimensions assist rather than prevent us from taking away from its richness of episode and detail certain more general characteristics--characteristics which may be said to capture the essence of the diffusion pattern outlined. For, ultimately, it is the scale of wine's saga which is impressive.

Worthy of emphasis are the following characteristics:

--Crude wines were prepared at a very early date indeed, long before agriculture offered an assured supply of raw materials. In fact, it would seem quite feasible to argue that wine--or some alternative fermented liquor, according to locale--was among man's first cultural possessions not strictly related to the demands of survival and species perpetuation. Moreover, with the dawn of the Neolithic, *Vitis vinifera* appeared as one of the very earliest of man's cultigens.

--The diffusion of organised winemaking, founded upon the systematic cultivation of *Vitis vinifera*, was both decidedly speedy and markedly widespread in the ancient world. Despite occasional elements of resistance, the vintner's skill was an innovation quickly adopted for the most part; winemaking, indeed, was often in the van of spreading civilisation. In the process, this welcome art conquered far-flung lands. The vine was taken to as large a
territory and to as great a diversity of environments as perhaps any other ancient world plant, and man was at great pains to establish viticulture even in areas environmentally inhospitable. (And as Appendix A argues, it was the wine from the grape, not alternative 'rewards' from the vine plant, which gave the momentum to this notable spread.)

--Winemaking, its significance ever growing, displayed a persistence throughout the several millennia which are the concern of this study. In almost every ancient civilisation within the Western tradition, in almost every ancient society, use of wine achieved some importance, in a number of cases paramount importance. Wine further became a coveted item of trade, transferred in huge quantities over prodigious distances.

What moral is to be drawn from these characteristics? Simply, that ancient man, on the whole, consistently expressed the keenest interest in the juice of the grape.

It is the purpose of Part II to answer the question: why was such intense interest paid to wine? It is therefore its task to acknowledge the astonishing versatility of the beverage in ancient times. For, we shall see, wine brought a wealth of diverse benefits to the ancients, a wealth which assured it every attention. The details of this are the stuff of the following chapters. Wine serviced both man's physiological and psychological needs in antiquity. Chapter 3 deals with the former: it will examine wine's value as a liquid supply, as a dietary item, and as a medicament
(this last category including a glance at the liquor's imputed aphrodisiac qualities). The remaining two chapters turn to the realm of the mind, to man's feelings towards the conditions, secular and sacred, of his existence. Chapter 4, inspecting the rationale for what may be called—for want of a better term—recreational drinking, assesses what benefits such use of wine offered first the individual and then the social group as a whole. Finally, in Chapter 5, is examined the role which wine came to play in the religions and existential aspirations of ancient man. In short, Part II is an attempt to stage a cavalcade of wine's beneficence to the ancients.

Some remarks of qualification are needed. The explanation value of this wide-ranging functional study is at the aggregate level. In aggregate, the richness to be seen in Part II leaps to account for the "remarkable dimensions" of Part I's diffusion story. But it is not possible to appreciate the influence of one particular function of wine upon the diffusion characteristics nor, conversely, to know the precise blend of functions which explains some specific feature of the latter. Necessarily impracticable, then, would be the attempt to rank the relative impact of wine's diverse benefits (so that the differential space devoted to Chapters 3, 4, and 5 says more about me and data availability than it does about relative importance). These are dreams. Our data are too fragmentary and the functional complexity of wine is too great for such hopes to be entertained. In addition, it is important to recognise that Part II's division into functional categories is an academic device designed
to impose some order on the complexity of reality and, moreover, is a division made with modern eyes: categories so discrete as I have implied, perhaps even the very categories themselves, would have been alien to the ancients. I am not sure how methodologically sound would be the quest to evaluate the relative roles of individual functions when such categories were not born in the mind of ancient man.
PART II
One function of wine in antiquity—and a not unimportant one—was as a source of liquid. The human body, of course, has a physiological need for liquid. Each day an average of about 2.5 litres of water are lost from the body, a figure which may as much as double in particularly hot climates, and replenishment of such loss is essential. In this capacity wine offered itself to the ancients.

At first sight, wine might appear to be of questionable worth in this respect. After all, unqualified references to its thirst-quenching properties in lands of summer drought must be avoided as inaccurate. The indulgent tourist under a torrid Mediterranean sun soon regrets his midday carafe. Historically, Mohammed, in one of the several interpretations of his interdiction against wine, argued that the beverage created rather than appeased thirst and was consequently to be avoided in arid lands. In other words, wine acts as a 'dehydrator'. The physiological basis of such action is this. Approximately 70% of the body is water, one-third outside the body cells and two-thirds inside (the latter component being the key to whether we feel dehydrated or not). Now, while the total water content of the body does not fluctuate unduly,
the extracellular-intracellular ratio can shift considerably. Alcohol encourages water displacement from the critical intracellular component to the extracellular, so that by the time of marked intoxication there will be more water outside than inside the cells. Hence the inordinate feeling of thirst.

And yet, despite this drawback—which, however, could be mitigated, it will be argued presently--wine represented a vital source of liquid supply in antiquity. In a sense, this was by default. It is all too easy to forget that the repertoire of everyday non-alcoholic liquids available to the ancients was largely restricted to water. Furthermore, deficiencies in this water supply increased dependence upon alcohol, most commonly wine. Water was often suspect. At best, it might have become brackish in storage cisterns; at worst, it could be dangerously contaminated (a phenomenon often precipitated by the rise of urban centres without concomitant sanitary provision). Nature, too, added its dangers. Talmudic literature ascribes blame to demons: "One that drinks water from creeks and pools, particularly at night, takes a chance with his life because Shabriri, the demon causing blindness, dwells in those waters." The aetiology is merely of its times (and we would point to the Anopheles mosquito, in ecological association with standing water, as the vector of a form of malarial blindness). Such defects the ancients recognised. Water quality was a familiar notion to them, reliable sources being sought and decantation and filtration processes commonly employed. Hygienic codes were
promulgated. The Persians, for instance, were forbidden to throw waste into water; it was a public duty to remove from water any source of impurity; to touch first a corpse then water was a serious misdemeanor. Sometimes, it was the custom to boil water before use: Persia's Achaemenian rulers refused any drinking water not so treated. And there remained one further very important means to escape the curse of suspect water—utilisation of the germ-killing properties of wine.

It has already been noted that few microorganisms can exist, much less multiply, in wine. Unless ill-tended, the beverage offers a safe drinking source. Even more significant is its ability to destroy various microorganisms (notably certain pathogenic bacteria) to which it is added, apparently due to phenolic substances in its colouring. Suspect water could then be rendered potable by the addition of wine, that is, by taking advantage of the latter's bactericidal action which functions even at considerable dilution levels. In its turn, a watered wine possessed increased thirst-quenching power over pure wine. Result?—a safe and refreshing liquid. Here surely lie the origins of the practice of mixing wine and water. Still prevalent in the Mediterranean of today, this was normal custom in ancient times. Jensen goes as far as to say that water was drunk only by mixing in wine, a statement which is certainly an exaggeration, but an exaggeration perhaps of a basic truth. Reversing the roles, however, one could say that wine was not generally drunk unmixed: dilution was the Jewish
custom; in both Greece and Italy, water was invariably added in the ratio of 1 part wine to 1-3 parts water (though snow was sometimes substituted), and the drinking of unmixed wine was commonly equated with barbarism. An exception comes from these lines of Catullus:

Falernian,
old Falernian!
cup-boy drown the cups
as custom of Postumia
tighten than the bursting grape
ordains
but keep the water-jug
boon of the straight-faced
far hence
no friend to wine--
the Bacchus here is neat.

Catullus, XXVII

But Falernian, we have seen, was a vintage of the highest standing, and it may be that these were more likely to have been drunk unmixed. Moreover, undiluted wine may have been the hallmark of the Bohemian as opposed to the general populace.

Wine, as liquid, was a godsend to the household in antiquity. A lesser but by no means insignificant benefit would have been to the traveller, either at local or international scale. He must commonly have carried wine with him to mix with the water along his route, for he would not always have been able to rely upon the quality of the latter. Skins of wine would then have lasted him longer than the equivalent volume of carried sweet water. Confirmation of such practice appears in Xenophon, who records that Cyrus ordered
his troops to carry wine with them to add to the unaccustomed waters of foreign lands.\(^{22}\)

To summarise, wine was an invaluable liquid source in antiquity because its bactericidal properties rendered it safe to drink and made potable its only major rival as a liquid supply, water. The significance of this should not be underestimated. It does not seem to me that Keller has gone too far in claiming that the survival of some populations may have depended greatly upon the utilisation of the germ-killing capacity of alcohol.\(^{23}\) This corresponds to Lichine's belief that wine "has contributed immeasurably to the preservation of human life."\(^{24,25}\)

Wine as Food

The dietary significance of wine has been remarked by a host of modern writers who, however, are merely echoing the views of many of the ancient medical authorities.\(^{26}\) And if it is possible nowadays to identify nations in which wine ranks as a common food element,\(^{27}\) this would have been truer by far of the ancient world.

An aliment may be defined as a substance supplying a factor vitally essential to life or one whose oxidisation within the organism provides energy for normal physiologic functioning.\(^{28}\) Wine, as a food, furnishes calories, minerals, vitamins, proteins, and certain other lesser elements. Yet such provision is very uneven, as can now be shown within the framework of the division established above.
Wine's energy component is derived primarily from its calorie-yielding ethyl alcohol but also from any simple hexose sugars remaining unfermented (i.e., not utilised by the fermenting yeasts) in the finished wine and, although to a very minor extent, from the degradation of protein content. While one-third or even more of the caloric value of alcoholic beverages may be due to the residual carbohydrates, well over a half derives from the ethyl alcohol itself. The latter is a useful energy reserve since almost the total of its energy amount is readily available for immediate use and because the resultant metabolism is swifter and more complete than that of, say, starchy carbohydrates. Here then is alcohol's well-known heating function (immortalised by the remark of Disraeli, trapped in a drafty room at a party, on being served the champagne: "Thank God for something warm"). On the debit side, alcohol cannot be converted for storage in the body.

The other category of food elements provided by wine comprises those contributing to body maintenance and growth. Richness now gives way to relative poverty. Thus the low nitrogen content of wine, inadequately counterbalanced by the presence of certain assimilable amino acids, precludes the beverage from possessing much value as a protein source (although its protein-sparing nature may be nutritionally significant). All the major trace minerals are present, if to varying degrees. It is difficult to be precise on this point since total mineral content and individual element representation are both influenced by the edaphic and climatic
circumstances of the vine. However, wine is an acknowledged rich source of available iron, which judgement can be extended to phosphorus given volcanic soils. Finally, the vitamins. Certain vitamins have been proven present in wine, where they are derived not only from the crushed grape but also, in small measure, from the yeasts which can provide vitamin B and D substances. Yet, on the whole, wine ranks as a significant source of only one family of vitamins, the B complex, in which thiamin, riboflavin, and several others have been recognised. This, nevertheless, is an important asset. The so-called vitamin P, believed to strengthen the blood capillaries in the human body, is also present. In contrast, the grape's richness in vitamin C is not transferred to wine, since this element, easily oxidised, is lost in the crushing and fermenting processes.

The nutritive tally may surely be deemed in wine's favour. The functions of important energy source and protein-sparer plus the presence of iron, certain minor nutrients, and the vitamin B complex suggest a conclusion closer to Lucia's calculated appraisal that "good wine in the diet is one of the most stimulating aliments in the nutrition of man" than to Bacon's unsubstantiated relegation of the beverage to "a second rate food." But the context of these conflicting positions is the modern world, not the ancient. It seems to me that the verdict of the 20th century, however accurate unto itself, is inadequate in two respects.
The first is biochemical. In chemical composition, the wines of today are not those of yesteryear. So far as I am aware, there exists no systematic investigation of what the differences in this respect between modern and ancient wines might be, nor, as a consequence, any consideration of what the contrast in food value might be. One possible source of distinction may lie in the modern application of fungicides, inorganic fertilisers, and the like to the growing vine. But for the moment, I wish to pursue a likely biochemical source of differentiation—yeast content of the finished wine. This has not passed unnoticed: Amerine and Singleton have written that ancient wines were generally drunk soon after fermentation, when still cloudy with suspended yeast cells (the easy removal of suspended solids being a more recent technique), and that these cells represented a significant reserve of vitamins. They do not make enough of their observation. In fact, the nutritional implications may have been profound. Vitamin content, notably of the B complex, would assuredly have been high. But yeasts also have a high protein content, for while they are deficient in certain amino acids they contain useful amounts of others, particularly the essential amino acid lysine. So, the major nutrimental inadequacy of modern wines--lack of protein--probably had no counterpart among ancient wines. In sum, the inherent food value of the latter was almost certainly much higher than that of today's vintages.

As the wines have changed, so have the times. Now, it should be axiomatic that the alimentary worth of any substance can be gauged
only in terms of the total diet prevailing at a given time. Herein lies the second key difference to be stressed between the ancient and modern dispensations. Food sources in antiquity were less varied and, as regards many items, less plentiful than is characteristic of the modern Western world. The basic dietary regimen consisted of the famous Mediterranean triad of wheat, olive, and vine, or something approximating thereto. Meat was beyond the means of most. Of course, fresh fruits and vegetables, honey, some dairy products, and perhaps fish supplemented the staple foods, but did not supplant them. Thus wine, as was indicated in an earlier discussion, ranked as everyday fare in the Levant, in Greece, and in most of the Roman world, that is, once organised viticulture had reached characteristically Mediterranean environments. In large measure, this status must be viewed as a reflection of wine's substantial nutritional capacities within the alimentary framework of the day. Its probable protein resources may have been of critical significance to peoples heavily dependent on vegetable (rather than animal) proteins which are signally lacking in the amino acid lysine --and such a dependence was the lot of most folk in perhaps all of the lands studied in Part I. This food value could only have been enhanced when winter enfeebled nutritional variety. Additionally, it seems reasonable to suppose that the caloric heat of wine in winter was more esteemed formerly than today: "Abrigo contra el frío, estar bien bebido," advises and old Spanish proverb.
There appears then to be little doubt that wine, viewed as a product of its times in the two senses above, performed an invaluable dietary function. This conclusion is, however, subject to regional variation: where the vine flourished best, there wine adorned the daily table.

Wine as Medicine

The medical value of wine has been debated since early times, and the debate continues apace today. Thankfully, there is no need in this thesis to asseverate The Truth of the matter. Since belief provides the framework for action, it is enough for present purposes to seek to know the medical value attributed to wine by the ancients themselves.

The impression to be gained in this task is one of strong ties between wine and ancient medical practice, ties established early and enduring throughout the centuries. The names of the medical men of earliest historic times may not have been handed down to us, but we do know from extant records that wine was used medicinally at an early period in Mesopotamia and Egypt alike and then in Palestine and pre-classical Greece. The age of the named practitioner and his specific contribution to healing is ushered in only with Hippocrates of Cos (460-370 B.C.), the towering pater familias of all subsequent scientific study of ailment. Hippocrates, with a discretion founded upon rational observation of response to treatment, advised wine's use in therapy; he catalogued the varieties of wine,
their diverse effects, the value of a specific type for a specific condition, but also warned when the beverage should be shunned. The Hippocratic School followed his lead. Nor was there any reversal of policy when the centre of ancient world medicine was transferred to Hellenistic Alexandria, where it revolved around Erasistratus. Likewise, Rome's role was mainly to replay the Greek medical genius. There arose in Italy the *physikos oinodotes*, a school of practitioners who saw in wine an almost unexcelled medicament, both potent and versatile. As Lucia cannily observes, "the antagonists to this school shunned the use of wine and the names of their leaders are almost lost to history. Only the names and deeds of the wine-prescribing physicians have survived these many centuries." Among the latter ranked Asclepiades, Celsus, and Dioscorides. Finally, the later Empire was dominated by that other giant, Galen. He, once again, prescribed wine liberally, recommending particular brands according to the therapeutic effect sought.

But we shall need a systematic rather than historic understanding if we are to appreciate the importance of wine to ancient medicine. Below, I have formulated a crude classification within which to illustrate the startling medical versatility of wine. The basic distinction is between wine as a solvent—a medium for materials in which the supposed curative function is primarily embodied—and wine as an active agent (that is, the prophylaxis is attributable to the beverage itself). This latter category can be subdivided conveniently into internal and external applications of wine.
Many were the materia medica—things animal, vegetable, mineral, and fabulous—to which the ancients ascribed curative powers. Their ingestion commonly demanded some solvent. In certain cases, only an alcoholic vehicle could hope to suspend and dissolve the medley of heterogeneous ingredients comprising a prescription. This property of wine (and perhaps also its ability to mitigate somewhat the obnoxious taste or smell of certain constituents) accounts for its status as a valuable menstruum.

The oldest extant record of wine's employment in medicine comes from a Sumerian tablet from Nippur, dated to the end of the 3rd millennium B.C. It details various pulverised medicaments to be infused in wine or beer. Thereafter, it is possible to find numerous such Babylonian or Assyrian recipes. Podolsky, for example, writes of a tablet of Neo-Babylonian origin (650-600 B.C.) outlining remedies for various urinary and genital disorders. Several require wine as a solvent. Here is one:

If a man discharges blood from his penis like a woman, thou shalt pour kukuhan (?) plant, ripsu- (?) grain, nuhurtu and horned alkali in wine. The man shall drink the potion and he will recover.

Numerous parallel instances are available in Jastrow's survey of a large number of contemporary medical tablets. A representative example:

If a man's inside is swollen and inflamed, and he is nauseated, then for his life [i.e., to cure him], mix onion with cumin seed, let him drink it in wine without food and he will recover.
If it can be argued that Podolsky gives no assurance that wine from grapes is intended, there can be little such doubt in Jastrow's case since he differentiates between wine and date wine, the only likely rival 'wine' in the Tigris-Euphrates lands. 64

A more celebrated source of recipes is the Egyptian medical papyri, dating from the 2nd millennium but probably representative of a much older tradition. Wine as a menstruum is not uncommon. For instance, 12 of the prescriptions in the Hearst Papyrus (Berkeley) make use of wine (as against 27 which employ beer and 11 milk). 65 The following are sample remedies drawn from the Ebers Papyrus (Leipzig):

TO DRIVE OUT THE NESIT DISEASE

The-Two-Testicles-of-a-Black-Ass
Crush, rub in Wine, and let the Patient drink.

THE DISEASE DISAPPEARS AT ONCE 66

ANOTHER (REMEDY) TO DRIVE OUT HARDENING IN THE ABDOMEN

Bread-of-the-Zizyphus-Lotus
Cat's dung
Red-lead
Watermelon
Sweet beer
Wine
Make into one and apply as a plaster. 67

We can pause, finally, at the classical world. It has been suggested that one of the three principal clinical uses of wine among the Greeks was as a medium for the administration of drugs. 68 And the Romans followed suit. In these two civilisations crystallised
the tradition of the theriacs or alexipharmics—the panaceas, the universal nostra, destined to play a major role in pharmacology until relatively recent times. Coined as antidote terms by the poet-physician Nicander of Colophon (190-130 B.C.), and accorded considerable prestige by the 'mithridatum' of Pontus' King Mithridates which rendered him immune to poisoning, these concoctions generally had recourse to a wine base. The most famous theriac was that invented by Andromachus the Elder, chief physician to Nero: it contained a staggering 73 ingredients, calculated to "counteract all poisons and bites of venomous animals" and to "relieve all pain, weakness of the stomach, asthma, difficulty of breathing, phthisis, colic, jaundice, dropsy, weakness of sight, inflammation of bladder and kidneys, and the plague".

Not only as a menstruum did wine enjoy therapeutic esteem, but also in its own right. As was said before, it was used both internally and externally. Taking internal administration first, it is possible to propose three major categories of medical benefit: namely, as a specific curative agent, as a general tonic and dietetic, and as a producer of anaesthesia.

A very few illustrations of vinous treatment of specific ailments must suffice here. (Examples are legion—indeed, the fecundity of Celsus alone, who constantly resorted to wine in his medication, would daunt any attempt at comprehensiveness—, but their detailing is beyond the scope of the present account.) Wine was prescribed for a host of complaints, from lung disorders to sundry fevers.
The diabetic, for instance, received wine. In his text on chronic diseases, the renowned Aretaeus of Cappadocia (fl. 2nd-3rd century A.D.) first detailed the classic symptoms of diabetes and then recommended wine in the regimen for recovery. But the principal merit of wine was apparently as a regulator of the excretory organs. It was a widely acclaimed diuretic. Greek practitioners certainly valued it as such: Hippocrates employed wine to provoke diuresis, as did Mnesitheus (320-290 B.C.), a Hippocratic physician noted for his treatise *Diet and Drink,* and Athenaeus, compiler extraordinary, applauds Lesbian wine, a brand of Chian, and a certain Egyptian wine as promoting urine discharge. Many of the Egyptian recipes addressed themselves to this problem, and while the majority of the constituents probably offered minimal diuretic value, the use of wine as a solvent would have proved salutary. Equally, laxative and purgative effects were sought from wine. The Babylonians recognised that salted wine aided bowel movement. Hippocrates, once again, drew attention to this property of wine, and again Athenaeus characterised certain brands --Cnidian and a variety of Chian--as possessing particular laxative powers. Contrariwise, one cure for diarrhoea, as proposed by Celsus, involved much administration of wine.

A second broad category of medical benefit was wine’s perceived value as a tonic and restorative dietary item. An old Italian proverb puts this well: "Vino non è buono che non rallegra l'uomo." How should we best render "rallegra"? --'cheer'? 'revive'? But
the ancients recognised this virtue of wine more than we do now. According to the Talmud, "wine nourishes, refreshes and cheers. Wine is the foremost of all medicines; whenever wine is lacking, medicine becomes necessary." Similarly, the Skeptics regarded wine as so nourishing the body. Given this property, it was prescribed especially for the convalescent—"draughts of wine to restore the strength" (Pliny). To give instances, Mahdu, a sweet, mild Persian vintage, was advised for women after child delivery (there is Talmudic evidence, too, for wine as a galactogogue), and Sorrento wine was much in vogue as a general restorative among Roman doctors. The beverage was also popular as a tonic to the aged and a source of longevity: Livia, wife to Augustus, attributed her 82 years to her favourite wine, and centenarian Pollio Romilus declared his indebtedness to "honeyed wine within, oil without."

Finally, wine gave sterling service in ancient times as an anaesthetic. Medical interest centred upon two, often interrelated, expressions of this—the means to sedation and the means to kill pain. Wine promised sleep. Sophocles knew it lulled the cares of mind to rest; Pliny tells us that a particular vintage from Thasos was esteemed as a soporific, while Athenaeus ascribes the same property to old wine. Wine also deadened pain. Surgical anaesthesia, for example, made use of this ability. No 19th century invention as is sometimes thought, the origins of surgical anaesthesia are to be sought at least by early historic times, when a number of operations, including amputation and Caesarean
section, were performed. The most celebrated instance was Dioscorides' use of mandragora wine. Leake, in his experimental verse narrative of anaesthesia's history, translates the words of the Roman surgeon:

Some there are who boil the root of mandragora in wine to give a glass in want for sleep, or yet before an operation with the knife or cautery that they may not be felt.

"Give strong drink unto him that is ready to perish" (Proverbs 31:5), indicates a related facet of wine as an anodyne: usually with myrrh or frankincense added to increase its potency, it was offered to the condemned. It seems that this was offered Jesus at his crucifixion.

No less important than the above internal administration of wine can have been its external application, mostly in situations where the property of antisepsis was desired. Piecing together disparate examples of this role for wine may underestimate its prevalence in ancient life, since the 'specialised' cases of rite, accident, and war tend to have been recorded at the expense of everyday living. It is necessary, then, to show that wine must also have been at hand in the home.

For a start, wine contributed to the household's general hygiene. Its role in the drinking supply was mentioned earlier. Another good illustration would be the Palestinian custom of washing out homes with germ-killing wine. Moreover, hands were sometimes cleansed in it (although, admittedly, the following cases scarcely refer to
the average household): in the Iliad, Ulysses purified his hands with Aethiopic, a strong black wine, "apparently for its antiseptic qualities"; and in the Satyricon, Trimalchio insists that his guests wash their hands in rather than drink an inferior vintage. In addition, there were external uses more strictly therapeutic. Celsus records several, some of which may have been standard household medication. Fistulous conditions of the eye were to be relieved by a poultice of bread soaked in wine; the remedy for discharges from the ear involved the administration of wine; and following any dental treatment, the frequent holding of unmixed wine in the mouth was recommended. Use as a liniment was also known. One cure for dandruff entailed shaving the head and anointing the scalp with wine compounded with myrobalanum or ladanum and myrtle ointment. Black ivy boiled in sour wine was prescribed to soothe shingles. And to counteract fever from exhaustion, the body could be rubbed with wine and oil, with a little powdered salt added.

Wounds, however, represent the single most important recorded usage of wine administered externally. How universal was such vinous treatment of wounds in antiquity is not easy to establish beyond all cavil. A representative Egyptian wound dressing from the Ebers Papyrus does not rely upon alcohol: "If thou meetest a Crocodile's Bite ... so thou coverest it with Raw Meat the First day." Antiseptic dressings were prepared also from certain fungi and mosses by the Hippocratic School. Nonetheless, it can
be said with certainty that by the time of Israel, Greece, and Rome—or, alternatively, in those places where viticulture was a thriving industry—wine's antiseptic properties were greatly called upon. One obvious source of wounds lay in warfare and other scenes of violence. Wine was at hand. Homer portrays Machaon and Podalirus, physician sons to Asklepios (Greek god of healing), as applying the liquid to the wounded Greeks before the walls of Troy. In the Scriptures, wine, along with oil and balsam, was used as an antiseptic dressing by the Good Samaritan (Luke 10:30-37). And when, in the Satyricon, Encolpius and Asclytos are attacked on the road to Minturno, they sooth their wounds with wine and oil. Again in Roman context, wounds were incurred in the name of sport. Galen's experience as physician to the gladiators allowed him to appreciate that dressings saturated in wine helped allay wound putrefaction. Indeed, faced with severe stabbing with evisceration, he was accustomed to bathe the viscera in wine before replacing them in the abdomen, a technique reputed never to have met with failure! Wounds also stemmed from the world of rite. As an illustration, brief mention can be made of the Hebraic version of the ancient rite of circumcision (although wine's symbolic role in this probably outweighed its antiseptic value). The orthodox Jewish ceremony has three parts. In the Milah (circumcision proper), the Mohel (performer of the operation) clips the foreskin of the baby over the glans and cuts away that part of the skin above the clip. He then takes wine in his mouth, discharging part on the wound, the
remainder on the child's face. The Periah (uncovering) consists in removing the remainder of the foreskin once it has been pulled back. For the final stage, the Mezizah (sucking), the Mohel again fills his mouth with wine, then sucks blood directly from the wound, spitting out the resultant mixture.¹¹⁶

A summation is now in order. Lucia may or may not be correct in dubbing wine the oldest of medicines.¹¹⁷ No matter, for the salient conclusion is that by very early times indeed wine performed many and important medical functions. Here was a versatile medicament, believed helpful in a staggering assortment of disorders. This is not to claim wine as a panacea: the ancient healers did counsel its avoidance under certain circumstances. Yet, on the whole, its medicinal importance in ancient life is indisputable.

By way of addendum, one final attribute of wine, quasi-medicinal in character, may merit attention. That is, wine as an aphrodisiac. I do not propose this as a crucial 'reward' of the beverage, merely as a possible contributory factor to the importance accorded it in antiquity. (After all, history yields parallel cases in which the human quest for sexual potency, or such comparable desires as facial beauty or fashionable apparel, has led man to take an interest in and exercise considerable influence upon those flora and fauna necessary to satisfy his demands.)¹¹⁸ In this context, it matters not whether modern science corroborates or refutes the claimed ability of aphrodisiacs to augment sexual potency. We must look to the beliefs of the times. And it is beyond doubt that the
ancients gave considerable credence to the idea that one road to venereal stimulation lay through *remedia amoris*.

Wine ranked among such *remedia*. Indeed, throughout history—and into the present day—there has existed a popular sentiment relating alcohol and love-making talents. Here we can limit attention to wine and to the ancient world, illustrating that relationship by a mere handful of examples. References to the exciting effect of wine on sexual impulse have been identified in the *Greek Anthology*; Aesop, moralising in fable on the consequences of taking wine, links the liquid with Aphrodite. The Romans, in their turn, held wine in similar esteem: Petronius infers that abstinence from the beverage would ease the tortured flesh whenever reduced to passing the night without companionship. The Old Testament has been interpreted as attributing stimulating qualities to wine, and the Jewish philosopher Philo of Alexandria is explicit on the matter. Still in the realm of Jewish commentary, Talmudic writing summarises wine's amorous effects on the 'weaker sex' thus: "One glass of wine makes the woman pretty; two glasses and she becomes hateful; at the third glass she lysts invitingly; at the fifth glass she becomes so excited that she will solicit an ass upon the streets."

More tentatively, it seems to me that in imputed aphrodisiac qualities may perhaps lie a strand in the explanation of why spiced wines were so prevalent in ancient times—although I must admit to having found no author who broaches this question. I would
argue thus. The role of wine in the various materia medica was primarily that of a menstruum, with the believed prophylactic function lying in the nature of the additives. Now, if certain of these additives were accorded aphrodisiac status, it would have involved no large step to their continued infusing for purposes more sexual than strictly therapeutic. Examples? I can make a case for two members of the Artemesia genus. Firstly, southernwood (Artemesia abrotanum), an odoriferous low shrub native to southern Europe. The Greeks sometimes added southernwood shavings to their wines. We are told that the plant acted as an aphrodisiac: placed under the bed, for example, it would inevitably heighten the sexual impulse. (The source for this is Pliny, that "delerious magpie" in pursuit of facts. While there were certainly less things in heaven and earth than were thought of in his philosophy, this very trait made him a sensitive mirror of the superstitions of his times.) Closely related to the southerwood is the widely distributed wormwood plant (Artemesia absinthium). The Egyptians liked to sprinkle this in their wine, and the Romans similarly infused wormwood; Absinthiatum, prepared in many lands in antiquity, has been ranked among the earliest compounded drinks. Dioscorides listed wormwood as an aphrodisiac, and there have been numerous later references to this quality of the plant. Such claims have been vindicated by modern science: thujone, a powerful drug with a wide range of effects, has been isolated from the volatile oil of both wormwood and southernwood. Since
piecing together the case for these two additives, corroborating examples have come to my attention. Both garlic and aniseed, reputed aphrodisiacs, were taken in wine. You can purchase wine with nard, Horace discloses. And of fennel (Foeniculum vulgare) Pliny has this to say: "In whatever way it is taken in drink, fennel has the property of promoting the secretion of the seminal fluids; and it is extremely beneficial to the generative organs."139

It would probably be unwise to overemphasise the aphrodisiac qualities of wines. Still, it is necessary to bear in mind that here is a further 'reward' of wine which may have had some influence upon its popularity and persistence in antiquity.
CHAPTER 4

WINE, THE INDIVIDUAL, AND SOCIETY

Nub-mehy does nothing by halves. "Give me eighteen cups of wine," she commands a passing servant, "don't you see I want to get drunk! My insides are as dry as straw." A Theban tomb painting of a wine party, annotated with hieroglyphics, gives us these intemperate words. And Nub-mehy is not alone. In other Egyptian tomb decoration, we see slaves carrying their drunken masters from the scene of the banquet and are granted the unedifying sight of aristocratic women vomiting after excessive drinking. Not atypical, therefore, is this piece of hedonistic advice: "Do not cease to drink, to eat, to intoxicate thyself, to make love, (and) to celebrate good days."\(^1\)

In such Egyptian scenes is revealed a perennial function of wine, no stranger to the ancient world—wine for pleasure, its use as a means to attain an enjoyable and sensual state of being. That which thus gratifies the individual has always had important social implications. Accordingly, this chapter will proceed from a consideration of this attraction which wine held for the individual to an assessment of the beverage's wider social role. I shall forego cataloguing instance after instance of such drinking for pleasure (that is, the Egyptian case above, extended indefinitely) in favour of an attempt to comprehend the rationale behind the act. By the latter means, I hope to better understand another theme in ancient man's intense interest in the product of the vine.
"Wine for pleasure" may mislead us as to the nature of antiquity's vintages. And failure to appreciate their character may encourage an oversimplified perspective of their "pleasure" function in ancient times. We are not dealing with the wines of our experience: thoughts of mellow Port viewed through crystal or even of rough, purplish Beaujolais drunk young offer no hope of explanation of wine's appeal throughout history. Their ancient counterparts were of a different order.

Above all, a pot-pourri of what could perhaps euphemistically be called flavourings—-to the modern palate, adulterants—were added to wines, apparently in all parts of the ancient world. It has been proposed that piquancy of taste motivated this practice; another explanation has stressed the regular drugging of wine as antecedent. A more rewarding avenue of argument centres upon the need for preservative measures if the wine was not to be consumed soon after its fermentation. At an early date it must somehow have been appreciated that in the presence of air wine turned sour. Techniques to exclude air from amphora or wineskin and, this failing, to disguise incipient or even advanced souring were therefore essential. Here, I feel sure, lies the major impetus to the phenomenon of wine additives: procedures Draconian to the modern palate were made obligatory by the lack of adequate techniques of vinification and, above all, storage. But, of course, procedures
which began as force majeure could readily develop, through familiarity, into a matter of desired taste.\footnote{7}

Some of the measures taken were primarily preservative, aimed at preventing the souring process. Resin and pitch were much used.\footnote{8} The viscous pitch was smeared on the insides of amphora,\footnote{9} wineskin,\footnote{10} and the relatively uncommon barrel.\footnote{11} Although some of the available pottery would in all likelihood have been impermeable to air (and so would have had no need for pitching), much would not in times when interior glazing may not have been a widespread ability;\footnote{12} the pitching of wineskins would have been habitual. While the heyday of pitching was probably seen in Greece and Rome, it can be traced back to the more ancient civilisations.\footnote{13} Apart from pitching, resin and pitch both were added to the wine itself—"dans un sachet trempant dans le liquide"\footnote{14}—or to the must in powdered form.\footnote{15} Mute witness to this custom is a mortar for grinding resin discovered beside a wine tank at Mirmeki in the Crimea.\footnote{16} The usefulness of this as a preservative may be disputed,\footnote{17} but the classical authors regarded it as effective.\footnote{18} An important alternative to resin and pitch was brine. The Greek maxim that "wine is sweet when sea-water is poured into it"\footnote{19} testifies to a taste preference, but its likely origin was as some sort of preservative measure.\footnote{20} It has been claimed that the brine would have stopped fermentation from progressing to the point of souring\footnote{21} (presumably a reference to the secondary fermentation process of Acetobacter spoilage in the not completely anaerobic conditions of ancient storage).
These procedures were valued aids, no panaceas. Spoilage still haunted the ancients. To combat this, a wide array of flavourings was available to 'improve' wines, that is, to disguise objectionable odour or taste. In this capacity, the pitch and resin and brine would undoubtedly have imparted a certain pungency to any wine. A multitude of aromatics and sundry additives were also employed. Some examples: the Mesopotamians scented their wines with perfumes, spices, and honey; honey, once again, and fruit juices were added by the Egyptians, as were rue, wormwood, and hellebore; the Carthaginians made use of lime (the alkali); and the Greeks, pantophagistical with a vengeance, spiced their vintages with honey, myrtle berries, clover, saffron, sweet-scented flag, bitter almonds, pine needles and cypress leaves, cedarwood shavings and those of southernwood, gall-nuts, flowers and ashes from the vine, shells, pounded marble, and potter's earth! All in all, such mixed wines were a commonplace. Thus the Latin vocabulary contained both conditum, highly spiced wine, and mulsum, honeyed wine. And here may well be the origin of the Bible's "strong drink"—supposedly, wine altered by peppery, aromatic additives such as goat's milk, cheese, onion, and other alliaceous roots, and by bitter, tannin-rich materials.

So much for purposeful additions. But unconscious pollution of wine must not have been rare. Specifically, and most spectacularly, the charge of lead contamination has been levelled against Roman wines (most cogently by Gilfillan). Various were the ways in which
wines gained lead content. Among the commonest was the use of leaden vessels to boil down must (to sapa or defrutum), which was then added to new or inferior wines to give them character and longevity. Thereby the must and doctored wines acquired lead levels which both poisoned the microorganisms causing souring and led to plumbism among drinkers. Similar results must have characterised caldum (the Roman equivalent of negus), which, in cold weather, was prepared by heating the liquor in lead-lined vessels. Reconstructions of such processes by German scientists have resulted in high lead content in the finished products. Since even 1 mg of lead per day would have proved dangerous, chronic poisoning was probably a not uncommon consequence of liberal wine drinking among the Romans. The manifestation of this appears to have been gout. Now, it is true that a causal relationship between wine drinking and gout has never been established beyond all doubt, but, certainly, the suggestive association did not escape ancient attention. Celsus declares his knowledge of cases where gout was cured by abstention from wine and mulsum for an entire year. Worth noting, too, is this interesting parallel: gout, for a long time rare in Rome, became a common complaint only towards the end of the Republic, when, significantly, wine finally established itself in the Roman way of life. Thereafter, podagral conditions were a commonplace, if we may judge from Pliny (who noticed a sharp increase in his own lifetime), from the frequency of references to gout in Martial's works, and from the fact that Lucian saw fit to compose a burlesque entitled Tragodopodagra.
By drawing together the above themes (and without detailing further vinification demerits such as the lack of racking procedures or the premature 'aging' of wine by means of smoke), it becomes clear that the wine of the ancients must have been fairly repellent stuff. To write, as does Sigerist, that the ancient liquors tasted good or, as Kavaler does, that the flavour of wine would have delighted the ancient palate, smacks of superficiality. Much nearer the truth must be Chafetz's assertion: "The liquor itself, guessing at its quality, must have almost killed them."  

No pleasure of taste here. But there is something about alcohol which encourages man to persevere. Writes Chafetz again:  

Take a seasoned drinker to another land and see how he responds. I guarantee you he will not jump with joy at his first taste of arak, pulque, marc, subrouska, or kava . . . . Your tongue will tell you whether you drink for the taste or in spite of it. Nevertheless, if you were to live in one of these lands with nothing else to do, never fear; in time your tongue would thirst for the strange liquid, too.  

Even more so would it have been necessary to cultivate a taste for the wines of the ancient world. So, to contradict Kavaler, not the taste but the effect would have been the allure of the early alcohols, wine included. That way pleasure lay.
Wine for the Individual

To know this effect, it is necessary to understand some basic pharmacodynamic actions of alcohol within the body. These now merit brief consideration.

Alcohol reaches all parts of the body, but its key physiological action is upon the central nervous system, as is testified by resultant changes in overt behaviour. Alcohol dulls cortical activity. It is a depressant (a distinct pharmacological usage of the term quite at odds with the notion of depression of mood) in the sense that it depresses the higher nerve centres of the brain, those which control judgements, inhibitions, and tensions. Such relaxing of cortical function, alleges Horton, is equivalent to reducing the exercise of those physiological mechanisms which produce anxiety (an acceptable proposition if "transmit" is substituted for "produce"). Thus measured, there is an irrefutable efficiency loss. However, this influence upon the cerebral cortex—for present purposes the dominant focus of attention—is part of a wider depressant process. Diagnostic of such general anaesthetics as alcohol is "a progressive descending depression of the central nervous system." "Descending" is not inaptly chosen: with continued alcohol consumption, successively deeper—and, would argue Chafetz, older--levels of the brain are affected and their functions disturbed. Anaesthetic action begins at the top of the brain, the cerebral cortex; with increased dosage, the motor
impaired, excessive intake will eventually affect "the oldest levels of the brain," those governing consciousness and, finally, respiration. Death comes as the end.

From one point of view, this whole sequence of central nervous system reactions could be taken as the price to pay for utilising alcohol to gratify the body needs of Chapter 3. But we shall not comprehend recreational drinking through such reasoning. A more rewarding approach, therefore, will be to assess what positive function can be served by alcohol's depressant abilities. The answer will allow an understanding of the attraction of wine for the individual and society.

To what purpose "a progressive descending depression of the central nervous system"? Well, at one level, it is not difficult to envisage that some men, probably at all times, have sought to blot out reality through the stupor of narcosis which hails as the inexorable conclusion of prolonged drinking bouts. This alone is inadequate as an explanation since many drinking sessions do not proceed thus far; furthermore, the persistently communal nature of such affairs is thereby scarcely accounted for. Given the former objection, a more likely explanation may lie at a preceding level in the anaesthetic progression. Immediately, Kalin and his colleagues would disagree: they declare difficulty in crediting that people drink with a view to thinking, talking, or acting "in an uncoordinated, inefficient way." This seems straightforward. Yet thinking and
acting are radically different processes (apart from being affected at different levels in the depression sequence); moreover, "inefficient" is a notably value-laden term, changing meaning with changing context. Whether an inefficiency of normal thought functioning need be regarded in the same disfavourable light as an inefficiency of normal motor functioning seems to me a moot point. Since inefficient thinking is defined in the present context in terms of a relaxation of cortical activity, that is a reduction of the capacity to receive and codify response to stimuli, surely this can be a desired state under certain circumstances?

That reduced cortical activity can be advantageous is readily demonstrable. Alcohol relaxes. Tension, anxiety, frustration are soothed. A host of sensations, normally processed by the brain, are no longer available as worry or distraction. Loss of fatigue is an example. Not that alcohol's caloric value offers the essential restorative energy, but the sensation of tiredness is insufficiently received from the muscles, thereby giving the impression of relief. In the absence of such sensations ensues a feeling of well-being. Note, as a consequence, that alcohol, the depressant, is commonly felt to be a stimulant since certain types of behaviour, freed of everyday restrictions, are heightened. Euphoria or elation, gaiety or joy are experienced in a world approached with new enthusiasm. Warmth, vividness, temporary respite.

The ancients recognised this power of wine. "A little wine is soothing," declares the inscription on an Etruscan drinking cup.
"Drink in order to know no sorrow!" and "drink so as to know a little brightness!" exhort two further inscriptions. The Roman mind ran similarly. "Drown your troubles in wine," advises Martial, the epigrammatist. To Vergil, the god of wine becomes "the giver of gladness." The same themes recur in the *Odes* of Horace:

Who give no play to love, nor wash away 
Troubles with merry wine, or live in fear 
Bewildered by an uncle's tongue, O they 
Are wretched.

Horace, III, xii

A cask that in the cellar lies 
Full of new hopes, and very wise 
In washing away miseries.

Horace, IV, xii

Socrates, too, is eloquent: "For wine comforts the soul, soothes the sorrows of man ... and arouses joy as oil the flame." (The truth is evidently timeless. It is part of the wisdom of St. Isidore of Seville and then of Omar Khayyam. In recent times, Horace is echoed by Baudelaire's understanding of what wine, addressed, offers the drinker: "Tu lui verses l'espoir, la jeunesse et la vie"; and the mirror of Vergil's phrase is Picasso's delightful lithograph *Bacchanale*, wordless yet vibrant with the joy of dance and raucous jazz.)

Through wine, therefore, man alters his inner being in relation to the world around him. Of course, this process can be taken further than "a little brightness." But, in fact, further down the
depressant sequence the same basic principle operates, except that now the world is blanked out through flight into insensitivity. "In wine, abandonment is to be found," warns an Etruscan dictum. Such solace Tibullus sought in his grief over Delia:

More wine, more wine, to wash away new troubles to let sleep triumph and my eyelids close.  

Tibullus, I, ii

So here we see a vital attraction of wine in an ancient world in which distillation had no importance and in which, as today, wine boasted higher alcohol content than beer, granting it somewhat greater and speedier effect. To repeat, wine drinking held out to man the means of modifying (to various degrees) the customary condition of living.

The scientific literature on this subject, when taken as a whole, offers a degree of support to my outlined rationale. For evident in it is a common theme of alcohol facilitating temporary deviation, according to some chosen measure, from the status quo that constitutes the process of everyday psychological existence. Although disaccord marks the precise measure to be selected, attention has focused upon abeyance of 'anxiety' sensu lato. A key tenet of what has been termed the Functional School of alcohol research is the facility with which drinking reduces anxiety. The pioneering systematic statement to this effect is to be found in the work of Horton--still much cited--, who inspected alcohol's function in
"primitive societies," concluding that its "value is primarily in its anxiety-reduction capacity." However, according to the contexts in which Horton employs 'anxiety', he must intend a sense approximating to 'apprehension' or 'fear'. This being so, his explanation is unduly restrictive. On such grounds he is chided by Washburne, who points out that man may take a drink at the end of his day merely "to reduce the physical tensions that have been maintained to accomplish his work." More recent statements, perhaps alert to the dangers of oversimplification, have aimed therefore at accommodation of motivation rather than restriction. Typical is Bacon for whom alcohol's recreational function is the "relaxation of tension, of inhibition, of anxiety, of guilt." There is no point in multiplying examples. It is the consensus of researchers to understand drinking in the context of some modification of man's "inner being in relation to the world around him," and to define that modification in terms of the smothering of some stressful situation.

Given the above support, a knowledge of certain physiological implications of alcohol consumption, and allusions to wine culled from ancient writings, it is safe to reiterate that the attraction of recreational drinking to ancient man--as to his modern descendent--lay less in the taste of the beverage involved than in the effects experienced. Through its action upon the central nervous system, alcohol heralded a changed state of awareness. In this paradis artificiel, the stresses of living were lulled and soothed, and a deep feeling of well-being, perhaps euphoria, could be sought.
Wine for Society

Inevitably, the ideal environment escapes man. Perhaps only in the womb or some Elysium--both of which, so we are told, we yearn for--is the all-beneficent environment to be found. Reality requires compromise.

This is true and at its most obvious in the case of the physical environment within which man must make his struggle for subsistence. In late prehistoric and, if to a lesser extent, early historic times, man was very much at the mercy of nature's caprice. His daily existence certainly bore scant resemblance to the Golden Age sketched by Hesiod, Ovid, Tibullus, and a host of successors. More likely was it demanding, sometimes precarious, perhaps dangerous at times. Rousseau's vision surely needs to be infused with an element of Hobbes' "nasty, brutish and short" existence. It would be unwise to paint too gloomy a picture, however, and statements to the effect that "this ancestor of ours was a terror-driven, ignorant savage facing a hostile world" undoubtedly overdramatise. All the same, it is likely that the psychopharmacological properties of alcohol would have been highly welcome.

My present concern, however, is the social environment man lives in, not the physical. It is unrealistic to continue to study the individual as if in a vacuum--that individual is invariably part of society. Once again arises the need for compromise. For the benefits of social structure exact a toll. The desired omnipotence of the individual in meeting his various wants in life is frustrated
by a social environment conceding only as much as he is deemed to have legitimate claim to. That is, satisfaction of personal desires is permitted only to the extent that it does not interfere with society's common interests. Normally, the individual will sublimate those ambitions which would so conflict. Psychologists believe that tensions or anxieties result from these more or less consciously suppressed desires, which may be abetted by those arising from imagined or real transgressions of the social code. In short, a degree of incompatibility inevitably marks the relationship between the individual and society. So "in the very nature of things" (Aldous Huxley) arises a condition of psychological dissatisfaction for man. An important consequence, then, is that this condition, when translated into the realm of overt social relationships amongst the sum of individuals, can wield a dysfunctional, specifically centrifugal, effect upon the harmonious functioning of the society.

The individual seeks relief mechanisms to assuage his tensions or anxieties (what Lowy terms "social stresses"). Open to him is a range of palliative actions, but not all will bring social approbation. That is to say, society exerts pressure against any choice of conduct likely to exacerbate centrifugal tendencies within the society. Such conduct is styled anti-social. Conversely, any outlet which may simultaneously reinforce or advance social solidarity in a direct manner will tend not only to be socially condoned but may further achieve a singular importance within the society.
Retrospective gaze from 20th century vantage allows the conclusion that for the most part, despite some prominent exceptions, moderate use of alcohol has stood within the latter category. For if wine lulls frustrations and tensions and inhibitions--attributes which may characterise the individual's relationship to the social environment that envelops him--and if it brings a sensation of well-being, then we should expect the individual to experience an increased benevolence towards that environment. "A good party is where you enjoy good people, and they taste even better with champagne." An irreverent epigram from the pen of William Mizner, relaying an important truth. Wine acts as a social lubricant: in soothing sources of division amongst society's members, it brings them closer together. To Baudelaire it symbolised "un chant plein de lumière et de fraternité"; and the philosophy of the wandering Iberian gypsy, as recorded by García Lorca, knew the social import of wine: "What a lot of conversation there is inside that bottle!" The point need not be laboured--wine can be a harbinger of social solidarity. (This statement can be refined of course: it is possible to distinguish two drinking contexts, one in which social drinking is designed to establish community within a society, another in which it re-presents a measure of pre-existing community therein. The distinction is not critical for present purposes.)

We are now in a position to understand this function of wine within the context of ancient society. It is comparatively easy to concede that the liquid with the power of bringing people together
in a certain ambience of group solidarity could indeed have been a useful socialising device; examples—at least once the written record appears—can be mustered in support. And at this level are fashioned almost all the rather sparse number of statements on the subject which I have encountered.

Yet this may be almost to miss the point. A much more extravagant (?) claim has been made in alcohol's favour. Startling at first sight is Chafetz's assertion that "alcohol may have provided the social impulse which decided whether man was to form wider human groups or remain in that narrow tribal furrow." (A subsequent statement is less polemic, but cannot be severed from the context of the first: "I believe that liquor has aided the advance of mankind.") Here is heresy? That remains to be seen.

His position does embody one immediately obvious merit—acknowledgement of society's dynamism. For, to argue a social function for ancient drinking while yet ignoring the dimension of societal development (and incorporated in this thesis, be it noted, are societies ranging from the pre-Neolithic to that of Imperial Rome, with all the concomitant distinctions involved) may be to invite superficiality. On the other hand, Chafetz himself marshals no such framework of societal development upon which to ground his emphatic claim.

In what follows, I shall make rude attempt to delineate some essential features of late prehistoric and early historic societal development which, it seems to me, Chafetz has presupposed but not constructed as a basis for his position. Rightly or wrongly,
statements of this sort depend in part or even heavily on contemporary
data; their application to the prehistoric condition in particular
falls into the realm of plausible hypothesis rather than proven
fact. This should be borne in mind.

I am taking my cue from Burtt's stimulating chapter "From
primitive to civilized religion." The essence of his argument is
that the panorama of human existence has been etched in terms of
two principal preoccupations. The first has been man's need "to
win an assured position" in relation to the forces of nature;
the second may be phrased as a question: "How can the various groups
of human beings that civilized life throws into increasingly
complicated interdependence learn to live cooperatively with each
other?" For the majority of human existence--until 4,000 years
ago, Burtt suggests tentatively--the subsistence struggle absorbed
most of the fund of man's energies. Paradoxically, the very repercus-
cussions (population expansion, occupational specialisation, growth
of trading, and suchlike) of having achieved an "assured position"
in the face of nature incubated the second dilemma, Burtt's social
harmony preoccupation, at a previously unknown scale. Upon this
background of changing preoccupations can be superimposed and
better understood the process of societal development. What is so
obviously dynamic I shall strait-jacket by use of two categories--
the simple society and the increasingly complex society.

Consider first the nature of the simple society, particularly
in terms of its internal relationships and likely external contacts.
While acknowledging the "chimera of absolute equality," yet is it
fair to say that society was structured on a basis of comparative parity. Age and sex, those universal criteria of differential functional status, probably accounted for the majority of variation in functional role.\textsuperscript{100} Singular talent would have received a measure of social recognition,\textsuperscript{101} but "men lived without a common Power to keep them all in awe" (Hobbes).\textsuperscript{102} Property disparities are unlikely to have been great.\textsuperscript{103} As a result, sources of interest conflict among society's members were few rather than many;\textsuperscript{104} the welfare of the individual and that of the group as a whole were roughly coextensive, or, to follow Jellinek, the sources of anxiety were rarely individualised, rather common to the entire tribe.\textsuperscript{105} Such causes of insecurity came not from threatening nearby societies, for population levels were low, densities scant over the inhabited surface of the earth;\textsuperscript{106} and it is thought unlikely that trading or military contacts were more than very meagrely developed.\textsuperscript{107} Rather, the enemy faced was, as Burtt has emphasised, capricious nature.

The character of social drinking among such peoples appears to have reflected their relatively strong group solidarity. The consensus of alcohol investigators is that the individual imbiber was a rare phenomenon indeed.\textsuperscript{108} The reverse was customary: prehistoric drinking patterns revolved around a communal, probably ritualistic ceremony,\textsuperscript{109} held perhaps quite infrequently.\textsuperscript{110} To the extent that drinking served to assuage tensions within society, these occasional drinking bouts would easily have sufficed.\textsuperscript{111} But this motivation cannot readily be separated from alcohol's power to bring people
together in a feeling of good-will: such communal ceremonies—when assembled, I should suspect, the entire eligible population of the society—represented a "restatement of the fundamental mutuality" of the participants. The importance of this affirmation of belongingship through communal partaking of alcohol should not be underestimated. The subsequent (i.e., historic) significance—a significance adjudged "rooted in the deepest levels of the psyche"—so widely attached to manducation in common, on existential and legal plane alike, cautions us against that. The perennial corollary has been that one cannot participate in the group, that is, be an integral part of it, without having drunk (or eaten) with its members. Indeed, the threat of some form of ostracism has long been used to pressure the individual into joining the group's drinking.

In contrast, consider now what unfolding of characteristics underlay and moulded the increasingly complex society. The ascent of functional specialisation, maturing within a framework of substantial population expansion, was apparently the sine qua non. Behind and supporting this was the necessary gaining of Burtt's "assured position," achieved once the food-production innovations of the Neolithic had been perfected and consolidated. Paralleling such functional specialisation was the evolution of a hierarchical stratification (where, broadly, none had been before). Diagnostic then of the increasingly complex society was a qualitative transformation in social organisation. Certain former bonds eroded
as a consequence. Principally, the "common" withered from common experience, common cause. The growth in society's numbers soon precluded the individual from being acquainted with, let alone being able to interact with frequently, all fellow members in the group. Compounding this, specialisation and stratification increasingly isolated the individual from an appreciation of the problems and preoccupations, the ideas and goals, of those thereby divorced from him. In fine, we must envisage a progressive 'distancing' element among society's members.

This process was reinforced by growing external contacts. The bases for considerable and systematic trading had become available; conditions were ripe for organised militarism, and now the beginnings of empires were welded. With significant repercussions. External endeavours such as these tended to ratify or indeed intensify the preexisting, growing differentials of wealth and status within the home society; attracted or annexed were minority groups (foreign merchants, slaves, and the like), extending once more the heterogeneity of the whole; and increasingly prevalent were the seeds of further division, foreign ideas--moral teachings, religious philosophies, world views.

The result of these processes, both internal and external? Gone was the former social unity. We can accept without altering Sahlin's verdict on civilisation: "A civilization is a society both massive and divided within itself." Or in Burtt's words, "the basic insecurity of civilized man lies in his relation to his fellow."
Let me now recall my earlier description of wine—"a useful socialising device." In isolation, a rather vapid phrase. Such is not the case if it is seen in terms of the critical need for such devices to soothe the pressures and strains of the above societal developments, in their turn so crucial to the germination and eventual flowering of Western civilisation. Can it then be proved that wine functioned in just such a decisive capacity in antiquity? (thereby having made, in this role alone, a fundamental contribution to Western civilisation, to the vindication of Chafetz.) No: on methodological grounds, that is probably too ambitious a hope. 129 What it seems to me can be indicated is that the pattern of social-recreational drinking in the increasingly complex society appears to have evolved in a manner compatible with the needs of the already-outlined societal development. My reasoning runs thus. The earliest drinking bouts, taking the form of the occasional group ceremony, were largely superseded. Now, two dominant and interrelated trends characterise much of the process of change involved in this supplanting—one qualitative, the erosion of the former group character, the other quantitative, the rise in the frequency of situations marked by social-recreational use of wine. And these both may be thought congruous with the need to satisfy problems arising from societal development. Brief individual inspection of these two tendencies is made below.

The number of drinkers together at any one time came to be an increasingly small sample from society. Burgeoning population
alone would have encouraged this; the trait becomes yet more comprehensible if we accept that the increasing individualisation of vested interests and, by extension, sources of tension was 'solved' by a complementary individualisation of assuagement.\textsuperscript{130} Jellinek argues in favour of a gradual shift in emphasis from drinking in the public domain to its equivalent in the private sphere, most notably the home.\textsuperscript{131} This process was to culminate eventually in the phenomenon of the individual drinker soliciting temporary joy or narcosis from his tilted wine cup (as Tibullus, nursing amatory wounds). Resisting this trend, it should be noted, were a handful of community festivals--the Athenian Anthesteria and others are described in Chapter 5--which may have served a function similar to that of the early, communal drinking bouts.

In addition, the frequency of imbibing rose as more and more situations came to be regarded as auspicious occasions for taking drink. Any reason advanced to account for this cannot but be highly tentative, but an increase in drinking frequency would at least have been consistent with the changing societal environment adumbrated earlier. It has been suggested that, in the home, wine was first employed for the private celebration of community events, and then for important domestic festivities--celebration at the various \textit{rites de passage}, emphatic affirmation of hospitality, acknowledgement of a piece of particular good fortune, and the like. Eventually, a permanent supply of alcohol would have been stored, which could only have encouraged its use.\textsuperscript{132} Likewise, there appeared in the
public realm a constant source of alcoholic refreshment: the tavern or bar. These must have been established quite early. Siduri, whom Gilgamesh encounters in his quest for everlasting life, is identified as a tavern-keeper, which undoubtedly reflects a feature of Mesopotamian living. Bars also formed part of the ancient Egyptian townscape. By late antiquity, they were to become a commonplace. A final (and perhaps not surprising) point to be made is that this trend of increasing frequency sired the abuse of drunkenness and decadence.

By way of conclusion, a rough and sweeping sketch of the Roman experience may illustrate some of the preceding points. In the passage of but a few hundred years is telescoped the rise of a people from a collection of "shepherds and farmers who lived in round huts constructed from wattle and daub" to the largest and perhaps most unwieldy society of the ancient world. No more vivid contrast is available than the juxtaposition of the drinking pattern of the early years against that reigning in the bloated Rome of imperial days.

Early Rome was an abstemious Rome. Alcohol was viewed with suspicion by a society which had still not sloughed off the traditional and conservative values of its pastoralist origins. Wine, we remember, was forbidden to certain sections of society, notably women. Already mentioned were the premature demise of the tippling spouse of Egnatius Maetennus and the custom of kissing women to
determine whether their breath was flavoured with lingering wine. But even amongst those entitled to imbibe, wine's use was subdued.

By the culminating years of the Republic and throughout the Empire, when society was heterogeneous and divided, when life could be harsh and unjust for large sections of the populace, and when civil strife sometimes seethed dangerously, wine had achieved a vital, everyday place in the lives of the people. Finest testimony of its social importance comes from officialdom's recognition of the need "to utilize the pleasure drives of man to deflect the potential dangers of tensions." Thus panem et circenses. The citizenry of the Empire, weaned on such a diet, could be denied its wine only at the administration's peril.

"Dum vixi bi(bi) libenter; bibite vos qui vivitis," runs the maxim of a Roman legionary. Wine had become a symbol of the good life. For Horace, who repaired so often to his hillside farm with its vineyards, contentment lay in "cups of the best Falernian" raised in the secluded shade of pines and white poplars. For the man in the street, a bar was literally at hand (thus, in Pompeii, where over a hundred taverns have been identified, most city blocks possessed one). And at a plethora of festivals he consumed great quantities of wine.

Equally, there were those who ate and drank not wisely but too well. It was an era in which Domitian could convoke the Senate to decree which sauce fared best with turbot, in which Elagabalus could serve ostrich brains studded with gold fragments
on golden platters inlaid with pornographic designs. Wine flowed abundant. Kissing women became somewhat more hazardous:

So as not to smell too strongly of yesterday's wine, Fescennia, you've gobbled down far too many of Cosmus' lozenges. This stains your teeth but doesn't cover anything up when a belch bubbles up from your lower regions. Has it ever occurred to you that the stink may be even stronger, mixed with drugs, and carry farther doubled in strength? Give up these obvious tricks and transparent subterfuges and let yourself be just plain drunk.

Martial, I, lxxxvii

Alcohol-ignited revelry burst forth on to the streets of the Roman city--commonly so, we would imagine, since a stock situation in the Comedy, the paraclausithyron, seems but a conventionalised version of the drunken carousal through the streets. Wine lubricated conduct in even the most prominent public places. During the reign of Augustus, records Macrobius, citizens were seen drunk in the public assemblies, and it was not unknown for magistrates to be found semi-intoxicated in the forum. As in public, so in private. The Greek symposium was profaned in Roman context. A long-lived banquet custom involved toasting the emperor with one cup of wine for each letter of his name--a practice modest enough under Nero, it has been pointed out, less so under Vitellius, and downright dangerous under Septimius Severus. It is not the stuff of
emperors to be upstaged: hence the face of Vitellius was flushed red from liquor, Commodus characteristically drank until dawn, and Claudius was regularly carried dead drunk from the table. Such excesses fetched the scourge of Petronius, Horace, Martial, Juvenal, and other writers. The famed Satyricon of Petronius, to choose but one example, satirises the cancerous over-sensuality of certain sections of Roman society. Trimalchio's feast is the zenith of bad taste. How much wine was consumed before "the rejected contents of a hundred stomachs" could be thrown about with abandon? Of course, abuse exacted its tribute: the Roman hangover (to assuage which much ingenuity was directed) and the Roman alcoholic. But we can leave the Eternal City without dwelling on these.
CHAPTER 5

WINE AND RELIGION

Use of wine was intimately and inextricably part of ancient religion. It was so to a degree which the 20th century mind may have difficulty appreciating. In fact, to attempt to understand the nature and rationale for the long and complex association between wine and religion in antiquity is to embark on a prodigious task. The following discussion is offered as but an introductory statement on the matter.

Wine's religious significance can be truly appreciated only if there is some knowledge of religion. Lack of this contextual dimension diminishes the likelihood of grasping the astonishing importance in ancient religion of this liquor wrung from the grape. It is not enough, I suggest, to list and describe its use in a series of ceremonials. Such jejune enumeration—alas, the principal path trodden by the 'wine literature'—falls short of understanding that use. A different course will be taken here. Following some necessary general remarks about the character of religious practice in antiquity, I shall spend some time highlighting certain problems with which ancient religion was vitally preoccupied. Within such a framework, the role and place of wine may then be better evaluated.
Introductory Matters

The temper of ancient man's religion differs dramatically from that of our own and may seem quite alien to us. There is a danger in generalising about religions, but it can be said that, as a whole, those of antiquity concerned themselves more with action than with doctrine. Their essential character was defined by ritual and cult rather than by the modern experience of tenet and canon. Ritual observance was not an addendum to Mesopotamian or Egyptian religion, but central to it, the very stuff of it. For the Romans, creed was as nought, deed was all-critical.  

appropriate action was the sine qua non of religious life. Even in Judaism, divergence in doctrine or dogma was often viewed with an indulgence denied discrepancy in ritual or ceremony. Perhaps only the salvation religions, notably the fledgling Christianity, marked the infusion of strong doctrinal elements, though even the new Church--'church' itself being a concept foreign to most ancient religion--was far from having sloughed off all vestiges of its ritualistic background. And so, in such a religious environment, the sometimes bizarre deeds to be discoursed upon in the following pages cannot be dismissed as mere peripheral embellishments to ancient man's religion. They must be seen as fundamental to its essence.

In addition, they should be understood within the context of the prevailing world view which supported them (for this will help rout the adjective "bizarre"). It is a perennial function of man to observe his world and seek to explain it. Religion and this
explanation or understanding of reality are closely interwoven: in the present case, "appropriate action" presupposes some particular such understanding. Central to ancient man's Weltanschauungen was the all-pervasive instrumentality of the spirits or the gods. He lived in a world manipulated by personified powers, a metaphysical rationale where physical understanding was lacking. Their agency was not some distant, putative matter, but a fact which he encountered at his every turn. Indeed, the sacred penetrated the gamut of daily living, such that it is really a misrepresentation to distinguish discrete religious and secular realms in ancient context. Just as all-pervasive was the presence of these powers. Ancient man populated nature with spirits and gods, a vitalisation probably rooted in analogies with man. (Movement may have been a prime associative inspiration. Man moved. So, too, did the celestial bodies. On Earth, trees swayed in gusting winds, water rushed in perpetual motion. By early man's reasoning, these--like himself--were alive, possessing living spirits. Sound may also have contributed to this rationale.) It was in such a context, in a world viewed thus, that ancient man's religion was enacted.

One final preliminary. We might wish some familiarity with the process of reasoning lying behind certain aspects of ancient religious ceremonial (for, again, this would help dispel the epithet "bizarre"). But this is speculative territory where it would be unwise to advance too far. I know of only one recent attempt to analyse the thinking of ancient man--the Frankforts' influential
Before Philosophy. This invokes a specific mode of reasoning for the ancients, a particular mentality: the mythic. The Frankforts claim as a reflection of fundamental differences in thinking processes the fact that for modern man the phenomenal world is an 'it', whereas for his ancient predecessor it was a 'thou'. Let me elaborate briefly. Modern man confronts a world which he regards as clearly distinct from himself, as an 'it'. For ancient man, by contrast, society was subsumed within nature. Man and nature, representing no opposites, "did not, therefore, have to be apprehended by different modes of cognition." Rather, natural phenomena were treated in the light of human experience, in terms of the personal. They were approached as 'thou'. (Causality, then, was not sought in the 'how?' but in the 'who?'; purposeful will rather than abstracted principle being the outcome of a phenomenal world approached as 'thou'.) The implication of this contrast is that modern man has taken a step forward in the shape of abstract conceptualisation. All experience of 'thou' is unique and individualistic. An 'it', on the other hand, is susceptible to examination in relation to other 'its', and, in a sense, the evolution of theoretical thinking has been the increasing reduction of unique phenomena to typical events subject to universal principles. In short, modern man has succeeded "in distancing himself from the given," in withdrawing from perceptual reality; he has disassociated his perception of phenomena from the conceptions by which he explains them. A far cry from times early. Ancient man's inability to
withdraw from perceptual reality made impossible the equivalent element of abstraction present in modern reasoning, as, say, in the modern use of symbolism: symbol and thing symbolised lacked the discreteness they now possess and could coalesce. Such is the essential Frankfortian argument. Undoubtedly, its sights are set too high. Critics have fired broadsides at Before Philosophy on two major grounds—that the notion of discrete mentalities, one mythic, one modern, simply cannot be upheld, and that, in seeking such a goal, the Frankforts have interpreted beyond the competency of their data. On the other hand, no one doubts that one aspect of human thought can be mythic. It is therefore at the more modest level of describing part (a mental operation) rather than whole (a mentality) that the Frankforts' analysis has some value. In the pages which follow, characteristics of this mythic thinking—not merely personification of causality, but also a tendency to shun abstraction in favour of 'simplistic', concrete explanations, a tendency for symbol and thing symbolised to merge their identities—will be seen to help shape ancient religious ceremonial. For it was in this sphere that a mythic ordering of reality prevailed most strongly.
Religion: Themes of Life and Death

A. The Force of Life

The life process represents the basic human urge: nutrition and fecundity perpetuate self and species. In this, man is as any other animal. Reflexive awareness of his condition, however, distinguishes man from all other organisms. Accursed, then, are famine and death. So an existential component is added to the material: man seeks spiritual as well as material salvation. In modern society, supervision of these two domains is partitioned sharply between religious and secular authorities. On the whole, no such division obtained among the ancients, attuned to a metaphysical rather than physical pulse in nature; it was the task of ancient religion to minister to spiritual and material alike. Hence, ancient religion's realm of action (which term I use advisedly) possessed a breadth which we must take care to appreciate.

The following discussion dwells upon what I regard as pivotal to an understanding of religion in antiquity--ancient man's preoccupation with death, the dilemma of his own death, to be sure, but also what may be called the problem of death in nature. First, however, we must look at the weapon with which religion opposed the forces of death. This was the force of life.

The transition from Palaeolithic to Neolithic times is measured most obviously by the change in subsistence means. But no less significant were the concomitant social and religious changes.
One of these was a heightened awareness of fertility and appreciation of its importance. A not surprising transformation, this. The role and process of fertility were thrust upon Neolithic man's attention as they had not been upon that of his Palaeolithic forbears. Stock-breeders were obliged to understand the process of fertilisation and the time lapse between impregnation and birth; and elementary awareness of plant reproduction was indispensable to the cultivator. (This is not to deny a precursory recognition of fertility stretching back to times very remote: witness the so-called 'Venuses', carved figurines of steatopygous females, lacking facial features, but with pendulous breasts and exaggerated genitalia. Nevertheless, the role of the male appears to have been less appreciated until the Neolithic era, and only then did the phallus gain currency as a fertility symbol.)

One element in this transformation was an increased acknowledgement of life-potency as a property of phenomena. Enhanced prestige was accorded substances believed to embody such fertility. (True, some recognition would often have existed since earliest times, but it is reasonable to suppose that in the changed socio-religious climate of the Neolithic these potency attributes were accentuated greatly.) Revered above all appear to have been those substances which Goodenough in his *magnum opus* has termed "divine fluids," and for which I prefer the title 'life-fluids'. Involved are substances sharing the properties of liquid essence and life-potency. Water, for instance. Water was the key sustainer of
life, the life of man and the life of the land. In the desert and semi-desert lands where flourished early farming, it was the least ambivalent, the most welcomed of the elements, and among the elemental powers, viewed deistically, the gods of water generally ranked supreme. Spermatic fluid. Its inclusion needs no explanation. Milk, nourishment from the breast, may also be classed among the life-fluids. And, finally, worth lingering on, blood. The ancients knew blood as a vital substance. Therein lay life. It required no very complex aetiology to see life ebbing from the copiously bleeding beast or man. In blood, therefore, was located the life principle, the life-spirit; the 'soul': "Blood is life" (Deuteronomy 12:23), and "the life of all flesh is the blood thereof" (Leviticus 17:14). Presently, we shall have occasion to add wine to this list. The importance granted these life-fluids by the ancients stems from the critical role they came to play in much religious ritual, for they represented the force of life with which ancient religion took up the offensive against death.

B. The Problem of Death in Nature

There were times of plenty. And there were lean seasons when rations were scarce. True in the long-term, this was also the case annually, for, following a world of life and fertility when his crops flourished and bore ancient man nourishment, there ensued a world of seeming death. The early agriculturalist faced this annual
pageant of the seasons without equanimity: while some seeds of life—of the rebirth of greenery—remained in the dead earth, there was in his understanding no inevitability of rebirth. Such an automatic cycle was not possible in a world controlled by the caprice of personified powers. Rather, there was a need to encourage nature's resurrection, or, more broadly, to perpetuate nature's cycle. This demanded religious action.

The critical periods for such action were the seasons of sowing and harvesting. The former was marked by what Gaster has termed "rites of invigoration," aimed at resuscitating a moribund world. Offerings, typically of the life-fluids, were made to the sacred powers to encourage them to help revive the world and look benignly on the growing season. We also know of acts of fertility stimulation, based upon the logic of sympathetic causation—the burying or broadcasting over the soil of life-potent substances (commonly the life-fluids), and the custom of ritual copulation in the dormant fields. Harvesting likewise begat rites. They took the form of an offering to the gods. Usually, the first fruits were obligatory tribute, and while in quantitative terms this donation may not have been great, "the giving of it recognized his [the god's] superior prerogative, just as payment of a nominal or 'peppercorn' rent acknowledges ownership of land." A further motive for offering to the invisible powers was appeasement. For the gathering of crops necessarily entailed the injury of the vegetation spirit, whose ire could wreak revenge by means of subsequent sterility.
Most such agricultural ritual may be understood in terms of the ancient practice of sacrifice, religious action directed towards establishing accord with the sacred forces. Sacrificial motivation was various: expiation of some guilt; recognition of divine beneficence; the attempt to secure some favour by means of the utilitarian principle of do ut des ("I give that thou mayest give"). The end in each case was to establish or maintain a favourable relationship with the supernatural powers. The means was through gift. Gift equalled sacrifice, not in the modern sense of the word which connotes giving up, but with the much older and simpler emphasis of giving. The life essence was the supreme gift. While the life-fluids in general made exemplary sacrificial material, the highest offering was unquestionably blood (hence the phenomenon of the sacrificial 'victim', immolated so that the shedding of blood, or equivalent vital essence in plants, would make a worthy offering). Note, finally, that the "favourable relationship" sought was believed strengthened by dual participation in the sacrifice, part of which was often consumed by the ritualists themselves.

C. The Problem of Death in Man

Death has always constituted the supreme existential quandary for man. We can be sure that the interruption of life was vividly perceived by ancient man. It must have been viewed with fear and dismay. And it demanded solution.
A particularly prevalent means to outmanoeuvre death was to deny that mortality had been the ineluctable end for all mankind throughout all time. So it is that numerous mythologies tell of a primordial period--a Golden Age, an archaic paradise, or suchlike--when man once shared immortality with the gods. Eliade has written that "we encounter the 'paradise myth' all over the world in more or less complex forms. Besides the paramount paradisial note, it always has a certain number of characteristic elements, chiefly the idea of immortality." Of fundamental importance is the fact that this rationale permitted belief in the possibility of remedial action. Ancient man believed that he could aspire to recover this quality of immortality, this paradise lost. The very earliest writings treat this theme. The most renowned version occurs in the Epic of Gilgamesh, the semi-legendary king of Uruk. Much of the Epic narrates the hero's quest for immortality, a journey which culminates in the discovery of the "mystery of the gods," a plant which, when eaten, assures life unending. That life is denied Gilgamesh. As he refreshes himself at a pool, a serpent, smelling the sweet plant, snatches it for itself, gaining thereby the ability to rejuvenate itself, that is, to slough its skin. Here, then, is an aetiological myth rationalising why the snake appears to escape the fate of man. A lesser Mesopotamian myth, that of Adapa, has a broadly similar theme: in the end, Adapa is tricked into refusing the bread and water which are the means to the immortality he seeks.
Well illustrated in these examples is the ancient tendency to shun abstraction. Immortality is substance, not concept, and as such can be acquired orally. Kindred thinking can be traced throughout the course of antiquity. If we infer that the Tree of Life (Genesis 3:24) bore fruit which conferred immortality, then this would be entirely consistent with a longstanding intellectual tradition of the ancient Near East. By the time of Greece, nectar and ambrosia sustained the immortality of the Olympian pantheon; Psyche, desirous to wed Cupid, joined the immortals by drinking from a cup of nectar. In short, the partaking of immortality in the form of food or drink was an ancient belief which retained its essential vigour over a long period of history.

How to explain this? A necessary preliminary is to jettison our modern, profane understanding of food and drink. In ancient times, nourishment held an altogether different meaning: "Dans tous les aliments et dans toutes les boissons, il y a une force. Certains aliments et certaines boissons procurent une force extraordinaire, voire la vie éternelle." Bleeker adds that "on s'approprie les forces psychiques, physiques et magiques de ce qui est mangé." This thesis is not the place to account for the ascription of such "force extraordinaire" to nourishment (though the specific instance of wine will be examined presently). On the other hand, an instructive perspective may be to see immortality-eating as a particular case of a more general phenomenon. Anthropologists have identified belief in a power they term 'mana', the
substance or essence—impersonal in itself, though personally
ownable—of creatures.\footnote{72} For Nock, "the concept of mana involves
and formalizes an awareness of overtones in the world, a feeling
that persons or things contain or are moved by unseen forces, a
recognition that one person or thing is more effective than another
person or thing of the same kind."\footnote{73} Innate abilities can be
augmented by appropriating such power, and oral incorporation of
objects embodying this mysterious essence has consistently been
thought to serve that end.\footnote{74} (The most celebrated examples have been
anthropophagical.\footnote{75} One instance, relevant to the impending discussion
on wine, must suffice here: blood drinking. At least in part, this
may be understood within the belief in mana. For blood was thought
a potent source of mana,\footnote{76} an ascription compatible with its life-
fluid status. Herodotus relates that when a Scythian killed his
first victim in battle he would drink the blood of the vanquished
corpse to obtain its vitality;\footnote{77} the ancient Teutons, according to
Plutarch, drank from the skulls of their bravest enemies.\footnote{78} Beyond
mana, however, it may also have been thought that the spirit or
soul within the blood could be appropriated by ingestion.)\footnote{79}

To recapitulate, there existed in the ancient world a deep
tradition that the inexorability of death could be denied and that
the means to achieve this lay in ingesting certain substances
credited with possessing the essence of immortality. How then did
this manifest itself in ancient ritual?
Well, antiquity's funerary practice may reflect the tradition. It is sometimes said that food and drink were added to graves to provide nourishment for the deceased in the afterlife. But it has been countered that these items were intended rather as an aid to attaining that condition, a possibility seemingly strengthened by the important representation of the life-fluids, Goodenough's "divine fluids," therein. Similar motivation may have marked the funeral meal: it was thought that the more food and liquor consumed by the mourners, the greater strength would the deceased, participating invisibly, receive.

But really, an additional element was needed to translate the tradition of eating immortality into a considerable and vigorous body of religious ritual. That element was a phenomenon which altered the course of Western history--the dying and rising god, the saviour (to which office have been assigned, rightly or wrongly, Osiris, the Babylonian Tammuz, Dionysus, Ba'al, Christ, and others). The distinctive myth of agricultural peoples, it has been claimed, is that of the slain and resurrected god, from whose mutilated (harvested) body a new surge of life comes to regenerate and revivify. In death's stead reigns triumphant life; from death, and because of death, comes life. The vegetational inspiration of this is inescapable: the eternal cycle of nature offered Neolithic man, bearer of a new sensibility towards plants, a compelling contradiction to death, one, indeed, upon which his material salvation increasingly depended. Despite such ancient roots, however,
the era of the dying and rising god came relatively late, in Hellenistic days. Then, the impersonal state religions were largely bankrupt and in retreat before the proliferating Graeco-Oriental mystery religions, for the dilemma of individual salvation had risen to the fore in an age stamped with anxiety. In the divine figure which overcame death, the individual could see hope for himself. To participate somehow in the power of such a god was thought to promise man an escape from the ephemerality which tormented his mind—namely, the possibility of a renewed 'life', an afterlife. Spiritual salvation lay through the god. Brandon has shown the Egyptian search for "post-mortem well being" in terms of the ritual assimilation of the resurrection potency of Osiris. This was no isolated case. We can legitimately talk of a "considerable and vigorous" ritual quest for immortality through partaking in the life-potency of these gods. And we shall see later that this sometimes involved ritual eating or drinking of the godly essence.

**Wine's Use in Religion**

Wine and religious ritual were intimately intertwined in the ancient world; moreover, the absolute importance of the beverage in that ritual was great. To be sure, this summation cannot be applied with consistent aptness to all times and all places. Where and when the grapevine flourished, wine commonly pervaded religious practice; conversely, spare religious use of wine marked periods and places in which vine growth was somehow limited or precarious.
Two examples may serve to illustrate such negative cases. The early days of Rome, when viticulture was still establishing itself in the peninsula, gave poor foretaste of the rich wine ritual to develop subsequently. The time was wrong. Equally, it has been observed that wine attained "no essential place or role" in Egypt's religion (a diagnosis even more true of Babylonia). The place was wrong. But other places, other times, saw the efflorescence of a wine-seeped ritual—by any standards, a decisive theme in the entire religious fabric of antiquity.

A. Why Wine?

"Through their symbolism and mystic effects," writes Jellinek in explanation of why fermented beverages commanded religious prestige among the ancients. Surely there can be no better illustration of this than wine?

On the one hand, wine represented life. Wine and blood were closely identified, tied by properties of liquid essence and colour. No surprise is the christening of wine as "blood of the grape." Through this association wine joined the ranks of the life-fluids. Now, as has been shown, blood was considered the seat of human life and was rated sui generis in certain religious ritual. Wine, the blood equivalent, the substance rather than the symbol, came to share this eminence. Having the capacity to substitute for blood, it gradually usurped much of the religious role of the latter, which was more difficult to supply and handle. Hence the
importance of wine in efforts to establish accord ("favourable relationship") with the divine forces. Hence, too, the substantial role which it played in burial custom, for it absorbed blood's unrivalled eschatological expressiveness. Both these bodies of ritual will be examined presently.

And on the other hand, the alcohol in wine was the means to Jellinek's "mystic effects." The pioneer 'wines' must have engendered much awe. To the onlooker, he who drank of those strange potions would often act as if subject to demonic possession; at least, a radical change from normal behaviour, ergo character, was the likely outcome. Thus Jamshid--astonished he must have been--was confronted by Gulnare, a-singing and a-dancing in her unwitting intoxication. No less a change would have been evident to the imbiber himself. Here was a startling phenomenon which his experiential resources were ill-equipped to explain. It must have felt as if someone (we can appreciate now why not something) had taken over possession of his mind and body. The very process of fermentation may have confirmed this. The visible appearance of that process--"qualcosa come cucinare, spumeggiare, bollire" describes it with fine vividness (and note that the etymology of our word 'yeast' is apparently derived from the Sanskrit yasyati, 'it seethes')--cannot but have been disturbing. Its autogenous nature to the naked eye no less so. The explanation? Surely some invisible spirit had entered the fruit mash to possess it and alter its normal
properties? And surely the divinity from the resultant liquor had been transferred to those who partook of it?

The above interpretation would prove both compatible with and characteristic of the Weltanschauung outlined earlier. The god or spirit of the slain plant was regarded as present in the wine. So, by a coalescence of Jellinek's "symbolism" and "mystic effects," wine was the god's blood. To drink wine was therefore to incorporate the god into oneself; more specifically, due to the life-potency imputed to blood, it was to appropriate the divine essence for oneself. Bleeker's words echo back at us: "On s'appropie les forces psychiques, physiques et magiques de ce qui est mangé." Thus it was that as a vehicle offering communication with divinity and the hope of immortality through intoxicated transcendence, wine became a central element in ancient religious rite. This is the third face of antique ritual which I wish to examine.

B. Wine and the "Favourable Relationship"

A dominant theme in the religious life of ancient man centred upon the maintenance of harmonious relations with the controlling powers. The required ritual—in which the life-fluids figured so prominently—was manifest most spectacularly in ancient agriculture, but its compass, we shall see, was wider than that. Wine, the surrogate for blood, became an indispensable part of such ritual and can exemplify it in peerless fashion. Instances of wine's role are given below. The suggestion is certainly not that these
were universal customs in antiquity, common to disparate times, disparate places. My intention is merely to indicate the wealth of situations in which such religious use of wine was deemed propitious.

In the precarious world of agriculture the seasons of sowing and harvesting involved the most critical encounters with the controlling powers. Wine was used in aspiring for a fruitful crop to come and in acknowledging bounteous harvest received. Sometimes the two purposes were fused. A few examples must suffice.

The most colourful outcome was the joyful wine festival. Man rejoices, feasts in his gathered abundance and--the gift of first fruits extending to include wine--thanks his gods. Among the Canaanites, the first of the new wine was served to Ba'al. Sacrificial meals for the god were conducted, and wine was distributed in a thanksgiving festival of banquets, drinking bouts, and joyous dancing. ¹⁰⁴ The Jewish Feast of Tabernacles (Sukkôth), celebrated at the climax of the year's agricultural toil about the time of New Year (Rosh hashShanah), ¹⁰⁵ resembled the Canaanite feast (wherein, indeed, may lie its antecedants). ¹⁰⁶ Mosaic decree is specific:

Thou shalt observe the feast of tabernacles seven days, after that thou hast gathered in thy corn and thy wine: . . . Seven days shalt thou keep a solemn feast unto the Lord thy God in the place which the Lord shall choose: because the Lord thy God shall bless thee in all thine increase, and in all the works of thine hands, therefore thou shalt surely rejoice.

Deuteronomy 16:13-15
As a final case we can take the Roman Vinalia. Acknowledgement to Jupiter was made in this twofold festival: the Vinalia of our month August was concerned with the consecration of the fruit, that of April with offering to the god the fermented wine. While agrarian motivation was certainly present—Jupiter, lord of thunderbolt and storm, held the power to devastate the annual crop—, an aetiological myth concerning first fruits provides an additional dimension. According to tradition, Trojan Aeneas came into conflict with the Etruscans under Mezentius. The northern leader demanded as tribute the Latin vintage. Angered at such presumption on the part of a man, presumption tantamount to sacrilege, the Latins offered the first fruits to Jupiter in return for his aid against the Etruscans. In other words, the re-presentation of a military *do ut des* was involved in the Vinalia.

Less common is documentation of wine's use in aspiring after a fruitful crop. I have found no direct evidence for the practice of scattering wine on fields preparatory to sowing, but am led to consider its distinct possibility, given both the ancient custom of sprinkling blood over fields and trees and more recent cases of broadcasting wine over the bare, ploughed land. Cato, however, details the procedure for sacrifice (that is, libation) at the spring ploughing:

The sacrifice should be made in this way. Offer to Jupiter Dapalis a dish of wine as large as you wish. The day is a festival for the work oxen and their drivers and those who make the sacrifice. When it is time to make the offering you shall use these words:
"Jupiter Dapalis, inasmuch as it is fitting that a dish of wine be offered to thee as a sacrifice in my house and amid my household, for this reason be honored with the offering of this sacrifice." Then wash your hands and after that take the wine (and say):

"Jupiter Dapalis, be honored with the offering of this sacrifice, be honored with this sacrificial wine." Make an offering to Vesta, if you wish. The feast for Jupiter is roast meat and a half-amphora of wine. Make the offering to Jupiter with pious avoidance and without uncleanness. When the offering has been made, sow millet, Italian millet, garlic and lentils.

Cato, CXXXII

Actually, certain of the wine festivals also harboured elements concerned with the success of the crop to come. During the Feast of Tabernacles, Palestine's 'former rains' were awaited with anxiety. In accordance with Mishnah decree, wine libations were poured out each day in the hope of stimulating precipitation. Like motivation may very well have characterised the Greek Anthesteria, held in early spring. In original guise, this appears to have been oriented towards the spirits of the dead, a placatory gesture designed to ensure that no malevolence would be directed against the new agricultural season. Libations of wine were offered. Subsequent Dionysiac syncretism transformed the Anthesteria into a typical wine celebration--the wine jars were being broached after winter's fermentation and a period of thankful revellry was in order--, yet there remained a substratum of the festival's former significance.

The preceding examples establish forcefully the role of libationary sacrifice of wine in pursuing the end of "favourable relationship." We must now note (already forewarned by the case
of the Vinalia) that such procedure had application far beyond the agricultural calendar. It could attend any significant man-implemented or god-influenced event, past (appeasement, appreciation) or anticipated (appeasement, supplication); into this broad province fell an almost unlimited variety of occasions judged auspicious for libation. To illustrate this point, the following represent common such circumstances in ancient Greece: before undertaking and after completing a dangerous task; to confirm oaths; as a means of atonement for some wrong committed; in "magical" practices; before and after meals; and at symposia. There is little need to catalogue instance after instance. Here are a very few. In the Iliad, Hecuba exhorts here battle-wearied son Hector to seek good fortune through an offering to the gods: "Wait a moment while I fetch you some mellow wine, so that you may first make a libation to Father Zeus and the other immortals." Representational evidence from Assyria shows wine being offered over enemies beheaded in battle and lions slain in the hunt. Again in Assyria, the construction of important buildings required consecration through libation to the gods. The annals of Ashurbanipal make reference to such ceremonial in Nineveh: "With strong wine and wine I sprinkled its cellar, I poured (it) on its foundation-wall (?)." To summarise, libations in general, wine libations specifically, were a vital constituent of religion throughout millennia in the ancient world. Possibly every place where grew Vitis vinifera made libationary use of its fermented beverage. Alternative liquids
were certainly employed—sometimes water, sometimes milk (which, we saw, was characteristic of early Rome)—, but wine came to reign as the supreme vehicle for libation. In this context, Egypt and Mesopotamia are worthy of special mention. It was argued earlier that religious use of wine was highly restricted in those relatively vineless lands. This does not appear to hold so true in the case of libation. In Egypt, announces Lucia, libation "was usually performed with wine." An exaggeration, this. Goodenough's more detailed examination reveals use of wine without elevating it above alternative libationary materials. Even in Babylonia, virtually vineless, wine was specially imported for certain libations of significance. So, while absolute use of wine may not have been great in these two civilizations, its mere presence may serve to underline the conclusion which can be drawn from the situation in other lands: wine was of premier importance to that major division of ancient religion concerned with establishing accord between man and the sacred forces.

C. Wine and Eschatological Longing

Already the utilisation of life-fluids in ancient burial procedure has been noted; already, too, it has been contended that wine was valued as an especially potent such liquid (and the eschatological expressiveness of the blood-equivalent needs no emphasis). Syllogistically, we should expect to encounter use of wine in burial practice. And so we do.
In fact, some form of wine element appears to have been widespread in ancient funerary custom, transcending both specific time and specific place. Its major forms were as the beverage itself, as wine vessels (whether or not functioning as the urn), and as representational art depicting wine or vine theme. Evidence for the first category derives from literary sources, for the latter two from material in situ. A systematic cataloguing and interpretation of these—a lifetime task—must be relinquished to the archaeologist, the art historian, or the student of comparative religion. All that can be done here is to illustrate through examples the richness of this funerary theme of wine's, knowing full well that each example selected cries out for a detailed examination within its spatial and temporal context. This section will thus be brief. The justification for the present approach must be the hope that within the undoubted variation of belief and cult underpinning individual wine-vine manifestations in funerary practice, there yet remains, as critical residue, some common denominator of expressed feeling.

Just how ubiquitous or important were offerings of wine in graves is difficult to assess. The primary evidence is perishable, while literary indications are selective. Still, we can reveal vestiges of such custom for diverse times and places. The Pyramid Texts, a representative of early Egyptian writings, and the much later Book of the Dead both make mention of wine offerings in graves (although, probably on account of its relative unavailability in pre-Hellenistic Egypt, wine enjoyed no privileged rank among the
substances placed in tombs). We learn the same from the Canaanite Ugaritic texts. "The hill of the libation-pipes," that is, the burial mound, receives vessels of wine: "And unto the mountain fourteen jars of wine." At the autumnal New Year festival when wine flowed freely, the dead also received theirs. Lastly, can be noted two suggestive Roman customs: wine was applied to funeral pyres to quench the flames to embers and sometimes the created remains were washed in the beverage.

A strong wine element recurs in the medium of the non-representational arts, principally ceramics. Wine utensils (cup, pitcher, krater), some devoid of design, others magnificently decorated, abound in Greek tombs, amongst others. Some of these are urns, others are empty (formerly contained wine?). We can note the case of a necropolis unearthed on the Aegean island of Samothrace the seat of an important mystery cult in later antiquity. Almost without exception the cremated ashes are contained in amphorae and other wine jars. Moreover, the various vessels consigned to the flames of the pyre—this is known from their charred surfaces—and buried alongside the urns are exclusively drinking vessels of one sort or another. In short, the dead were "sent into the next world with only the clothes they wore, a wine jar and a cup."

A further and exceedingly striking illustration from the plastic arts is provided by the Greek and Roman sarcophagi in the shape of wine vats, the lenoi. The artistic zenith of these was seen in Rome, but origins stretch back at least to the 5th century B.C., when the
Greek word for 'wine vat', lenos, was used as a synonym for 'sarcophagus'. In these lenoi Panofsky perceives allusion to "the passion of Dionysus," that is, the identification of the deceased with the force of rebirth manifest in the resurrection of the wine god from the gathered (slain) grapes in the cellar. Goodenough concurs, declaring that "burial in a lenos was a specific symbol of identification with the god, and so of immortality, the goal of the mysteries."

Finally, the wine-vine theme in representational funerary art. A wealth of such design, notably decorating tomb wall and sarcophagus, has been recovered from widespread locations. The trouble with representational art in particular as a source of evidence is this dilemma: how can we distinguish symbolic design, that pervaded by a distinct substratum of belief and meaning, from design conceived as purely decorative, where form has its own autonomy? "Symboles religieux" or "motifs décoratifs"? After all, art inherits stylistic history as well as inspirational root (such that it is not uncommon to discover Dionysiac design of purely decorative conception). This is not a problem which can be met, let alone resolved, within the present superficial glance, although a caveat to stalk and qualify overenthusiasm it can and should be. But I do not seek to establish the universality of a conscious eschatological longing behind the wine-vine motif in funerary art. I merely wish to suggest its frequent presence. This seems fairly certain. The widespread occurrence of such representation throughout the
length and breadth of the ancient world and its persistence throughout millennia (for instance, wine iconography—the vine, grape-harvesting, the winepress, drinking scenes—is encountered in Egyptian tombs from earliest dynastic times down to the days of the disintegrating Roman Empire, and cannot be explained away as reflecting a prominent feature of everyday secular life) compound with our other knowledge of wine's deep religious significance to preclude merely aesthetic inspiration.

We can pause momentarily on the splendid wine iconography of pagan and Christian Rome to find some examples assuredly reflecting man's eschatological craving. Witness the magnificent mosaics and sarcophagus in the mausoleum of St. Costanza. This church was built for Constantina, daughter of Constantine, shortly after A.D. 350. A series of mosaics leads from the mausoleum entrance to where the sarcophagus once stood, giving a sequence of designs suggesting physical passage from the ordinary and worldly (the entrance decoration) through death or the Last Day (a mosaic depicting an enormous vine, with the harvest in progress and the winepress at work, these last two perhaps reflecting the symbolism of Revelation 14:20) to a final state of paradise (a rich and elaborate composition in which grape-bearing branches play their part). On the porphyry sarcophagus itself is carved once more the harvesting and treading of grapes by putti. Eschatological significance is not in doubt, although the precise intention of a particular motif may be ambiguous. Thus
Oakeshott must ponder whether the mosaic of the large vine symbolised joyful immortality or had come to incorporate the imagery of John 15:1, "the true vine." Such problems stem partly from the fact that the Christian symbolism of St. Costanza is marked by no abrupt departure from the preceding pagan tradition. This is especially true in the case of vine symbolism. For anticipating the Christian iconography of Constantine's Rome was a rich, pagan funerary art--and sovereign here was the wine god Dionysus, with all his attendant symbolism. Because Dionysus held out "a promise of unending felicity after death," reasons Panofsky, it is "small wonder that the 'Bacchic' sarcophagi surpass all other Roman funerary monuments not only in beauty of form and richness of content but also in numbers."

What is to be concluded from this skeletal survey? One is struck by the richness and diversity of the wine element in ancient tradition, no less so by its occurrence in diverse times and places. In other words, its signal importance cannot be gainsaid. Individual cases may sometimes be dismissed as unthinking habit (and meaning must not then be imputed where none exists). The aggregate cannot be. Here, then, is another expression of wine's religious significance to the ancients. Wine in burial custom held an eschatological value: it aided man in his quest to somehow assuage the awful finality of death.
D. Wine and Communion

Drunkenness, according to William James' much-quoted observation, "expands, unites, and says Yes: it brings its votary from the chill periphery of things to the radiant core; it makes him for the moment one with truth." The social implications of this have already been examined. In terms of religious significance, James establishes the context--alien to drinking nowadays--within which some of antiquity's wine quaffing must be understood: the search for an increased level of metaphysical awareness. Alcohol is then the "cosmic problem" of Martí-Ibáñez. For it promised communion with divine power. The initial premises of this have already been charted: the alcohol in wine was a means to "mystic effects," and the liquor with such revelationary power was considered a manifestation of the divine. To drink the god was to absorb his essence in communio, was perhaps to invite the god-like state of ecstasy--in the sense of ekstasis, 'standing out'--in which the soul was freed from the hampering confinement of the body.

By the nature of things, we are unable to see this reflected in prehistoric society. But it is more than likely--and parallels from modern 'primitives' might encourage us in this belief--that the early, communal drinking ceremonies contained a strong, perhaps overriding, religious component and that ecstatic communion featured in this. Only with the age of the written record comes indisputable testimony of wine's use for religious communion. The positing of
spirits in wine now gives way to the identification of explicit wine gods. Osiris reigned as Egyptian god of wine.148 Even riverine Babylonia possessed for a short time its local wine deity.149 But, as would seem logical, the lands where the vine flourished best and where the dominion of wine remained unchallenged by usurping beer or other beverage were to give birth to the most powerful and influential wine gods.

I choose to dwell at length on Dionysus, Greek god of wine, to gain an understanding of pagan communion. He has the advantage of being well documented (embarrassingly so!). In addition, Dionysiac ritual spread far and wide as an important episode in the religious history of antiquity. And, thirdly, his changing fortunes mirror well a noteworthy transformation in the use of wine for communion. On the debit side, Dionysus may make fair claim to having been the most complex god in the entire Greek pantheon: his epiphanies were legion; intricate syncretic processes befell him.150 A "labyrinth of confusions"151 therefore confronts the modern commentator, who is not aided by his Aristotelian logic. Our caveat must come from Merkelbach--that in mythic thinking one explanation never precluded another, that, indeed, a single explanation was sometimes inadequate.152

Not surprisingly, there is no unanimous interpretation of Dionysus. Dispel immediately, however, the vulgar conception of "the god of wine and merry life,"153 the Falstaffian figure carousing on refractory ass. As a primary interpretation this is a naïve underestimation, enjoying a measure of validity perhaps only for
the god in his decline in the ailing Roman Empire. Dionysus was no minor, light-hearted figure, no blithe spirit relegated to the festive fringes of the Greek pantheon. Anything but. In this god and his ritual we are dealing with a major religious event. "The rise of Dionysus worship is the most important single phenomenon in the history of Greek religion."  

This, then, would seem to signify an illustrious episode indeed in the long liaison between wine and religion, a crowning indication of the so-strong links between the two. Possibly. Yet things may not be so simple: true, the much-advertised association between Dionysus and wine is irrefutable, but is this genuinely central to the essence of the god and his cult, or is it rather an accessory characteristic, without fundamental relevance to the dynamic of this decisive phase in Greek religion? If the latter, the "illustrious episode" loses some of its lustre. There is certainly one school of thought to disparage the significance of wine to Dionysus. Its approach is typified by Dodds, who declares that Dionysus was not primarily the deity of wine since his jurisdiction extended to "not only the liquid fire in the grape, but the sap thrusting in a young tree, the blood pounding in the veins of a young animal, all the mysterious and uncontrollable tides that ebb and flow in the life of nature." Elsewhere, Dionysus becomes "god of moist vegetation" and "le principe de l'élément liquide." The chief defender of this faith is Nilsson, who regards wine as nothing more than an aid to the state of entousiasmos or possession
characteristic of Dionysiac worship, valued because of its intoxicating properties and within the god's bailiwick because the vine is a plant.\footnote{160} I am not convinced that such devaluation of wine is supported by the evidence offered.\footnote{161} To establish Dionysus as sovereign over more than wine may belittle the liquor's relative importance in our logic, but then our logic is scarcely relevant. Multiple epiphanies were not incompatible in mythic thinking, but could reinforce each other. So, just how discrete were Dodd's domains, imposed modern categories, is open to question. In a version of the square of the four elements, Philolaus assigned Dionysus to that corner representing "damp and hot nature, of which wine is the symbol since it is both damp and hot."\footnote{162} An echo comes centuries later from Farnell, one of the most distinguished classicists of his day: wine represented "the quintessence of that god-life that moved in the juices and the sap of the earth."\footnote{163} In other words, the Dionysiac significance of wine incorporated Dodd's "mysterious and uncontrollable tides." I would accordingly endorse Otto, protagonist against the Dodds-Nilsson position, who maintains that the ancients regarded wine as embodying the very spirit of ecstasy typified by the god himself, as, indeed, the epiphany in nature of Dionysus.\footnote{164} (This, of course, is essentially to reiterate the case I argued in an earlier section.) Wine, then, was at the very core, not the periphery, of the "most important single phenomenon in the history of Greek religion."
The important task remaining is to describe the various manifestations of Dionysiac communion. We may wish to recognise two faces, sharply contrasted, of Dionysus—Dionysus raging (the ecstatic orgies) and Dionysus tamed (the city festivals and the mysteries). It is easier to detect the role of wine in the second than in the first.

In the world of the swirling Maenad, communion was achieved through the state of frenzied ecstasy. The Maenads were Dionysus' wild, dancing, female retinue who burst forth from the towns towards the woods and hills, there to glorify in ecstatic possession, to tear "with hands that bore no steel" a sacrificial animal and consume it in raw, omophagous communion. Male devotees were present, but overshadowed. These so-called orgies were far from bouts of sexual and drunken indulgence (although profanation must have occurred); they were intensely devotional acts. In Dionysiac ecstasy, the Maenad knew she had liberated herself from the normal condition of the self to become as one with the god; the spirit of the deity had taken complete possession of his votary. Through such union with the god lay hope of immortality.

Intoxicated with wine to become thus god-intoxicated? A point of debate. Accounts of these ecstatic rites are rare, and so Euripides' portrayal in the Bacchae assumes singular prominence. But from this powerful drama antagonistic interpretations have been culled. Typical of one faction is Cumont, who writes of "the transports of Dionysiac intoxication, such as Euripides for example
depicts for us so strikingly in the Bacchae," when "under the stimulus of wine, the soul communicates with the exuberant forces of nature.\textsuperscript{170} Amongst those in opposition is Dodds, who flatly denies that the Maenads are represented as drunken.\textsuperscript{171} My own reading suggests wine present, intoxication possible (but not stressed), and is therefore couched in muted terms compared with Cumont.\textsuperscript{172}

Be this as it may, an important point of qualification is necessary (and is made more urgent by our lack of alternative descriptions to that of the Bacchae). Art is more than fastidious replication, drama likewise. We do not know how 'true to the original' is the Euripidean picture. Kirk is at pains to emphasise that the dramatist selected from the complexity of Dionysus and that the god as portrayed by another could be radically different.\textsuperscript{173} Could Euripides thereby have muzzled the influence of wine? It would be rash to conclude so, but certainly another passage from the same dramatist's corpus associates wine with the Maenads.\textsuperscript{174} In the Ion, the hero learns the supposed circumstances of his birth from his 'father' Xuthos:

\begin{quote}
Ion Did you stay in a hostel?
Xuthos Yes, and with the Delphian girls.
Ion Do you mean you were one of their throng?
Xuthos They were Maenad girls of Bacchos.
Ion Were you sober or wined?
Xuthos Under the pleasant influence of Bacchos.
Ion That indeed was my begetting!
\end{quote}

Suggestive, but scarcely definitive evidence. Nor do I think that too much should be made of the fact that the male attendants who
danced around Dionysus and the Maenads are sometimes represented as imbibing or drunken. No--there is a case to be made for wine-ignited ecstasy rites, but it is not as unequivocal as many writers wish to suggest. 175

The times were changing and the Dionysus cults with them. By about the 6th century B.C. two transfigurations were in progress, both wearing the robes of reform. Dionysus raging was giving way to Dionysus tamed.

On the one hand, he became assimilated into the state canon. It is likely that the wild, ecstatic character of Dionysiac ritual had proved unacceptable to urban authority, suspicious of actions perhaps detrimental to city-state harmony and unity. We know that state and cult met in headlong clash. 176 The act of perspicacious administrators was to redirect the god's energies towards social solidarity. 177 Dionysus became institutionalised. He took his place, a prominent place, in the staccato calendar of civic festivals. 178 With this orthodoxy, especially under Athenian sway, came sobering, through control came emasculation of the wilder elements. 179 Stripped of the ingredient of collective frenzy, communion with the god played a part in at least some of the annual procession of festivals. Dodds tells of holy drunkenness. 180 At the Anthesteria, the townsfolk "abandoned themselves to a joyous sense of intoxication which only wine could inspire, which made them feel entheos, one with the god." 181 However, it is only fair to point out that the line between drinking for religious communion
and for secular merrymaking cannot be drawn with great accuracy, and there must be little doubt that religious intoxication could be profaned into a merely social event.

The other transformation was mystical. The city cults, attentive to the commonweal, necessarily lacked that element which was to be coveted increasingly from the 6th century onwards—the intimate, the personal. Rostovtzeff sketches well the distemper of the times:

Life was full of perils and of misery; the struggle for existence, bitter as it was, was saturated with crime and sin, no help was forthcoming from the lofty Olympians, who cared very little for human misery and were not concerned with what was going to happen to man after his wretched human career had ended in death. Was death the end of everything or the beginning of a new existence? . . . The mystery of life and death became the great preoccupation of the human mind and no solution to the all-important problem had been revealed by the Olympian gods or suggested by their 'creators', either by Homer, or even by the pessimistic Hesiod.

In such a world flourished the Orphic movement. Orphism, whatever its origins, seems to have been a scheme of doctrine rather than an organised religion. Attitudes, rather than church. Its reforming spirit affected Dionysiac worship: the god of ecstasy was transformed, spiritualised, into a mystic figure. The Dionysus that emerged was part of "that intense flowering of religious and mystical aspiration," the Graeco-Oriental mystery religions. The heterogeneity of these yet contained a certain commonness: all required some rite of initiation, all involved communion with deity, all pledged to the proselyte a life of bliss beyond the grave. So it was with the Dionysiac mysteries. As the syncretic Dionysus-
Zagreus, the Orphic figure, Dionysus was vested with the attributes of the dying and rising god. In mythic account, reappearance followed his dismemberment, the spilling of his blood, at the hands of the Titans—just as resurrection of wine succeeds the crushing of grapes, the draining of their life-essence, in the cellar. Union with such an immortal force, Dionysus-wine, conferred upon the initiate the power to escape the terrors of death. (The belief was not that the dead would rise again, but that they would lead a life of eternal joy in the next world, an existence "mostly of gay revelling and endless banquets.") So, to take wine as sacrament was to drink the god's life-blood, was to appropriate something of his powers. Life from death: salvation was offered the initiate through the dismemberment of Dionysus, the shedding of his blood. How welcome this prospect was in the troubled world of late antiquity!

By way of conclusion, it should be emphasised that Dionysiac communion was no localised circumstance, vital to Greek religious history, but to that only. Dionysus became an international phenomenon of the first order. Italy, for example, imported the god—"I have seen the whole city [Tarentum] in a state of drunkenness on the occasion of the Dionysia" (Plato)—and there developed the richest expression of his mysteries. Careful documentation would reveal that Dionysus, sometimes in syncretic garb, travelled far and wide throughout Europe, North Africa, and western Asia (perhaps even to India). Were we to examine mosaics as just one source of
evidence, Dionysiac decoration would turn up in locations as distinct as North Africa, Macedonia, and Switzerland. The enormous labour of such documentation is unnecessary here. We can be content with stressing the widespread manifestation of the Dionysiac cult--this but a single strand in the rich association between wine and religion.

So much for Dionysiac communion. Comparable ritual could now be described for Mithraism and other religions, but it is not my intention to multiply examples needlessly. An exception can be made for Christianity, given its unique place in Western history: accordingly, I wish to establish some elementary points about wine's use for communion in the early Church. All the same, I suspect that the impact of this upon the ancients' viticultural efforts was quite limited. Unlike Dionysiac worship, Christianity became a force only towards the very end of antiquity. Again by way of contrast, it will be seen that Christianity made restrained rather than exuberant use of wine for communion and, indeed, that such communion had no pivotal role within the religion as a whole. In antiquity, the Church was gathering momentum for its more substantial viticultural influence in mediaeval times.

In Christian context, we do not encounter communion in the tradition of alcohol-inspired ecstasy. It is not impossible that such a phenomenon was once seen amongst the Jews (at any rate, there is some testimony of mass ecstatic rites in the early books of the Old Testament), but the Jewish milieu from which Christianity arose had little place for the excesses of intoxication,
however motivated. Yahweh was not to be approached, especially through wine.\textsuperscript{201} And in secular life, the Jews, by the standards of the ancient world, were a temperate lot.\textsuperscript{202} This is not to say that drunken revelry was unknown: even allowing for the most entrenched suspicions of alcohol on the part of the religious authorities,\textsuperscript{203} their not uncommon vituperations against drunkenness must surely indicate at least occasional lapses.\textsuperscript{204} But on the whole, ecstatic communion would have been incongruous in such an environment. Instead, the communion we encounter in the Christian case is the Eucharist.

It could be argued with some force that the wine element in the Eucharist is the major memento which the 20th century retains of the ties between wine and religion in the ancient world.\textsuperscript{205} The Eucharist is the Holy Communion of the Protestant Churches, the Mass or Blessed Sacrament of the Roman Catholic liturgy.\textsuperscript{206} Its essential components comprise the benediction and consecration of bread and wine, the breaking of the bread and the pouring of the wine into a cup, followed by their distribution, the acknowledgement that this is done in memory of Christ's sacrifice, and, finally, the sharing in common of the sacred nourishment by all communicants present.\textsuperscript{207} The Eucharistic ceremony owes its inception ultimately to the events of the Last Supper. In the words of Paul's first epistle to the Corinthian Church:
For I have received of the Lord that which also I delivered unto you, That the Lord Jesus the same night in which he was betrayed took bread: And when he had given thanks, he brake it, and said, Take, eat: this is my body, which is broken for you: this do in remembrance of me. After the same manner also he took the cup, when he had supped, saying, This cup is the new testament in my blood: this do ye, as oft as ye drink it, in remembrance of me. For as often as ye eat this bread, and drink this cup, ye do shew the Lord's death till he come.

I Corinthians 11:23-26

In fact, accounts of the meal in the large upper room appear in five New Testament books--in the Synoptics (Matthew 26:17-30; Mark 14:12-26; Luke 22:7-38), in John 13-17, as well as in the Pauline source above. Paradoxically, the detailed Johannine narrative wants the episode of the bread and wine. But elsewhere in this gospel, what certainly seems to be a Eucharistic ordinance is enjoined by Jesus:

Then Jesus said unto them, Verily, verily, I say unto you, Except ye eat the flesh of the Son of man, and drink his blood, ye have no life in you. Whoso eateth my flesh, and drinketh my blood, hath eternal life; and I will raise him up at the last day. For my flesh is meat indeed, and my blood is drink indeed. He that eateth my flesh, and drinketh my blood, dwelleth in me, and I in him.

John 6:53-56

These passages would appear adequate testimony to the existence of yet another case of communion through wine in antiquity. In fact, they are somewhat hollow witness. They do not evidence the
practice per se of communion in the early Church, they merely authorise it. This may seem to quibble. Is it not enough that Jesus, by means of his crucified body (bread) and blood (wine), is inviting his followers into a communion ("as often as ye eat this bread, and drink this cup") with his redeeming self, a union wherein lies "the pledge of immortality"? Not really--for the dominical institution of a sacramental-sacrificial meal is unacceptable. Indeed, it appears that there is no conclusive, irrefutable evidence for the existence of a sacramental Eucharist in the period immediately following Christ's death. But this lacuna is not a lengthy one. The post-resurrection Church was not of long standing before there does appear explicit reference to a sacramental Eucharist. So, saving perhaps the earliest decade or two in the patristic Church, we can accept communion through wine as a characteristic Christian sacrament.

(It is another matter altogether if we seek to extend the presence of such communion into the hiatus of those early years. Here, battle begins. Disquieting to some is that fact that the earliest account of Eucharistic institution comes from Paul, as recorded in I Corinthians 10-11. Dispute wells further from the inaugural command "this do in remembrance of me," which is reported by Paul but surprisingly absent from the texts of Mark and Matthew. The contribution of Paul is thus critical. That his teachings influenced the course of Eucharist history is not unlikely, but the nature of such influence is the stuff of
disagreement. Contrasting roles for Paul become apparent in light of Kilmartin's insistence that numerous influential exegetes abandon their customary differences on one point, namely, their inability to credit "the dominical institution of a sacramental-sacrificial meal." The implications of such a position are this. On the one hand, they may admit that the Eucharist began as a sacramental ceremony and consequently deny that Jesus initiated it. Thus is encouraged the case for a Pauline invention. Alternatively, they may choose to accept that the Last Supper pronouncements were indeed the authentic words of Christ and therefore deny that the Eucharist began as a sacramental rite. In this case, we must envisage the gradual rise of a sacramental interpretation in the years which followed the crucifixion, seemingly stemming from the daily meals of fellowship which brought the early disciples together. The reasons for the emergence of this sacramental Eucharist from the common meal are largely a matter for speculation. At any rate, arguing along these lines, Paul was assuredly the inheritor not the instigator of this trend, although he may have added authority to it. And so the dispute flowers. But I am ill-equipped to enter farther the vortex of exegetical controversy which surrounds the institution and early performance of the Eucharist.)

However the above matters be resolved, care must also be taken to grant the Eucharist its proper significance within the early Church. The present status of the Eucharist, important indeed within the Christian Churches, must not mislead us. Not distinct,
as now it is seen, but intimately melded into the whole order of Christian salvation belief was the Eucharistic ceremony of the infant Church (and this condition may have prevailed until the 5th century). In fact, the ascription to the sacraments in general of a superior efficacy was the product of a gradual accretionary recognition, which finally received statutory ratification only in the relatively late Middle Ages. "Non sunt plura vel pauciora quam septem": Eucharist, baptism, confirmation, ordination, matrimony, penance, and extreme unction. Likewise, acknowledgement of a hierarchy within these only slowly crystallised. Baptism and the Eucharist excelled the remainder through having been inaugurated—if not administered *sensu stricto*—by Christ himself. So it is that the status of the Eucharist as "the most excellent of the sacraments" is nearer in spirit to the Council of Trent (1543-63, intermittently) which finally dubbed it so than to the early days of the Church. In short, then, one must not overstate the importance of communion through wine in the patristic Church.

"Whoso eateth my flesh, and drinketh my blood, hath eternal life"—such was the promise of Christian communion, a promise to be understood in relation to Christ's redemptive death and resurrection ("my blood, which is shed for you"). The Christian path to salvation, in this aspect, does not seem so far from that of, say, the Dionysiac mysteries. But that is another story.
The preceding discussion, selective and introductory as it is, leads to an inescapable conclusion—wine played a vital role in contributing towards the religious and existential well-being of the ancients. In a religious world in which ritual, in its various expressions, was fundamental, wine appears again and again in that ritual. There can be no doubt that if we ignore this religious role we cannot adequately understand that "intense interest" accorded wine which was concluded from Part I.
"On n'aurait point cru le sujet si vaste," exclaimed Chapot of antiquity's wine more than half a century ago. Here is a rich and complex topic--wine. Care must be taken not to deny, not to simplify, the intricate fabric of its story. And so, if now I have no deus ex machina at hand to forge the wealth of the foregoing chapters into some neat and concise statement of summation, this lack is partly a reflection of my belief that the very attempt might be incompatible with the complexity of the topic.

Ultimately, of course, it is the investigator who circumscribes the dimensions of his subject. I have done so here with generous rather than sparing hand, maintaining that such an approach offers a clearer vision of this prodigy wine. In particular, I believe emphatically that both parts of this study are essential to a sensitive understanding of the story of wine in the ancient world. Part I is scene-setting: it tells where and when the early history of wine was enacted. Its focus is the morphology of diffusion. But while limited at times to recording the mere presence of winemaking, I have tried wherever possible to refine our understanding in terms of the quantity and sometimes the quality of production. Certain general properties of the diffusion pattern are especially striking--the extreme antiquity of the domesticated vine's origins, the rapidity with which grape growing and the art of the vintner spread, the far-flung distribution of winemaking by the time of the first few centuries of the present era, the importance of wine in so many
civilisations, so many societies down through the centuries. In other words, in the pattern of organised winemaking's diffusion we see expressed the intense interest which ancient man devoted to the vine and its precious juice. This point is perhaps truly the moral of Part I. Part II is an attempt to understand that "intense interest" of the ancients or, put differently, to understand the pulse, the energy, the spirit (the most appropriate term is difficult to find) underlying the diffusion characteristics. Without this dimension, I would argue, an appreciation of the latter remains superficial. Such an objective demands a profound awareness of the manner in which wine pervaded the living of ancient man. Hence the study of function which is Part II. And what emerges is the supreme versatility of wine. It offered ancient man its many-sided blessing, each facet rivalling the next in distinction--wine as the safe liquid supply in times when these were scarce; wine as the worthy aliment when satisfactory diets were no sinecure; wine as the medical cornucopia, generally cheap and available; wine as balm to the worries and stresses of life, arouser of warmth, cheerfulness, and the spark of joy; wine as the bringer together of man and man in times when society's divisions matured as never before; wine as the means for man to reach out to the transcendent and find hope in his existential anguish.

With its task thus defined, this thesis has necessarily ranged widely. It will be no secret to geographers, while perhaps of no consequence to non-geographers, that I have stepped beyond the
customary preoccupations of geography. This may be thought true in two related respects—in terms of diffusion studies in general and in terms of geographical contributions on the subject of wine. As to the first, I think it is not unfair to say that the mainstream of research has focused upon what I have called the morphology of diffusion and/or the diffusion mechanism per se to an extent that, commonly, the phenomenon actually spreading becomes of secondary interest. Well, there is justification a-plenty for the geographic perspective, but it must never be thought that it can tell all and must always be questioned whether it can say enough. There may be wise counsel for geographers in these words of the distinguished archaeologist Mallowan: "As archaeologists we have to concentrate for the most part on the material evidence, but a preoccupation with it should not distract us from recalling that such materials are only of real value in so far as they are the expression of the spirit, intellect and emotions of the men who made them." This latter component I have tried not to lose sight of. In the present study, therefore, I have been as interested in a phenomenon diffusing as in a phenomenon diffusing. When, secondly, we turn to statements by geographers on the subject of wine, again I transgress beyond traditional territory. It becomes readily evident that in most geographical writings wine is a marketable product, winemaking just another aspect of economic activity. At one level this view is unimpeachable, for wine has always been integrated into the various economic organisations of man. But, equally, it leaves unreaped
a vast field of meaning and significance with which I have endeavoured to come to terms in the preceding chapters.

While wine in the ancient world is a rich and complex subject in its own right, it is further complicated by deficiencies in our data. There are too many lacunae in the early history of winemaking, too many themes inadequately sketched, too many details besieged by doubt. In part, this is of my own making: I have simply not been able to cover the amount of material that I would have wished. In particular, the representation of classical authors is less than wholly desirable. Beyond my personal role, however, limitations are imposed by the nature of the evidence. To study the ancient world is to sift through the detritus of the past where there is often but the meagrest data to illumine a formidable obscurity. Again and again this arrests the attention in the study of wine, and periodically throughout this thesis I have emphasised the inadequacy of our information on a certain point. And so, in times of dearth one turns to Ersatz, to evidence at best indirect and suggestive.

Bearing in mind these inadequacies, I have tried to avoid making precipitate or dogmatic conclusions. If anything, most statements about the ancients and their world should be regarded as more or less likely interpretations at a given moment in time. Times change, and as more information becomes available certain conclusions which I have drawn will undoubtedly be superseded. A fact, after all, merely marks the point where we have agreed
to let investigation cease. As far as I am concerned, it will be enough to have moved the investigation ahead a little.
1. Versions of which, "something like" mine, can be found in Crahan (not paginated), Halász, 9-10, Younger, 27, etc.

2. Barton-Wright, 96; Brothwell/Brothwell, 164; Chafetz, 37; Davis, 25; Keller (1966), 820; Loughnane, 226; Parker-Rhodes, 98.

3. Roueché, 846.

4. Overwhelmingly so, but there are rare exceptions. The most significant has been and remains still the fermentation of mares' milk to give the weakly alcoholic beverage kumiss (also koumis, koumiss, koumyss) in much of central and north-eastern Asia. See footnote 32. Apparently, fish have also been fermented (Kavaler, 48).

5. Ribéreau-Gayon/Peynaud, 67, 79.

6. Ribéreau-Gayon/Peynaud, 68.

7. Ribéreau-Gayon/Peynaud, 68.


9. Amerine/Singleton, 66; Bernabai, 1555; W. Gray, 182; Kunkee/Amerine, 26-27; Ribéreau-Gayon/Peynaud, 75.


11. Ribéreau-Gayon/Peynaud, 79.

12. "Enzymes are organic catalysts produced by living cells and utilized by such cells to catalyze the chemical reactions of their life processes. The activity of enzymes is completely independent of the life of the cell that produces them" (Smythe, 126).

All microorganisms, yeasts included, contain some enzymes; indeed yeasts have been an important commercial source of isolated enzymes, as, for example, invertase is prepared from Saccharomyces cerevisiae. The fermentation process, in fact, involves a lengthy series of enzymatic reactions—the so-called Embden-Meyerhof pathway (see footnote 17). Fermentation should not therefore be regarded as a direct product of yeast action. See Smythe, 126-28.

Enzymes are also involved in the conversion of certain carbohydrates, chiefly starches, to fermentable sugars preliminary to fermentation proper. Cf. footnote 29.

Amerine/Singleton, 67-68; A. Rose, 139. The latter writes: "From the metabolic point of view fermentation must be regarded as an incomplete and inefficient process, for most of the energy originally available in the sugar remains locked up in the alcohol."

By means of enzymatic reaction. See footnote 29.

Do Carmo-Sousa, 79.

See Amerine/Singleton, 68-71, for an account of the sequence of reactions involved.

Ribéreau-Gayon/Peynaud, 82. Cf. Parker-Rhodes, 98, and A. Rose, 139.

As computed by Amerine/Singleton, 67-68, twelve times the amount of energy is available to the yeast by means of aerobic as opposed to anaerobic catabolism. Ribéreau-Gayon/Peynaud, 82, whose calculations I have reproduced, place this figure at twenty times.

To be more precise, the term 'fermentation' understands two distinct phases—the aerobic yeast growth phase (respiration), followed by the anaerobic phase (fermentation, sensu stricto). The oxygen initially dissolved in the base material mash is speedily utilised for yeast cell multiplication; this achieved, the access of further air must be minimised. On this: Kunkee/Amerine, 30-31.

Amerine/Singleton, 67.

Amerine/Kunkee, 326, 332; Amerine/Singleton, 52; J. Barnett, 167, 173; Kunkee/Amerine, 19. Such 'wild yeasts' are said to influence the flavour of the final wine by contributing odorous esters, but not much is known on this topic (Amerine/Singleton, 53; J. Barnett, 167).

More specifically Saccharomyces cerevisiae Hansen var. ellipsoideus (Hansen) Dekker. Yeast nomenclature is complicated and chameleonic to boot. References can be found to both Saccharomyces cerevisiae and Saccharomyces ellipsoideus, but I am taking them as identical (cf. van Uden/Fell, 169).

Amerine/Kunkee, 332; Amerine/Singleton, 53; J. Barnett, 167. This assumes an adequate sugar supply remaining.

Amerine/Kunkee, 326, 327, 329; J. Barnett, 173; Kunkee/Amerine, 19-20. Recent Japanese research suggests startlingly high alcohol tolerances for most yeasts employed in alcohol beverage production (figures of 20-30% being claimed!). See Nosiro/Ouchi. Of course, the laboratory sugar supply cannot be replicated easily in nature.
26 J. Barnett, 178. A similar troublemaker is the elegant Saccharomyces ludwigii (J. Barnett, 177).

27 Amerine/Kunkee, 345-46; Amerine/Singleton, 58. Acetic acid bacteria are inhibited by 15% ethanol concentration and thus affect table but not dessert wines.


29 Starches cannot be fermented by yeasts. To act as a base material for alcohol production they must first be converted to fermentable sugars, a process dependent on enzymes known as carbohydrases (i.e., which hydrolyse carbohydrates). Thus the polysaccharide inulin of Jerusalem artichokes is hydrolysed to fermentable fructose by the enzyme inulase (W. Gray, 181-82).

Man may depend on yeasts for such enzymatic catalyses, but need not. The germination of grain is accompanied by the conversion of part of its starch to the fermentable sugar maltose. Moreover, the human salivary glands secrete the enzyme ptyalin which breaks down the large molecules of chewed starch products to the simpler maltose; the product, if spat out into a vessel, is in a position to ferment. See Davis, 25-26.

30 Strictly speaking, preparations from Piper methysticum—as the Polynesian kava (Opler, 44) or New Guinea's wati (see Serpenti) --are not alcohols, though often discussed as such.

31 Sources, general and specific, for sugar and starch base materials: Barton-Wright, 95; Bernabai; Bernier/Lambrechts; Carles, 811; Claudian, 6; Coit, 94; Feldman, 122; W. Gray, 181-82; Kolachov/Nicholson; Lewin, 165-73; Stong; Washburn.

32 Bernabai, 1557-58. Kumiss, which may also be prepared from the milk of camels, goats, or cows, is unlikely to exceed 4% alcohol in strength.

Before fermentation proper the lactose must be hydrolysed by the enzyme lactase to the simpler and sweeter glucose and galactose (see Bernabai, 1558, and Smythe, 136).

33 Carstairs, 67; Kavaler, 48; Simeons, 66.

34 See, for example, Chafetz, 154, W. Gray, 177, Mandlebaum, 281, or Opler, 44. The major exceptions are the North American Indians and the peoples of Oceania (who commonly prepare kava, cf. footnote 30).
Thus Wikén, 98: "They [sic] yeasts are so widely distributed in nature . . . that they rightfully may be regarded as ubiquitous organisms." Cf. Ribéreau-Gayon/Peynaud, 81.

To be sure, a not inconsiderable measure of specialisation is exhibited by individual species within this large group; since, moreover, not all species are able to ferment, I may be guilty of giving an exaggerated impression of the ecological versatility (and therefore distribution) of alcohol-fermenting yeasts. This should be borne in mind.

On the other hand, let me now take the single example of the prime wine yeast Saccharomyces cerevisiae (while remembering that ancient alcohol-makers would not have been finicky about pure cultures). This yeast holds an important place in the natural flora of the fermentation process in lands as far apart as Europe, California, Uruguay, South Africa, and New Zealand (Amerine/Kunkee, 325-32, and Mrak/McClung, 397). It has been shown to grow at temperatures ranging from 0° to 40°C (Lund, 84), which suggests a certain adaptability. Furthermore, although most commonly found in association with fruit and perhaps also with agarics (Mrak/Phaff, 34-35), Saccharomyces cerevisiae has been recovered from soils in the Netherlands and the coastal mangrove country of Florida, as witness Capriotti (1955), 151, 153, 154, and Capriotti (1962), 144, respectively; from the digestive systems of horses, goats, and pigs in a Lisbon abattoir (van Uden/do Carmo Sousa/Farinha, 437); from the faeces of gulls and terns in Iberian estuaries (van Uden/Fell, 183); and from the gut of fish in the Tyrrhenian Sea (van Uden/Fell, 188). Since I noted these examples en passant, the list that could be composed must surely be enormous.


Mrak/Phaff, 32-34, 34-35. Cf. do Carmo-Sousa, 80, Lund, 72, 73, and Wikén, 98. (Species of Saccharomyces can assimilate simple rather than complex organic carbon sources, so are less likely to flourish in media such as green leaves or soil where simple carbons are scarce than are the members of certain other genera lacking this restriction--do Carmo-Sousa, 79-80.)

Capriotti (1955); Capriotti (1962); di Menna (1966); Mrak/Phaff, 35-36. Also, the appropriate sections of Lund. In absolute numbers, the yeasts are a relatively insignificant member of soil flora. But, equally, "it is not possible to regard the yeasts simply and solely as occasional inhabitants of the soil"--Capriotti (1955), 148.
Van Uden/Fell provide a well-documented survey. Cf. briefly, Mrak/Phaff, 36. (Yeast have been recovered at considerable depths in the oceans and far out in the open sea, though their numbers appear greater in coastal waters. Their presence has been recorded throughout the world—in the Arctic Ocean, Sea of Okhotsk, and Antarctic waters; in the Black Sea; offshore from Miami and San Diego, Lisbon and Bombay; in the central Pacific; in the Gulf of Mexico; in the Red Sea; and so on. All the same, it is still not known whether obligate marine forms exist.)

As di Menna (1954), 94, 96, 97, has done. Cf. Ressler, 3.

For one hour's exposure to the ultra-violet component of direct sunlight may prove fatal to the yeast cell (Lund, 90).


Van Uden/Fell, 186-91. (On the whole, yeast numbers are low in fish, both in terms of body surface and excreta; marine invertebrates have proved even less rewarding.)

Van Uden/Fell, 182-83, 191.

Van Uden/do Carmo Sousa/Farinha. Cf. Capriotti (1955), 146, do Carmo-Sousa, 80, Lund, 73, and Wikén, 98. (Van Uden/do Carmo Sousa/Farinha concentrate on horses, sheep, goats, and pigs, but report finds in cattle, rats, mice, turkeys, fowls, pigeons, and man. Fowls and man provided the highest counts.)

Note also that many of man's products, from cheese and mayonnaise to wood pulp, harbour yeasts—Mrak/Phaff, 29-31, 34; Wikén, 99.

Di Menna (1954), 92, 96; van Uden/do Carmo Sousa/Farinha, 442. (Saccharomyces species were amongst the yeasts found by di Menna in the faeces of New Zealand children. They fermented glucose, sucrose, maltose, and galactose, but she does not identify them further.)

Di Menna (1954), 92, 95; Young/Resca/Sullivan.

J. Barnett, 178.

Di Menna (1954), 93, 96-98. Cf. Roman, 14, and A. Rose, 139.
See Loginova. Such yeasts grow intensively at lower temperatures as well.


Komagata/Nakase, 146-47; Porchet, 52. According to the Japanese researchers, "yeast may be regarded as an important and dominant member of the microflora of frozen foods, and spoilage by such yeasts may be encountered" (p. 148).

Di Menna (1966).

Van Uden/Fell, 177.

Acton, 343.

Mackenzie, 678.

Mackenzie, 681-82. Cf. by inference Kavaler, 56?

Di Menna (1966), 36.

Capriotti (1962), 145, suggests a relationship between yeast populations in the soil and the thermal component of climate: numbers are greater in warm localities (Italy, Spain, Florida) than at cool latitudes (Netherlands, Sweden, Finland).

Systematic statements do not appear to have advanced much beyond this stage. The thrust of microbiological research has never been towards a distributional understanding, never towards a 'geography' of yeasts, if you will.

The work of Castelli (cited in Amerine/Kunkee, 328, Azzi, 264-65, and Kunkee/Amerine, 19) represents the best-known study of qualitative areal differentiation in yeast flora. He has repeatedly pointed to a relationship between latitude and the ratio of sporogenous to asporogenous yeasts: advancing into cooler latitudes (cf. moving uphill) there is a decline in sporogenous forms. Thus Hanseniaspora spp., common in southern Europe and the Near East, are rare north of the Alps, where an asporogenous equivalent Kloeckera apiculata becomes important. (There is therefore a latitudinal distinction in the particular combination of 'wild yeasts' which initiate the fermentation sequence—see footnote 22.)
63. That is to say, the particular local combination of circumstances, yeast flora included, which contributes to the individuality of the finished wine--cf. on the role of yeasts, Champier, 65, and Kavaler, 56. This significance of the yeast is becoming less as the practice of adding pure culture inocula to grape must is increasingly adopted.

64. Thus Stević proposes that bees be used for the systematic spreading of certain yeasts.

65. Masson, 1.

66. Most bluntly, Mendelson, 505.


68. Forbes, 62. Cf. Brothwell/Brothwell, 165. A point of etymology reinforces the antiquity of mead. In both Greek and Sanskrit, the root word 'mead' has a range of meaning which encompasses 'honey', 'sweet', 'intoxicating drink', and 'drunkenness'. That the generic association with the notion of intoxication should fall to honey rather than fruits or grains has been cited as evidence for mead's greater antiquity--Roueché, 846. Stong, 185, likewise believes mead to antedate wine and beer, while Gayre, 37, dubs mead "the forerunner of wine" in an interesting article of that name. (Yet see footnote 88 and the text corresponding thereto.)

69. Forbes is arguing in the context of temperate latitudes. However, his first premise must be equally germane to the tropical world.

70. Cf. Mendelson, 505, Simeons, 66, and Stong, 175. Acton, 343, gives the following information to amateur winemakers. Most wine yeasts emerge from hibernation (see footnote 57 and appropriate section of text) when the temperature reaches about 7°C. They can ferment from this up to around 38°C, albeit sluggishly at the lower end of this range. The optimum temperature level is 21°C-24°C (= 70°F-75°F).


72. To give the first drink 'on the rocks'?

73. Poznanski, 36.

74. A number of these possibilities are suggested by Pique (1931), 817, and Simeons, 66, 74-75.
Barton-Wright, 95.

Cf. Barton-Wright, 96, and Davis, 25.

André, 175; Brothwell/Brothwell, 165; Halász, 11-12. But see footnotes 81, 82, and relevant text.

Andrews, 37.

On this relationship: Winkler, 55-56. Likewise, Thudicum/Dupré, 11-13, reflect upon the theme of vine transportation from one climatic regime to another.

On the words of an 18th century lament on the obstacles to consistent vinification success in such regions: "De tous les vices naturels qui dégradent les vins, la verdeur . . . eft le plus incorrigible," being a consequence of "un défaut de fermentation suffisante." See anon. (1765), 165-66, 161.

Vavilov, 278. Cf. Levdoux (1956), 64.

Negrul, 585, who writes: "The capacity of the fruit to accumulate sugar is a characteristic of all wild species of the genus Vitis . . . which indicates that this quality arose naturally and not as a result of artificial selection. The wild Amur grape, when grown under Central Asiatic conditions, yields as much as 24 per cent sugar, i.e., as much as cultivated varieties."

Amerine/Singleton, 14.

Stong, 185. Thus, he says, honey requires dilution before fermentation will commence.

Yeast presence and fermentation of dried fruits--dates, figs, and dried prunes--, plus such substrates as marzipan (50-70% sugar, not more than 14% water), quince paste, honey, syrups, fruit concentrates, and filled chocolates is established (Baker/Mrak, 317; Mrak/Phaff/Vaughn, 689, 698; Windisch, 128, 130, 131). While it is true that such sugar-rich media, particularly if dry, offer a difficult environment to yeast flora as a whole (cf. Mrak/Phaff/Vaughn, 689, 698), certain yeasts are osmotolerant. Saccharomyces spp. can develop in concentrations up to 40% sugar (Baker/Mrak, 318), while the noted osmotolerant genus Zygosaccharomyces (for common mention, see Mrak/Phaff, 26-27) can ferment 60% sugar (Baker/Mrak, 318) or even more (Mrak/Phaff/Vaughn, 698).
It seems possible to reconcile such findings with Strong's statement in the preceding footnote. It may be that growth can be achieved when yeasts occur in such substrates rather than on them (Windisch, 131), that is the inhibitory effect of high sugar concentration is somehow greater on the surface. Hence Mrak/Phaff, 26, make reference to the fact that the initial multiplication of yeasts in honey "is favored" by the surface dilution of the honey, after which sugar-tolerant yeasts adapt quickly to the high concentration in the deeper layers.

86Hesiod advises thus:

"Show your grapes to the sun for ten days
and for ten nights,
cover them with shade for five, and on the sixth
day press out
the gifts of bountiful Dionysos into jars."

Hesiod: Works and Days, 612-14

Cf. Pliny, XIV, x, 77-78, XIV, xi, 81 and XIV xi, 84; perhaps also Homer as cited in J. Barnett, 168.

Raisin wine has survived the ages. Many centuries after Pliny, Arnald of Villanova offered a recipe for such wine which "particularly makes women fat" (Arnald of Villanova, 34). In modern times, the French vins de paille from the Jura, the Hermitage, and elsewhere in essence follow Hesiod's procedure (J. Barnett, 168; de la Fizelière, 405). Their name derives from the fact that the grapes are laid out on a bed of straw. Similar techniques linger in Madeira (Nicholas, 94) and elsewhere.

87See Manetho's recipe for this concoction. To be fair, it functioned as a medicine rather than drink.

88If winemaking (and grain fermentation) required honey to be added to the must, honey fermentation to give mead may well have needed a supplement of raisins or some equivalent. Grapes are unique among sugar bases in having an adequate nitrogen supply for yeast growth, whereas honey normally demanded added nitrogen for "satisfactory fermentation" (Amerine/Singleton, 55).

89Although certain traditional drinks transcend such categories and should alert us to the tyranny of categorisation. Braga, for example, is a mildly alcoholic liquor made from raisins, sugar, and berries by the Old Believers of the Russian Orthodox Church (Rearden, 401). The Swiss have a sour drink called tibi, produced from dried figs, raisins, cane sugar, and lemon juice (Mrak/Phaff, 36-37).
It is not difficult to find statements to agree with this, but seemly impossible to light upon an argued position. Palaeolithic fermentation is suggested implicitly or explicitly by Brothwell/Brothwell, 165, Dimbleby, 73, Isaac, 69, and Lowy, xii. Some writers have even given a numerical age to fermented beverages, but this I suspect to be spurious precision based upon a stab in the Palaeolithic dark. For example, Chafetz, 11, states without further comment that man has consumed alcohol for 30,000 years. This may well be the source for Dorozynski/Bell's identical dating (p. 15), though to describe Cro Magnon man as "civilized and leisurely enough" by that time to experiment with fermentation may be to mischaracterise badly. Finally, Loughnane, 226, merely shows ignorance by wondering "how many millions of years ago" man noticed fermentation.


Halász, 11, and Perrin, 12, give brief information on the initial Mesozoic appearance of the Vitaceae and the additions in the late Mesozoic and Tertiary periods.

That is, Vitis sezannensis (Hyams, 16; Massel, 1; Perrin, 13). But to date the first fossil vines back 500 million years, as Dorozynski/Bell, 15, have done, is patent nonsense. My crude calculations suggest that such a date would place the initial appearance of the vine into early Ordovician times, in the so-called 'age of algae' before the appearance of vascular land plants! A typographical error?

One may understand the slow evolution of Vitis from Eocene beginnings such as Vitis sezannensis to the species pattern in today's world in terms of the progressive loss of Labruscoid characteristics--namely, those of a morphological class termed the Labruscoidae by botanists--, regarded as a datum in the ancient fossil findings (on this, see Hyams, 16-17). Nowadays, of the two subgenera of Vitis--namely, Euvitis (overwhelmingly dominant in number of species and areal extent, both in the Old World and the New) and the Muscadiniae (three species in North America)--,
only the members of the Muscadiniae, natives of the southern United States, are closely related to the former Labruscoid vines (Hyams, 16-17; Perrin, 13).

Advancing into the Miocene and early Pliocene, fossil discoveries suggest a distribution of numerous Vitis species across the northern marches of both the Eurasian and American land-masses, then enjoying sub-tropical conditions—e.g., Greenland, Alaska, Japan, Iceland, Britain, France, and central Europe (Halász, 11; Hyams, 16; Massel, 1; Perrin, 13). But with the Pliocene came the cold which was to culminate in the Pleistocene glacial phases. To survive, Labruscoid vines were faced with migration or adaptation to new, harsher conditions.

Now, an exodus southwards was facilitated in North America by the north-south lineation of the major zones of orogenetic folding and hindered in Eurasia by their general east-west trend. In the former continent, those species successful in travelling far to the south could retain their Labruscoid nature—hence the Muscadiniae; the more northerly American vines evolved somewhat towards the Viniferae form (the antithesis, if you will, of the Labruscoidae, which, however, does not necessarily imply Vitis vinifera silvestris L., the common European vine). In contrast, most Eurasian vines were marooned, unable to migrate equivalent distances. The northern plants were thus required to adapt to, or perish in the face of, more extreme conditions than their counterparts in the New World or those, alike marooned, in climatically less hostile parts of Eurasia (e.g., northern India). Hyams, 17, believes that in Europe more vines were eliminated and fewer species evolved than elsewhere, but also that such evolution progressed further. Hence the rash of Vitis species which had appeared in Europe's declining Pliocene (see Perrin, 13-14)—increasingly distant from the Labruscoidae and closer to the Viniferae form—culminated in Vitis vinifera silvestris in the late Pliocene (Hyams, 17; Kryshtofovich, 374; Lang, 67; Perrin, 14). In evolutionary terms, Vitis vinifera silvestris is a newcomer.

99 Hyams, 16. For some elaboration, see Lichine, 29, and Uphof, 546-48.
100 Silvestris or sylvestris.

An interesting Russian theory, however, suggests that this liana form represents an adaptation to environmental change. It is argued that the vine's progenitor was a sun-loving bush inhabiting
open spaces, but that with the onset of more humid conditions in the Eocene and the consequent extension of the forests, the vine adopted a creeping habit in search of the sun. It would then have been quite tolerant of its removal from the forests by Neolithic man. See in J. Renfrew, 125, this theory of Baranov's.

102 Vavilov, 278.
104 Kryshtofovich, 374, regards it as already present in the late Pliocene deposits at Wetterau, Germany. Levadoux (1956), 111, has this to say: "Au stade . . . qui correspond au point le plus reculé dans le temps qui nous soit permis d'atteindre avec quelque certitude, soit au tout premier début du quaternaire ou aux derniers jours du tertiaire, l'existence de V. vinifera L. est attestée en plusieurs points de l'Europe occidentale et méditerranéenne sans que nous puissions présumer de l'étendue exacte de l'aire primitive, faute de points de repère en nombre suffisant."

105 Levadoux (1956), 112.
106 Languedoc: this is Planchon's well-known 19th century discovery near Montpellier, cited widely (e.g., Dugrand, 109). Spain/Macedonia: Florschütz/Menéndez Amor/Wijmstra, 240, 261.
107 C. Turner notes that seeds or pollen of Vitis silvestris have been recorded in Hoxnian interglacial deposits in East Anglia and in the equivalent Holstein deposits in the Netherlands, Denmark, and Germany. Several finds have been made in Poland (see also Brem). This interglacial would represent that between the Mindel and Riss stages in the classical system. Vitis pollen has also been discovered in German deposits of the subsequent Eemian interglacial (C. Turner, 334).

108 Sources: Arribas, 44; Helbaek (1962), 181; J. Renfrew, 127.
109 Levadoux (1956), 112.
110 Levadoux (1954b), 10.
111 Which accords well with the cumulative impression to be gained from the following additional statements on the matter. These have been left until now since they do not cite evidence to support their claims. Isaac, 69, notes vaguely that the wild vine flourished widely in Europe and Asia; "from central Asia to the Atlantic," says Helbaek (1962), 181, somewhat more precisely. Forbes, 72,
unnecessarily generous, declares that *Vitis silvestris* grew "all over Europe" formerly; Seltman (1957), 15, unnecessarily restrictive, limits the distribution to a narrow band of territory from Turkestan through Asia Minor to Thrace. Within Europe, the wild vine's presence is acknowledged for various parts of the Mediterranean, plus France, the Alps, and central Europe. See Pericot, 25, Perrin, 58, Ribeiro, 69-70, and Stanislawski, 6-7.

Note that for greater distributional accuracy it might be necessary to examine post-glacial climatic oscillations and their effect on the generally advancing northern limits of *Vitis silvestris*.


The most comprehensive statement on the wild vine's modern distribution is Levadoux's attempt at its mapping for the year 1850, drawing upon the rash of 19th century references to it. See Levadoux (1956), 75-85, cf. more briefly and without map Levadoux (1954b), 9-10. Enclaves large and small, where *Vitis silvestris* was attested at that date, are disposed in an irregular manner across the map of Europe and western Asia: in extensive areas of eastern Spain, in the southern half of France, in Tuscany, Hercegovina and Greece, along sections of the Rhine and Danube, following the Black Sea littoral and the southern coast of Asia Minor, in Transcaucasia, Armenia, northern Persia, as well as along Africa's Barbary coast. This broad expanse may have been eroded during the present century, but has not altogether vanished.

For confirmation of remaining wild vines in one or more of the above areas, consult the following: Anderson, 179; Andrews, 37; Curwen/Hatt, 13; de Candolle, 191, 193; Gurney (1964), 82; Lang, 31; Massel, 1; Negrul, 586; Perrin, 15; J. Renfrew, 126; Schoonmaker, 4; Vigouroux, 2424.

113 Levadoux (1954a), 13.

114 Cf. Stong, 185: "It turns out that the juice of ripe grapes is unique among fruit juices in that it contains sugar in an almost optimum concentration plus nutrients in just the proportions required for the vigorous growth of yeast."


117 Kunkee/Amerine, 34, 36.
One study has suggested that two-thirds or more of the total nitrogenous material of grape musts is readily assimilable by the various strains of *Saccharomyces cerevisiae* (Kunkee/Amerine, 32), most ammonium compounds (do Carmo-Sousa, 80) and the more common amino acids (Kunkee/Amerine, 33) being available for protein build-up by the yeast cell.

Amerine/Singleton, 55. Cf. footnote 88.

Barnett et al., 54.

The grape is a juicier fruit than most, therefore particularly attractive to yeasts. Under cultivation it will have a richer, more varied yeast flora than when wild-growing since the tendency of vineyards and orchards is to build up such a population (Mrak/Phaff, 35-36; Wikén, 98).


For a working definition of the extent of Armenia and a description of its lands, see Lang, Chapter 1.

Levadoux (1956), 102; Negrul, 587; Vavilov, 277.

Negrul, 586.

Strictly speaking, there was some dispute among ancient writers, including Biblical texts, as to the exact point of rest of the ark (D. Allen, 73). Rival locations, their claims founded on legends and folklore, still exist--e.g., see Dawkins (1949), 136.

De Candolle, 193.

But see Harlan's concept of centres and non-centres.

The present thesis is not the place to review the mammoth literature on the initial Neolithic agriculturalists in the Near East. A recent example of such a review would be Wright.

Hyams, 21.

Hyams, 22.
See Hyams, 26-27, for a development of this argument. The major botanical points are confirmed by Levadoux (1954b), 11, and Winkler, 103-05.

On pollination: Winkler, 108.

But see Levadoux (1954b), 11.

Winkler, 105. On the Muscadiniae, see footnote 98.

Negrul, 586.

Claudian, 4, asserts that the domesticated vine was cultivated in the 6th millennium. Some viticulture by 6000 B.C. is suggested by Johnson, 12.
FOOTNOTES
CHAPTER 2
This contrast, here simplified, is developed in Winton, 3-6. (Cf. Blanchard/Blanchard, 188, for the Douru region.)

To a large extent, but not perforce exclusively. Superiority of hillside vineyards may be due locally to microclimatic advantages (e.g., avoidance of frost hollows) or favoured conditions of exposure. For the latter, it must surely be conceded that the very ripening of grapes in the northerly latitudes of the Rhine-Moselle area (where indeed only a few grape varieties are able to reach maturity—Schoonmaker, 10) would be decidedly hazardous if advantage could not be taken of the steep, well-exposed valley sides—cf. Debuigne, 12.

(Forgetting for the moment the need to differentiate between hillside and plain, it is worth stressing that aspect has always been an important consideration to the vine grower, given its capacity to regulate somewhat climatic and edaphic conditions. The ancients were conscious of and utilised the effects of differing directions of exposure, on which see Semple (1931), 397. A present-day example of the role of aspect is available in the almost legendary Rhone wine, Château Grillet. It is produced from but a single domain; its neighbouring vineyard ferments a commonplace beverage, in considerable measure due to the fact that its slopes, facing more to the east, receive markedly less sunshine per day. See Buchanan's article on Château Grillet.)

Winkler, 63.

Profuse growth, abundant fruit, but mediocre quality constitute Michurin's verdict on the matter (p. 82). Cf. Winkler, 63, 64. The same phenomenon was recognised by classical agronomists: Jashemski, 36, cites Columella (De re rustica, III, 2, 5) as drawing attention to it.

In the fact that an extraordinary vigour can sometimes be displayed by vines growing in well-watered, rich soils, may lie explanation of the spectacular size of the grapes carried back to Moses by his scouts (Numbers 13:23); here, too, is possible corroboration for Strabo's claim that grape clusters, a metre long, grew in certain Central Asian oases (Chapot, 71; Younger, 65; and see footnote 259 for Chinese reference to gigantism in grapes). And surely it is with this phenomenon, and this phenomenon only, in mind that Theophrastus, II, 7, 1, declares the vine "water-loving"? The genius of the above grapes would have been in size alone. Their wines would have been unmemorable. Indeed, to a large extent, quality and quantity in winemaking are mutually antagonistic (cf. Blanchard/Blanchard, 138-39).

Quoted in Lichine, 30.

Johnson, 75.
Research at the University of Bordeaux has indicated an association between the quality of wine produced in a vineyard and nearness to an effective drain, which, in helping to dry out the soil, encourages the vines' roots to explore deeply. On this basis, the premiers crus will tend to be the closest to the drainage channels. See Johnson, 75 (who, cf. Debuigne, 9, also proposes that mature stock, although yielding depleted quantity, gives the best wine because its root system is well developed; or in the words of Elizabethan proverb love: "It falleth out in love as it doth in vines: for the young vines bring the most wine but the old the best"—Tilley, 354). As rationale for the relationship, Winkler, 63, suggests that ripening changes in the grape of the deep-rooted vine commence earlier and proceed more slowly, resulting in a better-balanced fruit of richer aroma, than in that of the shallow-rooted specimen. But this might seem to pose as many questions as it answers.

It surely cannot provide an exhaustive explanation.

It has been suggested by Michurin, 82, that soils retaining only the minimum amount of water necessary for the vital processes of plant growth possess optimal drainage and temperature qualities. Jashemski, 36, likewise stresses satisfactory drainage as the sine qua non of successful viticulture.

An example: moving north-westward in the Médoc peninsula from Bordeaux, the proportion of clay in the soil increases; correspondingly, the wines of Bas-Médoc (i.e., the north) fall far short of the magnificent crus of Haut-Médoc (e.g., Margaux, Pauillac, Saint-Julien). See Johnson, 75.

This is no 'stony ground' in the parable's sense.
Debuigne cites two famous such cases. Firstly, the Médoc (p. 162): "Le sous-sol du Médoc ... est recouvert par une couche de cailloux, appelée 'grave', très peu fertile, mais convenant, par contre, tout spécialement à la vigne." A truly spectacular instance (p. 74) is Châteauneuf-du-Pape in the Côtes du Rhône. "Le sol ... est fait de cailloux brûlés par le soleil, dans lesquels faire pousser la vigne apparaît comme un défi à l'élémentaire raison. Ne dit-on pas que ce sol ingrat use un fer de charrue en deux heures?"

Michurin, 82; Winkler, 65; Woon, 51. Frequent stone walls in the vineyard—as is characteristic of Beaujolais, for example—have equivalent effect (Perrin, 85).

Woon, 51. It is difficult to know how much significance to grant this. Without passing judgement, three points can be made.

—Under normal conditions, few areas examined in this thesis would have been immune to occasional frosts. So obviously a characteristic of transalpine Europe, frosts must not be thought absent from the Mediterranean world. According to Semple (1931), 95-96, the southern limit of sea-level frosts follows the southern coast of the Iberian Peninsula, crosses to Sicily and the Ionian Islands, then traverses the Peloponnese to reach the Syrian coast. Add the factor of altitude and certain areas south of Semple's line become frost-prone (Palestine's Hebron Plateau has frequent frosts in winter and occasional snow—Karmon, 504) while winter's effects are exacerbated to the north (see Houston (1964), 21, 31, on interior Spain). Thus Hesiod's Boeotia, in central Greece, was raw and chill in winter, as Works and Days, 504-63, details at length. For instance:

"Beware of the month Lenaion, bad days, that would take the skin off an ox; beware of it, and the frosts, which as Boreas, the north wind, blows over the land, cruelly develop."

Likewise, Horace's abiding impression of Thrace was of a land of snow and icy winds (Galletier, 344-45).

—A winter sun of any regularity would have characterised an area far less extensive than that subject to frosts.

—The vine can weather a considerable degree of winter inclemency. It grows well, for example, on the above-mentioned Hebron Plateau. However, modern stock has a longer history of breeding for frost-resistance than was available to ancient vines.
It is not explanation enough to maintain that the vine was simply relegated to the poorer terrain by other crops competing for the 'better' land. An early appreciation of edaphic influence upon the vine is a certainty, proven by the extract from Theophrastus' *De Causis* in my text and by Columella's understanding (see footnote 4). So, to some considerable extent at least, the notion of purposeful striving for vintage quality must be entertained. Corroborating this seems to be the passage from the *Odyssey* in which the giant Polyphemus tells of his vines flourishing on rich soils and weighed down with large grapes swollen by the rains—a boast, argues Dion (1952b), 465-66 (cf. Stanislawski, 8), in which Homer ridicules the viticultural naïvité of the barbarian.

An unlikely fruiting outcome. See footnote 4.

Quoted in Semple (1931), 389.

Palladius, *De re rustica*, I, 6, quoted in Galtier (1968b), 123.

Vergil, *Georgics*, II, quoted in Dion (1952b), 471.

Chorographical astrology was that branch of ancient astrology concerned with sidereal influence upon places and their inhabitants in toto, that is concerned with group rather than individual character and destiny. (Perhaps the clearest basic exposition through examples is Bouché-Leclercq (1884), the most thorough Bouché-Leclercq (1963), 328-47; further examples are instanced in Weidner and Caquot.) Bouché-Leclercq (1963), 327, provides a 'deviant' case in which zodiacal influence is considered to fall upon generic landscape types rather than places. In this example, Scorpio has dominion over hillside vineyards, whereas vineyards of the plain fall under the sway of Sagittarius. So the hill–plain distinction is met once again!

This Sumerian territory, where later flourished such cities as Ur, Uruk, and Lagash, was located some 250 kilometres from the present head of the Persian Gulf, that is, before the confluence of the Tigris and Euphrates. Contrary to the long-held belief—based on textual analysis and the assumption of typical delta formation processes—that the coastline of Sumerian times stood far inland from its present position, comes the testimony of more recent geological analysis. In fact, sedimentation from the Tigris, Euphrates, and Karun rivers has been occurring in a tectonic basin subject to subsidence, and it is most likely that the location of the Sumerian coast differed but little from that of the present coast. See Lees/Falcon.

Apparently linked to accounting needs in an expanding city and temple economy—J. Gray, 12; Jacobsen, 141; Speiser (1942), 57-59.
For an introductory summary of the sweep of Mesopotamian history, consult Gelb, J. Gray, 12-16, or Speiser (1951).

Hyams, 33. Cf. Younger, 60, who attributes grape growing to the earliest days of Sumeria. Johnson, 12, believes "perhaps 6000 B.C." as marking the beginnings of viticulture in Mesopotamia.

Hyams, 33.
Younger, 60.

Hyams, 37; Isaac, 69. The period of Gudea's reign is disputed. It was some time in the last quarter of the 3rd millennium.

Lutz, 37, 69.
See Younger, 61.

See Chapter 4, footnote 133.

"The woman of the vine, the maker of wine" (Sandars' translation).

Quoted in Lutz, 131. Sandars' prose translation runs thus:

"There was the garden of the gods; all round him stood bushes bearing gems. Seeing it he went down at once, for there was fruit of carnelian with the vine hanging from it, beautiful to look at; lapis lazuli leaves hung thick with fruit, sweet to see."

Quoted in J. Gray, 49. Cf. Sandars:

"I gave the shipwrights wine to drink as though it were river water, raw wine and red wine and oil and white wine."

Of course, one cannot prove from these Gilgamesh references to wine that viticulture had become a Mesopotamian accomplishment. For the likely location of Siduri's vineyard "at the edge of the sea" is either in the Levantine world, probably Syria, as Contenau, 73, 204, believes, or in the Armenian or Anatolian foothills to the north and north-west, as Albright (1919-20), 269-70, 280, would have it. What can be inferred is that wine was known and perhaps imported into Mesopotamia. The Gilgamesh source of evidence requires to be treated in conjunction with other material.
Hole, 360; Sandars, 15-16, who sees in such economic needs a source of 3rd millennium militarism. Incidentally, there are strong suggestions of trading motivation in the Gilgamesh Epic (J. Gray, 42; Sandars, 16).

Mention is made elsewhere of Mesopotamian trade contacts with all these save the Persian Gulf. That this area was a trading partner, albeit perhaps a lesser-known one, is certain: numerous 3rd millennium Sumerian and Akkadian inscriptions tell of maritime relations with Dilmun (widely agreed to have been Bahrein), with Magan (commonly identified with Oman), and with Melukhkha (possibly the Indus valley, exchange with which is attested by archaeological finds). See Bowen, 279, 281-82, and Mallowan's article.

Lang, 68. Cf. Mallowan, 1, for obsidian. Armenian products also reached Syria and Egypt.

Or perhaps, at first, to take back 'travellers' tales' of it.

If not Armenia but some area in the Levant was the source of Mesopotamia's grapevines, there is no need to suppose a different process of diffusion.

Semple (1931), 397.

Azzi, 178; Blanchard/Blanchard, 184; Perrin, 88; Winkler, 56. Cf. Theophrastus, IV, 14, 10.

Fisher, 354.

Hence the interplanting of trees with the vines to provide a measure of shade?

Fisher, 355.

Hyams, 8-9; van Royen, 129.

Kasimatis, 721.

For rainfall during flowering or fruiting can wreak havoc. Thus Theophrastus, IV, 14, 8.

Cressey, 116.

Fisher, 356.
The water balance diagram (after Thornthwaite) for Baghdad shows mean monthly precipitation exceeding potential evapotranspiration for a period of less than three months (in winter) of the year. The process of soil moisture recharge is thus severely limited. For seven months, a large part of which represents the vine's growing season, there is no available moisture from rainfall in the soil. For diagram, see anon. (1964), 29.

Indeed, the aridity of semi-desert lands commonly forbad vineyards unless irrigation was practised, as I have indicated for Babylonia or as Semple (1929) suggests for several exceptionally arid parts of the Mediterranean Basin (e.g., there was a striking relationship between vineyard and bubbling oasis stream in Cyrenaica --p. 131).

De Vaumas, 81.

Jacobsen, 138.

Cressey, 141; de Vaumas, 81.

Jacobsen/Adams, 1251. Additionally, smaller amounts may have been deposited by former marine transgressions or carried in by winds from the Persian Gulf.

Reeve/Fireman, 997.

Jacobsen/Adams, 1251; Reeve/Fireman, 990.

Worse still: while calcium and magnesium tend to precipitate out from the soil solution, the remaining sodium ions, achieving dominance in the solution, are adsorbed by colloidal clay particles. Now, the tendency to deflocculate is displayed most strongly by clays whose exchangeable ions are principally sodium. So the above conditions encourage deflocculation. Resultant is a deterioration in soil structure, which in turn, because of decreased soil permeability, is adverse to plant growth. On this theme, see Jacobsen/Adams, 1251, and Reeve/Fireman, 990-91.

On varying crop tolerance, see Bernstein, 152, 160.

Apparently this technique was commonly employed for annuals--Cressey, 390; Jacobsen/Adams, 1251-52.

Kasimatis, 724. (That flooding of vineyards in winter is possible was demonstrated in late 19th century Europe, particularly France, when this procedure was employed in the attempt to resist the epidemic attack of the root aphid Phylloxera vastatrix. See Ordish, 75-79; cf. Debuigne, 237-38.)
67 Goodenough, V, 113, with Lutz as his source.
68 Cf. Younger, 57.
69 See Chapter 5.
70 Hyams, 37; Lutz, 37.
71 Thus barley is relatively salt-tolerant and was increasingly favoured by the farmers of the day as salinisation progressed (Jacobsen/Adams, 1252). Similarly salt-tolerant is the date which, although able to withstand prolonged drought, can flourish with considerable irrigation (Hilgeman/Reuther, 714-15).
72 As a check, I have examined in rough fashion the agricultural pattern portrayed in astrological reports of later date (using the substantial selection of texts collated by R. Thompson). The Mesopotamian astrologers anticipated the fortunes of various elements critical to society's survival, one of these being agriculture. While the generic term "crops" is commonest in the texts (along with cattle), there is sufficient specification of cereals and "corn" to suggest the dominant role of grain. A sprinkling of mentions indicates some importance for sesame, vegetables, and dates. There is but one reference, and that a dubious translation, to the grapevine. These astrological reports, then, confirm rather than contradict the Third Dynasty texts.

Likewise, the writings of such later commentators as Berosus and Herodotus are in general accord with the texts. See Boissier, 14-15.
73 Jones, 48; Levey, 37.
74 "Every part of the palm tree was put to some use," writes Contenau, 74. From the date palm came food, drink (fermented and non-alcoholic), animal fodder, and building material--Carter, 18-19; Jones, 48.
75 Levey, 46-47; Younger, 55-56. Cassin's terminology (p. 165) is "civilisation de la bière." (The standard English-language study of Mesopotamian brewing is by Oppenheim/Hartman.)
76 Pique (1931), 821; Sigerist (1945), 16.
77 Ressler, 4, with Forbes as his source.
78 Brothwell/Brothwell, 168; Forbes, 63-64.
Levey, 45; Lucia (1963b), 153; Parry, 11. Budge, 22, explaining tablet III, 133, of the Akkadian-Babylonian Creation Epic (Enuma Elish) argues that it was sesame wine which the gods, celebrating their championship of Marduk against primordial Tiamat, drank at their banquet. (This creation story is recounted in J. Gray, 29, 31-33; for the text consult Budge rather than J. Pritchard, 31-39, where the first three tablets are omitted.)

Actually, Helbaek (1966a), 618, casts some doubt on the presence of sesame in the ancient Near East: "The etymological basis for the modern Arabic name of sesame, Simsim, can be followed back to early Sumerian texts, but, search as we will, paleoethnobotany is unable to point to one single find of a sesame seed anywhere in the Near East."

De Vaumas, 82.

Some climatic details are given in Cressey, 49, and Fisher, 355.

"From a very early period," announces C. Johnston, 167, somewhat unhelpfully. By contrast, Contenau, 72, believes that the vine was not fully acclimatised in northern Mesopotamia until the 1st millennium, a dating probably based on the restricted temporal range of the evidence so far uncovered. (I know of but one find, perhaps indicative of viticulture, pre-dating the 1st millennium, namely, a grape pip present in palaeobotanical remains of the 13th century at Kalah—Helbaek (1966a), 619.) However, "fully acclimatised" allows room for manoeuvre.

Younger, 61.

=Kalhu or Calah or Nimrud.

Forbes, 73; Lutz, 38; Vigouroux, 2424.

In the palaeobotanical material from Kalah examined by Helbaek (1966a) vine remains proved uncommon, although a collection of 61 grape pips, dated to the 7th century, was retrieved from a well (p. 619).

Grayson, 96.

Forbes, 73; Lutz, 38.

Parker, 16, 53-54.

Quoted in C. Johnston, 168-69.
An address of the goddess Ishtar to the same king, assuring him of her help towards victory against Teuman, bids him "eat food, drink wine, make music, while I go and accomplish this affair" (C. Johnston, 167).

But there are no indications that wine production was at a self-sufficient level.

Cf. grape-growing in modern Iraq is almost exclusively confined to its northern parts--anon. (1964), 38.

Wilson, 39.

Excepting oasis cultivation.


Claiborne, 284.

The system of irrigation employed was known as 'basin irrigation'.

Bernstein, 141.

Bernstein, 141.

In the northern delta, soils approaching a solonchak type are occasionally to be found (Fisher, 488). The drainage conditions of the delta will render it more susceptible than the valley proper to salinisation.

According to Semple (1929), 113, ancient writers rarely refer to problems of soil salinity. However this, as evidence, is open to more than one interpretation.
Lakes Manzala and Maryût.

Nome, from the Greek nomoi, a province.

Younger, 34.

A king of Dynasty III who reigned at the very beginning of the Old Kingdom.

Examples from Younger, 34.

Hyams, 64; Kees, 81; Lutz, 2-3.

Kees, 81-82.

Forbes, 74; Lutz, 48; Younger, 34.

Annual rainfall in the delta area: 100-200 mm. South of modern Cairo the 'average' falls to below 50 mm. Figures from Fisher, 488.

A prevailing onshore wind from the north-west ensures that summer day temperatures in modern Alexandria (beside Lake Maryût) are 5-10°C below those of Cairo (Fisher, 488).

For see footnote 46 and accompanying text.

Hyams, 10.

Unfortunately, the viticultural implications of moving southwards beyond 30°N are not as well established as might be wished. I know of no systematic statement on the problem.

Hyams, 9 (and see footnote 127). On the other hand, Magoon/ Snyder, 427, cite photoperiodism as one of the factors influencing the distribution of grape varieties grown in the United States.

Hyams, 9.

Phrase from Magoon/Dix, 407; cf. "annual low-temperature needs" (p. 411).

Hyams, 9. Experiments by Magoon/Dix showed 200 cumulative hours of exposure below 7.25°C during the dormancy period of the vine to be adequate for foliation; they conclude from this (p. 411) that the dormancy requirements of the grape are less than those of other "standard American fruits." It should perhaps be noted that these findings are based on North American grape varieties. In terms of environmental requirements, Vitis vinifera is more finicky (Oberle, 413).
Divergence of opinion marks this topic. The result, according to Hyams, 9, is no fruit at all; according to Winkler, 54, is a reduced crop of inferior quality; and according to Van Royen, 129, is an inability of the berries to complete their ripening. Azzi, 21-22, does not point to any deleterious outcome.

Examples exist of vineyards relatively close to the equator but at high altitudes—e.g., in the upland Montes Claros region (approx. 16 S) of Brazil's state of Minas Gerais (Azzi, 21-22) or in Bolivia at 2,750 metres (Winkler, 54). In the former case, an American grape variety is grown where *Vitis vinifera* would certainly fail.

Incidentally, the existence of such vineyards may serve as an indication that photoperiodism is not a notable influence on the distribution of the vine.

Unless major climatic change is postulated. Now, it is known that precipitation levels have varied somewhat during historic times in this part of the world (Butzer, 26-34; cf. Hester/Hobler, 161-62, 164-66, although their statement is partly based on Butzer's work), but, given the Nile, the thermal regime has been the limiting factor rather than rainfall. I know of no evidence to suggest a temperature decrease during historic times; the indications are perhaps to the contrary (thus Butzer, 33, specifies that winters were warmer from 2400-850 B.C.; and see Hester/Hobler, 165).

Theophrastus, I, 3, 5 and I, 9, 5; cf. III, 5, 4.

Hyams, 64; Lutz, 2.

Forbes, 74; Kees, 81; Montet, 9; etc. And Younger, 39, on the *Papyrus Harris*. Many of these were undoubtedly temple vineyards, others were inspired by aesthetic motives ('wine-gardens') as much as by the desire for wine production. Neither of these cases would necessarily have been dismayed at a humble level of wine output.

Younger, 46. Forbes, 74, argues for viticulture as far south as the First Cataract.

Montet, 9.

See W. Adams on Nubian winemaking. Although this land traditionally received its wine from the north (pp. 277, 278, 279, 281), Adams can identify three periods when local vineyards were tended (pp. 278-79), including Meroitic winemaking in the 4th century A.D. A widespread series of rock-cut basin complexes, dating from
from that period, are most plausibly to be thought of as winepresses (on alternative theories: pp. 266, 268-70). The Nubian climate, little conducive to viticulture, undoubtedly meant low yields and, indeed, a very limited undertaking altogether--a worthwhile enterprise only in exceptional circumstances, as when the northern wine supply was cut off. See pp. 276-77.

135 Lichine, 248. I would imagine he is confusing Mareotic wine with Nubia's Meroitic civilisation.

136 Houston (1964), 121.

137 Specifying: de Mortillet, 262; Dorozynski/Bell, 18; Pique (1931), 815. Implying (given the assumption of a short period to establish viticulture): de Candolle, 104; Neuburger, 105; perhaps Lucia (1963a), 3.

138 This paragraph is based upon H. Thomas' useful review article on the contradictory chronologies.

139 Neuburger, 105.

140 De Candolle, 104; de Mortillet, 262; Lucia (1963a), 3.

141 An obvious suggestion in that de Candolle and de Mortillet were both writing in that century. As for Lucia, he must surely have adopted some obsolete chronology without any attempt to assess its validity.

Here is an example of a 19th century chronology, taken from the Egypt Exploration Fund's Atlas of Ancient Egypt. See anon. (1894), 20. It designates Dynasty I as commencing in 4782 B.C., Dynasty III in 4217 B.C. (which is much higher than Neuburger), and Dynasty IV in 4003 B.C. (which is close to the position of the two French scholars above).

142 Halász, 12.

143 Pique (1931), 815. But see Lucas, 3.

144 Younger, 33. Kamal, 498, and Lucas, 3, confirm the existence of winepress hieroglyphs for Dynasty I.

145 Vigouroux, 2425.

146 Helbaek (1962), 180-81.

147 White, 106.
In accord with this view are Curwen/Hatt, 11, and Hyams, 60. Indeed, unless it can be shown that Helbaek's pips were imported into Egypt (and were that so, why then should the art of viticulture have been far behind?), predynastic origins are certain.

But only if Helbaek is somehow countered.

H. Thomas, 12. Yet it should be noted also that the validity of carbon-14 dating is questioned by some when applied to such a recent period as the 3rd millennium.

But see Leemans (1960), 22, 23, 36.

See, for example, Abramsky, 12-14, 17-19.

Hyams, 52-53. Certainly, Canaanite pottery has been found in royal tombs of Dynasty I—Albright (1942), 17.

Abramsky, 20.

Albright (1942), 17.

Hyams, 53.

Ellis, 53; Kavaler, 47; Lebadoux (1956), 104; Loeb, 388; Poznanski, 35; Semple (1931), 672; Sylvia Mary, 140.

As can be seen from Astour (1965), 177, and H. Rose (1962), 48.

Curwen/Hatt, 9-10, argue this vigorously. For some reason, Hyams, 198-99, wishes to transfer to north-western Arabia the Nysa that is placed in Phoenicia by the Homeric Hymns and which is associated with Osiris in the commentary thereupon by Diodorus Sicilus. This seems to me to do considerable violence to the environmental conditions described in the text:

"There is a certain Nysa mountain-high,
With forests thick in Phoenice afar,
Close to Aegyptus' stream."

Finally, it is interesting to note that Osiris is linked in myth with the port of Byblus—Hyams, 52; Lebadoux (1956), 104.

McKinlay (1948-49), 396.

Kees, 82.
The wine jars recovered from the palace of Amenhotep III at Thebes show that the beverage journeyed from diverse parts of Egypt to grace the royal tables. See Hayes, 88-89.

Hyams, 60.

Lutz, 48.

Forbes, 75.

Forbes, 75.

Brothwell/Brothwell, 168; Dorozynski/Bell, 18; Lutz, 47; White, 107.

Lucia (1963b), 154; Milne, 178; Rostovtzeff (1941), 353. On Egyptian beers in general, see Lucas, 1-3.

Bruijning, 3; Forbes, 63-64; Lucas, 5. More briefly, Kamal, 498, and Lucia (1963b), 155. On dates and grain used together in making alcohol, as represented in the Moscow Mathematical Papyrus, see Nimis, 261-62.

Bruijning, 3-4; Lucas, 4. More briefly, Dorozynski/Bell, 18, Kamal, 498, Lucia (1963b), 155, and Pique (1931), 816.

The sap of the date palm was obtained by making an incision in the heart of the tree, immediately below the base of the upper branches (Lucas, 4). While Babylonian sap-wine was prepared from this date palm, it is possible that a member of the Raphia family was preferred in ancient Egypt (Bruijning, 3).

Condit, 145.

Condit, 145, Dorozynski/Bell, 18; Kamal, 498.

Rostovtzeff (1957), 283.

The presence of Hellenistic colonists is illustrated in this passage from a papyrus vineyard lease:

"Nicomachus, son of Ph...ades of Halicarnassus, successor to his father's holding, has leased to Apollonius son of Apollonius, Persian of the Epigone, the somewhat sandy vineyard situated near the same Philadelphia, being of 6 arourae or such as it may be, belonging to Crates, son of Pheidimus of Arsinoe in Lycia."
Each of the parties involved has recent extra-Nilotic connections. (This extract is taken from Turner, who reproduces, translates and comments upon the entire papyrus.)

175 Forbes, 119; Rostovtzeff (1941), 353, 354; Rostovtzeff (1957), 283.

176 Rostovtzeff (1941), 353-54. Cf. on vine importations, Younger, 34.

177 Rostovtzeff (1957), 481, 489-90.

178 Rostovtzeff (1941), 355.

179 See relevant discussions in Hyams and Lutz.

180 Ullman, 868.

181 Cf. Oppenheim, 243.

182 See Leemans (1961), 108.

183 To cite but one (non-vinous) example, timber. In this product, the Lebanon-Amanus ranges were as rich as Egypt and Mesopotamia were poor. Cedars—for embalming oil as well as wood—were shipped from Byblus to the Nile Valley (Claiborne, 274; Fisher, 143; Reifenberg, 380). Gudea of Lagash cut down Levantine timber (see Sandars, 16), and the "Land of Cedars," where Gilgamesh and Enkidu journeyed, seems to have referred to the Lebanon region (Brown, 167; Malamat, 373; Sandars, 16).

184 Albright (1942), 17. And see Newberry on early Egyptian contact with Byblus.

185 Brown, 167; Malamat, 365-67; Sandars, 16.

186 Leemans (1960), 24; Malamat, 368; Sandars, 16.

187 Olmstead, 250.

188 Abramsky, 20; Brothwell/Brothwell, 168; Forbes, 78; Karmon, 502-03; Lutz, 16; Perrin, 48; White, 106-07 (although whether the Egyptians had as their motif the wish "to provide variety for their practised palates" is somewhat dubious); Younger, 68.

189 L. West, 162.

190 Younger, 47.

192 Oppenheim, 239; Sasson, 163 (who notes that references to boats abound in Mesopotamian texts whereas donkey caravans are rarely mentioned).

In more general context, Parry, 24, stresses the commercial significance of waterways in ancient times, when land transport technology was rudimentary, while Blegen (1956), 34, cautions that much recent scholarship may have both overemphasised long-distance land trading and belittled water commerce.

193 =Gargamish=Gargamîš.


195 Sasson, 171. Their communication dates from the first half of the 2nd millennium. In another letter to the Mari monarch, Aplāḫanda adopts solicitous tone: "If with you there should not be good wine which you could drink, write to me and I will send excellent wine for you to drink."

196 Leemans (1960), 33. And wine from Helbon in Syria was regarded with favour in Babylonia (Younger, 69).

197 Sasson's textual evidence seems to justify the adjective "considerable."

198 Contenau, 73, 204-05. In my opinion, his belief that the Siduri episode in the Gilgamesh Epic is "clear, confirmatory evidence of the existence of a large-scale wine trade originating in the countries bordering the Eastern Mediterranean," is decidedly overzealous, unless he is drawing upon additional information which he has not divulged.

On the other hand, one might argue that the following gives some small measure of support to Contenau. In the opening lines of a Sumerian hymn (entitled by Langdon "Hymn concerning the cohabitation of the earth god and the earth goddess, the begetting of the moon god") is a very brief, topographical glimpse of the city of Nippur. "The vine quay" is one of the few features highlighted. It may be possible to presume from this that Nippur imported some wine and perhaps further that as likely a provenance as any would have been the Levantine region.

199 Lutz, 16.
Amphora stamps were impressed on the soft clay of the wine vessel (generally on the handles) before firing in the kiln. Normal practice required the name of the potter and, to act as a datum for dating purposes, that of a local official (Grace, 446).


He is quoted at length in Hyams, 40.

Forbes, 73.

See Olmstead's article, from which this phrase is borrowed.


Younger, 60, 65.

This toponym appears in several forms, sometimes more than one being used by an individual writer. To wit: Asallu--Younger, 65; Azalla--Albright (1931), 10; Azallu--Oppenheim, 244; Isalla--Olmstead, 260, Parpola, 177; Izala--Lewy, 3, Theophylactus, II, i; Izalla--Albright (1931), 10, Lewy, 4, Millard, 201, Olmstead, 226; Izallu--Oppenheim, 244, Younger, 60; Uzal--Millard, 201.

Lewy, 4; Millard, 201; Olmstead, 226.

Theophylactus, II, i.

Izallu is known to us from its appearance in various Assyrian texts (Albright (1931), 10; in Parpola's computerised list of toponyms from these texts, it appears nine times); in particular, it was one of those spots where Ashurnasirpal III was calculatedly frightful (on which, see Olmstead). Izallu was the name given by the Assyrians to part of the foothill country—now in southern Turkey, north of the border town of Nusaybin, erstwhile Nisibis—north-west of their homeland (Lewy, 2-4). Maps by Olmstead and Parpola (who is willing to locate only those sites "identifiable with certainty"), plus Millard, 202, are in agreement. Theophylactus (see Olmstead, 227) and Ammianus Marcellinus (see Lewy, 3) give us enough information to confirm this location.

Albright (1931), 10, however, would locate Izallu in the same foothill country but some distance to the west, just north of the town of Harran. Lewy, 3, can find no justification for this. The discrepancy is not vital here: even if Albright is correct, Izallu remains a long way from Elam.
It would be worth investigating whether Hulbunu should also be relocated from Elam to the Assyrian marches. It seems possible. For "wine of Hulbun" (in other words, Syria's Helbon wine—see footnotes 196, 251, 319) is closely linked with "wine of Izalla" in a lexicon text from Nineveh (Millard, 201).

Lutz, 126.

Younger, 65. Birket-Smith, 169, writes that Babylonian products were exchanged for wine, oil, timber, stone, and copper from Elam and Assyria. But the grammatical construction of his sentence results in ambiguity: it may but need not indicate that wine was imported specifically from Elam.

Anatolia is not to be regarded as co-extensive with modern (trans-Bosporan) Turkey. Neither the Black Sea coastlands nor the Aegean and Mediterranean lowland and foothill fringes of Asia Minor should be so included.

The distinction between the two interior basin complexes reflects the fact that in Persia the encircling mountain chains are loftier and the interior itself of lower average altitude than is the case in Anatolia. Consequently, less precipitation is available in central Persia than in central Anatolia (Fisher, 314).

I am not aware of any need to suppose a substantially different climate than exists today during the period of, say, the last 10,000 years. Nonetheless, the examination of moraines in several parts of modern Turkey has yielded evidence of embryonic glacial regeneration subsequent to the 'Climatic Optimum' of post-Pleistocene times. Well within the scope of the above-defined period, this phenomenon indicates a cooler climatic phase, perhaps accompanied by increased precipitation. For details, see Erinc's article. Such climatic change could well have mitigated the viticulturally adverse environmental conditions of Anatolia's interior basins.

Actually, today's distributional pattern of grape growing does venture into these less hospitable parts of Anatolia (apparently aided by irrigation), although it more strictly shuns the more arid Persian equivalent. Still, the best vineyard land is the encircling, rugged hill country—the Taurus range of Cilicia, particularly its extension inland; the southern Anatolian foothills overlooking Syria (including ancient Izallu—see footnote 211); the sweep of the Zagros chains in Persia as far south as Shiraz, long famed for its grapes; and the Yerevan area of the Armenian S.S.R. See anon. (1964), 37, Fisher, 284, 322 and Johnson, 208.
While in broad terms this is true, exceptions can be found. Thus, much of Armenia, where Pontine influence intrudes inland, receives a spring precipitation maximum as well as increased rainfall levels (Fisher, 317).

But in places may have been a hazard to the vine's winter survival.

This evaluation doubtless requires certain amendments. In particular, two. Firstly, the wine god Dionysus displays strong associations with western Anatolia. Secondly, it was from Persia that knowledge of (if not enthusiasm for) the cultivated vine and its fermented juice spread to eastern Asia, carried by Chinese travellers—see Laufer on the vine; cf. B. Gray, 13, who notes that the motif of lions among vines, which decorates the reverse of certain Chinese bronze mirrors, was instrumental in encouraging recognition of Persia's influence upon the art of the T'ang Dynasty.

As revealed by the examination of Hacilar's plant remains by Helbaek (1970).

Mellaart, 224-25.

Van Zeist/Heeres, 113, 114.

Lloyd/Mellaart, 106.

See Piggott, 78, 81, 116-17, for some introductory remarks on this topic.

Cf. Brothwell/Brothwell, 169.

Quoted in Brown (1969b), 168.

Quoted in Gurney (1964), 81.

Quoted in Fabricius, 279.

Cf. Goodenough, V, 125, who tells that in Hittite religion wine was the principal substance employed for libations.

Referred to, in varying degrees of detail, by de Mortillet, 264, Goodenough, V, 137, McKinlay (1948-49), 399, and Seltman (1957), 24-25. The stele is illustrated in Hyams, 221, Lutz, 142, and almost any text on Hittite art.

Its territorial extent is examined in Özgüç, 256.

Lang, 95, 98.
The southerly Susiana area possessed primitive irrigation and various domesticated plants and animals as early as the middle of the 6th millennium (Hole/Flannery, 354) and commonly by the 5th millennium (English, 18). To the north, there is evidence from the Hasanlu area beside Lake Urmia that incipient agriculture was present by the 6th millennium (Young, 707).

See particularly footnotes 213, 214, and relevant section of text.

The evidence is given in Dyson (1962), 642. Helbaek (1962), 181, may offer support.

Particularly appreciated by the Persian court was Syria's Helbon wine (Younger, 69).

Cameron, 167. There is room for doubt in the exact translation of the tablet (see Gershevitch, 134-35), but we are certainly dealing with the viticultural industry.
Cameron, 167. Or some closely allied viticultural occupation (Gershevitch, 137).

For etymology, see Tedesco, 149, 152-55.

See Cameron, 167-68 (phrase from p. 167).

Claiborne, 296-97; English, 19.

Cf. Hyams, 212.

Minns, 31-32 (texts), 55-56 (commentary, in which the *ganat* figures).


Beyond this brief mention, I do not intend to examine the nature of the presence or role of the vine in central Asia. I think it is likely that the oases of Sogdiana, like those of Bactriana, tended the vine. At any rate, there is a Sogdian term for 'winepress', which may even have been taken into Persian as a loan-word (Henning, 96-97).

Lucia (1962b), 158.

Stated by Hyams, 212, and McKinlay (1948-49), 405.

Laufer, 223.

Quoted in McKinlay (1948-49), 404.

Lucia (1962b), 159.

Basham, 18; Sigerist (1961), 200.

Bowman, 7. Cf. Lucia (1962b), 158.

Sigerist (1961), 200.

Basham, 18; Wasson, 202.

There exists a considerable critical literature on this topic which I have made no attempt to enter. For an introductory overview of identifications made, see Bowman, 12-14.

The response to Wasson which I have encountered seems generally enthusiastic. Some writers have endorsed his findings as definitive.
See Bowman, 9.

Bowman, 7.

Here too may be further explanation for the slow adoption of wine by the invading Indo-Europeans. For they brought with them haoma/soma.

Quoted in Azzi, 104. He illustrates the importance of the winter-spring precipitation by the following example (pp. 103-04). For a Sicilian station (1906-07), a winter-spring rainfall of 471 mm and summer rainfall of 4.1 mm resulted in a bounteous grape harvest. For a second Sicilian station (1907-08), figures of 259.1 mm and 2.5 mm respectively produced a very poor harvest. To the extent that other factors can be kept equal, the influence of the winter-spring rainfall becomes critical.

Cressey, 420; Shalem, 155; G. Smith, 63.

Regarding the decisive role of the 'latter rains', a modern Lebanese proverb runs thus: "If the crops do well or fail, it is the work of Adhar [march]" This is quoted in Brown (1969a), 7.

Additionally, the parch-dryness of summer is mitigated by heavy dews. See Ashbel. Cf. more briefly, Neiman (1969), 129, or Shalem, 158-59.

J. Gray, 66; Shalem, 158.

It seems that the conditions which I have outlined characterise both modern and ancient times. Shalem, utilising climatic, hydrographic, biological, and demographic evidence, argues a convincing case against any climatic change. However, I. Blake emphasises the significant ecological consequences in marginal areas of even small climatic fluctuations. If he is correct, then the distribution of vineyards (but not their presence) may have been affected.

Forbes, 64; Lucia (1963b), 156. 'Strong drink' is thought by some to indicate date wine--thus Kennedy, 973, and Moldenke/Moldenke, 213.

Kennedy, 974; Lucia (1963b), 156; Moldenke/Moldenke, 213; Neuburger, 105; L. West, 162.

This 'apple' wine is mentioned frequently in the Mishnah. It was made from the quince or whatever fruit the Hebrews' 'apple' signified--Kennedy, 974.

Lutz, 22.
Its location has not been identified with certainty. Millard, 202, cites and evaluates briefly the two candidates commonly proposed.

Kennedy, 974. Cf. footnotes 196, 251.


Quoted in Hyams, 53. Cf. Goor, 47.

De Moor, 53.

Its language is figurative, its interpretation problematic. See Finkel, Gaster (1961), 407, 408, 420-22, and Kosmala. The song is part of the longer and even more recondite Poem of the Gracious Gods (such is Gaster's rendering; it was originally entitled La Naissance des Dieux Gracieux et Beaux--Finkel, 29).

Astour (1966), 284, with a more detailed etymological examination in Astour (1965), 187.

Younger, 67, informs that a wine goddess, Pagat, who cultivates the vine, is mentioned in the tablets.

Cf. Rostovtzeff (1941), 384, for the Ptolemaic period.

L. West, 161.

L. West, 162.


Åström's excavations at Kalopsidha, towards the eastern end of the island, have yielded pithoi whose interiors still retain coatings of a pitch-like substance. (On the pitching of wine jars, consult Chapter 3.) He believes that these held wine (Åström, 44, 47).

Hill, 11.

Hill, 241.

Myres, 7.

See Myres, 309.
Examples are a selection from Goor, 48. They all appear in the Bible (respectively Judges 11:33, Numbers 13:23, Judges 16:4, Joshua 11:21, and I Kings 18:19), but Goor provides non-Biblical instances as well.

Lichine, 299.

Kennedy, 973; MacKay, 88; Moldenke/Moldenke, 213, 243; Reifenberg, 381.

Chafetz, 14. But de Vaux, reviewing the findings at Gibeon, does not accept that the identification of this winery is established beyond all question.

For such an approach, see MacKay, 83-94.

G. Smith, 208.

After the manner of Judges 15:5.

To be examined later in this chapter.

See Goor, 52.

Goor, 53-57; makes useful study of these.

Lutz, 25; Younger, 75.

Indeed, Sharon's wines were later to become renowned in western Christendom. St. Isidore of Seville refers to the wine from Gaza (Isidore, XX, iii, 7). Gregory of Tours and the 6th century writers Cassiodorus and Corippus each extol the Gaza vintage in some manner. See Dion (1952a), 12.


See the evidence of wine in early Syria.


Genesis 49:11-12. Centres of wine production were Gibeon (see footnote 304), Timnath (where Samson wrestled with the young lion--Judges 14:5), Lachish (an Assyrian bas-relief from Nineveh depicts Sennacherib besieging this city with a vine-clad hill in the background--Hyams, 55), and presumably many others.
A little to the north lay wine-producing Samaria (Jeremiah 31:5—"Thou shalt yet plant vines upon the mountains of Samaria: the planters shall plant, and shall eat them as common things").

The trade between this region and the civilisations to the east has already been discussed. Here, possibly, was the location of Helbon.

See footnote 295. An alternative location for Helbon is here.


Isaiah 16:8. Sibmah is in Moab.

Forbes, 79; Lutz, 62. Most informative is Goor, 57, who notes that ancient winepresses have been found in the Negeb and that Hieronymus (St. Jerome) in his Life of Hilarion praises certain wines from this region.

Mayerson (affirmative) and Glueck (negative) have been the central protagonists in this debate.

Semple (1929), 135.

Song of Solomon 1:14.

Allegro (1964), 25. The Copper Scroll (commonly associated with, but not truly part of, the Dead Sea Scrolls) is an inscribed inventory of hiding places of a considerable treasure hoard. For present purposes, it matters little whether we view the treasure as real or as a product of the imagination. A brief survey of divergent opinions on the matter can be found in Vermes, 250-52.

Probably the wine called 'Petritan' (Younger, 462).

Helbaek (1962), 181, is convinced that there is as yet no reliable evidence to suggest that Vitis silvestris ever flourished in the Levant. Support for this position comes from Goor, 46, and Lebadoux (1954b), 10. The matter may not be so simple. For Arribas, 44, writes that "los granos de uva del Neolítico y Bronce de Palestina y Siria . . . son silvestres." Unfortunately, he gives no basis for his statement. On the other hand, Helbaek—the foremost of palaeobotanical authorities—makes no mention of wild features, a want not produced through failure to consider the possibility. See Helbaek (1962), 181. Indeed, he comments on the large size of the pips recovered at Lachish as evidence of domestication—Helbaek (1958), 310. Curiouser and curiouser: J. Renfrew, 129, using Helbaek's results from Lachish, draws the very different conclusion
that the pips show wild form. I cannot easily reconcile these contradictory positions. An explanation for Arribas' assertion, however, may come from a comment by Hopf on the grape remains from Jericho. She writes (p. 357): "It is a moot point whether the shape of the pips or the number in each berry are indicative of the primitive state," but she adds (p. 358) that these Bronze Age pips were introduced rather than native. So, conceivably, Arribas could be referring to traded grapes or raisins which had not been altered sufficiently by man's cultivation to be classed as domestic. Obviously, the matter is not closed. But note that to prove *Vitis silvestris* formerly native to the Levant would be only the first step in dismissing my adjective "borrowed." The presence of the wild vine would in no way preclude the introduction of an organised viticulture and winemaking. Pro tempore, then, given the lack of trustworthy evidence in favour of the wild vine plus the fact that its presence would prove nothing in itself, I think that we must talk of a borrowed innovation.

329 Reifenberg, 380.
330 Abramsky, 20.
331 See Albright (1942), 15-16.
333 Helbaek (1958), 310-11.
334 Respectively Helbaek (1962), 180-81, and Helbaek (1966b), 122.
335 J. Renfrew, 129.
336 This marks the beginning of a series of such imprints dating from the Early Bronze Age down to the Iron Age, by which time a far greater frequency is attained.
337 Helbaek (1958), 310; Helbaek (1962), 181.
338 Hopf, 356, 357.
339 Goor, 46, believes that 5000 B.C. is nearer the truth.
340 It is possible that Babylonia acted as an intermediary. By contrast, the suggestion that the Semites learned about wine and winemaking from the Egyptians during their Hyksos invasions of the Nile delta is totally untenable: the resultant date of around 1700 B.C. is far too late. To be fair, however, this suggestion from Perrin, 48, was made some time ago.
See footnote 42.

Karmon, 501. But with other localities also--see Chapter 1, footnote 126.

Hood, 87; C. Renfrew, 281; Vickery, 52.

This, however, is not to underestimate the importance of Evans' work. For a tribute to his place in Minoan archaeology, see Hood, 8.

C. Renfrew, 269, 278, 281. Similarly, grape remains from the island of Lesbos, dating from just before the beginning of the Early Bronze Age, appear to be from the cultivar (Lamb/Bancroft, 89).

Brothwell/Brothwell, 147; Lebadoux (1956), 75; Vickery, 53.

Brothwell/Brothwell, 147.

Hood, 87. Cf. Åström, 138 (Phaistos), and J. Renfrew, 127 (Phaistos).

Perrin, 47.

C. Renfrew, 282. According to Vickery, 53, the Orchomenos pips were found in association with a pithos; he regards winemaking at this site as "almost certain."

Hutchinson, 244. Cf. Vickery, 53.

Hood, 87.

Younger, 83.

But see footnotes 365, 366, 367, and accompanying text.

On the Cretan scripts, see Hutchinson, 64-88.

Thus Glotz, quoted in Vickery, 53.

C. Renfrew, 282.

C. Renfrew, 282-84. But see Chapter 4, footnote 67, on distillation.

Hood, 86.

C. Renfrew, 282.
Platon, 28, 29, 66.

Platon, 47, 244 (quote).

Kerényi (1957), 13-14, takes this for granted; Hyams, 66-70, accepts this as one of two possible routes of movement. See footnote 372.

On such Cretan trading, see Hood, 123-25, and Hutchinson, 102-05.

Cf. Helbaek (1966b), 122 (Greece), Hyams, 66 (Greece), and Vickery, 53 (Crete).

Hutchinson, 73.

C. Gordon (1966), 38.


=Byblian.

On Bibline wine, see Hyams, 85-86, and Younger, 99-100.

See footnote 344 and accompanying text.

Unless southern peoples, carrying a knowledge of viticultural techniques but no vine stock, made contacts of some kind with the north Aegean at an extremely early date. I know of no evidence to this effect and Renfrew, who might be expected to know, does not even consider the prospect.

Hyams, 70-72, 81-85, also proposes a movement into Hellas from the north. If I interpret correctly his somewhat confused argument, he attempts to equate the diffusion of the vine with the path travelled by the ecstatic wine god Dionysus, as represented in Euripides' Bacchae. Reasoning thus, the vine and winemaking arrived in Greece from the east by way of Anatolia and Thrace, resulting in a northerly entrance. (To be fair, Hyams also acknowledges that Crete received the vine under different circumstances.)

An unlikely hypothesis. There are too many 'arrivals' of Dionysus in myth and literature for the text of Euripides alone to stand as a sound basis. As Younger, 120-21, has done, a Dionysiac route from Phoenicia via Crete to the Greek mainland can be reconstructed from alternative material. Above all, there is the increasing willingness nowadays to admit that the emphasis on a Phrygian-Thracian wine god is a scholarly aberration concealing his southern
nature and arena of action—see in Astour (1965), 169-204, and Kerényi (1957). But apart from all this, the date (ca. 1600 B.C.) proposed by Hyams, 83-84, is disturbingly late.

373 C. Renfrew, 284.
374 Chadwick (1972), 42.
375 Hyams, 87-88.
376 See Dawkins (1902-03), 295.
377 Blegen (1959), 122.
378 Younger, 89.
379 Blegen (1959), 122.
380 Dawkins (1909-10), 9-10.
381 Chadwick (1968), 197.
382 Examples from Younger, 88-89.
383 Younger, 89.
384 For present purposes, it does not matter whether 'Homer' was an individual poet or a traditional body of literary material.
385 Younger, 94-97. Younger may do his own case an injustice. He concludes that while Homeric wine drinking appears to reflect Mycenaean traditions, the food eaten is that of a more recent date (that of the Dorian invaders of Greece), since meat is consistently stressed in the texts, whereas the basis of the Mycenaean diet was grain. This mal-chronology he allows to cast an element of doubt upon his conclusions about wine. But Howe would take issue with Younger's dietary assumptions. She believes that diverse data point to low Mycenaean dependence on farinaceous products and a significant role for livestock. If Howe is correct, then Younger has unnecessarily thrown doubt on his conclusions concerning wine.
386 Younger, 98.
387 =Ismaran.
388 De Mortillet, 265; Dion (1952b), 468.
389 Quoted in Younger, 99.
Cf. Danov, 10, and C. Renfrew, 290.

Forbes, 101.

McKinlay (1953), dissatisfied with the commonly advanced notions of temperance in the Homeric world, exhumes numerous indications to the contrary which are normally overlooked. He judges (p. 91) that "the evidence shows that the Homeric Greeks drank much and frequently and for hours at a time," though the end result often stopped short of the incapacitation of the drinker.

Younger, 104.

See Heichelheim, 167.

On Greek diet, see Forbes, 100-01, Jensen, 132, Simeons, 91-92, and Younger, 112-14.

Seltman (1957), 131.

See Seltman (1957), 1-13 (symposium) and 111-12 (kottabos).

Quoted in Younger, 113.

Seltman (1957), 132, 133.

Based upon information from Seltman (1957), 135. Cf. Robert, 428, for Icaria.

It is reasonable to presume that the oinos toponym element generally alluded to local circumstances. Thus Oine, a town in Icaria, testified to the renown of its vintages (Robert, 426, 429).

Compiled from Dion (1952b), 468, and Hyams, 88-89. Athenaeus is cited by Semple (1931), 672.

Really, Hyams, 88, simply cannot get away with "the commercial importance of subsistence viticulture."

Claiborne, 331.

Milne, 180, makes the following interesting point. Egypt was prepared to trade its plentiful grain for Greek silver since she valued silver before all other metals (thus the value ratio of silver to gold was 2:1). Now, a locational advantage, the fact that the notable silver mines of Siphno were on a nearby island, gave the western Aegean island of Aegina the lead over all other aspirants to maritime trade with Egypt. On such exchange it waxed
fat. Milne suggests that a piece of silver would have purchased five times as much grain in Egypt as in mainland Greece. Hence the Aeginetans would have been able to flood the mainland market with cheap corn such that "it is not surprising that in the second half of the seventh century the farmers of Attica found corn growing an unprofitable business."

406 Rostovtzeff (1941), 93.

407 Other important exports were olive oil and silver.


409 Cf. Ullman, 866.

410 Cf. the situation for manufactured goods—Rostovtzeff (1941), 104-05.

411 Forbes, 120.

412 Rostovtzeff (1941), 94; Rostovtzeff (1957), 1-2.

413 Rostovtzeff (1957), 375.

414 De Mortillet, 261-62; Lebadoux (1956), 74-75. Vine pips have also been found in the Swiss lake dwellings of the Bronze Age—Haskell, 90.

415 Hyams, 95.

416 Helbaek (1956), 293. For what it is worth, Lebadoux (1956), 84 (cf. ex silentio, 60, 77), shows the distribution of the wild vine in modern times as avoiding southern Italy. However, both Hyams, 93, and Younger, 134, assume that this vine grew in Magna Graecia.

417 Helbaek (1956), 293. "This conception is supported by another find," he argues. "In Campo di Servirola, Provincia di Reggio Emilia, several carbonized vegetable food deposits, recovered in Hallstadt context, consisted of wheat, Horsebeans and Cornel pits (Cornus mas L.). Only one deposit differed from this composition, consisting of uncarbonized grape pips and Hazel nuts. It came from an Etruscan tomb."

418 Cf. McFayden, 29: there is no evidence to suggest that the Indo-European peoples cultivated fruit trees.

419 Thus McFayden, 31.
Unfortunately, I have been unable to relocate my source for this citation.

Hyams, 93.

Hyams, 95.

Considerably later, however, a major Phoenician (or by that time Punic) influence entered Roman agriculture, vineyard cultivation included. This was the farming treatise of the Carthaginian Mago, honoured as the 'Father of Agriculture' we are told by the Roman agronomist Columella, who cites Mago on certain points of viticulture. During the sacking of Carthage this treatise was carefully preserved. Thus Pliny refers to "the Carthaginian Mago, whose work the Senate so honoured, that when after the conquest of Carthage it presented the libraries of the city to the neighbouring kings, it ordered this work in 28 books to be translated into Latin by men skilled in the Punic language" (Pliny, XVIII, 5). My source here is Mahaffy, who should be consulted for a more detailed account.

R. Bloch: on autochthonous origins (pp. 61-64), on migratory origins (pp. 51-53, 63-64), on Lydian ties (pp. 55-60).

Strong, 16. See also Vaughan's review of this (p. 20).

Hyams, 95--ca. 900 B.C.; van der Heyden/Scullard, 91--ca. 800 B.C.; Younger, 151--ca. 800 B.C.

Hyams, 94; Younger, 151-52; and see Vaughan, 18.

De Mortillet, 265-66.

Beazley, 16-17 (and figure 22).

Beazley, 14 (and figure 18). On Fufluns, see R. Bloch, 154.

Lawrence, 57, 63, 64, 69, 74, 76, 77, 82.

Lawrence, 77-78; Strong, 86.

Strong, 81, 104.


Strong, 41.

Beazley, 1, 2, 16.
That is, modern Orvieto.

See Mayani, 144-48.

Mayani, 13.

Mayani, 16.

Consult Mayani, 158-69.

Cf. Lichine, 2.

Lawrence, 55.

It may be significant that during the 7th century B.C. Greek immigrants arrived in certain Etruscan cities—Strong, 40.

See footnote 417. "It is surely significant," writes Hyams, 94, "that the very earliest poems written in Latin in praise of wine are concerned with Etruscan, not with Greek wine."

Chapot, 71; Scalais (1925), 148; Younger, 134. According to Hyams, 124, many Greek grape varieties arrived in Italy by way of Magna Graecia.

Volcanic soils are widely recognised as favouring viticulture—thus Hyams, 103 (Sicily) and Stola/Jankowski (Badacsony).

Seltman (1957), 133. Cf. Scramuzza, 270.

Younger, 134.

That is, modern Agrigentum.

Scramuzza, 269-70.

Scramuzza, 270.

Pazzini (1971), 22; Rostovtzeff (1957), 10.

Pliny, XVIII, 24, quoted in Dion (1952b), 482, and Helbaek (1956), 293.

Ferrero, 283. Cf. André, 163.

Pliny, XIV, xiv, 88. Romulus was probably mythical. No matter: he can be taken to symbolise early Roman society.

André, 163; Ferrero, 283.
Andre, 171.

Andre, 171, cites Athenaeus to this effect and Hyams, 95, refers to Aulus-Gellius. The rationale? There appears to have existed a widespread and longstanding tradition that wine's heat-generating properties would encourage fever in the already warm and sanguine constitution of youth. Plato propounds this. He argues that before the age of eighteen wine should never be drunk, that until thirty it should be taken only in moderation, but that after forty, when the body is cold, it can be consumed more freely (Poznanski, 37; Rist). The physician Galen, commenting on the Timaeus, echoes this reasoning (Rist). And, later, St. Isidore of Seville provides the same explanation. See XX, iii, 2. He is probably repeating Galen (that this is possible, see Sharpe, 22).

Pliny, XIV, xiv, 89, inter alia (including Aulus-Gellius, Plutarch and Polybius, according to Durry, 109). The rationale is obscure. Classical authors have emphasised that alcohol makes a woman an adulteress all too easily (Durry, 110). It is possible to invoke medical explanations. Women were sometimes thought to possess the same heated constitution as youth, but this rationale makes the violent punishment of female offenders somewhat puzzling. That childbearing was viewed as endangered by wine drinking has been proposed by Durry, 110-13, but this is ill-supported by the mass of textual evidence (Andre, 173-74). Schilling, 50, argues that "drinking wine was likened to a state of possession" and quotes Noailles as follows: "En buvant, la femme se soumet à un principe de vie étranger, donc hostile. En introduisant cet élément extérieur en elle, dans le sang de la famille, elle en détruit l'intégrité. C'est une souillure de sang."

Pliny, XIV, xiv, 89.

Pliny, XIV, xiv, 89.

Pliny, XIV, xiv, 88.

See Chapter 5.

Rostovtzeff (1957), 13.

For brief accounts, see van der Heyden/Scullard, 101-03, 105-07, 118.

Ferrero, 285.

Chapot, 72. Cf. Perrin, 56.
For the devastating effects of the war, see Scalais (1924), 86, and at greater length, Scalais (1928).

This situation was exacerbated by the fact that grain production was becoming uneconomic in central Italy. Obvious alternatives were wine and oil, but the vine required several years and the olive many to yield a harvest. Investment giving such delayed returns was beyond the reach of the peasantry.

It can be added that contact with the 'good life' of the cities while serving in the army seduced many from the land--Scalais (1928), 179.

The Punic War thus marked a turning point in land tenure, as Scalais (1928) is at pains to emphasise. Here was the death knell to the smallholders--Scalais (1928), 182, 183-84, 185; Scalais (1925), 163. No help came from the Senate which had vested interests--Scalais (1925), 161.

As for the senatorial class, the Lex Claudia (218 B.C.) had forbidden senators and their sons from owning seagoing vessels able to carry more than 300 amphorae. Livy tells us this. So, with the legal wherewithal for profitable trading removed, many of the senatorial class turned to investment in the land (R. Pritchard, 545).

The cheapness of Sicily's grain is a recurrent theme in Scalais' articles. With the arrival of the Romans on the island "la production du blé particulièrement prenait pour les nouveaux conquérants une importance capitale"--Scalais (1923), 243. It became Senate policy to keep Sicilian (and Sardinian) grain prices low, as was invariably the case in years of normal production, in order to ensure a cheap grain supply for the capital and the army--Scalais (1925), 157, 159. Eventually, writes Scalais (1924), 95, the peninsula became tributary to the islands for a major portion of its cereal needs.

Certainly, central Italy could not easily compete, but Scalais warns against overestimating Sicily's effect on the production of this area. For a start, he calculates that the combined output of Sicily and Sardinia would not have inundated Rome's market to the complete exclusion of other regions--Scalais (1925), 155. Moreover, due to transportation difficulties on land, much of even Latium's harvest was consumed locally without ever reaching the greedy city--Scalais (1925), 159. So Sicily's effect may have been considerable, but was not overwhelming.

In time, Italian wines reached the Indian subcontinent (Manchester, 392) and as far south as Ethiopia and East Africa (L. Thompson, 33, 56).


Ferrero, 287-89.

Pliny, XIV, vi, 55, writes that the year of the consulship of Lucius Opimius "was renowned for the excellence of its vintages of all kinds." The same wine is mentioned with reverent tone in Juvenal's Satire V. See Schnur (1957) on the character of the Opimian wine.

And so Greek wines were drunk sparingly (see Pliny, XIV, xvi, 95 and XIV, xvii, 96) as befitted an item of connoisseurship.

Pliny, XIV, xvi, 95.

Thus Cato, CV:

"If a country is far from the salt water, make Greek wine there in the following way: Pour twenty amphorae of must [i.e., grape juice] in a bronze or lead cauldron; build a
fire beneath it. When the wine boils, draw the fire. When the wine has cooled, pour it into a storage jar holding forty amphorae. Pour one amphora of fresh water into a separate vessel with one modius of salt and let it become a brine. When the brine is made, pour it into the same storage jar. . . . After thirty days seal the jar. Towards spring draw it off in amphorae. Let it be exposed to the sun for two years. Then put it under cover. This wine will not be inferior to the Coan i.e., the wine from Cos.

485 According to Younger's reckoning (p. 202). But Loane, 19, does not differ greatly. (Incidentally, the other two were Rhaetic and Mamertine.)

486 Pliny, XIV, viii, 63.

487 I have not mentioned the numerous minor wines in Latium, Campania and the interior mountains. For these, see Younger, 155-57.

488 On the wines from the Pompeii area: Loane, 19; Rostovtzeff (1957), 61, 64, 564; Younger, 171-72.

489 Only Caecuban and the Setine that so pleased Augustus (Pliny, XIV, viii, 61) rivalled it.

490 Thus Horace, II, vi, or Martial, III, lxxvii.

491 The Aegean wines retained their repute, declares Pliny, XIV, xvi, 95, "even after Falernian had already been discovered." Caesar celebrated his triumph over Spain (ca. 60 B.C.) with Chian and Falernian (Pliny, XIV, xvii, 97). Likewise, Tibullus opened both these brands for a special festivity (Tibullus, II, i).

492 Pliny, XIV, viii, 62. This may be why Schmeling, 249, discussing the wines served at Trimalchio's banquet in the Satyricon, ranks the Falernian drunk there below Caecuban, Setine, and the Greek Chian.

493 Isidore, XX, iii, 6.


495 Houston (1964), 121; Hyams, 104.

496 Ferrero, 290; Houston (1964) 121; Younger, 158.
Quoted in Younger, 158.

Ferrero, 290; Loane, 24; Rostovtzeff (1957), 71-72.

Younger, 157.


Pliny, XIV, xvi, 97.

Rostovtzeff (1957), 209, but see 553.

For example, it was no longer considered outrageous for women to drink. And drink they did. Seneca describes women imbibing through the night at the banquet table, boasting of their efforts (Patrick, 21). The barbed wit of Martial ridicules such 'emancipation' (see I, 1xxxvii).

Pliny quoted in van der Heyden/Scullard, 147.

Alternatively entitled De re rustica by some.

Alternatively entitled Res rusticae or Rerum rusticarum by some.

Aymard (1967), 587-88, 596.

Hyams, 106.

Thus even as late as 1885, Columella was christened "the inspirer of Italian agriculture" by the venerated Italian authority Ottavio Ottavi, in his Viticultora teorica-pratica (quoted in Hyams, 107).

Aymard (1947a), 262; Aymard (1967), 587-88; Mickwitz, 585; Reinach, 368; Rostovtzeff (1957), 98.

According to Aymard (1947b), 45, "ainsi se comprennent les jugements défavorables rapportés et critiqués par Varron et Columelle," while, in Chapot's words, Columella was struggling "pour remettre en honneur les travaux rustiques."

Columella quoted in Hyams, 107.

On the entire episode which occurred on the day of Cicero's accession to the consulship on January 1, 63 B.C., see Aymard, (1947a).
Worth mention in passing is the thesis of Mickwitz that the book-keeping procedures of the Roman agronomists were really too rudimentary to enable them to make judgements of profitability with any degree of accuracy.

There is also the point that the master may do what his followers cannot. In the case at least of Columella, his own considerable skills may have allowed him to run a more profitable enterprise than would normally have been the case.


Aymard (1967), 588.

Strangely enough, Schnur (1959), 794, argues the possibility of a shortage of wine at one point in time. His basis for this is Petronius. In the Satyricon, Trimalchio boasts that he had made his fortune from trading in wine when that commodity was worth its weight in gold ("tunc contra aurum erat"). Implied is a scarcity of wine at some former time, which can probably be dated to the reign of Tiberius (A.D. 14-37). Possibly. It could conceivably have been caused by a reaction against excessive production, and would necessarily have been short-lived. But the foundations of Schnur's reasoning are unsure: Trimalchio is perhaps the least trustworthy of Petronius' picaresque characters; he may just have been indicating in his own extravagant way—and the grandiose was no stranger to Trimalchio!—that wine was a sounder investment in his youth than in the period which Petronius is satirising. I find that Dion (1954), 107, reads this passage in the sense I propose.

"L'inondation de l'Italie par des produits provinciaux," is de Laet's verdict, quoted in Schnur (1959), 794.

Quoted in Dion (1954), 107.

Loane, 20.

Presently to be examined in more detail.

Rostovtzeff (1967), 740.

"Les troubles provoqués par le manque de boisson étaient donc si fréquents que les préfets étaient amenés à surveiller de près le commerce des tavernes, en particulier, les prix d'achat et de revente du vin" (Chastagnol, 172).

See Chastagnol on the topic of arca vinaria.
525 It would be short-sighted to suppose that all such colonising efforts were a product of economic stimuli.

526 Cf. footnote 445. According to Hyams, 124, there is no such thing as a *Vitis vinifera* cultivar of pure occidental descent. But see also footnote 566.

527 For an introductory historical perspective on the Phoenicians, see Albright (1942).

528 The Phoenicians were the Sidonians of the Bible.

529 A parallel will be seen presently: Carthage, after losing an empire in the struggle against Rome, depended upon specialism in wine and oil to pay for grain imports.

530 As evidenced by choice of toponyms, a strong utilitarian philosophy appears to have characterised the colonising Phoenicians. See Neiman's article.

531 Examined in an earlier section. The Phoenicians were relative latecomers to Cyprus which may have acted as a point d'appui for colonising parts of the western Mediterranean. An instance of this is seen in the earliest epigraphic evidence (9th century B.C.) of the Phoenician presence in Italy, the Nora Stone from Sardinia's south coast--C. Gordon (1971), 111. The text implies that the colony at Nora migrated from Cyprus (Kition-Larnaca):

"The temple of the Cape of N G R which is in Sardinia - Hale be it! Hale be Tyre, mother of Kition-Larnaca! - which N.G.R built for (the god) Pumiy."

532 Essentially modern Tunisia.

533 Modern Morocco and western Algeria.

534 Several reasons may account for the vacuum between the environs of Carthage and Mauritia in the west--notably, such navigational discouragements as problem currents and inadequate harbours, and limited potential for commerce, especially when contrasted with the richness of southern Spain close at hand (Carpenter, 34).
Some of the individual sites and the circumstances involved in their establishment are discussed briefly in Carpenter, 31, 34-35.

Carthaginian navigators ventured boldly into Atlantic realms. An expedition, commanded by Himlico, sailed northwards, perhaps as far as Brittany (Dicks, 22); Hanno, according to the *Periplus of Hanno*, voyaged "to the Afric lands beyond the Pillars of Herakles," and appears to have reached the Gulf of Guinea (see Carpenter, 35-36).

On the other flank of Africa, if we can credit Herodotus, Phoenician seamen--under the orders of King Necho of Egypt (ca. 600 B.C.)--travelled south, rounded the Cape of Good Hope, and completed their circumnavigation of the continent in a period of three years (Dicks, 21-22). Curiously enough, a Phoenician galley was reported well over a century ago now from the vicinity of the Cape of Good Hope (Jorberg). But certain claims for Phoenician Wanderlust are obviously fanciful (e.g., O'Neill, 442-46, and Rathjens, 152, 154, on Zimbabwe).

Thus Gades (now Cadiz) in southern Spain and Utica, close to Carthage, had been founded several centuries earlier.

Albertini, 52.
Referred to in Picard/Picard, 148.
Leschi, 80.
Hyams, 205.
See footnote 422.
Haywood, 23; Picard/Picard, 148, 149. Further investigation on my part would undoubtedly yield other areas of provenance--e.g., amphorae from Etruria have been recovered from local tombs (Fantar, 18).

Picard/Picard, 149, 182.
A similar policy was pursued with respect to the olive.

Rostovtzeff (1957), 548. Cf. Scalais (1925), 154: "L'importance que les Carthaginois avaient attachée à la possession de cette île [Sardinia] était justifiée principalement par sa production de blé."

Rostovtzeff (1957), 314, 547.
See footnote 619.

Cuadrado, 124. Galtier (1968a), 87, is dubious.

Hyams, 171; Stanislawski, 7. If so, production was probably meagre since, according to Picard/Picard, 190, much of Carthage's exported wine was destined for the Balearic Islands.

Lichine, 490.

Referred to in an earlier section.

Cf. footnote 369.

Owen, 104; Rainbird, 161. As we might expect, the Phoenicians planted their vines (of a variety which they called dielja or 'shade-maker') in the hilly districts of Malta island.

For varying opinions on this matter, see Dorozynski/Bell, 34, Perrin, 58, and Winkler, 39.

G. Clark (1952), 273; Piggott, 195. Brogan, 218, and Pirenne, 228, observe that the word for 'wine' in all Teutonic languages is a borrowing from the south.

Notable exceptions were the Nervii, a Belgian tribe whom Caesar records as having banned such foreign fooleries as wine, the Germanic Suevi who legislated likewise, and the Ukraine's Scythians, of whose scorn for wine several tales are told by ancient authors--McKinlay (1948-49), 388, 411, 408-09.

Galtier (1968b), 113; Jensen, 129; McKinlay (1948-49), 390. On the Gauls as heavy drinkers, see de Santi, 15-16.

McKinlay (1948-49), 390, 410, 412.

G. Clark (1952), 273-76; Piggott, 154-55.

See footnote 702 and accompanying text.

Chapot, 74.

Levadoux (1956), 108.

Levadoux (1956), 108.
While Hyams, 124, doubts the existence of a *Vitis vinifera* cultivar of pure occidental descent, Levadoux (1954b), 12, argues that it is likely that the vines of western Europe are characterised by a greater indigenous than imported component. Galtier (1966b), is emphatic about the significant role of native wild vine stock. (Such modern grape variety names as Sauvignon and Lambrusquet attest wild origin; Wagner, 113, believes that the testimony of etymology could be impressive on this point.)

Van Royen, 129.

Schoonmaker, 2, defines this as a minimum of 100 days of full sunshine between May and September; Marres, 11, asks for 108 days reaching a mean of 19°C subsequent to the flowering period.

Modern Hungary.

And are experienced in parts of Africa and the Near East. See footnote 18.

The vine's precocity: Azzi, 176.

Schoonmaker, 2. Cf. Debuigne, 228. 'Cold' is a happier translation than 'frigid'.

Of course, examples are not absent from regions of maritime climate. Thus in February 1956, Saint-Emilion and Pomerol were ravaged by a frost of -25°C following a period of mild weather—'un véritable désastre' (Debuigne, 119).

Azzi, 53, 181-82.

Azzi, 182. The adjective "well" may be critical. Bulgarian experiments suggest that the resistance figure can be lowered to -22°C or -23°C (Stoev) and Soviet scientists would concur (Michurin, 471, cites an isolated example of a vine withstanding a frost of -32°C, that is, approximately -40°C!). But losses become increasingly great below -15°C, according to Azzi, 182-83.

It must not be forgotten, however, that modern vines inherit a long history of breeding for frost resistance. Azzi's figure may be too low for ancient times.

On this see Houston (1966), 99.

Still practised in the Crimea and the Caucasus (Michurin, 471) as well as alpine Italy and even Sicily (Azzi, 181, 176).
Still a feature of vineyards in France (Debuigne, 119), Germany (Schoonmaker, 2) and Hungary (Halász, 126).

See Michurin, 79-80, 432, 471. Dorozynski/Bell, 227, must be referring to this or similar work. Note, however, that Wagner, 108, declares the Michurin hybrids valueless for wine.

Heichelheim, 167, 170.

Hyams, 134-35, expands upon this theme.

Cf. Levadoux (1956), 108.

Stanislawski, 8. Echoed by Harant/Jarry, 209.

Thus Claiborne, 329-30.

Such is the conclusion reached by Noonan, 81, as to the origins of the Greek colony at Panticapaeum on the northern Black Sea coast.

Thus, according to Herodotus, Alalia in Corsica was founded by Phocaeans who had fled from the Persians--stated in Jehasse/Jehasse (1971a), 95-96.

See earlier section on the Aegean.

Rostovtzeff (1941), 111.

Dorozynski/Bell, 242; Lichine, 563; Perrin, 69.

Hyams, 92.

G. Clark (1952), 274; Debuigne, 208; Escudier/Fuller, 221; Harant/Jarry, 209; Jannoray, 327; Seltman (1957), 142. However, Galtier (1968b), 114, presents evidence to suggest that Massilia and her sister cities along the coast may have had too little land to plant vineyards. This, if the case, would relegate their function to one of wine transshipment.

Jannoray, 312-13, 327. He explains (p. 330):

"Cependant, soit que les indigènes aient été incapables de s'astreindre aux méthodes requises par ces cultures fines, soit plutôt que les Massaliotes aient eu souci de leurs intérêts commerciaux, qui leur commandaient de se réserver la possibilité d'écouler parmi eux le vin et l'huile qu'ils se procuraient en pays grecs, il semble bien, non seulement
que la culture de la vigne soit longtemps restée inconnue en dehors de la Gaule méditerranéenne, mais encore que, là même, cette culture et celle de l'olivier ne se soient pas développées avant la conquête romaine."

593 On the recovery of sunken wine amphorae, see Casson.

594 See footnote 586.

595 Jehasse/Jehasse (1971c), 199.

596 Jehasse/Jehasse (1971a), 82.

597 Jehasse/Jehasse (1971a), 77.

598 The possible Phoenician contribution must also be remembered.

599 Arribas, 44; Hyams, 171. But not Galtier (1968a), 87.

600 Jannoray, 283, refers to subsequent wine importation.

601 For an introductory survey of the Thracians and their land from the time of Homer to the extinguishing of Roman authority, see Evans, 17-25, or Kossev/Hristov/Angelov, 11-20.

602 Danov, 4; Kossev/Hristov/Angelov, 15. Evans, in particular, stresses the importance of Thrace to the Aegean economy (p. 19). Wheat, he claims, was the early lure of this area. Taking the example of Apollonia, founded about 610 B.C. by Greeks from Miletus allegedly under the leadership of the philosopher Anaximander, he declares that "the whole area around it was of fundamental importance to Greek economy."

603 Rostovtzeff (1941), 111.

604 The Greek colony of Maroneia grew up near the former Thracian settlement of Ismarus (on the relationship between the two, consult Danov, 11, 14-15). Ismaran and Maronean wine were thus much the same. See footnote 387.

605 Danov, 22; Kossev/Hristov/Angelov, 14-15.

606 Danov, 5.

607 Danov, 8, 9, 23, 26.
Evans, 19; McKinlay (1948-49), 412-13. The latter gives an example of the 'entertainment' at Thracian drinking bouts:

"Some member of the company would be picked for the trial. A rope would be put around the neck. A knife would be put in his hand. He would then be swung up in such a way that if he were not quick enough to cut himself down his neck would be broken as the rope straightened out."

McKinlay (1948-49), 413.

And I can give no positive evidence of this.

Halász, 12.

Mandelstam, "The thread of gold cordial flowed from the bottle."

Rostovtzeff (1941), 106-07, 110 (but Sokolsky would date such beginnings to the 6th century B.C. in the Crimea).

Noonan, 81, argues that at Panticapaeum at least the evidence suggests that the early settlers were less interested in trade than in establishing a more or less self-sufficient outpost of Greek civilisation. This philosophy may have spurred the planting of vineyards. It is true, of course, that in time the function of trading assumed a considerable importance.

Velce, 175. Debuigne, 222, declares that documents attest the existence of wine production in Dacia in the 3rd century B.C. I presume he intends the Romanian coast (the statement is made in a consideration of Romanian wines) rather than the Dacian heartland, mountainous country far inland.

See Sokolsky. Also, Gorbunova, 56.

Stryhelets'kii makes this point.

Younger, 153.

Pliny, XV, xx, 74-76, elaborates on the famous episode of Cato and the fig.

Rostovtzeff (1957), 22, 314-15, 547. However, Haywood, 6-7, considers commercial self-interest as a very minor stimulus to the Roman destruction of Carthage.
Quoted in Younger, 153. Also in Aymard (1967), 590, de Santi, 13, Galtier (1968b), 118-19, and Reinach, 373-74.

Aymard (1967), 590; de Santi, 13; Reinach, 373.

Thus Reinach, 374.


Aymard (1967), 592.

Cf. de Santi, 13, and Rostovtzeff (1957), 548.

Reinach, 375.

Aymard (1947b), 45.

See Rostovtzeff (1957), 599-600.

Once Rome had established its authority over Sicily and its rich grain output, "il lui fut défendu d'exporter librement les produits agricoles sauf à Rome et en Italie"--Scalais (1924), 79. So, with but rare exceptions, on which see Scalais (1924), 79-80, Sicilian cereal production was monopolised by Rome. A similar situation seems to have developed for Sardinia and later for Egypt--Scalais (1925), 153. (Note that our definition of Rome must be extended to include the armies scattered abroad.)

Rostovtzeff (1957), 201.

Reinach, 356-61.

For some reason, northern Italy had witnessed a resurgence of vineyard planting during the 1st century A.D. Its wines must have been all too abundant shortly before Domitian's decree, since in A.D. 88 Martial laments conditions in the Ravenna area: he would prefer to own a water-tank there than a vineyard. See Galtier (1968b), 130, Reinach, 370-71, or Scalais (1927), 98.

Widely alluded to. Inter alia, Albertini, 56, Chapot, 72, Galtier (1968b), 130, Hyams, T39, Leschi, 80, Reinach, 360-61, Rostovtzeff (1957), 202, and Younger, 162.

Reinach, 366, cannot believe that Domitian's action could have encouraged a resurgence of grain production, on the grounds that the vine and wheat require different soil and slope conditions. Ideally, this is true. But Reinach neglects the fact that the vine had expanded to some extent at the expense of the fertile grain lands, plentiful grape harvests compensating for deterioration in the wine's quality.
Dion (1954), 108; Hyams, 140; Reinach, 377.

Reinach, 377.

Reinach, 361-63; Younger, 162.

"Vineas Gallos et Pannonios habere permisit," according to one ancient writer. And in the words of another: "Gallis omnibus et Hispanis ac Britannis hinc permisit ut vites haberent vinumque conficerent." Sources: Galtier (1968b), 131, Halász, 13, and Renard (1959a), 315.

For example: "The restrictive edict of Domitian was apparently not enforced in Baetica, for shipments of wine thence to Rome continued and evidently increased in amount during the second century A.D." (van Nostrand, 178). True for Spain, I shall presently argue the same for North Africa, and it will be shown later that Burgundy commenced its famous oenological history while Domitian's policy still prevailed.

I know of no wine study in English which addresses itself to the situation in Roman North Africa. In French there is Leschi's "La vigne et le vin dans l'Afrique ancienne," but this is very much an introductory hodge-podge, and it comes as no surprise that Picard (1958), 138, reviewing a published selection of Leschi's writings, despairs that this paper was preserved for posterity.

The devastated lands of Carthage had acted as Rome's point d'appui in North Africa. Annexed to forestall any possibility of a Punic restoration, they were designated the province of Africa (N.B. It is in this restricted sense that I employ the term 'Africa'; where I wish to indicate the broader territory which lies between the Sahara and the Mediterranean, I use 'North Africa', which incidentally, should not be regarded as including the Nile valley or delta.)

Neighbouring Tripolitania slowly came into the imperial sphere after the Jugurthan struggles, which ended in 105 B.C.; Caesar added Numidia in 46 B.C. (that is, the territory between Thabraca and the mouth of the Ampsaga); Mauritania retained a nominal independence for a further century, but after the death of Bocchus the Younger in 33 B.C. Roman influence became strong. To the east, Roman authority was secured over Cyrenaica.

Albertini, 15-18, gives a brief introduction to the expansion of Roman dominion in North Africa; the appropriate sections of Haywood and Mazard are alternative (and more detailed) sources.
Marion, 67 (and throughout his catalogue), who maintains that this reflects local arable production; Mazard, 62-63, 64, 64-65.

Haywood, 23.

Mazard, 55.

For example, Haywood, 23 (although he concedes that Caesar, campaigning in Africa, captured wine supplies at Aggar).

Haywood, 27.

Pliny, XV, iii, 8.

Leglay, 195; Thouvenot, 134.

Thus when famine ravaged Greece in Alexander's time, Cyrene managed to send relief grain amounting to a million bushels. For a small territory, hemmed in by the Sahara, this was no mean achievement. See Coster, 16.

Albertini, 57-58; d'Escurac-Doisy, 581; Leschi, 80; Thouvenot, 133.

Leschi, 80-81.

D'Escurac-Doisy, 581. Haywood, 49, 50, specifically links the imperial domains with arboriculture, the vine included.

See d'Escurac-Doisy.

See Bérard's article. Cf. Romanelli, 59.

Leschi, 81.

Romanelli, 54, 56.

Haywood, 51, and Leschi, 81-82.

Marion, 67.

Haywood, 48. (Solinus, the 3rd century writer, knew that vineyard remnants were still to be seen at the site of the former town of Lixus--Pédech, 325.)

Or so claimed Strabo, according to Coster, 17.
Goodchild, 167. He does consider, however, that rainfall was probably slightly higher in Roman times than nowadays in Tripolitania.

Strabo, XVII, 4, according to Marion, 67, who reminds us that when, last century(?), the foundations were being dug for a lighthouse at Cape Spartel, "d'énormes ceps de vignes" were unearthed.

Rostovtzeff (1957), 528.

Rostovtzeff (1957), 312.

Forbes, 126.

According to Galtier (1968a), 88.

Galtier (1968a), 88; van Nostrand, 178.

Thus Galtier (1968a), 88.

This point is brought up by Hyams, 172. He quotes H. Warner Allen, the noted historian of port and sherry, in a passage sceptical of Seltman's claim.

Van Nostrand, 178. Cf. perhaps Stanislawski, 9. Both these authors accept the existence of Lusitanian vineyards. Hyams, 172, concedes that there may have been winemaking, but not before the 4th century A.D. at earliest.

On Madeira--Nicholas, 18, 125. On the Azores--Bryans, 21; Walker, 12. This is not to suggest that these islands were unknown before the Portuguese arrived. Both groups appear on the Medici map of 1351, and it is probable that the 12th century Arab navigator, Sherif Mohammed al Edrisi, encountered at least the Azores (see Bryans, 19-20, Nicholas, 18, and Walker, 10-11, 16). But before this date we are in the realm of legends (thus Bryans, 19).

I have found no historical statements on Azorian viticulture. On beginnings in Madeira, see V. Thomas, 493-94. Cf. Nicholas, 18, 93, Ribeiro, 70, and Thudicum/Dupré, 691. The earliest Madeiran grapevines were transplanted from Crete and Cyprus.

On the Guanches--Nicholas, 125-27.

A useful examination is that of Schmitt. Or see Bory de St.-Vincent, 375-88.
True, wine is extolled by certain ancient writers as among those elements typifying the luxuriance of such Atlantic havens as the Fortunate Islands (the ancient name for the Canary group), but in this tradition reality has been permeated by a legendary geography which located the Elysian Fields and other insular illusions in the ocean beyond the Pillars of Herakles. Horace's blessed islands, where the vine flowers the year round (Schmitt, 373), are in the realm of longing. Likewise fabulous is the viticulture of Lucian of Samosata's True History, a self-avowed flight of fancy. On the Island of the Blest the vines fruit every month and rivers flow with wine (Lucian, pp. 39, 40). (This latter feature finds parallel in the Jewish legend of a river of wine in the Garden of Eden--Wieder, 165. In fact, the tradition of a vineyard paradise is met with frequently in the ancient Near East and seems to have penetrated Homer's writings. See Albright (1919-20), 259-62, 280-84. And on primordial wine: Wieder, 165-66.) On another of Lucian's islands flourish the following *Vitis* specimens (Lucian, pp. 7-8):

"They had good thick trunks growing out of the ground in the normal manner, but apart from that they were women, complete in every detail from the waist upwards... From the tips of their fingers sprouted vine-shoots loaded with grapes, and their hair consisted of vine-leaves and tendrils... They would not allow us to pick their fruit, and shrieked with pain when anyone tried to do so; but they were more than willing to be deflowered, and two of us who volunteered to oblige them found it quite impossible to withdraw from their engagements afterwards. They became literally rooted to the spot, their fingers turning into vine-shoots and their hair into tendrils, and looked like having little grapes of their own at any moment."

Nicholas, 127.

Van Nostrand, 186.

See footnote 520. Wine also travelled via Gaul to the German limes--Galtier (1968b), 127.

Pliny, XIV, viii, 71-72. These three, he notes, "challenge comparison with the first vintages of Italy." See also Galtier (1968a), 87-88.

Merlin, 241.

In the Corsican case, by contrast, the limited picture we have of wine production when the island fell under Roman suzerainty is strongly reminiscent of the situation during Greek times. See Jehasse/Jehasse (1971b), 103, 115.

See footnotes 559, 560, and relevant text.

Galtier (1968b), 113.

Dion (1950), 437; Etienne (1971), 68-69; Galtier (1968b), 122.

Dion (1950), 438; Dorozynski/Bell, 33; Etienne (1971), 69.

Dion (1950), 438.

See Déchelette, 109-110.

De Santi, 17; Etienne (1971), 69; Griffe, 62; Labrousse, 160.

Labrousse, 159.


On its legality, see de Santi, 11.

Labrousse, 152.

Labrousse, 151.

For identification of the towns, see Griffe, 60-64; also de Santi, 17-23.

See Labrousse, 144, 146, 147-50, 154-57.

Labrousse, 158.

Expanded in Etienne (1971), 69-70, and Labrousse, 159; also footnote 694 above.

Cf. Strabo in Déchelette, 109-110.

Cf. Escudier/Fuller, 221.
Ward-Perkins, 481.

Ward-Perkins, 480-81.

Examples from MacMullen, 340-41.

Debuigne, 150.

Dion (1954), 108.

Dion (1954), 108.

Forbes, 127; Rostovtzeff (1957), 166, 574.

Hyams, 106, 140.

MacMullen, 341.

Younger, 161.

Cf. footnote 626 and relevant text.

Galtier (1968b), 121; Labrousse, 153.

Quoted in Febvre, 285.

Marres, 7.

Pliny, XIV, viii, 68.

Younger, 161.

Pliny, XIV, viii, 68.

Pirenne, 228.

Pliny, XIV, viii, 68.

Marres, 7; Ward-Perkins, 481; Younger, 162.

Rostovtzeff (1957), 167.


Cf. footnote 519 and relevant text.

Debuigne, 117. The Gaillac wine industry has even been named "le père probable de celui de Bordelais."
Debuigne, 55.
On the Biturica grape: Dion (1950), 439, and Etienne (1971), 73.
Pliny, XIV, iv, 27. Rackham's English translation of the Natural History has mistakenly identified this grape with Bourges, in Berry, central France. A footnote, however, admits the possibility of Bordeaux.
Debuigne, 40; Etienne (1971), 73.
Etienne (1971), 73; Pirenne, 228.
Debuigne, 121, 78.
Debuigne, 88; Johnson, 13.
Pliny, XIV, iv, 26.
Marres, 7.
André/Levadoux, 173-81.
Restovtzeff (1957), 216.
Younger, 162. The passage in question in this: "It is believed that the people of Vienne alone sell their wines flavoured with pitch, the varieties of which we have specified, for a higher price, though out of patriotism they only sell it among themselves" (Pliny, XIV, vi, 57). This could be sarcasm but need not be so. An earlier reference (XIV, iii, 18) admits that this product "gives celebrity to the territory of Vienne."
Cited in André/Levadoux, 173.
Pliny, XIV, iii, 18.
André/Levadoux, 175; Dion (1954), 114.
Dion (1954), 114, notes this. (And André/Levadoux, 175, regard the Ellinco-Helvico correspondence as "absolument inutile.")
Dion (1954), 114; André/Levadoux, 175-76, believe that they have located two of the three.
Dion (1954), 114-15.

Dion (1954), 115-16, 503. Later, when Burgundy was thriving, this did occur.

See Hyams, 139.

Perrin, 59.

Dion (1954), 507.


See Déchelette, 112.

See Dion (1950) and Dion (1954), 499-503.

The quoted phrases from the Autunois text are my own translation from the French version of the whole in Dion (1950), 435.

Which consists in bending over a young but lignified shoot of an older vine to bury its tip in the soil, at which point a new root system will be established. This process encourages a tangled accumulation of much woody detritus in the soil.

Roupnel, 240-41, 245.

Roupnel, 247-48.

Dion (1950), 436.

Dion (1950), 437.

Or just possibly the late 2nd century. See Dion (1954), 503.

Younger, 162-63, agrees, but would be willing to push this date back to the 2nd century. Johnson, 13, gives a date of A.D. 150, but he does not try to substantiate his "mainly conjectural" figures. While his datings are accurate for the southern parts of France, his northern chronology is more suspect, probably since he does not appear to have taken Domitian's decree into account.

De la Fizelière, 404; Hyams, 157; Renard (1959a), 314.

Strabo in Déchelette, 110, who expands upon this.

Hyams, 147.
Renard (1959a), 314, would agree.

But it would be wrong to assume its regional character established beyond dispute.

For Hyams, 161, it is the youngest vineyard in France, whereas Debuigne, 63, places its beginnings in the early Christian era. Both may lack accuracy.

Debuigne, 35; von Bassermann-Jordan, 97. Lest doubt arise, the reference is to modern Belgium, not the Roman province of Belgica.

Dion (1954), 510. This is probably part of a wider problem—that the signature of Rome on the Alsatian landscape appears very faint. "Les textes litteraires sont totalement absents, les témoignages archéologiques et épigraphiques relativement rares," writes Simon, 15. Of course, this fact may be an argument against viticultural introduction if we accept Simon's dictum that "la vigne est le symbole de la civilisation romaine" (p. 18).


Ausonius, Moselle, 27.

On the deployment of Roman forces: Simon, 15-16.

Simon, 18.

Debuigne, 15; Dion (1954), 510-13; Johnson, 13.

The search for optimal microclimates must have been essential. Cf. footnote 576 and relevant text.

Renard (1959a), 323-24.

Ausonius, The Order of Famous Cities, VI, 4.

Ausonius, Moselle, 26-48.

Ausonius, The Order of Famous Cities, VI, 7. A relief from Neumagen shows an oared vessel, freighted with four huge barrels of wine, navigating the Moselle (Younger, 163).

Renard (1959a), 323. Cf. footnotes 696, 707, and relevant text.

Rostovtzeff (1957), 223.
I would suppose almost immediately after Probus' abrogation of 280. In saying this, I conflict with two statements on the antiquity of winemaking in Germany. For Schoonmaker, 7, proposes beginnings around the 1st century A.D. and Winkler, 1, the century following. However, neither writer provides any justification for his position and both should be regarded as suspect.

The most expansive reference is the first of these. They write: "The introduction of the vine, despite the attempts of Roman legislators to prevent wine being produced north of the Alps, is a classic example of the economic benefits which Switzerland derived from belonging to the international system of Rome."

Lichine, 537. Greene, 35, 39, agrees to the fact of thriving vineyards here during Rome's rule, but believes (p. 31) that the Raetians grew the vine on Liechtenstein's slopes before the Romans arrived.

On Raetian and Roman Liechtenstein, see Greene, 29-39.

The situation of a relatively mild Roman imprint on the Swiss landscape is exacerbated by a striking dearth of written records (Bonjour/Offler/Potter, 30).

Here defined as including modern Hungary but excluding the Greek peninsula. The Roman provinces involved were Pannonia, Dalmatia, Dacia, Moesia and Thracia.

Hyams, 181, notes the prevalence of this stance.

Though Perrin, 69-70, would have this land vineless. He gives no reason for his belief.

Hyams, 182-83.

Winkler's dating (p. 44) of the 2nd century A.D. satisfies neither this argument nor the case in favour of Probus. Halász, on his 'home territory', is singularly reticent, proceeding no further than to ascribe winemaking's antiquity in Pannonia to prehistoric times (p. 13).
Helbaek has some suspicions that even the Roman legions may have brewed their own beer. There is convincing evidence of induced malting, the preliminary to fermentation, in carbonised grain deposits from the legionary fortress of Isca at Caerleon in Wales. See Helbaek (1964), especially pp. 163-64.
FOOTNOTES

CHAPTER 3
From Brothwell/Brothwell, 164, and Wilcocks, 148.

For example, Karmon, 502.

Chafetz, 13, provides this interpretation. Alternative explanations can be found in Andrews, 39, Bouché-Leclercq (1963), 371, and Ellis, 57.

Kendis, 29-30.

Cf. Grace, 443. Of course, milk was known, but the difficulties of preserving its freshness must have made it a poor competitor in liquid form.

Karmon, 502; Seltman (1957), 67-68.

Amerine/Singleton, 14; Bromehead, 142; G. Clark (1944), 7; Wilcocks, 148-49. Neufeld, 45, tells of the general hygiene hazards of early urban life in Palestine and notes water supply pollution as a common result.

Quoted in B. Gordon, 207.

B. Gordon, 207.

On water supply technology among the ancients, see the appropriate sections (dominated by Greek and Roman discussions) in the general historical surveys of water supply by Baker, by Bromehead, or by Buffet/Evrard.

Elgood, 11, 15-16. Brim, 229-30, outlines parallel Hebrew procedures with regard to water utensils, etc.

Baker, 4; Elgood, 11. See, further, Baker, 5, 6.

See Chapter 1.

Masquelier, 123-25.

Lichine, 28; Masquelier, 128. The former further asserts that wine's bactericidal properties obtain within the body, a belief which is challenged by Beard/Knott, 89.

Jensen, 133.

Forbes, 80, would apply this universally, which is to overstate the case.

Lucia (1963b), 156; Rouché, 848.
References to the dilution of wine are common in classical literature. Thus Apuleius, pp. 66 and 172, Julian the Apostate, XXV, Martial, I, cvi, Tibullus, I, vi and II, i, and pseudo-Tibullus, III, vi ("Lord Bacchus loves the naiad").


Martial, V, lxiv and VI, lxxxvi. According to Yarham, 168, relays of swift chariots and running slaves carried Alpine snow to Rome to cool the wines at Imperial banquets. (Centuries later, Edward Lear, travelling in southernmost Italy, was repeatedly given snow in his wine by Calabrian families--Lear, 77, 80, 85, 86, 88, 89, 92.)

On the other hand, the added water was sometimes purposely warm (as in Apuleius, p. 66), though Martial, VI, lxxxvi, expresses his contempt for this practice.

In Greece: Andrews 37-38, Patrick, 19, Rolleston (1913-14), 41, Roueche, 848, etc. In Rome: Pique (1925), 558, Roueche, 848, etc.

Reference to Xenophon is from Lichine, 27.

Keller (1966), 820.

Lichine, 28.

The position of Keller and Lichine is difficult to substantiate. Understandably so. Some small measure of confirmation may perhaps be drawn from a modern incident, as told excellently by Fuller. In 1951, the village of Pont St. Esprit in southern France suffered what was later shown to be a mass outbreak of poisoning from LSD-25 (lysergic acid diethylamide), an alkaloid from the ergot fungus which can be found on certain substandard grain. This poisoning was the so-called St. Anthony's fire. Searching for an explanatory scapegoat, rumor suddenly indicted the water supply. "If there was anything designed to pulverize the last remaining semblance of calm, this statement was it. Sales of wine skyrocketed throughout the region; housewives cooked in nothing but wine, or even pastis."

For the position of Hippocrates, see Lucia (1963a), 36-40; for that of Celsus, see Crum, 299. Galen, Dioscorides, Pliny, and Columella were in substantial accord with these two, according to Lucia (1954), 5.
Italy is the best-known example, though Spain might also serve. It has been shown that modern Italians may receive from wine up to 25% of their total caloric intake as a normal part of their diet (Balboni, 67). Daniel, 1283, gives a figure of 20% as representative of "many European countries."

Lucia (1954), 37.

Balboni, 63; Barton-Wright, 98-99; Kendis, 25; Lichine, 25; Lucia (1954), 12, 38, 47; Simeons, 27.

The percentage of these unfermented sugars constitutes the sweetness or dryness of wine. See Lucia (1971), 28-29.

Minor for two reasons. Firstly, the protein content of modern wines is quite low (see text). In addition, protein is less degraded in the body than either ethyl alcohol or carbohydrates, since nitrogen is excreted as urea and other nitrogenous substances which are themselves combustible (Barton-Wright, 99). The other two are oxidised in the body to carbon dioxide and water.

Barton-Wright, 99 (though he is speaking of beer).

Lichine, 25-26; Lucia (1954), 12, 47; Pique (1925), 552. On wine and energy Daniel gives a useful overview. See also Richter who notes (p. 525) that one ounce of alcohol represents almost twice as many calories as one ounce of sugar. (Unfortunately, the title of Richter's article is broader than is his focus.)

Barton-Wright, 98; Daniel, 1283; Kendis, 25; Wood-Smith/Stewart/Vickers, 62.


Lichine, 25.

Lucia (1954), 19, 40.

Lucia (1954), 35, 42, 47.

Lucia (1954), 25.


Lucia (1954), 47.

Bacon, 86.
To give an example (though of application to wine rather than vine), the common modern practice of adding potassium pyrosulphite to wine on account of its bactericidal and fungicidal properties results in free sulphurous acid in the finished product in quantities up to 50 mg/litre (Marquardt/Werringloer, 803). The possible consequences for the drinker are generally thought to be noxious rather than nutritious in this case, but the principle of an ancient-modern distinction is valid.

Amerine/Singleton, 14-15.

That yeasts may give rise to critical nutritional repercussions can be demonstrated by a modern example from the island of Nauru in the South Pacific. Nauru's major source of foreign exchange is its phosphate deposits, and on the grounds that alcohol was interfering with the efficiency of phosphate extraction by the workers a general prohibition was enforced. The traditional alcohol, the fermented sap of coconut palms, was thus removed. Quickly, infant mortality levels rose. Denial of the toddy had eliminated from the Nauruan diet an important reserve of the vitamin B complex, thereby causing infantile beri-beri due to vitamin B deficiency in the mothers' milk (Simeons, 66-67).

Thus most riboflavin (vitamin B\textsubscript{2}) is produced nowadays from certain species of yeasts--A. Rose, 141. See also Pique (1925), 552.

Incidentally, it may be possible to argue this greater level of the vitamin B group in the past along different lines. In a study by Hall et al. measurement was made of the various B elements (riboflavin, thiamin, niacin, pantothenic acid, etc.) in a variety of grapes, musts, and finished wines. A noteworthy conclusion (p. 370) was that sweet red wines retain the vitamin B group to a much greater extent than dry red or white. The implication for ancient wines, which were dominated by sweet reds, is obvious.

A. Rose, 142.

Environmental variation was a factor in the nature of the staple diet. Thus grain and dates dominated in Mesopotamia, the latter flourishing more readily than the vine in the particular environmental conditions of the alluvial plain (see Chapter 2).

More detailed assessments of ancient dietary patterns are available in André, in Levey, and in the appropriate sections of Brothwell/Brothwell, Forbes, Jensen, and Wason.

A. Rose, 142.
Cf. Dimbleby, 41.

Castillo de Lucas, 449

The rare exception, such as Moses, exists. He is generally considered to have gained his medical expertise from the Egyptians—e.g., Pique (1925), 555.

In Mesopotamia—from various extant tablets; in Egypt—from the medical papyri; in Palestine—from the Bible and other sacred writings; in Greece—from Homer and Hesiod.

Hippocrates is something of a collective noun. Certain of the writings in the so-called Corpus Hippocraticum are commonly regarded as vicarious.

Claudian, 16-17; Lucia (1963a), 37; Pazzini (1971), 31; Wilcocks, 196; etc.

Lucia (1963a), 43.

Roman originality did not extend in any measure to medicine. Thus Crum, 298, and Wilcocks, 35. This point is illustrated below.

Dioscorides was indeed the first to vest medical botany with the status of an applied science, yet he was a Greek army surgeon serving under Nero. On Dioscorides in general and as regards wine, see Lucia (1963a), 61-67. The writings of Celsus which have survived as De medicina represent an encyclopaedic compilation, largely from Greek sources (Wilcocks, 35). Crum provides a useful overview of Celsus' writings on wine. As for Asclepiades, he presided over "la résurrection de la thérapeutique hippocratique non en Grèce mais en Italie"—Pique (1925), 558. And, lastly, Galen, "il grande architetto della medicina classica, costruttore di un edificio che ha durato per circa quindici secoli senza alcuna incrinatura" (Pazzini), and recipient of many such superlatives, was a Greek from Asia Minor, although serving as physician to Marcus Aurelius (Wilcocks, 27, 32). On Galen concerned with wine, see Lucia (1963a), 68-72, and, more briefly, Pazzini (1971), 29.

Two other sources of medical advice, Pliny and Cato, cannot be regarded as original contributors in any way. Most generously, they may be called learned men prone to making medical observations (which, to be fair, often contained a good measure of empirical validity). Pliny devoted twelve books of his monumental Natural History to medical matters, but his accounts are unreliable. On this: Lucia (1963a), 56-61. Cato's work contains medical and veterinary remedies; he is quite willing to prescribe wine, although it finds less favour than his universal panacea, the cabbage—Pique (1925), 558.
Lucia (1963a), 161-62.

Lucia (1963a), 218; Poznanski, 39.

Lucia (1954), 124.

Keller (1958); Lucia (1963a), 11. Beer was the usual vehicle, according to Keller, 153, which is not surprising given the nature of ancient Mesopotamian alcohol production. But the very presence of wine recipes in this land of beer is significant.

Podolsky, 62. The identification of the bizarre ingredients is not possible with any certainty. The ailment, Podolsky suggests, may be periodic hematuria.

Jastrow (1917), 241. This is but one of numerous recipes given. As a whole, a wine base is much commoner than its beer equivalent. One is strongly tempted to infer that this reflects the Assyrian origin of the tablets, for the Assyrians were enthusiastic viticulturalists. (Nevertheless, it should not be forgotten that, given Ashurbanipal's predilection for collecting and copying existing Babylonian texts, there is no guarantee against some southern influence in Jastrow's tablets.)

As in Jastrow (1917), 238. Moreover, his eminence as an Assyriologist would appear to argue against his encouraging a rather elementary point of confusion. (And it can be added here that the use of vine leaves in an Assyrian prescription--see Scheil, 14--strengthens the likelihood that we are dealing with wine sensu stricto.)

Leake (1952), 73. As in Babylonia, beer was the commonest alcoholic beverage. Pique (1925), 553, knows of only one Egyptian example of wine's use as a menstruum, but this surely reflects the relatively early date of his writing.

Bryan, 32-33. Nesit disease, he suggests, was possibly epilepsy.

Bryan, 54-55. As he comments wryly: "A plaster that combines Cat's dung with Watermelon might be counted on to remove 'hardenings' anywhere and in anybody."

Indeed, it is worth pausing briefly to understand the possible rationale behind the objectionable and/or esoteric nature of many of the elements in the ancient Egyptian pharmacopoeia. Examples are legion. Thus, "An-old-Book-cooked-in-Oil" was claimed as a diuretic for children; "Excrement-of-the-Gods" was prescribed to calm
tremblings of the fingers; and "TO ALLOW THE WOMB OF A WOMAN TO SLIP INTO PLACE," one merely resorted to "The-Film-of-Dampness-which-is-found-on-the-Wood-of-Ships" (Bryan, 80, 63, 86).

The following are likely reasons for such a strange Dreckapotheke:

1. Since Egyptian, and indeed Mesopotamian, medical practice was directed against malignant demons which had entered the body (i.e., belief in a demonic aetiology of disease), nauseous ingredients would have seemed to offer the greatest hope of driving them back out again. Thus Jastrow (1917), 247, 256.

2. The principle of the placebo may have been employed, that is, turning to advantage the psychological 'logic' which would argue that such a repellent concoction must signify therapeutic potency.

3. The exotic nature of certain ingredients would have prevented self-medication by the patient. As a result, the healer's livelihood would not be undermined. Thus Lucia (1963a), 14.

68 McKinlay (1950), 233.

69 Always susceptible to modification, the theriacs remained popular until 1700, claims Ponte, 1122. Venice treacle, the Theriaca Andromachi (named after the famous classical potion) from the Pharmacopoeia Londinensis of 1682, can be taken as a zenithal example. It comprised 65 distinct ingredients--73 contends Lucia (1963a), 128--including lozenges of vipers (according to Ponte, 1122, the sine qua non), opium, liquorice juice, wood of the true cassia, peppers, rhubarb, ginger, calcined green vitriol, tops of St. John's wort, castor, and old Canary wine in sufficient quantity to act as a solvent (Wilcock, 197). Somewhat astonishingly, this compound was still in use in Montpellier around 1890--Pique (1925), 560.

Rooted firmly in this tradition was Mrs. Squeers' pièce de résistance brimstone and treacle. The English word 'treacle' has been derived from 'theriac'.

70 Lucia (1963a), 49-50; Ponte, 1122.

71 Ponte, 1122, claims only 57 ingredients.

72 Quoted by Lucia (1963a), 51.
Of course, wine valued for its inherent properties and wine employed as a menstruum are not the discrete categories which my discussion may imply. They lie on a continuum, in a sense, and meld into each other. But their differentiation is a useful explanatory tool.

On Celsus, see Crum.

Dupuy, 1789, but he does not develop this theme.

Detailed analysis of Celsus' treatment of these is available in Crum.


Cf. Pliny, XIV, iv, 29, on the Spanish Coccolobus grape.

Lichine, 27.

Lucia (1963a), 42; McKinlay (1950), 232.

McKinlay (1950), 232.


Jastrow (1917), 243. Once again, the complicated recipes may have proved efficacious largely on account of their wine base. Here is one:

"If a man's inside is full of gas, to cure him take sweet-smelling reed, 'Balluku'-plant, cypress, oleander (?) . . . put into wine, boil, strain, let it cool, mix with oil and honey, let him drink it without food, and he will have a passage."

Lucia (1963a), 37.

McKinlay (1950), 232.

Crum, 301.

Veronelli, 54.

Quoted by Lucia (1963a), 18, and--in different translation--by Wieder, 161. "It [wine] is medicine to all who drink it," affirms an ancient piyyut benediction recovered from the Cairo Genizah (Wieder, 158).
See Dulieu. Dundee/Isaac/Clarke, 665, note that opium, Cannabis indica, and mandragora were taken orally to relieve the pain of surgery. Ellis, 114-15, thinks it remarkable that the Edwin Smith Surgical Papyrus (New York) shows no concern for anaesthesia.

Ellis, 5, 60; Foster (on the Caesarean operation alone).

Fragoso, 25; Dulieu mentions Dioscorides but, surprisingly, not wine.

Leake (1947), 13. Mandragora wine was not unknown in ancient Egypt (thus Chassinat, 112) but I have not ascertained whether it was likewise used in surgical anaesthesia.

Ellis, 53; Fragoso, 25.

Ellis, 53-55, considers this point at some length, noting the disparity among the evangelists as to whether vinegar or wine with myrrh was offered Jesus. On this subject, Dock, 83, avers that 'vinegar' is a mistranslation in the King James Bible for what should be rather some strong, bitter wine of somewhat repellent flavour. This would then have approximated the posca of Roman soldiers.

Goor, 48; Lichine, 299.

Lucia (1963a), 21.
Petronius, p. 141.


In addition, warm wine featured amongst those substances believed useful for the maintenance of clean teeth (Singer/Singer, 218).

Myrobalanum is an astringent, plum-like fruit, used in dyeing, tanning, etc.; ladanum is an aromatic gum (for which, see Pliny, XII, xxxvii, 73-77).

Crum, 306. The Hebrews also used wine as a liniment--

Bryan, 67.

Papp, 461.


Petronius, p. 95.

Lucia (1963a), 69.

Information from Goodenough, VI, 143, and to some extent from Brim, 25.

Lucia (1963a), 3.

Examples worth examination could be the Murex shell (the source of the dye purple) in the ancient world, the mink in today's. Or, specifically in terms of aphrodisiacs, the rhinoceros. Even the oyster to some extent?

Glacken, 357, declares the need for studies linking sexual virility and the animal kingdom, for examination of, say, the rationale behind the attributed aphrodisiac potency of rhinoceros horn in conjunction with an attempt to relate the trade in the horn throughout the centuries to the past and present distribution and imminent extinction of the beast.

Helpful introductions to the ancients' belief in aphrodisiacs are given in Licht, 513-15 (Greeks only), Serjeant, and Walton, Chapter 1. (Licht's discussion of "superstition in matters of sex" provides insights which make the Greek aphrodisiac beliefs more comprehensible. See pp. 363-76.)
Chafetz, 85-86, writes briefly on historical attitudes towards the relationship between liquor and sex. He argues: "The identification by certain primitives of intoxicating drink with human semen led them to believe that both were originators of sexual excitement and that both possessed life-giving properties." On this possible identification, more in Chapter 5. Of course, there have always been some to deny alcohol any aphrodisiac qualities. Aristotle remarked that copious drinking was a sexual hindrance rather than help (Chafetz, 87). The porter in Macbeth knew this well—"Lechery, sir, it [alcohol] provokes, and unprovokes; it provokes the desire, but it takes away the performance." The modern view is that alcohol acts psychologically rather than physiologically and is likely to impede sexual performance (cf. Chafetz above, Serjeant, 43, and Helen Lawrenson, 435, who puts it nicely as part of her feminine diatribe against masculine drinking: "While it is true that alcohol may act as an aphrodisiac, too much of it will make your ithyphallic paramour's passion more vocal than focal").

Rolleston (1913-14), 41.

Grumel, 130. The fable in question has been handed down to us in paraphrased form only in a letter of the Byzantine patriarch Photius. Perry, a leading exponent of Aesopica, concludes from a more detailed study than Grumel's that Aesop is the likely, if not certain, source.

Cited in Walton, 37.

See Lucia (1963a), 18. The tale of Lot and his daughters is famous.

Philo, IX, 74.

Quoted by Brim, 358. Cf. Martial, IX, ii:

"You pour out Setine wine to warm up your mistress and put her in the mood."

Save perhaps Serjeant, 41, who (if I interpret him correctly) suggests that spiced wines were popular among the Greeks because of the aphrodisiac properties attributed to certain of the materials added.

On southernwood and its medical uses viewed historically, see Grieve, 754-56. This is the same southernwood that is still found in British gardens today.
Thus Nicolas Flamel (1330-1418), a distinguished scholar at the University of Paris, wrote that "wormwood is powerful in the prevention of sorcery directed against potency; but it is necessary, first, to steep it for three days in the urine of a virgin of 16 years" (quoted by Walton, 95). Grieve, 858-59, contains a section on wormwood entitled "An old love charm." The celebrated controversy over absinthe--the basis of boulevardier life in 19th century Paris--may serve as a final example. Absinthe, so named after its primary additive, generated erotic excitement (it was commonly claimed) as well as the 'madness' which eventually provoked its widespread prohibition. "Absinthe makes the heart grow fonder," writes Zolotov, who has compiled a useful introduction to this liquor.

On the presence of thujone, see Grieve, 755, 859, Lucia (1963a), 67, and Zolotov, 172. The last-mentioned (p. 176) provides this statement from Dr. S. M. Pollack, a Harvard-trained chemist: "In my opinion, it is the thujone in wormwood which acts as a brain stimulator and aphrodisiac."

On nard, see Brown (1969b), 160-61. The remaining examples, including Pliny, are from Parry, 43, 48.
These examples are all from Lutz, 98-102.

Younger, 31. Cf. Converse, 6. No convincing case is constructed. For one thing, I should wish to know why the practice was apparently so ubiquitous throughout the ancient world over such a long period of time, whereas I should have anticipated noticeable variations in drinking tastes, just as exist today. (I would admit, however, that the evidence bequeathed to us may possibly deceive through its scantiness.) Younger's reasoning at one point becomes somewhat cryptic. He argues: "To some extent this view [his theory that the desire for piquancy encouraged the addition of sea-water to Greek wines] is supported by the fact that the Greeks liked to put perfume in their wines." Is there really the support he seeks here?

McKinlay (1950), 243-45. Presumably, he means in a pharmacological or medical sense. This would seem a possible origin for the practice of adding flavourings to wine, but it was seen in Chapter 3 that medical preparations using wine as a solvent were often made as repugnant as possible—not necessarily the sort of potions to grow accustomed to.

Cf. Loeb, 391, for modern 'primitives'.

For a brief microbiological rationale, see Chapter 1.

This inadequacy is somewhat inexplicably contradicted by Dimbleby, 41. Of course, by late antiquity a considerable proficiency in storage techniques had developed, a proficiency which the medieval world did not easily match. See Atkinson, 163.

Thus the practice of adding resin to wines lingers even today in the case of the Greek wine Retsina.

To avoid confusion—and it does seem that usage is sometimes loose--, the following are definitions of 'resin' and 'pitch' (adapted from the O.E.D. and Websters).

Resin—The sap exudate from various plants, most notably the fir and pine [perhaps exclusively so in the case of additions to ancient wines]; it is usually translucent or transparent and yellowish to brown in colour, ranging from a hard, brittle solid to a semi-solid, amorphous substance.

Pitch—A substance of black or dark brown colour, hard when cold, becoming a thick, viscid semi-liquid when heated; it is obtained as a residuum from the distillation of resin, or from coal tar. Sometimes the term is applied improperly to the resin exudate.
 André/Levadoux, 172; Chapot, 79; McKinlay (1950), 244; Neuburger, 107; Ribeiro, 70; Younger, 132, 191. These references all relate to the world of Greece and/or that of Rome.

Younger, 191 (referring to the Roman world).

André/Levadoux, 171 (referring to Roman Gaul).

Younger, 62. He suggests that the technique of glazing was not practised successfully in Egypt "until a late date" (p. 48) and was not common in classical Greece (p. 132). If so, then there must have been regional differentiation. For it appears that glazed pottery was manufactured in ancient Israel. Harris argues that the Hebrews were acquainted with the glazing process: he cites the Biblical lines "burning lips and a wicked heart are like a potsherd covered with silver dross" (Proverbs 26:23) and "the house of Israel is to me become dross: all they are brass, and tin, and iron, and lead, in the midst of the furnace; they are even the dross of silver" (Ezekiel 22:18). The "dross" Harris interprets as the oxides of various metals, by-products of silver refining, employed as metallic glazes. Mesopotamia, likewise, glazed pottery. Harris, 269, refers to a cuneiform text detailing the procedures necessary for this process, and Partington, 43, talks of brightly coloured glazed pottery in Assyria from 1500 to 1200 B.C. and the appearance of lead glaze ware in the lands to the south at the beginning of the 1st millennium B.C. Egypt presents problems: what was a "late date" to Younger is as early as 950 B.C. to Partington, 43, and as late as the Arab conquest to Harris, 269.

It may be that Younger underestimates ancient glazing abilities. No matter—for what must have been a relatively expensive procedure compared with pitching would most probably not have been applied to the countless amphorae which held the wine of national and international trade, since these were regarded as non-returnable.

Younger, 48, 62, for Egypt and Mesopotamia respectively, mentions the treatment of wine vessels with a coating of resin. In the former case, however, he refers to a "black coat" and throughout his work he makes no apparent effort to distinguish resin from pitch. It may well be that he intends pitch.

André/Levadoux, 172.

The addition of pitch is remarked by André, 166 (Rome), André/Levadoux, 172 (antiquity), Converse, 6 (Rome), and McKinlay (1950), 244 (Rome).
More numerous are mentions of resin addition. Here are some.
For antiquity: André/Levadoux, 172. For Rome: André, 166, Converse, 6, McKinlay (1950), 244, Younger, 192, etc. For Greece: Andrews, 37, Dorozynski/Bell, 216, Johnson, 12, McKinlay (1950), 244, Neuburger, 107, Poznanski, 34, Younger, 132-33, etc.

16Younger, 133.

17For example, André/Levadoux, 172.

18Cf. Neuburger, 107. Dioscorides, for instance, claimed that the wines of Gaul would have soured without the addition of pure resin (cited by André/Levadoux, 172).

19Thus Athenaeus, quoted by Andrews, 37. Discussions of this practice are provided by McKinlay (1950), 243-44, and Younger, 130-31. The custom of adding brine was later followed by the Romans. And Strabo notes that some Libyan wine was similarly treated (Lucas, 4).

20Lucia (1963a), 7. For Pliny's more fanciful origin, see XIV, x, 78. According to Pique (1925), 559, and (1931), 818, brine was added with a view to aging new wine prematurely and giving it the appearance of an older wine. Unfortunately, he gives no further details.

21See Platt (does this equal the stabilising property suggested by André, 167?). Platt argues this from Horace's description of the soured Chian wine ("unmixed with sea water," in the recent translation by P. Murray) served at the ill-fated banquet of Nasidienus in the eighth satire of the second book.

22Unless great care was taken to avoid this.

23From Claudian, 5, and Levey, 45. Interestingly, the oldest Sumerian sign for brewer (BAPPIR) has the ideogram for SIM, aromatic plant.

24From Lutz, 18, and White, 106.

25McKinlay (1950), 243.

26From Dorozynski/Bell, 216, Neuburger, 107, and Pliny, XIV, xxiv, 120.

27Isidore of Seville: "Conditum vocatum, quod non sit simplex, et commixtione pigmentorum compositum" (XX, iii, 9); "Mulsum ex melle mixtum; est enim potio ex aqua et melle, quod Graeci μελίκρατον vocant" (XX, iii, 10). See also Radin, 487-88, and, for conditum alone, Arnald of Villanova, 12, and Martí-Ibáñez, 306.
While plumbism was recognised in antiquity as an industrial disease (of lead workers), there are scarcely any references to lead contamination of food or water among extant ancient writers (Gilfillan, 55). Thus it was that Pliny, Cato, Columella, and Palladius all endorsed lead pots (Gilfillan, 56).

Indeed, deaths may have occurred, as Neuburger, 108, would have us believe. But care must be taken in this matter of poisoning, since there were alternative sources of lead pollution in ancient Rome. Gilfillan, 56, lists that "lead was used for water pipes and containers, cups, toys, statuettes, tokens, coins, lids, sieves, household repairs, solder, paint, cosmetics, external medicines, boxes, markers, writing tablets, coffins and roofing." He adds that "many alloyed it with copper (lead bronze) and with tin (pewter) and used it in many other ways." Quite obviously, many of these could have been sources of contamination.

Experimental findings have not given decisive results. The study by Engleman at the Arthritis Clinical Study Center, University of California School of Medicine, proved particularly inconclusive; Martí-Ibáñez, 305, mentions the work of Marañoñ, a Spanish endocrinologist, as suggesting no positive relationship; Brim, 91, refers to a study indicating a positive association.

A more enthusiastic advocate of such an association is Ball. In a fascinating article, he correlates the 18th and 19th century 'golden age' of gout among the privileged English classes with the particularly high lead content of Port, the then fashionable drink; notes a parallel relationship in modern Alabama among inveterate consumers of 'moonshine' alcohol which harbours lead, either added to improve the flavour (!) or introduced inadvertently from lead sources in the still; and, finally, refers to corroborating reports of poisoning in present-day Britain from homemade 'wine' prepared in lead-glazed earthenware containers.

Rolleston (1913-14), 44.

Crum, 305.
See Crawfurd, 27, and Rolleston (1913-14), 44.

From Crawfurd, 27, and Rolleston (1913-14), 44.

Sigerist (1945), 16. Converse, 8, also waxes unduly eloquent.

Kavaler, 46.

Chafetz, 156. Cf. anon. (1936), Keller (1966), 821, and (although more muted) Poznanski, 35.

Chafetz, 150-51.

Of course, ethyl alcohol is not the sole constituent of wine to be active within the human body--Lucia (1972), 361.

See Kendis for a general introduction to this; also Haggard (1945), 61-62, on "local effects."

Jellinek (1945), 85; Kendis, 27.

Jellinek (1960), 188.

Ethanol's action is emphatically not that of a stimulant, although, to be sure, that is a likely consequent feeling. See footnote 53.

Horton, 158.

Classified as such according to the scheme of anaesthetic processes in Haggard (1945), 62-63. But this does not go undisputed. In Wood-Smith/Stewart/Vickers, alcohol is not allotted to the category of general anaesthetics--though this, I think, is because it cannot be used clinically in such a capacity. B. Clark's article classes alcohol as a non-opiate analgesic, so conflicting with Haggard's understanding of analgesic. However, in that no such dissention surrounds alcohol's pharmacodynamic effects on the central nervous system (for which, see the following footnote), the above dispute is not critical to the present discussion.

Haggard (1945), 63 (and thus Opler, 44-45, studies alcohol under the heading of depressants). The progression involved is outlined in Chafetz, 176-77, Haggard (1945), 64, and Jellinek (1945), 91; within the specifically pharmacological literature, see Adriani's diagrammatised accounts (pp. 16, 59), Mendelson, 510, and Wood-Smith/Stewart/Vickers, 61, 148.
Worth noting is Mendelson's caveat against oversimplification. What was once considered to be a direct effect on the relevant parts of the brain (as outlined in any of the above) may, in fact, involve an indirect mechanism.

I am sensible to the fact that "impaired" is a value-laden term which must be defined in light of goal's sought.

Kalin/McClelland/Kahn, 3.

Chafetz, 59; Horton, 157; Jellinek (1945), 86.


Thus 'A. Z.', 191: "An easy flow of spirits, with wit and humour, and a total forgetfulness of every anxious care, place the newly initiated votary in a paradise of pleasure. The shady sides of objects are everywhere turned away, and the beauties he formerly admired are arrayed in gayer colours." Cf. Patrick, 47, and Pittman, 14 ("to get high").

Cf. the wistful note of the incomparable Isadora Duncan, as quoted in Stokes, 120: "Life only gives one glimpses of ephemeral joy, and these through love, or art, or wine." Or the deeper pessimism of A. West, 83: "Each man strutting before the world-etched dunghill image of himself--Narcissi staring into the middens: the awful loneliness, the life and man-soul loneliness as beasts are lonely--work, food, sleep, lust day by day with only the exhilaration of alcohol or hot-gospel auctions to fire the gloom and then fade and leave the gloom more grey."

Mayani, 159.

Mayani, 167-68.

Martial, I, cvi.

Quoted in C. Gordon (1971), 122, who draws a comparison with the wine "which cheereth God and man" in Jotham's parable of the trees (Judges 9:13).

Quoted in Graubard, 162.

"Hoc alii, quod nos cura solvit, Lyaeum appellant," writes Isidore, XX, iii, 2. (Lyaeus, an epithet for Dionysus and, by extension, for wine, derives from the Greek for 'deliverer from care'.)
See throughout Draper's article for Omar Khayyam's writing on wine, particularly pp. 11 and 13.

Baudelaire, Les fleurs du mal, CXXVI ("Le vin du solitaire"). Cf. his Du vin et du hachish, 304, 305.

Reproduced in V. Allen.

Phrase from Chafetz, 155.

Mayani, 160-61.

It is common to assert that distillation and therefore spirits were unknown in antiquity—for example, Chadwick (1968), 197. The point may be arguable. See Albright (1919-20), 266, 268, and Mayor. It is safe to say, however, that spirits were distinctly unimportant.

Amerine/Singleton, 14.

And to animals also? For there are numerous recordings of animals seeking out intoxicating substances, alcohol included. The most striking examples concern naturally-occurring plant intoxicants since, in such cases, it is possible to show that the desire for the intoxicant characterises a population of animals and is a persistent trait. By contrast, animals seeking out man's product, alcohol, tend to be isolated instances. See anon. (1832) on the subject of lizards, and Lewin, 151, on a wily horse.

By this is not necessarily implied 'escape from reality' (terrible phrase) in the admonitory sense of the temperance movement. That presupposes a consistent inability and lack of desire to come to terms with reality, and is defined thereby rather than in terms of the means of solace sought.

Pittman, 14.

Horton, 158.

Washburne, 268.

Bacon, 88. In like manner, Jellinek (1960), 202, and Patrick, 48, frame their stances in terms of relief from tensions and relief from frustrations and tensions respectively. And tentative experimental measurement of tension-soothing by means of alcohol has been begun by Greenberg.
The various anxiety-reduction rationalisations do not go unchallenged. Recent opposition is voiced in the collection of psychological experiments comprising the volume *The Drinking Man*. But neither do I find its refutations wholly convincing, nor yet does its supplanting interpretation seem to me so very different from those which it seeks to replace.

Its declared dethronement of anxiety-reduction explanations is accomplished thus:

1. It is suggested that the various manifestations of inefficient (?) behaviour resulting from the action of alcohol upon the central nervous system should "theoretically create anxiety" (Kalin/McClelland/Kahn, 3). But—and I do not know how to answer this question, unless Chafetz, 175-76, provides a reply—how effectively in practice could this anxiety be communicated to the brain when its higher nerve centres, the reception committee for such impulses, have been relaxed by the same alcohol?

2. Such writings as Horton's are attacked for their lack of direct measurement of the psychological variables dealt with (McClelland et al., 49-50), a deficiency, be it noted, which Greenberg attempts to rectify. Agreed, methodological rigour has enormous value, but it is not in itself the stuff of answers.

3. It is shown that, cross-culturally, peoples whose folk tales express most anxiety drink less (McClelland, 333). There may be less to this than meets the eye. 'Anxiety' is here to be taken in the sense of subsistence anxiety, that is economic insecurity (see McClelland et al., 48-50). But this definition is so restrictive that it may qualify as a straw man. As to the measurement value of folk tales, I cannot do better than to refer to McClelland et al., 50. They are willing to concede that folk tales "may not get at a deep enough level of personality to test the matter adequately."

As a replacement, it is proposed that power motivation is central to an understanding of the function of recreational drinking (McClelland, 334-36). But why cannot this be merely an alternative measure of anxiety? McClelland et al., 72, write that "he [the individual] solves the conflict [the antagonism between his desire to be assertive and the sublimation of such behaviour demanded by society; italics mine] by dreams of being powerful in a primitive, non-instrumental, impulsive way, and finds in alcohol a means of promoting these dreams—of buying, at least temporarily, the strength he needs." Surely a situation involving an element of stress is alleviated temporarily through recourse to alcohol? If this be so, then the opposition of *The Drinking Man* is rather to previous measures of anxiety.
Below are two examples from Greek and Roman poetry which describe the lot of the Archaic generation:

"These lived in Kronos' time, when he was the king in heaven. They lived as if they were gods, their hearts free from all sorrow, by themselves, and without hard work or pain; no miserable old age came their way; their hands, their feet, did not alter. They took their pleasure in festivals, and lived without troubles. When they died, it was as if they fell asleep. All goods were theirs. The fruitful grainland yielded its harvest to them of its own accord; this was great and abundant, while they at their pleasure quietly looked after their works, in the midst of good things."

Hesiod, *Works and Days*, 110-20

"People were better off in the days of Saturn's kingship before the world was opened out to the traveler! The pine-tree had not yet learned to scorn the blue sea-waters nor to hold up the sail that billows out in the wind; no sailor, hoping for loot, had ventured to unknown countries or loaded the hold of his ship with the foreign wares he found. The bull had not known the yoke, his fierceness was still unbroken; nor yet had human hand set harness upon the horse; no one had thought of doors; no man used boundary markers to set his neighbor's acres apart from those that were his. Honey dropped from the oak; ewes with heavy udders came uncalled to the shepherd at the close of day. Those times knew no wars, no blood-lust rousing to battle; there was no smith to forge weapons that men should die."

Tibullus, I, iii

Of course, especially in late antiquity, it should not be thought that this idyllic picture was necessarily regarded as fact. For instance, Hesiod's purpose was "didactic and admonitory" (Stewart, 227), his tale of origins a means of "questioning and condemning the established order, divine and human, ethical and political" (Shklar, 130).

Haggard (1933), 9.
Jellinek (1960) illustrates this condition of man by means of a simple diagram which represents the central nervous system as a circle bisected by a taut cord (diameter), such that above the cord is the realm of overt action, while below it are covert elements restrained from entering the upper arena of action by the inhibiting cord. The individual's sublimated desires are banished below the cord "so that they will not interfere, at least overtly, with his functioning in the environment. This process of suppression is fostered by society through the medium of training, which also makes for the tautness of the cord" (p. 191). That is, culture at work.

Dispute marks the likely process involved. The Freudian position is to invoke as an explanation the loss of control of repressed, instinctual and aggressive urges from the unconscious. But there are many to reject recourse to the concept of the unconscious. They look to conscious goals, somehow thwarted by society, as the source (an example would be Sarbin's "cognitive strain" arising from inaccurate location of the self within the distal ecology, a component of which is the social environment). See Werner for a brief introduction to various stances.

Cf. A. Huxley, 675-76.

Lowy, xii.

Manifest as disapproval, ostracism, retaliation, and the like.

Notable exceptions in existence today, some of recent birth, some not, include the following: various Protestant sects with ascetic leanings; the Mormons; many Buddhists and the Brahmans; those of Islamic faith. Amongst these groups, alcohol is taboo as a social beverage, as it is for all or almost all other purposes. For brief mention of alcohol and the above groups, see Chafetz, 13-14, Loeb, 396-97, Lutz, 153-56, Mandelbaum, 282-84, and Seltman (1957), 151.

The comparison requires me to tread warily, but it does seem that examples of abstention were far less common in ancient times—cf. Seltman (1957), 150, who declares that prohibition "was almost unknown in antiquity." To be sure, abstention was the lot of certain sub-groups within some ancient societies. Examples: women in early Rome--broached in Chapter 2; soldiers and certain other occupations in Carthage--Picard/Picard, 148; the Nazirites, a Hebrew priestly class--Jastrow (1913), 185. Indeed, with reference to the last-mentioned, Mandelbaum, 282-83, posits that abstention among priests may have considerable cross-cultural validity. By contrast, it is no easy task to identify social groups as a whole who spurned alcohol in antiquity. Isolated campaigns (cf. Volstead Act) waged against
alcohol and its excesses we do hear of, most notably the Senatus Consultum de Bacchanalibus. See Chapter 5, footnote 176. Lasting success for such attempts proved elusive (cf. once again, the Volstead Act). This may tell us that political imposition of abstinence is a mirage. Its adoption as part of a broader ideology is not. Into this latter category fall the Rechabites, perhaps the only well-known ancient world abstainers. Biblical testimony runs thus:

"And I set before the sons of the house of the Rechabites pots full of wine, and cups, and I said unto them, Drink ye wine. But they said, We will drink no wine: for Jonadab the son of Rechab our father commanded us, saying, Ye shall drink no wine, neither ye, nor your sons for ever: Neither shall ye build house, nor sow seed, nor plant vineyard, nor have any: but all your days ye shall dwell in tents; that ye may live many days in the land where ye be strangers."

Jeremiah 35:5-7

Here, then, is an excellent illustration of R. Adams' "unique and powerful ambivalence of relations between herdsman and farmer" (see Chapter 5, footnote 203). The Rechabites (their name means 'a company of riders'), pastoral nomads of ancient Hebrew stock, were highly suspicious of the settled way of life, one prominent symbol of which—and a symbol given moral overtones—was the product of the vine. On the Rechabites, see Budde, 726-27, and Jastrow (1913), 181.

One other possible abstaining group merits mention. McKinlay (1948-49), 391-92, marshals some textual evidence to suggest that the peoples of Iberia may have been markedly abstemious or even abstinent. This is unlikely. Firstly, I know of no political let alone ideological basis for such behaviour. Secondly, McKinlay himself points to contradictory literary evidence. Thirdly, there exist non-literary sources of evidence to indicate that the vine was grown in several parts of Iberia (and, in fact, most of McKinlay's work which I have seen is marred by a data imbalance such as this).

84 Quoted in Masson, 11.
85 Thus McClelland et al., 72 (already quoted in footnote 75). Also Bacon, 78, 87, and Graubard, 162, who is quoting St. Clement.
87 Quoted in Martí-Ibáñez, 309.
I employ "can be" advisedly. On the whole, such is the case: "Drinking together generally symbolizes durable social solidarity—or at least amity—among those who share a drink" (Mandelbaum, 282). But as the same author is at pains to point out, the emotional consequences of drinking are regulated by cultural expectations and interpretations, and in this light he contrasts Japanese men (drinking releases demonstrations of affection) with the Papago Indians (drinking triggers aggressive hostility).

Following Fallding.

Chafetz, 157.

Chafetz, 169.

True, he demonstrates briefly the multifunctional capacity of the ancient alcoholic beverages (as medicine, element of religious ritual, and suchlike), but this is scarcely adequate.

Cf. Fried, 714.

Burtt, 67-96. His intent is to reveal some of the changing conditions underpinning changing religious preoccupations and expression. Heisenberg, 104, it seems to me, makes an essentially similar point.

Burtt, 83.

Burtt, 91-92.

Burtt, 86.

I am sure that more acceptable terms are to be found. I considered using 'pre-civilised' and 'increasingly civilised', but civilisation implies a complex congeries of traits, defying easy definition.

Fried, 715.

Bacon, 79; Burtt, 87; Fried, 715.

Bacon, 79; Fried, 715. Nonetheless, the bulk of society's tasks would have been performable by most of its members, indicating a degree of interchangeability beyond the ken of modern Western man.

Quoted in Sahlins, 4.
Both Fried, 716, 718, and Sahlins, 9, note (for equivalent social organisations in the contemporary world) that exchange and redistribution are commonly enacted according to a principle of group responsibility rather than in terms of competition and individual gain.

Burtt, 87; Jellinek (1960), 193.

Jellinek (1960), 193. Kluckhohn, 395, makes the interesting suggestion (which I have encountered elsewhere in the context of modern 'primitives') that the division between the self and the not-self, sharp and distinct to 'modern man', was somewhat less clear to the ancients.

The task of proposing possible figures is fraught with hazards (a few of which are indicated in Usher, 112-15). A recent, guarded statement of some influence comes from Deevey. He estimates (p. 50) a world population of just over 5 millions in 8000 B.C., which represents an average density of below 0.1 persons/km².

A considerable population rise was experienced with the advent of Neolithic life, and it would be useful to have an estimate for a date a few millennia subsequent to 8000 B.C. Still, the basic character of a low absolute population and generally low population density would not have been greatly disrupted.

Burtt, 87-88.

A word on 'military' contact. Occasional raids surely go back far into prehistory, but systematic militarism (organised conquering, subjugation, colonialism, and the like) appears to have been of much more recent vintage--Burtt, 88; Kluckhohn, 398; Wheatley, 329.

Jellinek (1960), 193; Mandelbaum, 282; Rouéché (quoting Horton), 846.

Cf. Rouéché, 846.

Jellinek (1960), 193.


Bacon, 87.

Delcourt, 81.
Writes Jeremias, 23, of the communal meal: "It is a guarantee of peace, of truth, of brotherhood. Table-fellowship is fellowship of life." Barrosse, 23, argues that the communal meal "had a significance which modern man often fails to appreciate. Table fellowship, for example, implied commitments to tablemates, and this rendered eating and drinking together an apt way of sealing a covenant." Both these references pertain to the ancient Near East.

Just as wine libation bonded man with his god, so the sharing of a draught could serve to ratify a contract between man and his fellow. Wine at the marriage ceremony (i.e., covenant?) illustrates this. Such usage has a long history, a degraded legacy of which may perhaps be the champagne glasses raised at weddings today. (I have not tackled the literature on this subject, but Ringbom, from evidence of nuptual symbolism in late mediaeval portraiture art, suggests that the classical custom of drinking wine to seal the betrothal lost little of its popularity in the centuries that followed. Indeed, the Synod of Angers of 1277 found it necessary to condemn the nomine matrimonii potare, that is, the recognition of the drinking ceremony as a valid contract of marriage. See Ringbom, 88-89, 92-95.)

Delcourt, 80, citing as example Persephone's seduction by means of the pomegranate seed.

This prerequisite is well illustrated in Ignazio Silone's impressive novel Bread and Wine, where it acts as a binding force within peasant life. Spina, the anti-Fascist agitator exiled in Abruzzi's mountains where he is an outsider in both the literal and absurd senses, gradually discovers and is admitted into the meaningful rhythm of peasant life. Silone epitomises this assimilation through the growing private intentionality which underlies the simple act of sharing table, that is, through the sharing of bread and wine. (See also Hanlon's article on this.)

This participation theme recurs 'nearer home', it is worth noting. Douglas identifies it in her phenomenological examination of the modern meal. The nature of the eating and drinking offered a guest in the home, she would argue, is silent assertion of level of intimacy felt (i.e., degree of participation offered).

Lowy, xiii; Patrick, 48.

Between 8000 B.C. and the time of Christ, the millennia of Neolithic life and the initial flourish of urban man, world population numbers showed a 25-fold increase to reach an estimated minimum of 130 millions (Deevey, 50, 55). This would give the somewhat meaningless density of 1 person/sq km.
More meaningful for the present thesis is the population level calculated for the Roman Empire at the death of Augustus in A.D. 14 (see Usher, 115-18). By that time, 54 million people may have been living within the imperial boundaries, again indicative of a weighty population rise. Although the population density for the Empire as a whole was only 16 persons/sq km, smaller areas were more densely settled—Cyrenaica 33/sq km, Syria 55/sq km, Egypt 179/sq km.

Cf. Jensen, 47: "Civilization cannot exist without food production, but food production must be very efficient before civilization can begin." (Of course, given the added dimension introduced by the concept 'civilization', it is as well to state that food production is a necessary but not a sufficient condition.)

The standard rationale, here highly condensed, runs thus: the Neolithic achievement of relatively consistent possession of a food surplus beyond off-season requirements permitted a society to support a few of its members in activities not directly contributing to subsistence maintenance; such diversification of function held the possibility of allowing more and increased variety of production.

On which, see Fried, 722-26. Cf. more briefly, Bacon, 80-81.

Cf. Sahlins, 4, 5.

Kluckhohn 394-95.

Bacon, 81.

It can also be argued, McLuhanistically, that certain cultural innovations helped depersonalise communication between individuals. On the written word, see Kluckhohn, 399; and on the role of money, see Bacon, 81-83 (though his focus is modern).

See footnote 107.

Burtt, 94.

Cf. Kluckhohn, 398.

Sahlins, 6.

Burtt, 94.

Intuitively, I believe Chafetz's position to be correct (perhaps more correct than he knows)—but then I'm an oenophile, whereas you, dear reader, may be teetotal.
Siduri should not be thought of as a feature of the literary landscape with no translation in the real world. In fact, "le cabaret, désigné le plus souvent comme la maison de la cabaretière ... a une grande importance dans la civilisation mésopotamienne ancienne" (Cassin, 164). Siduri's was a common profession, one, incidentally, interlinked with prostitution.

An Egyptian tutor reproaches his student:

"I am told that thou forsakest books
(and) dost abandon thyself to pleasure.
Thou dost wander from tavern to tavern.
Every evening the smell of beer,
the smell of beer frightens men away (from thee)."

See Lutz, 105.

Cf. Juvenal, Satire II:

"O Father of our City,
What brought your simple shepherd people to such a pitch
Of blasphemous perversion?"

See Chapter 2.

As is shown in Chastagnol, 171-72.

Younger, 223.

I can't resist recommending Gilbert Highet's Poets in a Landscape, altogether a delightful book. For Horace in his mountain retreat, see pp. 133-48.
Well worth having an ogle at is the extraordinary rise and fall of Elagabalus who died, Emperor of Rome, in an army latrine before the age of twenty, who had already been married several times to consorts of both sexes (including a charioteer and a Vestal Virgin), and whose idiosyncracies included organising naval battles in amphitheatres filled with wine, spreading gold and silver dust on his palace floors, letting snakes slither amongst his banquet guests, and instituting the successful gathering of 4,500 kg of spiders' webs. His story is told by Brauer, 107-54, with excellent verve.

Further afield, the Roman banquets received vicious attack from Philo of Alexandria on various scores, including abuse of wine. In fact, Philo had little respect for the Greek symposium either. See V, 40-VII, 63.

The oft-proclaimed extravagance of Trimalchio's banquet has recently been shown to be a mirage (see Schmeling, 248). Decadence and tastelessness, rather than extravagance, should be stressed. On this basis, Petronius pillories the nouveau riche of his day. "The urbane Petronius is certainly shaking his head in disapproval at a tasteless display by a tasteless man"—Schmeling, 249; cf. Schnur (1959), 790.

The dinner in Juvenal's Satire V likewise results in a free-for-all.
Pliny, Seneca, and Cassius Felix, a minor medical writer from the 5th century, each describe the symptoms of chronic alcoholism. See Leibowitz, 85 (Cassius Felix), and Rolleston (1927), 111-12 (Pliny and Seneca).
FOOTNOTES
CHAPTER 5
1 Ogilvie, 2.

2 For the consequences of inappropriate action, see Ogilvie, 35.

3 Weis, 144.

4 Cf. Calvin/Calvin, 63: "There seems to be a fundamental quality of the human mind which has been built into it over the millennia [sic] of its evolution, namely, the need to know and understand."

5 Inter alia, Barnes, 46, Bois (1957), 100-01, Buber (1967), 106, B. Gordon, 1, Lloyd, 37, and Riddle, 12. At the popular level, such a view persisted throughout millennia. According to Nilsson (1940), 20, nature was still populated with spirits and gods in the eyes of rural Greeks.

It may even be possible to suggest a parallel to this popular understanding in philosophers' explanations of the existent. Take Plato, for instance. Perhaps influenced by Chaldean astrology—on which debated theme see des Places (1936) and, in more guarded tone, des Places (1961)—and by increasing mathematical knowledge of planetary motion, he claimed the planets as possible gods, possessing intelligence and souls: "Collectively, of course, we must call them the divine host of the stars—endowed with the fairest of bodies and the happiest and best of souls." Thus Epinomis, 981E. (I am aware of the disputed authorship of Epinomis, but the dubiety is not relevant here.) Later, Aristotle followed Plato's lead—Nilsson (1960a), 37-38.

6 As an explanation of the enigma of his own existence, man located within himself a life principle—a soul or spirit, an "anima" (La Barre, 368), the reification of life itself. At death, this mysterious essence would quit the body to exist, it was thought, in incorporeal state, an invisible spirit. It has often been suggested that this explanation of man was transposed to the world around him.

7 Yerkes, 27, notes the basic "assumption that anything, visible or invisible, which moves of its own accord, that is, without being moved, is living . . . Life and apparently all automatic motion are naturally confused by the elementary mind." Cf. Haggard (1933), 11, La Barre, 452, Sinding, 30, and Wirgin/Mandel, 162. Movement is the basis of Plato's position in footnote 5. He writes (Epinomis, 982B) that "as for that which holds its course uniformly through the sky, we should count this abundant proof of its intelligence."

On specific elements viewed as "alive, possessing living spirits," see B. Gordon, 5-6, La Barre, 368, G. Murray (1946), 23, and Sylvia Mary, 105. An interesting case is a Palestinian
explanation of periodic streams, whose intermittency was regarded as resulting from a ceaseless battle between two spirits, one benevolent (who, whenever victorious, would allow the waters to run for mankind's benefit), the other misanthropic (dedicated to drying up the waters). On this, Canaan (1920-21), 154-56. This tendency to invest nature with spirits appears to have extended to certain elements lacking motion sensu stricto. Thus flint (Lat.: \textit{lapis vivus}), free sulphur (Lat.: \textit{sulphur vivum}), quicklime (Lat.: \textit{calx viva}), and amber (Gk.: \textit{electron}). See Plumpe, 7, and Riddle, 3, 72.

8 Nature, like man, made its noises (see Cassirer, 85). Human reaction to one of these, thunder, is examined by Freeman, particularly pp. 355-56, in a perhaps overly Freudian article.

Noise also came from the bodyless echo, perhaps an elusive, mocking spirit (B. Gordon, 3; Guthrie, 5). The first-named points to a possible inheritance in today's Near Eastern tradition of spirits as clowns and mimics.

9 \textit{Before Philosophy} (which is the title of the 1949 paperback version, the original having been published three years earlier under a different title) is the work of Henri Frankfort et al. It comprises a series of essays. Although substantive studies such as Jacobsen's "Mesopotamia" constitute the bulk of the volume, these are, in a sense, variations on a theme sounded by the Frankforts in their "Introduction." Accordingly, as a form of shorthand, I have accredited the basic position of \textit{Before Philosophy} to the Frankforts.

The summary in my text is based primarily on Frankfort/Frankfort (1968a), but I have taken the opportunity to annotate by means of footnotes.

10 Or "mythopoeic," as the Frankforts prefer, since their evidence is derived from a body of literary texts.

Now it will be as well to make the customary caveat: 'myth' and 'falsehood' are not synonymous in discussions of mythic explanation, nor yet are myths "a childish invention to lend color to a naive religion" (phrase from Ellul, 23). Rather, mythic thinking represents an intellectual ordering of aspects of reality. Myths "express some profound and permanent truth about man" (Ellul, 24); they are ontological statements.

The modern conception of myth inherits former (disparaging) value judgements. Yet mythic explanation is neither better nor worse than other Weltanschauungen (cf. the impossibility of asserting that "the modern apprehension of the existent is more correct than the Greek"--Heidegger, 270). Only different. Ascriptions of
superiority or inferiority arise from the inability to recognise the relativity of all statements about the existent (instructive on which theme is Cassirer, 5-7), particularly when those born in one world seek to interpret another (cf. Langer, x). On the above themes, see Dardel.

11 This position, of course, resembles a central concept in the theology of Martin Buber. Buber (1957), is concerned with two attitudes—the "I-thou" and "I-it" relationships—by which man encounters his world and the levels of truth which these attitudes offer. However, he seeks the origin of his "I-thou" relationship in the intellectual world of "primitive man." Kass, 41, censures the theologian for his inability to verify "that the mentality of primitive man is dominated by 'personal' relations." Can this criticism be extended to the Frankforts? This theme is taken up again in footnote 23.

12 Cf. Redfield, 103-04, 105.

13 The notion of man "confronting" his world would be a misnomer in this case—Redfield, 105. Cf. H. Smith, 442.

14 Frankfort/Frankfort (1968a), 12.

15 Cf. Redfield, 9: "The cosmos is personal and human-like." His remark refers to "precivilized" man rather than, specifically, ancient man. Jacobsen, 142-48, has illustrated this phenomenon for Mesopotamia, but he appears to exaggerate his case (see footnote 24).

16 A theme emphasised forcibly by Cassirer, 32-33.

17 "Reason is not man's primitive endowment, but his achievement," Langer is quick to point out.

Traditionally, we identify theoretical thinking first in the Ionian philosophers of the 6th century B.C. On this breakthrough, see Bois (1955-56)—whose historical epistemological sequence owes inspiration to the work of Gaston Bachelard—, Frankfort/Frankfort (1968b), and H. Smith.

18 H. Smith, 442.

19 Frankfort/Frankfort (1968a) give these examples: modern man sees the rising and setting of the sun but believes, in contrast, that the earth travels around the sun; he sees colours but classifies them according to electromagnetic wave lengths.
Cf. Bois (1955-56), 44. Interestingly, Leclant, 218, notes the dearth of an abstract vocabulary among the ancient Egyptians (see, also, Spitz, 2).

Cf. James (1962), 62, who asserts that the "primitive" mind "does not distinguish clearly between cause and effect, agent and act, the symbol and the thing symbolized, because they all belong to one integrated undifferentiated whole pervaded by an inherent vitality." Specific examples of this coalescence are given in Frankfort/Frankfort (1968a), 21-23. On the matter of symbolism, see also Canney, 41.

I should stress that the Frankforts have confined their attention to historic, pre-Ionian times. The classical world is therefore excluded from their discussion. I prefer to see mythic traits in the thinking of classical and pre-classical times alike and would not require the qualifying adjective "historic." (Cf. the designation of myth as "an eternal function of the soul" by Buber (1967), 105, a statement with which Dardel, 34, is in agreement). This enlarged time-span is not at odds with the Frankforts' basic reconstruction, because I am arguing for the mythic as an important trait in ancient thinking rather than as constituting something tantamount to a mentality in itself, which is essentially the Frankfortian position (cf. footnote 23).

For example, W. Thompson, 28-29, reproaches the Frankforts for resurrecting a corpse which anthropology had finally lain to rest, namely, "an exotic and special primitive mentality," the present "mythopoeic mentality." This, he warns, is a false concept, the product of generalising a special mental operation into a special mentality. "There is mythic thought and there is discursive thought; neither one alone represents the total nature of the human mind." Thompson cannot understand why the two need have been mutually exclusive. They are not so today when the Eucharist is flesh and blood to some, bread and wine to others.

In fact, there is no reason why such contrasting operations cannot co-exist either among the individuals composing a society (as in Thompson's Eucharist example) or within one individual (thus Korzybski, quoted in Bois (1955-56), 43, writes as follows: "A scientist may be very much up to date in his line of work, let us say, in biology; but his physico-mathematical structural knowledge may be somewhere in the eighteenth or nineteenth century and his epistemology, metaphysics and structure of language 300 B.C."). A more accurate picture than the Frankforts' of ancient man's encounter with his world may come therefore from Burtt, 42, 44-45, who credits him with more than one type of reaction to and explanation of the "happenings" around him. According to Burtt, the realm of
dependable happenings—those aspects of ancient man's world which were familiar and predictable—incurred a reaction and explanation quite different from the realm of undependable happenings in which the strange and the hand of vicissitude created far more perplexing problems to account for. It would seem to me that the Frankforts' "mythopoeic thought," manifestly employed in the latter realm, would be an unnecessary postulate for Burtt's "dependable happenings."

How stand the Frankforts against such charges? At first sight, an injustice may appear to be done them: for on p. 19 of Before Philosophy it is stated categorically that the Mesopotamians and Egyptians "could reason logically." Yet it is as if the Frankforts acknowledge this only to ignore it ("could reason logically" is immediately qualified by "but they did not often care to do it") and regard non-mythic thought processes as having had no play whatsoever. I cannot discover Thompson's accusatory phrase "mythopoeic mentality" (italics mine) in the Frankforts' "Introduction"; no matter--Thompson is not being unfair since "the mythopoeic mind" (p. 27, italics mine) does appear.

24Gaster (1955), for example, is adamant that the evidence examined by the various authors in Before Philosophy cannot support adequately the interpretation they sanction. (He particularly doubts Jacobsen's "Mesopotamia" on this score, and indeed a reading of Jacobsen does leave the impression that an a priori hypothesis has distorted the objective evaluation of the evidence.) Above all, argues Gaster, 422-23, the nature of poetry has been misunderstood:

"The human mind, as Cassirer pointed out, works affectively as well as intellectually. In the one case, it expresses itself in art and poetry; in the other, in science and speculative thought. But this does not mean that either precedes the other, or that one can simply turn the a-logical into the pre-logical and assert blithely that, before the Greeks came along, this was the only way in which all men thought at all times everywhere. Yet that is precisely what Frankfort and his colleagues suggest. They have taken a body of poetic and artistic texts—myths and tales—and proceeded to argue that the poetic and artistic mentality which underlies them is representative of ancient and primitive thought in general. This is like saying that every nineteenth century Englishman necessarily conceived of a Grecian urn as a still unravished bride of quietness or that he could not think of spring except as a hound on winter's traces."
Many writers have taken up this theme. For instance, it is central to articles by Buber (1957) and Chapiro (p. 106: "Detachment is a biological heresy, and from nature's viewpoint man is the supreme arch-heretic"). Or, more briefly, see Lowenthal, 248, or Teilhard de Chardin, 109.

"Good is primarily life, health, abundance and prosperity, and evil is death, sickness, barrenness and famine, each under the control of transcendental forces." Thus James (1962), 33, characterises ancient circumstances.

In religious ritual, life and death were merely two sides of the same coin--Knight, 75. Cf. La Barre, 541-42.

28 Birket-Smith, 163; Curwen/Hatt, 7.

29 James (1961), 15; Lewinsohn, 10; Mumford, 147. The last-named would even go as far as to state that "in reconstructing the process of domestication, we would do well to treat the increased consciousness of sexuality, an essentially religious consciousness, as the dominating motive power in this whole change."

30 Lewinsohn, 10. Delougaz's interpretation of earliest Mesopotamian herding scenes, if valid, offers case example confirmation of the significance accorded the phenomenon of birth.


32 The association of cohabitation with conception was a late development--Yerkes, 35. Cf. by inference, Belin-Milleron (1950), 596. Impregnation by waves of the sea and other agents was a common belief; see Belin-Milleron (1953), 202, B. Gordon, 18, Sinding, 30, Spitz, 7, 8, Yerkes, 35.

Yerkes' assertion may perhaps be strengthened by the argument that there have existed into the 20th century peoples who were unaware of the connection between coitus and conception. Thus Jelliffe, 60-61, Mitchell, 53, and Schlossman, 43, probably or certainly basing their positions on the fascinating account by Malinowski, 45-72. But Malinowski is not without his detractors.

33 Isaac, 108; James (1962), 131; Yerkes, 36. Bakan, in an "interpretative and speculative" essay, sees a resultant "crisis of paternalization" reflected in Biblical writings. Beyond an ontogenetic crisis, he identifies what he believes to be the impact of the historical realisation of the nature of the paternity process.
For example, recognition of the life-potency of blood can be traced back to at least the beginning of the Upper Palaeolithic—James (1962), 60.

Not so much the medium of life as life itself, since the former implies a degree of abstraction. Cf. Frankfort/Frankfort (1968a), 23.

To varying degrees, all the elemental forces—by their dual propensity to herald famine or plenty—were perceived in ambivalent terms (Burtt, 54-55). For the life-giving power of the sun had its alter ego in the dessicator of the land, the tempering wind in the vigorous gale which scatters the crops, and the critical beneficence of water in the destructiveness of the flood.

Indeed, it helped define the ideal 'landscape' of Paradise, as envisioned by desert peoples. Thus the Qur'an: "Verily, the pious are amid shades and springs and fruits such as they love" (quoted in Tuan, 11-12). And in Genesis 2:10-14 the Garden of Eden is the fountainhead of four great rivers, which have long intrigued Christendom's imagination—cf. Boissier and Speiser (1959), 473. Hell, by contrast, has been equated with the desert (Yaron, 53).

This does not conflict with the ambivalence stressed in footnote 36. That which is worshipped, the numinous, may embrace antithetical emotions. Julian Huxley, 201, puts it this way: "The [religious] emotion itself must contain that compound of fear and fascination, mystery and active interest, which, according to the precise blendings, issues as awe, reverence, superstitious fear, or a sense of holiness."

Ea, worshipped as 'Lord of the Watery Deep', deity of brooks and springs also, attained the supreme triad of gods among the polytheistic Babylonians (Goodenough, V, 113-14), in a land resuscitated annually only with the aid of irrigation waters. Likewise, homage was paid to the life-bearing rains. A notable deity in the Canaanite pantheon was the rain god Ba'al, sovereign over lands where precipitation rather than irrigation was crucial. (Our knowledge of Ba'al stems primarily from the Ugaritic texts of Ba'lu. Yet as de Moor, 53, points out, the religion of Ugarit can be said to characterise that of ancient Canaan as a whole, with the proviso that this should not preclude a certain measure of distinctiveness.)

Note that the key environmental difference between the Babylonian and Canaanite lands influenced and distinguished the cosmologies of the two. See Neiman (1969), 120-22.
Fairly obvious parallels seem to have been drawn between semen and water, specifically rain. Ritual copulation in the fields to stimulate the moribund earth might suggest this. Allegro's controversial The Sacred Mushroom and the Cross (which, otherwise, I have eschewed using) highlights the association: he emphasises (p. vii) the rather irritating image of the "mighty penis" in the sky. See also Goodenough, V, 112, and James (1961), 37.


According to the following authors, blood was regarded as "life"--Goodenough, VI, 13; "principle of life"--Steinmueller, 557; "life principle"--James (1962), 60; "life-giving agent par excellence"--James (1962), 27; "seat and source of life"--Yerkes, 14; "seat, the principle and the vehicle of the soul"--Yerkes, 219; "medium of life, the 'soul'"--Canaan (1934), 232; "life or the soul"--Klausner, 35; "soul"--Dewar, 206.

G. Murray (1951), 121, who points to the suggestive presence of evergreens.

Which, in Wheatley's phrasing (p. 331), "assuaged man's deepest anxieties by providing assurances of the continuity of the world as he knew it."


For example, Gaster (1946), 61-62, records the practice of sprinkling milk on fields, trees, and orchards to render them fertile. But other substances besides the life-fluids were employed. In the Ugaritic texts of Ba' al is described the burial in the prepared fields of the aphrodisiac mandrake (de Moor, 102-05).

Such practices have persisted into the 20th century in certain areas, e.g., Bleeker, 231, on Bulgaria. James (1962), 31-32, gives a fine, recent example of the desire to perpetuate nature's cycle: the last sheaf or first fruits of the harvested crop, regarded as embodying the life spirit of the vegetation, are added the following season to the soil to donate their potency.

Gaster (1961), 41; Goodenough, VI, 5; Morgenstern, 85.

Again, this persisted into the 20th century when married couples in parts of the Ukraine had coitus on their fields on St. George's Day (April 23).
Nock (1972a), 583. Cf. Sallustius, XVI: "Since we have received everything from the gods, and it is right to pay the giver some tithe of his gifts, we pay such a tithe of possessions in votive offerings, . . . and of life in sacrifices."

James (1962), 26, 137.


James (1962), 13. Cf. Steinmueller, 556, who writes that "sacrificial (adjective) or sacrifice (noun and verb) in the strict theological sense refers to a sacred gift offered to the deity (whether true or false) and in His divine honor, and given for the purpose of adoration, thanksgiving, petition or atonement."

Yerkes, 4.


The equivalent essence in plants was thought to reside in the first fruits—James (1962), 26. For sacrificial blood in the Bible, see Steinmueller.

James (1962), 26. The social ties of meal or feast seem to lie behind this—Nock (1972a), 582, who talks of "table fellowship" between man and the divine. For more on table fellowship's significance, see Chapter 4, footnotes 114, 116.

Demogeot/Druesne/Laxenaire, 347, put it eloquently: "L'angoisse existentielle émane de la nature même de l'existence de l'homme. Elle est liée de façan inévitable à la condition éphémère et transitoire de la vie de l'homme sur la terre."

Cf. Goodenough, V, 179, who portrays the Egyptians as terrified of death.

Nilsson (1954), 29-30. Examples from the ancient world can be found. A couple are given here. In ancient Egyptian literature, the problem of death in the Golden Age "receives but a scanty treatment," contends Kákosy, 207, but there is some evidence suggestive of immortality (p. 207) and of a much increased life span (p. 210). In the Mesopotamian Epic of Gilgamesh, Utapishtim—survivor of the Flood (cf. Noah)—was granted immortality, but his was an exceptional case. Erstwhile immortality appears also in Jewish thought: "And unto him [Adam] thou gavest thy one appointment, but he transgressed it. Immediately thou appointedst death for him and his descendants" (IV Esdras 3:7).
Eliade, 29. He adds that "we have the right to assume that the mystical memory of a blessedness without history haunts man from the moment he becomes aware of his situation in the cosmos."

Eliade's article focuses on two contrasting religions--Christianity and Shamanism. In both he identifies a "yearning for paradise," a desire to recover the primordial condition of man.

Versions of the Gilgamesh text are available by Sandars (in prose rather than the normal poetic form) and by Speiser in J. Pritchard, 40-75. Annotated accounts are given by J. Gray, 39-52, James (1967), 120-21, and Sylvia Mary, 59-68.

An excellent illustration of footnote 10.

Thus J. Gray, 51. Incidentally, the same point is made more explicitly in an obscure Greek myth from Nicander's Theriaca, as told by Nilsson (1954), 30: "The gods wanted to give eternal youth [a plant, once again] to man, at his request, and laid it on an ass which was to bring it to him. But the ass got thirsty and went down to drink at a well which was guarded by a snake; the snake drove it off and would not let it drink unless it delivered up what it carried; wherefore the ass handed over eternal youth to the snake. Since that time snakes change their skin yearly, but man is afflicted by old age." In late antiquity the snake symbolised recurring time--Nilsson (1947), 171.

The Adapa text can be found in J. Pritchard, 76-80. Brief accounts are given in J. Gray, 37-39, James (1967), 121, and Sylvia Mary, 68-70.

Cf. Yerkes, 20: "Primitive man did not distinguish nicely between life and the atoms and molecules which support it."

Bleeker, 227; Claudian, 6. Perchance, muses the latter (p. 4), the tradition of nectar and ambrosia emerged from an imperfect recollection of the Upper Palaeolithic's scarce, treasured, intoxicant concoctions of plants and honey?

Apuleius, pp. 156-57.

Tradition dies hard: later, mediaeval distillation claimed to have discovered aqua vitae (see Sabbatani), spiritus vivus, and similar hallowed liquors.


However, an examination of the matter would have to consider the potency of the life-fluids and the yet-to-be-mentioned eschatological expressiveness of some plant life.


It is only fair to point out that mana is a Polynesian term for a phenomenon which has been recorded among the Polynesians and other relatively 'primitive' modern societies. The equation of such societies with the peoples of antiquity is fraught with hazards (thus Levi-Strauss, 16-19). In the present case, however, a transference of the modern situation into ancient context does seem possible. Murray wishes to ascribe a belief in mana to pre-Olympian Greece, while Rose has proposed the equivalence of mana with the Roman numen (but this correspondence is objected to by Dumézil, I, 18-31). Nock argues that awareness of such a power as mana is "a universal substratum or datum of human consciousness."

Nock (1972b), 603-04.

Swanson, 123.

The rationale for cannibalism is often sought in such mana appropriation. See Birket-Smith, 163-64, Bleeker, 226, B. Gordon, 128, and Weiner, 93. Especially suggestive of this are certain specific instances such as phallus eating in Amazonia (La Barre, 133) and Neanderthal brain consumption (Brockway, 696, and La Barre, 445, who summons Carl Sauer as an accordant authority). See also James (1962), 86-90, Lloyd, 36-37, and Wason, 67-68.

Not all examples are anthropophagical nor involve consumption sensu stricto. Perhaps akin to oral incorporation is the recorded practice of kissing the ground (and sometimes retaining soil fragments in the mouth) before joining battle. On October 25, 1415, the English archers awaited the conflagration of Agincourt. "And thrys there they kissed the ground," relates one account, while "telluris particula in ore recepta," maintains another. Lot, who gives further illustrations, regards this curious custom as an inheritance from the ancients' belief in the ability to gain strength from the Earth Mother. He quotes (p. 440) Boyance to this effect: "C'est du sol qu'êmerge la mana, d'où ces rites qui ont pour objet de toucher le sol."

Dewar, 204.

Blum et al., 27; Dewar, 205; B. Gordon, 126; Lloyd, 36; Wason, 67-68.
78 La Barre, 406.

79 Lucia (1963a), 5. Similarly, blood brotherhood, by the commingling of two life-substances, was thought to impart a common soul to the participants—Canaan (1934), 233, and B. Gordon, 138.

80 Goodenough, V, 146, 147-48 (which view is questioned superficially by North, 181). Bleeker, 227, is in agreement.

81 For example, water was often placed in the grave, and sometimes blood from purposely inflicted wounds was sprinkled there (strange table viand, this, if we are to believe the first explanation). Sources: James (1962), 235, and Yerkes, 42.

82 Bleeker, 230.

83 Inter alia, Isaac, 108 (Ba' al, Tammuz), La Barre, 270 (Christ), Loeb, 388 (Osiris, Dionysus), and Seltman (1957), 62 (Osiris, Dionysus). An interesting reference to Christ is given by G. Murray (1951), 128. Quoting from a study of modern Greek folklore, he presents the poignant image of an old woman of Euboea, anxious at the approach of Easter: "Of course I am anxious; for if Christ does not rise tomorrow we shall have no corn this year."

Two points should be made. Firstly, it is vital to emphasise that grouping together these gods—actually, they were commonly represented as the son of a greater god, on which see Morgenstern, 82-83, and G. Murray (1951)—in no way denies quite substantial differences among them. Secondly, recent investigation makes the inclusion of Tammuz increasingly unwarranted. Tammuz was certainly torn to death, but it is now far from assured that he ever rose again. On this: Gurney (1962).

84 Isaac, 108.

85 Cf. James (1961), 34, and La Barre, 543.

86 I believe this is central to Belin-Milleron's thinking when he argues that vegetation "a donné les rudiments d'une cosmologie" (1950, p. 59), or that "les anciennes civilisations ont demandé au végétal sa médiation pour communiquer avec le cosmos, pour pénétrer les enigmes de la vie" (1953, p. 204).

Most strikingly, perhaps, the deciduous tree seemed to triumph over death. It became a symbol of resurrection (Calame-Griaule, 20, 22, Mercier, 90) and, as the Tree of Life, an emblem of fertility and life. See Albright (1919-20), 283-84, Belin-Milleron (1950), 591, Calame-Griaule, 20-21, B. Gordon, 18, James (1967), Mercier, 88, 90, and Sinding, 29.
As part of "that intense flowering of religious and mystical aspiration which resulted from the meeting of Greek, Hebrew, Egyptian and primitive Anatolian thought in the age which is called Hellenistic, and which has had such lasting influence on the whole Western world," in the words of G. Murray (1951), 126.

Mylonas provides a useful introduction to the mysteries (in Greek context).

See Brandon (1963).

Goodenough, V, 145.

Jellinek (1960), 193.

B. Gordon, 367, explains this wine-blood correspondence in terms of the ancient medical doctrine of signature. One of the aetiological bases of earliest known therapeutic practice was that every part of the human body (microcosm) is related to a counterpart in nature (macrocosm), according, primarily, to the qualities of shape and colour. Wine and blood thus presented an obvious parallel.

Mithraism gives an example of the close association of wine and blood. The central Mithraic rite of bull sacrifice had its origins in the mythic slaying of a cosmogonic bull by the young god Mithras. During this event, the vine sprouted from the blood of the dying animal. See Cumont (1946), 185, 187, or James (1961), 196. See also footnote 199.

Another illustration comes from Merkelbach, 178, who is presumably translating rather than paraphrasing Eratosthenes' Erigone--an aetiological tale glorifying the gifts of Attica, as symbolised by wine, to civilisation--when he has Icarus, on receiving the gift of wine from Dionysus, exclaim: "Stranger, where does this red water come from, this sweet blood?"

Claudian, 5; Lutz, 64; Yerkes, 57. Forbes, 79, ascribes this term to the must rather than to the wine itself.

The utility argument is advanced by Goodenough, VI, 13. It is unlikely to be more than a partial explanation. Klausner, 35-36, offers further reasons for substitution. One is that the Jews, exiled in a strange land and with their Temple destroyed, could make no more animal sacrifices and turned instead to wine offerings. But, obviously, the Jewish experience cannot be applied universally. Klausner also points to "increasing rationalization" as an impetus to change, which poses more questions than it answers.
The state of enthousiasmos--Sigerist (1945), 16.

Schadewalt, 45. Cf. Mondani, 11.

Amerine/Singleton, 65.

Cf. Anderson, 120 ("aura of magic and divinity"), Demogeot/Druesne/Laxenaire, 339 ("miracle" from the gods), and Pique (1928), 785 ("l'attrait d'une manifestation occulte, même divine"). We are in the world of Burtt's "undependable happenings" (see footnote 23).

B. Gordon, 219. (It may be possible to see a measure of confirmation in the Edda, the Scandinavian epic poems, where fermentation is regarded as being initiated by the communal spittle of the gods--Claudian, 7.) Certainly, such an explanation could provide a basis for Parker-Rhodes contention (p. 98) that a little of the fermented liquor often used to be retained for the next brew in order that the new concoction might acquire the 'spirit' of the first (a process equivalent to the ancient Egyptian practice of reserving a part of the leaven for the next baking of bread--Kavaler, 49).

Hyams, 20; La Barre, 545.

Lucia (1963a), 5; Seltman (1957), 21.

De Saint-Denis, 703; Jünger, 330; Klausner, 36; Seltman (1957), 21. This tie between wine and blood of gods appears in early mythic explanation. Lucia (1963b), 152, records a Babylonian account in which the forces of evil are combating those of righteousness for possession of the world. Although the latter triumph, the victory is not won without loss of life. But wherever one of their number fell in battle a grapevine sprouted from the corpse. (Unfortunately, Lucia does not distinguish his source.) A closely analogous myth, but in Egyptian context, is told by Plutarch. See Lutz, 111.

De Saint-Denis, 703; Dodds, xiii; Klausner, 36.

It would be misleading to ignore that this interpretation, however widely adhered to, has not gone unchallenged. This can be illustrated by the clash of Goodenough, V, 126, and Nock (1972c), 906-07, over the interpretation of a Hittite text. In the phrase "drink the (god) Tauri," the former wishes to identify possibly "the earliest literary reference to a practice which appears reflected in much earlier art and which . . . became the basic motif of the sacrament as it still is in Christianity: the practice of drinking the god in ritual." By contrast, Nock views the phrase "they give to drink thrice and thrice they drink his soul" as
intending the sense to the honour of or in memory of the soul of Tauri. Moreover, Nock demands such ellipsis for "similar phrases of other deities." The implication of this stance is to throw into question the theory of intoxication by some being in the wine. But Nock's ellipsis is speculative. Nor does he justify his decision to generalise his conclusion from one example to "similar phrases." With the weight of research against him, we have the right to expect more than mere assertion.

104 De Moor, 59, 78. There are Biblical references to these Canaanite harvests. One example is seen in Judges 9:27--"And they went out into the fields, and gathered their vineyards, and trode the grapes, and made merry, and went into the house of their god, and did eat and drink, and cursed Abimelech." (Abimelech was a Jewish leader.)

105 Also called the Feast of Booths or Feast of Tents. The reference is to the temporary dwelling structures erected in the vineyards during the season of ingathering (see Maertens, 67). Later historicisation, however, taught that these booths referred to the period of Israel's wandering in the wilderness after the escape from Egypt. This transformation added a completely different religious dimension. On this: Maertens, 69-74.

106 James (1961), 113.

A useful explanatory account of the Vinalia is given by Schilling, 49-56. See also Dumézil's reflections (I, pp. 183-85) on the rationale for such offerings to Jupiter.

108 For a more detailed version, consult Schilling, 51-52.

109 Dawson, 10; B. Gordon, 128.

110 This was a longstanding practice among Bulgarian peasantry--Bleeker, 231.

111 De Moor, 99.

112 The following are representative sources for the Anthesteria: James (1961), 139-42, Murray (1946), 16-18, Nilsson (1940), 33-40, Pollard, 79-81, and Younger, 125-26.

113 The notable complexity of the Anthesteria militates against uniformity of interpretation. Its "favourable relationship" aspect is not stressed by all five scholars in the footnote above. Nilsson and Pollard ignore this feature. Conversely, James is prepared to identify an "element of renewal" in the Anthesteria. And Murray (cf. Younger) explains the summoning of the spirits of the dead as follows:
"For, why do you suppose the dead are summoned at all? What use to the tribe is the presence of all these dead ancestors? They have come, I suspect, to be born again, to begin a new life at the great Spring festival. For the new births of the tribe, the new crops, the new kids, the new human beings, are of course really only the old ones returned to earth. The important thing is to get them properly placated and purified, free from the contagion of ancient sin or underworld anger."

114 See Goodenough, VI, 9.
115 Quoted in Seltman (1957), 37.
116 Lutz, 126.
118 Jobes, 1604; Lucia (1963b), 164. The latter remarks (p. 161) that in ancient Greece, for instance, it is difficult to find libations not using wine. Even ascribing overenthusiasm to Lucia, wine must have been overwhelmingly the chosen vehicle for libation.
119 Lucia (1963b), 155.
120 Goodenough, V, 145-46. In an address now a century old, Chabas, 71, admits that wine was a commoner libation liquid than beer (the principal Egyptian intoxicant) or milk. But at the same time, he is at pains to impress (pp. 71-75) that water was supreme by far in this capacity.
121 Lucia (1963b), 154; by inference, Lutz, 126.
122 True, the latter two categories are not evidence of religious use of wine sensu stricto. But inasmuch as they buttress the thesis of an intimate link between the beverage and eschatological preoccupation, they are of value.
123 Goodenough, V, 145, 146.
124 De Moor, 59, 79; etymological considerations are examined on pp. 170-71.
125 Lucia (1963b), 162-63. Thus pseudo-Tibullus:

"And those bones of mine, last fragments of my body—gather them up and sprinkle them the first time with old wine,
and then in brimming white milk let them steep,
and then with soft old linen wipe them clean
and make them ready for a marble tomb."

_Corpus Tibullianum, III, ii_

To Lucia, the rationale for such action is not clear. A possibly enlightening parallel may be the ancient Egyptian custom of lustrating corpses with water, another life-fluid--on which, see Brandon (1963).

126 Which, I fully realise, may sport representational design.

127 Goodenough, VI, 7-8, who is impressed by the ubiquity of such findings.

128 See Dusenbery's article on this necropolis. The quotation is from p. 165.

129 Panofsky, 54.

130 Panofsky, 54.


132 Goodenough, VI, 52.

133 The phrases are from Leglay, 155, who addresses himself to this problem confronting the interpreter. See also Nock (1946). (It is precisely on this critical distinction that North bases his attack on Goodenough's monumental study of art symbolism.)

Obviously, there is a dynamic quality in symbolism which it would be unwise to ignore. Many are the warnings against "the same unchangeable connotation" (e.g., Sonne, 4). In fact, it would seem legitimate to talk of the life history of a symbol from birth to death. "The death of a given symbol might be its transition into sheer un-understood tradition and then, presumably, its use simply for its esthetic form" (Hodgson, quoted in Hartner/ Ettinghausen, 161). Thus "symboles religieux" give way to "motifs décoratifs." Hartner/ Ettinghausen provide a detailed instance of this for the ancient symbol of the conquering lion, originally the astral Leo.

Cf. Leglay, 196: "Ce qu'on a généralement expliqué par la
signification symbolique de la grappe qui, participant de celle du
vin, est considérée comme spécialement propre à attirer sur le
defunt la bienveillance divine et à lui assurer l'immortalité
céleste bienheureuse."

See anon. (1953), 199, Goodenough, V, 142, J. Pritchard,
plate 19, etc.

My source for St. Costanza is Oakeshott, 61-65. The sarcophagus
is now in the Vatican Museum.


Cf. Lassus, 15, for a context wider than St. Costanza alone.

Lassus, 38, declares that "the motif [vine and putti] seems
to have slipped without transition from its Dionysiac meaning to

The 4th century marble sarcophagus (reproduced in Lassus, 15),
now in Rome's Lateran Museum, illustrates well the above argument.
Its intricate tangle of vines peopled with putti would be judged
typically Dionysiac did not three large figures of the Good Shepherd
indicate transposition to Christian symbolism.

Panofsky, 54. This sentiment is echoed by Bieber, 100.

Quoted in Dodds, xiii. (Burtt, 59-60, makes some interesting
remarks along the same lines.)

Cf. Chafetz, 156.

Martí-Ibáñez, 304.

Thus Deutsch, 31.

Inge, 95 (with the renowned Rohde as his source).

Religious element: cf. anon. (1938) and Demogeot/Druesne/
Laxenaire, 339.

Osiris has already been mentioned in Chapter 2. Identification
of Osiris with Dionysus was proposed by several ancient writers,
notably Herodotus, Diodorus Siculus, and Plutarch. On this: Lutz,
113-14, and Pépin, 305-06. For further interesting parallels, see
Merkelbach's article.
The Sumerian Gestin or Ama-gestin. On this goddess and her 'family', in which circle the enigmatic Siduri—see Chapter 2, footnotes 35, 36, 37, 39, and relevant text—can perhaps be placed: Albright (1919-20), 264, 266-67. But at a very early date Ama-gestin lost the trappings of a vine goddess and appeared as Ninâ, "the lady of the waters"—a metamorphosis which Lutz, 131, considers understandable in light of the Mesopotamian environment.

An impression of this is available from A. Smith, 253-54.

Phrase from Deutsch, 16.

Merkelbach, 189. Similarly, Cumont, quoted in Nock (1946), 140, avers that "la logique de ce peuple n'était point celle d'un philologue du XIXe siècle, et le principe de contradiction n'avait point pour lui la même valeur."

Phrase from Lutz, 140. This, of course, is such stuff as Disney's dreams are made on.

On this, see Dodds, xii.

Thus Wheeler, 35.

Cf. inter alia, Pollard, 82: "It were idle to deny that the association between the god and the vine was not always very close."

Dodds, xii.

Knight, 76 (as opposed to Demeter, goddess of corn, the dry vegetation). This is merely to echo Plutarch, who distinguishes Dionysus as lord over moist nature (Otto, 156).

Demogeot/Druesne/Laxenaire, 340. The intimate association between the god and liquids can be observed in several guises.

In Euripides, various liquid substances spurt miraculously from the ground beside the ecstatic female votaries of the god:

Someone grasped a thrysus and stuck it into a rock from which a dewy stream of water leaps out; another struck her rod on the ground and for her the god sent up a spring of wine; and those who had a desire for the white drink scraped the ground with their fingertips and had jets of milk; and from out of the ivied thyrsi, sweet streams of honey dripped.

Euripides, Bacchae, 704-11
Then there is Dionysus' close affinities with bodies of water—in particular, the sea is a Leitmotif—in those myths telling of his arrival among or departure from the Greeks. From water he arrives. A Homeric hymn of the 7th century B.C. recounts his journey from across the sea in a wondrous pirate ship which had rashly attempted to capture the god. The tale of this vine-encrusted ship is told well by William Sansom. Or see Kerényi (1951), 266-68, or Seltman (1956), 162-63. In another legend, preserved by the people of the small coastal town of Brašiai in Laconia, the baby Dionysus is washed ashore in a chest—Kerenyi (1951), 263-64; Otto, 162. And to water he returns. In one version of early date, the god is vanquished by Perseus and thrown into the deep spring of Lerna; in another, he is chased by an irate king of Thrace and seeks refuge at the bottom of the sea. On these: Kerényi (1951), 262, and Otto, 162. Hence Otto's summation (p. 162): "The cults and myths are as explicit as they can be about the fact that Dionysus comes out of water and returns to it."

Lastly, can be mentioned the intimate ties between Dionysus and seminal fluid. Varro declared that the sovereignty of Dionysus held sway not only in wine but also in the very sperm of living creatures (Otto, 164). Certain it is that the phallus stood amongst the premier symbols of the god. Phallic processions marked the Rural Dionysia festivals—see James (1961), 142-43, and Pollard, 86. This was also true of the Great or City Dionysia, to which all Athenian colonies were obligated to send phalli—Nilsson (1940), 36. Revelation of the phallus figured prominently in the mystery rites. And representations of Dionysus sometimes show him surrounded by ithyphallic attendants—Nilsson (1940), 12-13; Pollard, 86.

In summary, the deep association between Dionysus and liquids, the life-fluids, is inescapable. (This "principe de l'élément liquide" may even help to explain the "unité signifiante" which Barthes, 311, finds in the ancient Greek dietary pattern in his search for "'esprit' de la nourriture.")

160 Cited in Pollard, 82.

161 Encouraging such devaluation of wine is the common belief that Dionysus became lord of the beverage. That is to say, the early god, a fertility deity of moist vegetation, eventually appropriated wine into his wider essence. Among subscribers to this view are Harrison, 135, H. Rose (1962), 23, and Younger, 118. But the argument may be spurious. It is based upon Homer, the observation of late 19th century scholarship that this earliest literary source offers no explicit association between Dionysus and wine having been inherited as dogma by most subsequent writing. Otto, I believe, has effectively routed this negative interpretation—although it lingers still—and is adamant that the god's alliance with wine is no
late syncretism. See Otto, 54-58, who is quick to point out (p. 145), however, that other scholars have pioneered the rejection of this longstanding misinterpretation.

162 Quoted in Goodenough, VI, 44.

This element of moisture must be insisted on. See footnote 159. Thus a statement such as Harrison's (p. 135) that Dionysus was god of all natural products is clearly inaccurate: it ignores Demeter, goddess of corn, the dry vegetation.

163 Quoted in Goodenough, VI, 44, and Pollard, 82.

164 Otto, 147. (Thus Euripides, 284: "He is poured as a libation to the gods, a god himself"?) The contrast in positions is drawn by Pollard, 82.

165 Euripides, 736.

166 The notion of sexually promiscuous orgies is attacked by Dodds, xii, Hyams, 82, Kirk, 5, Otto, 177, and Younger, 122.

167 Seltman (1957), 65-66.

168 Astour (1965), 181; Deutsch, 31; Mylonas, 175.

169 Deutsch, 31; Goodenough, VI, 6, 17; La Barre, 545.

170 Cumont (1960), 81. Cf. Hyams, 81, and Mylonas, 175. Watmough, 49, correlates Dionysus and the ecstasy of intoxication, but does not indicate whether his context is the Bacchae.

171 Dodds, xiii. Cf. Younger, 122. The latter adds that whereas classical Maenadism appears untouched by intoxication, earlier outbursts of Dionysiac emotion may well have been inflamed by wine. The nature of his evidence he does not disclose. That this interpretation is at least plausible is suggested by the fact that 6th century Greece witnessed significant reform of the cults of Dionysus.

172 Cf. Knight, 77.

173 Kirk, 5-6, citing the description of Heraclitus as an example of a different selection. Another identity comes from Segal, 208-10, who describes a "stock comic Dionysus" in Hellenic Old Comedy, a Dionysus characterised by a derisory faintheartedness, braggadocio, and effeminacy.

Such reasoning presumably underlies the belief of Watmough, 4, that the Bacchae is "a fantasy of the imagination."
Quoted in Seltman (1956), 171.

But see Younger, 122, in footnote 171 for some possible help towards a solution. See also footnote 186.

Rome saw the most renowned instance of this. Alarmed by the fanatic, ecstatic rites and the alleged debauchery which marked Dionysiac worship, the Senate in 186 B.C. made a vain attempt to outlaw and persecute the cult by means of the Senatus Consultum de Bacchanalibus. See Dumézil, II, 517-21, or Frank; cf. more briefly, James (1961), 182-84, Seltman (1957), 148-49, and Wuilleumier, 496-97.

The case of Euripides' Pentheus may well be the translation of similar conflict into literature: repressive confrontation sealed his fate. And, of course, the mythology of Dionysus incorporates further examples of resistance to the god.

See Seltman (1957), 166-67.

In one way or another, Dionysus was associated in Attica with the following: the Rustic Dionysia (december), the Haloa (december-january), possibly the Lenaia (january), the already-mentioned syncretic Anthesteria, the City Dionysia (still later in spring), and the Eleusinian Mysteries (september).

The following give information on these festivals and their Dionysiac content. On the Dionysia: James (1961), 142-45; Nilsson (1940), 36; Pollard, 85-89. On the Haloa: Nilsson (1940), 32-33; Pollard, 74; Younger, 125. On the Lenaia: James (1961), 143-44; Otto, 80; Pollard, 83-85; Younger, 125. And on the Eleusinian Mysteries: Ferguson, 99-101; James (1961), 147-52; La Barre, 542-44; Nilsson (1940), 42-64; Pollard, 65-71; Younger, 126.

Dodds, xxii; James (1961), 145; Pollard, 36; Wheeler, 39.

Dodds, xiii.

Pollard, 81.

Rostovtzeff (1927), 30 (cf. Pollard, 93). The quoted passage is preceded by a brief characterisation of politico-economic disturbances. For the background to the similar religious metamorphosis in Italy, see Rostovtzeff (1927), 11-22 (cf. more briefly, Barnes, 275-76).

On this: Rostovtzeff (1927), 33; Watmough, 15-20.
Knight, 75. La Barre, 545, declares that Toynbee's "historic Orphic church" is now usually considered an illusion and that "if Orphism did become a historic church, that was centuries later, long after Pythagoras the immortal and his brotherhood died in Italy."

Or such is commonly affirmed--e.g., Dumézil, II, 517, Hyams, 83, La Barre, 485-86, Mylonas, 177, and Rostovtzeff (1927), 33. Watmough, 16, 31, appears to suggest that Dionysiac association was the sine qua non of the Orphic movement, but Pollard, 96, is far less sanguine on this point.

Younger, 122-23. Cf. Inge, 91. Parenthetically, the "soft flesh of Orphism's gentleness" is identified by Hyams, 83, as having influenced the Bacchae. If this be true, then Euripidean authority on Maenadic ritual may be further eroded.

Cf. footnote 87.

Thus Ferguson, 99.

Tattooing sometimes served to identify the initiate, acting as "un signe de ralliement et un symbole d'attachement à la divinité." Significantly, the tattoo mark of the vine leaf was used in Greece by the Orphic-Dionysiac adherents. See Tondriau, 57-58.

Bieber, 100; Knight, 78; Otto, 200; Rostovtzeff (1927), 31. This quality of the god reflected the eternal cycle of nature. Diodorus Siculus correlated the death and revival of Dionysus-Zagreus (see following footnote) with the winemaking process, in which the tearing and crushing (=bleeding) of the grapes precedes, indeed is the prerequisite for, triumphant rebirth as wine. Cornutus, the Stoic, elaborated on this theme. See Decharme, 337-40. Representation of this aspect of the god appears on a Dionysiac sarcophagus mentioned by Nilsson (1960b), 175: beside a winepress are portrayed two figures of Dionysus, one aged, the other the youthful (renewed) god.

The myth of the murderous rending of Dionysus by the Titans is told by Kerényi (1951), 253-56, Mylonas, 178, Pépin, 305, etc.

Hence to Etienne (1951), 112, wine is "breuvage d'éternité."
Thus Nilsson (1940), 44, writes of the later mysteries that their "highest aim was to elevate man above the human sphere into the divine and to assure his redemption by making him a god and so conferring immortality upon him." Cf. Inge, 95, and La Barre, 545. A useful introduction to such matters would be Mylonas, 171-73, 177-82.


Goodenough, VI, 53, talks of "the god in whose dismemberment and shed blood the believer had hope of immortality."

Plato's reaction is given by Dumézil, II, 515, Frank, 129, and Wuilleumier, 496.

An impression of the significance of Dionysus in Magna Graecia is to be found in Frank's article. Certainly, it is commonly thought that perhaps the finest portrayal of Orphic-Dionysiac rites is the series of magnificent frescoes of the Villa Item ("Villa mystica") on the outskirts of Pompeii. See Ferguson, 102-04, Lehmann, and Rostovtzeff (1927), 40-55; superb colour reproductions can be found in de Franciscis.

Cf. Mylonas, 177: "In the later periods the Dionysian rites spread far and wide and merged with many a mystery cult celebrated all over the Roman Imperial world." Instances: the Syrian identification of Adonis with Dionysus (Goodenough, VI, 61-62) and the Mauritanian assimilation of Chadrafa with the Greek god (Mazard, 64).

For North Africa, see Etienne (1951), in Picard (1960), and in Picard (1961). For Macedonia, see in Andronicos. For Switzerland, see in Stern. But we would then be faced with the requirement to differentiate between designs indicative of religious motivation and those reflecting nothing more than aesthetics. This problem is broached implicitly or openly in some of the above references, e.g., Stern, 181.

Perhaps the most celebrated scholar of Mithraism is Cumont. His article "Un bas-relief mithriaque du Louvre" illustrates the divine banquet in which wine--"breuvage sacré qui est un succédané du sang" (p. 187)--is a central element. On p. 193 Cumont writes:

"Le sacrement qui devait assurer aux initiés l'immortalité était accompli en commémoration de la cène dont Mithra et le Soleil avaient jadis donné l'exemple; et les éléments de cette cène, le pain et le vin, servis aux 'participants', représentaient mystiquement la chair et le sang du Taureau, que les deux divinités associées avaient jadis consommés."
Small wonder that Christian apologists found material here.

Astour (1965), 182-85, has assembled examples. (And Younger, 74, without elaborating upon the fact, does mention the existence of ritual intoxication among the Jews.)

Goodenough, VI, 129.

Feldman, 124; Snyder, 12; Younger, 71, 74.

The study by Jastrow (1913) of the Old Testament's Pentateuchal codes illustrates well this hostility. In the early writings antipathy to wine was particularly strong. This should probably be understood within the general Pentateuchal tendency to oppose 'cultural progress': thus simple tribal organisation was preferred to union into a kingdom (I Samuel 12:12), thus the traditional pastoralist (Abel) is favoured over the innovative tiller and city-builder (Cain), reflecting what R. Adams, 274 (cf. Romano, 12), has called "the unique and powerful ambivalence of relations between herdsman and farmer, involving both symbiosis and hostility, which has shaped the social life, tinctured the history, and enriched the literature of the civilizations of the Fertile Crescent." (The Hebraic yearning for the nomadic-pastoral values of yore is examined at length by Budde.)

However, it is also possible to note the thawing of this mistrust of alcohol with the gathering maturity of the Jewish nation. By the time of the Kingdom, Jastrow notes, use of wine had become a commonplace and strident opposition to it had dulled: the automatic association between wine and drunkenness, inherited from contact with Egypt and Babylon, slowly died in the minds of later Biblical writers and Pentateuchal revisers.

Of course, some spectacular such lapses are known to us. Witness, in early times, Noah's 'disgrace' while in intoxicated stupor (see D. Allen, 73, 77-78, and Wind, 412-13, for theological speculation on the nature of this 'disgrace') or the drunken Lot's intercourse with his daughters (although see Brim, 327-28, for a different interpretation of this event). Later, Habakkuk was to berate certain drunken gatherings (which surely existed):

"Woe unto him that giveth his neighbour drink, that puttest thy bottle to him, and makest him drunken also, that thou mayest look on their nakedness! Thou art filled with shame for glory: drink thou also, and let thy foreskin be uncovered."

Habakkuk 2:15-16
(For "nakedness" the R.S.V. reads "shame" and Goodenough, VI, 129, gives "pudenda." For "let thy foreskin be uncovered" the R.S.V. reads "stagger" and Goodenough "be as one uncircumcized." Actually, there is dispute over whom this attack was levelled against. The Oxford Annotated R.S.V. declares that Habakkuk's verses were directed against the Assyrians, Babylonians, or Macedonians. Opposing this, Goodenough, VI, 129-30, contends that the invective was against the Jews. Obviously, room to differ springs from whether the declared result of drinking is to stagger, as the R.S.V. holds, or to resemble the uncircumcised Gentile, as the A.V. and Goodenough indicate.)

205 The Eucharist has been retained by the Eastern Christian Church and by almost all the components of the Western, where it is the chief act of worship in the Anglican and Roman Catholic Churches and present in most Protestant denominations--Brandon (1970), 269.

206 The Eucharist takes its name from the Greek for 'thanksgiving'--Brandon (1970), 269; Pike, 147.

207 Pike, 146-47. And see Tashiro, 564.

208 This passage has long presented interpretative headaches to New Testament exegetes. Kilmartin, 107, 133-40, summarises usefully and advises on the problem. It is a well-known fact that Jews were forbidden to drink blood (cf. Barrosse, 26, Dequeker/Zuidema, 54, E. Green, 66, etc.). The words of Jesus in this passage would therefore have been puzzling and sacrilegious if their temporal context was as the remainder of John 6, which reports events ostensibly predating the Last Supper by a considerable period. Hence Kilmartin, 107, writes: "The author of the Fourth Gospel supposes that Christians know of the institution of the Eucharist and are receiving the body and blood of the Lord in the weekly celebration of the Lord's Supper." And according to Giblet, 61, and Ratcliff, 22, an explicit Eucharistic sense is accorded this passage by most modern commentators.

Kilmartin refuses to credit the ill-documented suspicion that the excerpt is an addition rather than congruous with the remainder of the chapter (likewise, Giblet, 61, repudiates this) and, as a consequence, ponders whether verses 53-56 must indeed be regarded quasi ipsissima verba Christi. Taking into consideration the purposes --kerygma, catechesis, liturgy--and mechanics of composition of the gospels, the "general style" of John, and the fact that the gospel was composed after the Last Supper, he concludes that verses 53-56 are the making explicit of what John regarded as implicit in Christ's address to the people. Kilmartin expresses this best on p. 133:
"It is conceivable that in the historical bread-of-life discourse [i.e., Christ's comparison of himself with the manna of the Exodus, which precedes verses 53-56 and presents no dating dilemma] Jesus developed these themes [i.e., Eucharistic] more fully. John would be merely reporting the substance of the discourse in outline form. On the other hand, is it not possible that the concepts of redemptive sacrifice and the Eucharist were introduced into the discourse by the author of the Fourth Gospel who, in light of the revelation of the Last Supper and the cross, saw the full implications of the historical bread-of-life discourse? Is it not possible that John is simply making explicit what Jesus implied by referring to Himself as the 'bread of life'?"

209 Most Christian traditions agree to the principle of Christ's presence in the bread and wine in some manner, but the nature of this presence has constituted a polemic of the most divisive kind. But there is no present need to enter this foremost of jousting grounds in ecclesiastical history. External attack has also been felt: charges of cannibalism--or, more strictly, of theophagy--have punctuated Christian history, as Tashiro demonstrates ably.

210 Also with the fellow members of his Church (I Corinthians 10:17--"For we being many are one bread, and one body: for we are all partakers of that one bread"). See Dequeker/Zuidema on this theme; cf. more briefly, Congar, 28, Lampe, 35, Martin, 11, Ratcliff, 15, and Wedderburn, 77.

211 Phrase from Loisy, 240.

212 See footnotes 208 and 217.

213 The Corinthian text is generally considered to be the oldest written version of the Eucharistic inauguration--Brandon (1970), 269; Jeremias, 18; Kilmartin, 31; Lloyd, 3; Martin, 9; Nock (1952), 193; Ratcliff, 13; Tashiro, 564.

Oldest written, be it noted. An oral tradition preceded written formulation, and which version springs from the oldest oral tradition is another matter. Jeremias equates oral antiquity with the number of Semitisms in the linguistic structure of the relevant pericopes. An example may clarify this. In the Corinthian and Lukan accounts, Jesus' body is broken "for you"; by contrast, in Mark and in Matthew (universally considered to be dependent on Mark--Jeremias, 19; Kilmartin, 28, Ratcliff, 17), we find the strange expression "for many." This is a Semitism. To comprehend it we must know that whereas in Indo-European languages 'many' has an excluding sense as opposed to 'all', the Hebraic 'many' may easily enjoy an including
sense (i.e., 'many' = 'all')--Jeremias, 25. On such evidence, Jeremias, 19, declares Mark the oldest oral tradition (cf. Ratcliff, 13). Opposing this approach, Kilmartin, 32, wishes to deny Jeremias the validity of his original assumption, on the grounds that the number of extant Semitisms will depend on translation skills rather than age. Kilmartin himself (pp. 31-35) argues along different lines. Detailed examination of the relevant passages leads him--on the supposition that the least liturgised must represent the oldest account--to conclude that the Pauline and Lukan passages are, in fact, the most ancient. They demonstrate least the elements of liturgy's signature--symmetry and conciseness.

The above is merely a fraction of the debate. The matter of oral chronology is obviously far from resolved. So, while the earliest written account of Eucharistic institution is Pauline, we cannot be sure of the most ancient oral tradition.

214. The passage central to the Eucharistic institution (I Corinthians 11:23-26) has been quoted already. Important also is the following verse: "The cup of blessing which we bless, is it not the communion of the blood of Christ? The bread which we break, is it not the communion of the body of Christ?" (I Corinthians 10:16). The presumption is that Paul's statement here relies on the version of institution which he utilises in the next chapter--Wedderburn, 76.

215. But not from Luke:

"And he took bread, and gave thanks, and brake it, and gave unto them, saying, This is my body (which is given for you: this do in remembrance of me. Likewise also the cup after supper, saying, This cup is the new testament in my blood, which is shed for you.)"

Luke 22:19-20

However, the integrity of the textus receptus of Luke has long been regarded as problematical. On the basis of ancient textual variations, a case can be made for the interpolation of those sections included within my parenthesis in the above passage. The R.S.V. demotes them to footnote status. If this be justified, then the interpolative inspiration could well have been Pauline, as both Enslin (1956), 199, and Srawley, 540, tell us one school of thought presumes (cf. Ratcliff, 17). But there has always been opposition to this shorter Lukan version. On this, see Srawley, 540. Recent discoveries seem to substantiate such misgivings. Jeremias, 20, writes that "today we possess more than 5,200 Greek manuscripts of the New Testament and out of all of them only one single manuscript . . . has the shorter text. It is impossible that this one manuscript and its few allies among the versions should have preserved the authentic text of Luke."
Whichever position is correct, there still remains the problem of the relationship between Paul and Luke. Despite some obvious similarities, this is a much disputed area. See Kilmartin, 28-29.

This, of course, is merely part of a wider controversy which has long surrounded Paul's impact on the early Church which he fostered. Thus Enslin (1963), 155:

"A generation ago saw a flood of writings under such captions as 'Jesus and Paul', more commonly, 'Jesus or Paul'. For some, he was the one who 'muddled the waters of the Galilean Lake', and their slogan became: 'Back to Jesus'. For others, he was the greatest and most original theologian, the one who gave body to the Christian gospel, and the real founder of the religion."

Kilmartin, 25. Their reasons for rejecting the possibility of a sacramental rite initiated by Jesus need not be of concern here (see the reflections of Kilmartin, 25, on this score), although a vital problem must surely be the fact that "this idea of communion with God by drinking the blood of a sacrificed victim was never born in the brain of a Jew" (Loisy, 247). See also footnote 208.

Denying Christ as the fons et origo of Eucharistic practice, to whom does one turn? The customary alternative has been Paul. Thus Barnes, 277: "Paul was the architect of Christianity . . . who established the fundamental Christian rite, the Eucharist."

And later (p. 279): "Christian ritual was borrowed in part from the Greek mysteries. The holiest of Christian rites, the Eucharist, was invented by Paul as an imitation of the sacred meal of the Eleusinian mysteries." Similarly, Lloyd, 26, believing the gospels to be entirely dependent upon the earlier Corinthian account, declares that "the Lord's Supper is in every respect a Pauline institution, congruous to that theological system and to no other." The words "this do in remembrance of me" then become an interpolation on Paul's part.

But Pauline inauguration is vulnerable to attack. We may start with the allusion to the sacrament in I Corinthians 10:16 (see footnote 214). Here, Paul's words are not those to accompany an innovation, they are rather a reminder of an existing order. Confirmation comes from the linguistic structure of I Corinthians 11:23-26, the inaugural passage. Therein Jeremias, 18-19, finds a number of idioms otherwise absent in Paul's writing, a fact very suggestive of a handed-down formula. It should be remembered also that there is no evidence that Paul engaged in any dispute which bore on the interpretation of the Eucharist--Nock (1952), 193.
There is a second stumbling block. As Barnes above, Lloyd, 27, contends that Paul's acquaintance with the pagan world and its mysteries supplied the source for the revolutionary words of the Last Supper. To be sure, when he was writing he was not without company in this view—for instance, Kilmartin, 28, tells of a tradition of exegesis which believed in the Eucharist as a sacramental meal of Hellenistic origin, given through historicisation the character of a ceremonial derived from Jesus. This explanation, however, conflicts with a finding emphasised by recent scholarship: a Semitic background has been established for the elements of the inaugural words attributed to Jesus (Kilmartin, 28). On this point, Nock (1952), 200, is adamant. "Any idea," he writes, "that what we call the Christian sacraments were in their origin indebted to pagan mysteries or even to the metaphorical concepts based upon them shatters on the rock of linguistic evidence."

219. Kilmartin, 70: "The omission of the invitation to repeat the rite as a memorial in Mark and Matthew does not seriously challenge the authenticity of the statement. The omission may be due to the liturgical development."

220. On these meals—at which thanksgiving (eucharist) was said over loaf and cup—as evidenced in the early chapters of Acts, see Enslin (1956), 198, Ratcliff, 19-20, and Srawley, 543.

The sense of 'repeat this meal' may then have been the intent of the enjoiment "this do" (cf. E. Green, 69), but it would be unwise to make too much of this in light of the debate which wars over the interpretation of the words "do" (poiein) and "remembrance" (anamnesis). (For reflections on these terms, see E. Green, 68-70, Hewitt, 91-99, Srawley, 542, and van Iersel.) Be this as it may, Enslin (1956), 198-99, is quite willing to credit the "intimate ties of fellowship of these disciples" as adequate justification for their communal meals. Indeed, such meals would have been no revolutionary innovation, for they already constituted part of Jewish religious custom—Lampe, 35; Loisy, 230. From there, Enslin argues that the meals would inevitably have recalled the Last Supper such that "without any attempt to give them a formal or ceremonial nature they came gradually and spontaneously to be a continuous memorial to him."

221. Contributory may have been the following:

1. Logistical and security difficulties of conducting a corporate meal involving ever-growing numbers. See Ratcliff, 24.

2. The need to disassociate Christianity from the parenthood of Judaism. See E. Green, 75-76.
3. Confusion of man's thanksgiving sacrifice with Christ's expiatory sacrifice. See Srawley, 540.

4. Contamination from the mystery religions known to the Gentile converts. See Enslin (1956), 199 (who considers such a 'grass roots' influence more likely by far than a deliberate transformation by Paul), and E. Green, 74-75. Total denial of this factor makes difficult to fathom Paul's juxtaposing of "the cup of the Lord, and the cup of devils" in I Corinthians 10:21, or the similar but later comparisons drawn by Tertullian (see E. Green, 75) and others.

222 Nock (1952), 194.

223 Barnes, 286.

224 A brief historical account is given in Congar, 21-24.

225 See Congar, especially pp. 24-29.

226 Phrase from Lloyd, 3. "Had St. Paul heard the phrase 'the Blessed Sacrament'," it has been joked, "he would have thought it meant Baptism." Thus Lampe, 34, who argues that attention naturally focused on the sacrament of conversion and "illumination" in the early Church's missionary situation.

227 Wine imagery thus extended to the Passion. The cluster of grapes represents "the Logos bruised for us," according to Clement of Alexandria (quoted in Goodenough, VI, 53). There arose also the symbol of Christ in the winepress, on which see Goodenough, VI, 53, and Wind, 414. We may be reminded of the Orphic etiology of Dionysus' rebirth, as told by Diodorus Siculus. See footnote 190.
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APPENDIX A

ALTERNATIVE SPURS TO THE DIFFUSION OF VITIS VINIFERA?
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ALTERNATIVE SPURS TO THE DIFFUSION OF VITIS VINIFERA?

There is a possible source of error in Chapter 2 which merits some attention. From time to time throughout that chapter's diffusion study, evidence of the vine was employed as a surrogate for evidence of wine. In other words, the vine was at times equated with wine. For, paralleling the procedure adopted by others in tracing the history of wine, it was assumed that the overriding raison d'être for human interest in the former lay in its fermented product. If this assumption should prove unjustified, then here is obviously a potential source of error in the reconstructed diffusion pattern.

An unwarranted assumption? I think not, on two grounds. The first is the positive fact of the massive weight of evidence in favour of wine's importance in the ancient world. Of this no more need be said here. The second and more critical point involves a negative argument: alternative products offered by the vine plant seem totally inadequate to account for ancient man's so striking attentiveness to the vine (manifest in its particularly early domestication, in its remarkably rapid and widespread diffusion and in the considerable horticultural efforts which attended its spread). It is the purpose of this appendix to illustrate this second argument.

The vine offered three alternative products which bear examination in turn: the grape as fresh fruit, as dried fruit and as a source of sweetness.
Man's first encounters with the vine were probably prompted by its rather attractive-looking fruit. Later, fresh grapes in season were almost certainly no rarity to many of the peoples in the ancient world. Now, to claim the grape as a popular fruit is one thing, to suggest that this fruit qua fruit inspired the great attention which the vine received is quite another matter. Why give this particular fruit qua fruit precedence over all others? Precedence it had, for it can be shown that no other fruit engendered comparable interest among the ancients. Let me demonstrate this by three measures.

Firstly, the factor of distribution. The grape spread far and wide within the ancient world as a significant element in local agriculture, its distribution embracing a marked variety of physical environments. No other fruit displayed such ubiquity. The olive and fig were popular and widely cultivated, to be sure, but both environmentally and territorially they were more restricted than the grape. Paradoxically, several factors must have militated against the latter's eminence. Environmental conditions throughout large portions of the territory wherein the grape was cultivated, particularly during the period of the late Roman Empire, were better suited to alternative fruit crops. Few fruits, moreover, were as demanding of labour as *Vitis vinifera*. Nor, because of the danger of damage, did grapes enjoy the relative transportability of certain other fresh fruits. So it was in the face of no mean odds that the grape achieved its unrivalled ubiquity.
The second measure involves the approximate date of origin of the domesticated variety of a given fruit. By the way, I am differentiating 'domestication' from 'cultivation' (a by no means universal practice, lack of which may easily lead to confusion). As was suggested elsewhere, the domesticated grape had appeared by the 4th millennium at latest, which implies very much earlier cultivation overtures. Negrul has proposed 8,000 B.C. Such datings place the grape in the van of other fruits. Here are some other chronologies. The date was cultivated in Mesopotamia "from the earliest period," such that, by the beginning of the 2nd millennium, date-palm groves were a principal source of wealth; there is a good chance that this fruit was domesticated quite early. The olive was cultivated by the 4th millennium, but this does not in itself imply the presence of the cultivar. The fig is mentioned in texts of the Sumerian king Urukagina dating from around the middle of the 3rd millennium, although my sources do not indicate whether this is the domesticated fig. According to the Brothwells, apples, pears, and pomegranates were brought into cultivation in Hittite orchards, which points to a relatively late dating (in accordance with the late introduction of the pomegranate into Egypt during the New Kingdom). It is said that the citron was known in Nippur, 4000 B.C., but knowledge and domestication are different beasts. Finally, the orange, peach and apricot, east Asian fruits, appear to date as cultivated plants from the 3rd millennium. To summarise, allowing for the sparseness and
tentative nature of the evidence, it seems possible to suggest that the grape was domesticated earlier than would have been expected from the example of most other fruits.

As a third measure, I have selected the approximate date at which various fruits, having travelled westwards from the Armenia-eastern Anatolia-northern Syria plant cultivation hearth, first reached Rome. (Availability of information, the considerable distance involved, and the fact that, proverbially, all roads lead there, make Rome a suitable choice of destination.) A crude measure, this: it ignores the different capabilities of plants to adapt to environmental variation and nuance, while yet suggesting that some indication is provided to the interest of man, that is Roman man, in these fruits. For what it is worth, then, the chronology for a selection of relevant fruits is this. The introduced grape was present in southern Italy and Rome in the formative years of the Kingdom, thereby preceding most rivals. The cultivated olive has been traced back to the 6th century B.C., the pomegranate was introduced during the period of contact with Carthage (to the Romans this fruit was malum punicum, to Linnaean botany it is Punica granatum), while the quince had appeared at least by the late 3rd century. By contrast, the cherry may not have arrived until the 1st century B.C., and the pistachio until the 1st century A.D. Only the fig (perchance because of its religious and sexual significance?) seems to have been contemporaneous with the grape.
Once again, therefore, though perhaps not quite so conclusively, the grape distinguishes itself from other fruits.\textsuperscript{18}

The above-examined measures, taken as a whole, illustrate clearly that the grape received a degree of attention which it is difficult to reconcile with the status of just another fresh fruit. No, it is obvious that we must search for a different dynamic to explain ancient man's interest in the vine.

The second alternative product—the grape as dried fruit—is surely not the answer to this search. This is not to deny raisins an importance in antiquity. They must have possessed attractive qualities—as a supplementary food source of high caloric value during lean winter months, and as a concentrated food supply for the traveller or nomad.\textsuperscript{19} Textual evidence confirms the latter, an example being the "hundred clusters of raisins" which Abigail bore to David, outlawed in the wilderness (I Samuel 25:18). And yet it is difficult to understand why the reward of raisins should have so stimulated the spread of \textit{Vitis vinifera}, should have so compelled the attentions of ancient man. No comparable phenomena have characterised the date or dried fig,\textsuperscript{20} which, incidentally, one might expect would have provided strong competition to the raisin in certain areas where, however, the vine grew abundant. After all, Abigail also offered two hundred cakes of figs to David. One final point: surely the portability of raisins makes nonsense of the fact that man should have persevered to introduce the vine into difficult environments?
The third and last product offered by the vine involved the grape as sugar source. This category is not mutually exclusive of the previous two, but a new dimension is added. There is no doubt that the ancients appreciated the delights of the sugar taste. The Persians, for instance, enjoyed sweetmeats, syrups, and fruit confections (consequent obesity being a sign of status). The recipes of Apicius, most famous and most colourful of Roman gourmands, abound in sweet ingredients, which is perhaps not uncharacteristic of someone reputed to spray his lettuces with mead in the cool of evening. Now, there is no doubt that the grape—though often through the intermediary of wine—served as a source of sweetness. But rivals of the first importance existed. Above all, honey. Organised honey production was a feature of many parts of the ancient world: Mesopotamian bee-keeping seems probable; it is known that the Hittites in Anatolia kept bees; intensive apiculture was practised in the Nile valley, where it was not uncommon to place hives on boats which were then allowed to drift downstream, taking advantage of the blooms on the banks. In fact, the importance of honey in antiquity may surprise the 20th century mind. Thus d'Hérouville makes much of the fact that an entire canto (IV) of Vergil's Georgics is devoted to apiculture, whereas the preceding canto embraces cattle, horses, goats, sheep, and dogs. The disparity reflects honey's role as "un aliment de première nécessité." The apocryphal book of Ecclesiasticus, or the Wisdom of Jesus the Son of Sirach, puts it thus:
Basic to all the needs of man's life are water and fire and iron and salt and wheat flour and milk and honey, the blood of the grape, and oil and clothing.

Sirach 39:26

The significance of honey in antiquity can scarcely be overstressed. If less should be made of other rivals to the grape as a source of sweetness, they yet cannot be forgotten. Various dried fruits, and notably the date, were quite important alternatives; the carob, associated in Egypt with the word for 'sweetness', enjoyed a lesser status; sugar cane, although imported by Persian monarchs, was a rarity, and in the Roman world that Pliny reflects it was employed as a medicament only; other minor sources of dietary sugar could have been the papyrus reed of Egypt, the sugary sap of certain trees, and, conceivably, the disputed substance manna. All in all, this survey leads to an inevitable conclusion—namely, faced with a considerable range of competing sweet substances, above all with the widespread and important usage of honey, it would be folly to hold that the grape as a sugar source can explain ancient man's peculiar regard for the vine.

And so it is that by themselves, or indeed in combination, these three alternative rewards of the vine--fresh fruit, dried fruit, and sugar substance--quite simply "seem totally inadequate
to account for ancient man's so striking attentiveness to the vine."
They do not contribute in any decisive way to an understanding of
the facts of the early domestication, swift diffusion, and wide­
spread eventual distribution of the plant in antiquity, just as
they fail to justify the substantial horticultural efforts which
were addressed to it.

Which takes us back to the opening remarks of this appendix.
Is it indeed safe to assume that "the overriding raison d'etre
for human interest" in Vitis vinifera L. lay in the wine it bestowed
rather than the other benefits it offered? In light of the above
discussion, the response is surely 'yes'. Clearly, the alternative
products examined were not motivating spurs to man's great interest
in the vine; wine, by contrast, springs with alacrity to fill such
a role. It should be no surprise that ancient writings, replete
with acknowledgements of the vine's gift of wine, are relatively
silent on its other benefits. Given, then, that the above assumption
is justified, we can dismiss our fear of an important margin of
error in Chapter 2.
APPENDIX A--FOOTNOTES

1As an illustration: André, 78, lists references from classical authors to table grapes.

2But note that the olive was valued for its oil rather than for its fruit qua fruit.

3The fig was cultivated within an extensive territory, encompassing the Mediterranean lands and much of western Asia. See Condit, 10-12. However, its advance northwards beyond the Alps was much slower than that of the vine. Germany knew fig trees by the 12th century A.D., but they may not have been grown in Britain before the 16th century (Condit, 12-13).

4Cf. the following judgement, quoted in J. Renfrew, 130: "Vines require a greater degree of tendance and control of the environment than any other Mediterranean crop." An indication of the extent to which "le travail de la vigne donne sa cadence à la vie du vigneron," is given in Winton, 11.

5We can assume that farms at city margins sent fresh grapes to the urban market, for, as André, 78, maintains, transportation damage to grapes would not have been excessive for short distances. But André's explanation is inadequate to explain, say, the large viticultural estates which flourished across the Italian countryside once Rome had risen to undisputed primacy.

6Burkill, 250, and Isaac, 17-18, distinguish 'domestication' from 'cultivation' by taking the former to mean the possession by a plant of inbred features—such as gigantism—indicative of human concern. Hence the planting of a Vitis silvestris pip in the ground does not ensure a Vitis vinifera plant the following year. On the other hand, it should not be overlooked that the cultivated plant and the domesticated plant belong along the same evolutionary continuum, such that the precise definition of discrete categories is difficult indeed.

7Contenau, 73.

8Cocquerillat, 162.

9On the olive, see Brothwell/Brothwell, 154-56.


11Brothwell/Brothwell, 132-34.
Whether the citron's original home was southern Arabia, as the Brothwells suggest, or "the Indo-Malayan region" claimed by Zielinski, could presumably have some bearing on whether Nippur's citron seeds should be regarded as evidence of the domesticated plant grown in Mesopotamia or as merely representing fruit sent in trade or gift.

The apricot's east Asian provenance is disputed by Zielinski, but on the basis of a highly dubious--nay, ludicrous--regionalisation. André, 81, and Brothwell/Brothwell, 136, agree on a Chinese origin.

Andre, 81 (peach); Brothwell/Brothwell, 136 (apricot), 140 (orange).

Often referred to as the Near East centre, as in Harlan, 472.

Which helps minimise the impact of the distance differential introduced by the fact that the "hearth" is not exactly compact.

André, 76 (quince), 77 (pomegranate), 79 (cherry), 87 (pistachio); Brothwell/Brothwell, 133 (quince), 134 (pomegranate), 136 (cherry), 156 (olive); Condit, 11 (fig); Houston (1964), 122 (cherry).

This may not be true, however, at a different areal scale. It is argued by Carl Sauer, 39, that such is not the case for the arrival of certain key domesticated fruits, the vine included, in the Mediterranean. He sees the vine as arriving subsequent to the olive, fig, and date, "principally because wine in Greece is younger than other alcoholic drinks." Well, Sauer may be correct (after all, the suspected domestication hearth of the olive and fig lay closer to the Mediterranean than that of the vine), but his reasoning escapes me. Surely the antiquity of wine relative to other liquors in ancient Greece is an inadequate measure in that it ignores the olive, fig, and date? (I am presuming that wine from fig or date is not implied, since the early Greek beverages would have had a grain or honey base; besides, Theophrastus points to the date-palm's lack of success in the Greek environment--Brothwell/Brothwell, 145.) Why, moreover, must the Mediterranean be defined by Greece alone? All in all, a much more detailed statement on the matter is needed.

Cf. Amerine/Singleton, 14.

Obtained by allowing the fruit to dry naturally on the tree, by sun-drying, or even, as Columella observes, by dessication in an oven--Condit, 132-36.
"Indulgence in sweets is a universal human weakness," (Nordsiek, 41).

Wason, 55-56.

Wason, 32-48, gives an account of Apicius and his recipes. See also Younger, 193-98.

See, for example, M. Bloch, 233, Brothwell/Brothwell, 81, Gilfillan, 56. Grape syrup was obtained by boiling down the must (unfermented grape juice), the result being called sapa or defrutum by the Romans, according to the degree to which this process proceeded.

The best historical discussion of honey which I have encountered is to be found in Beck/Smedley, a fascinating and comprehensive account.


Brothwell/Brothwell, 77.

Beck/Smedley, 90-91, 135-36, etc.; Brothwell/Brothwell, 75-76; G. Clark (1942), 212; Kuény.

In the Egyptian case, we even know of some regional variety in honey quality, the superior brands hailing from the clover-rich delta. This may help explain why the bee became the symbol of Lower Egypt (Kuény, 93).

Beck/Smedley, 90.


R.S.V.

M. Bloch, 233; Brothwell/Brothwell, 80-81; Sasson, 173.

Brothwell/Brothwell, 80, who question whether it was indeed used at all. Certainly the carob pods are rich in sugars (Claudian, 6; Coit, 91) and a syrup can be prepared from them (Coit, 93).

Wason, 56. M. Bloch, 233, suggests that towards the 6th century B.C., the Persians started to cultivate sugar cane.

Brothwell/Brothwell, 83; G. Clark (1942), 208; d'Hérouville, 162-63.
On these lesser sources, see Brothwell/Brothwell, 81-83.

The interpretation of the Biblical manna is, of course, a matter of much dispute. The following show something of the diversity of identifications made: manna is the secreted product of two species of scale insects which live on tamarisk shrubs (Montagu/Darling, 3); manna is a lichen which produces "pea-sized fruiting bodies that are prized as sweet delicacies," and which "are light enough to be blown about, so that they could conceivably form a manna rain," (Marston Bates, quoted in Montagu/Darling, 4); manna fell from the heavens as precipitated carbohydrates from carbon clouds which veiled the world subsequent to the "collision" in Worlds in Collision (Velikovsky, 145-49).
APPENDIX B

THE ETYMOLOGICAL EVIDENCE: TRACING BACK THE WORD 'WINE'.
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The genealogy of the word 'wine' before classical times is somewhat obscure. "Le centre d'où est parti le nom du 'vin' est inconnu," argued Meillet at the beginning of this century and, to the best of my knowledge, no definitive light has been shed on the matter since that time. Given this discouraging verdict, linguistic evidence was not called upon to contribute to Chapter 2's diffusion study. It is left to this appendix to survey briefly the state of our etymological knowledge.

Meillet had started from the recognition that the Graeco-Roman terminology for 'wine' could not be understood as part of classical linguistic structure. The names oinos (or w)oinos and vinum respectively "résistaient à l'application des lois phonétiques grecques ou latines." Moreover, a Latin borrowing from the Greek is ruled out. The conclusion is that both terms derive from a third source—a conclusion in keeping with the fact that Greek is full of foreign elements and with the general linguistic tendency, modern and classical alike, to integrate numerous borrowed words into the 'food vocabulary'. The likely source is the problem. It is at this point that the professional etymologist and the non-specialist have parted company.

The latter has commonly pointed to classical derivation from some known, chronologically appropriate, Indo-European tongue.
To cite but one instance, Seltman sees the oldest cognate form of 'wine' in the fairly recently deciphered Hittite language, that is, in the term *wiyana*. His explanation involves a linguistic diffusion from this source, encompassing both the Indo-European tongues and various languages in geographically proximate non-Indo-European families. The latter inclusion is demanded by the existence in the Semitic family of Akkadian-Assyrian *inu*, Hebraic *yayin*, Arabic *wayn*, and Ethiopic *wain*, as well as Georgian *gvino* and Mingrelian *gvini* in the small Caucasian group. As might be expected, a second school of thought has sought the roots of *oinos* and *vinum* not within the Indo-European camp but in some Semitic source, whence the numerous Indo-European words for 'wine' would necessarily be descended. Houston, for example, views favourably this position. Now, such etymological forays by the non-specialist tend to be presented *en passant*, with their bases left unexplained. It is therefore difficult to know to what extent, if at all, the professional literature has been culled. My strong suspicion is that this path is little trodden and that, by contrast, the non-specialist's interpretation or hypothesis begets its like all too frequently.

To be fair, however, the task of he who knows wine better than words is burdened by the fact that ultimately the experts arrive at no harmonious nor very helpful conclusion on this matter of source. Such agreement as exists is of a negative character. The
intractability of oinos and vinum is recognised as part of a wider phenomenon, namely that certain 'cultural' words, notably plant names, are found in both Indo-European and non-Indo-European (i.e., Semitic and Caucasian) speech "without apparent etymology, in any of the languages in which they occur and in a form which rules out borrowing from one of these languages into others." That is to say, the origins of such 'cultural' words are not to be found in any known (living or dead) tongue. With 'wine' in this recalcitrant group first identified by Meillet, it can be appreciated that Seltman's Hittite hypothesis—or, for that matter, any postulated Indo-European source—is as nought: the Hittite cannot explain the Greek because wiwana does not possess a native etymology. Theories of Semitic origin must similarly be abandoned. As a result, faced with this negative accord, we are obliged to probe deeper, to search for what Dion has called "un substrat linguistique antérieur à toutes les langues connues," if we ever wish to find the elusive source of the word 'wine'.

To attempt this is to enter the controversial realm of substrate studies which endeavour to know about 2nd millennium B.C. languages in the Mediterranean area which have survived only as traces in other tongues known to us. Agreement among etymologists now gives way to dissent, for a goodly measure of conjecture characterises this field. Hester has reviewed the divergent schools of thought which have grown up, but for present purposes it is sufficient to talk
of two principal preoccupations—one involving a reconstructed proto-Indo-European 'language', the other concerned with pre-Indo-European speech elements.

I have already suggested that known Indo-European tongues fail to provide etymological rationale for 'wine'. The word "known" is an important qualification, for we must reckon also with a hypothetical Indo-European language, reconstructed from alleged loan-words in Greek, plus a few toponyms and Latin words. 'Pelasgian' is perhaps its commonest title. This, really a vocabulary rather than a language in the everyday sense of the term, is regarded by its proponents as representative of the Indo-European language spoken in the greater Aegean area before the arrival of those Indo-European peoples whose languages we know. A few influential scholars have acted as cornerstones in this reconstruction process. One of their number, Albert Carnoy, has devoted some considerable attention to 'wine words' and believes that he has systematised those linguistic principles which would validate the derivation of classical viticultural vocabulary from Pelasgian. Some scepticism of this claim is in order. For a start, the Pelasgian school has met much and voluble opposition from fellow philologists: there seem to be important methodological weaknesses in the reconstruction technique. Significant disagreement among the Pelasgianists themselves further impairs the credibility of their thesis. These apart, two points more specifically about
Carnoy can be made. The first is that over-enthusiasm may have intruded upon his objectivity. "The late Professor Albert Carnoy," writes Hester, "has the dubious distinction of producing more 'Pelasgian' etymologies than anyone else"; fellow Pelasgianists apparently look askance at his work. Secondly, Carnoy is more concerned with 'wine words' or viticultural nomenclature in general ("dans son ensemble nettement indo-europeenne mais provient du proche orient") than with the word 'wine'. The latter poses him problems. The disturbing Semitic parallels make him more hesitant to fit 'wine' into his Pelasgian scheme and he is willing to countenance some contamination from a non-Indo-European source. Then perhaps the claim is true that 'wine' is one of the principal stumbling-blocks for an exclusively Indo-European theory to explain the recalcitrant 'cultural' words. Certainly, Pelasgian ranks are in disarray over 'wine': Georgiev accepts a Pelasgian etymology, Merlingen prefers oinos outside Pelasgian jurisdiction, while Carnoy sits on the fence. On the whole, there are few to find a satisfactory etymology for 'wine' in this restored Indo-European formula.

The alternative approach is to acknowledge a pre-Indo-European basis. The task of ascertaining pre-Indo-European loan-word strata in Greek and other Indo-European tongues has given rise to several claimed substrate identifications. A selective reliance on either place-name elements or vocabulary words differentiates such
identifications; their ambitiousness (as measured, on the one hand, by the number of etymologies allegedly rationalised by the substrate and, on the other hand, by the postulated geographical extent of its currency) also varies markedly. However, only one of these substrate claims need concern us here— that of the so-called 'Mediterranean' vocabulary words. For this stems specifically from Meillet's refractory 'cultural' words, which have been "assigned to an otherwise unknown language" of pre-Indo-European vintage by Meillet, Cuny and numerous subsequent scholars. 'Wine' accordingly ranks among the residual elements from this 'Mediterranean' tongue. What, then, can be said of the credibility of this substrate identification? The following points seem significant. Firstly, the identification is restrained in spirit rather than exuberant, a valuable asset in an exercise demanding caution and understatement. The number of words 'explained' is more limited and the geographical area involved, a generously defined eastern Mediterranean area, is more restricted than is true of most alternative substrate theories. Secondly, vocabulary words, unlike toponyms, are amenable to semantic control. Here is a rein to unwarranted adding to 'Mediterranean' membership. And thirdly, this 'Mediterranean' group has stood the test of time. Noteworthy, in particular, is the fact that the fairly recent decipherment of the Anatolian languages brought encouragement where it might have discouraged: surely the final possibility of an Indo-European
etymology for the group evaporated as several of the 'Mediterranean' words, 'wine' included, turned up in Hittite without Hittite etymology. All in all, there appears a good case for the legitimacy of the 'Mediterranean' substrate.

With its rival claimants either hors de combat (Indo-European source) or judged dubious indeed (proto-Indo-European source), this 'Mediterranean' language would seem the best bet we have for the origin of the word 'wine'. The Indo-European, Semitic, and Caucasian families alike may have received it from this source. (Whether the same applies to 'wine words' in general is another question, one which I do not intend to pursue.) Yet if this be the answer, it is far from being a very helpful solution. For dependence on vocabulary words rather than toponyms, while advantageous in other respects, denies the 'Mediterranean' substrate a critical element--precise location. All we can do is point to a generous eastern Mediterranean realm. But such a "centre d'où est parti le nom du vin" is far too vague, too ill-defined, to be of use to the diffusion study in Chapter 2. If precision in the matter is sought, then Meillet's verdict still stands: the hearthland of the word 'wine' remains unknown.
APPENDIX B--FOOTNOTES

1 Meillet, 163.

2 Meillet, 161, 163. This was quickly endorsed by Cuny, 154, 161.

3 Carnoy (1958), 171.

4 Meillet, 161, 163.

5 Thus Merlingen, 148.


7 Seltman (1957), 15. There are variant spellings of wiwana. (An alternative candidate is the Sanskrit vena - Andrews, 37, and Halász, 12.)

8 Houston (1964), 121.

9 Cuny, 154, employs the phrase "mots de civilisation". I'm not sure that this helps clarify. The essential point is that the words concerned are everyday terms indicative of the lifestyle of the people rather than peripheral or abstract vocabulary.

10 Hester (1968), 223. (On the linguistic impossibility of oinos being derived from Semitic root, see Hester (1964), 361-62, Meillet, 163, or, less specifically, F. Blake, 44.)

11 See Meillet's article. Shortly afterwards, Cuny added to the number of these words.

12 Cf. Laroche, xxxiii.

13 And see footnote 10 on borrowing.

14 Dion (1952b), 467.

15 See Hester (1968).

16 But mainly from the Greek--Hester (1968), 228, Merlingen, 144. The linguistic principles involved in reconstructing Pelasgian are not of concern here, but see Hester (1964), 340-41; suffice to say that the attempt may be compared to the legitimate process of reconstituting Latin from its dependent languages (Merlingen, 145).
The use of various titles has caused much confusion, warns Hester (1964), 335-37. On the relationship, if any, to the Pelasgian peoples, see Hester (1964), 335-36, or Hester (1968), 229-30.

Detailed in Hester (1964), 341-46. I shall refer to Carnoy, Georgiev and Merlingen.


Hester (1964), 347, 348.

Outlined in Hester (1967), 172-75.

This is illustrated below for the word 'wine'. A more general consideration is available in Hester (1964), 347, Hester (1967), 173, or Hester (1968), 229.

Hester (1964), 346.

Carnoy (1959), 435. But see footnote 36.

Carnoy (1958), 164-65; Carnoy (1959), 434.

Made by Hester (1964), 362.

Hester (1964), 361.

Merlingen, 155.

See Hester (1968), or, more briefly, Hester (1964), 337-40.

On the dangers of this title: Hester (1964), 339, or Hester (1968), 223.

Phrase from Hester (1967), 172.

The limited number of words involved stems from the fact that, ideally, each should appear in several known languages without etymologies and without the possibility of borrowings from other known languages--Hester (1967), 172. Despite this, some dubious proliferation of the 'Mediterranean' membership has occurred--Hester (1964), 339, Hester (1967), 172, Hester (1968), 224. One can probably indict Lafon on this score. Moreover, Lafon requires an expanded geographical extent for this 'Mediterranean' group, given his wish to relate it to Basque.

Hester (1968), 220, 224.
Opinions diverge on this issue. "The language of viticulture is well known to be non-Indo-European," declares Chadwick (1968), 195. Cf. Meillet, as reported by Lafon, 42. But we have seen (in footnote 24 and appropriate section of the text) that Carnoy firmly believes in a proto-Indo-European etymology for 'wine words' in general.

Since writing this appendix, I have encountered Brown's article with the tempting title of "The Mediterranean vocabulary of the vine." Unfortunately, this is a fascinating mélange rather than a systematic treatment. Brown is concerned with a pot-pourri of 'wine words' (in the very widest sense), including 'vine-stem', 'drinking-hall', '(golden) bowl', 'to mix', 'nard', and 'tambourine'. This wider perspective may be very valuable, but, as far as I can see, Brown has surveyed the extent of a problem rather than offered any solution. The word 'wine', he quickly admits (p. 148), has spread from an uncertain source, and all his subsequent etymological manoeuvres do not help to illumine that source.
ABBREVIATIONS USED

A.V. Bible, Authorised Version
°C, °F, °R degrees Celsius, Fahrenheit, Reaumur
cal. calories
fl. floruit
L. Linnaeus
mm, km, sq km millimetres, kilometres, square kilometres
O.E.D. Oxford English Dictionary
R.S.V. Bible, Revised Standard Version
Sp., spp. species

Note: I have used 'cf.' in the rather inexact sense of 'corresponding to'