

WINE: MEDICAL AND NUTRITIONAL ATTRIBUTES.

A CULTURAL-HISTORICAL PERSPECTIVE

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Introduction

Throughout recorded history wines produced from *Vitis vinifera* have been extolled, glorified, and praised. Writers from before B.C. 2,000 through A.D. 1996 have commented upon wine's positive attributes, qualities, uses, and virtues. Properties and characteristics of generic and varietal wines have been examined, their dietary, medical, nutritional, social, and therapeutic roles extensively discussed in a body of literature produced by humans from all continents save, perhaps, Antarctica. Wine has been called "a chemical symphony," "bottled poetry," "captured sunshine," "the milk of old age," "the gift of God" (Becker, 1979; de Luca, 1979).

Throughout recorded history wines produced from *Vitis vinifera* also have been condemned, degraded, denounced, and vilified. A vast body of literature also exists that has described and commented upon wine's negative attributes. In contrast to oenophiles who claim wine to be "bottled poetry" these oenophobes have likened wine to "the destroyer of homes," "the opener of graves," and "the quencher of hopes" (Turnbull, 1950, p. 109).

Wine contains energy and nutrients and thus may be defined as a food. In this essay wine is called the food with two faces. Perhaps no other food, whether animal, vegetable, or mineral, or solid or liquid, can claim wine's unique dichotomy. On one side lie virtues proclaimed by vociferous oenophiles; opposing wine use are oenophobes who clamor loudly and argue with equal passion. Wine, the food with two faces, is praised when consumed in moderation, condemned when drunk to excess. This dichotomy, identified for more than 4,000 years, extends through ancient, medieval, and modern literature. This dual view towards wine also is evidence in the world of art where the eyes of Caravaggio's Bacchus in the Uffisi Museum, Florence, softly tantalize the viewer -- the extended wine cup captivates, draws one towards the painting, and forecasts the joys to follow when the good wine is drunk. In contrast, however, are the wine-maddened eyes of Silenus in the Capitoline Museum, Rome; they are cast downward and the manner of repose and body slouch foretell delirium, pain, loss of reason, and stupor that follows when wine is consumed to excess. One food -- two faces.

Source Materials

This paper examines both positive and negative attitudes towards use of wine in medicine, nutrition, and diet. The objective is to identify, then compare ancient views with modern social-science and scientific literature of recent decades. The cultural-historical approach commonly taken by nutritional geographers is used (Grivetti, 1981). Sources selected present data from remote antiquity, c. B.C. 2,500 in Egypt, through contemporary scientific research on medical and dietary uses of wine.

Standard literature retrieval methods used in cultural geography and cultural nutrition reveal a vast data source that include archaeological evidence for viticulture and wine production (C.I.L.O.P., 1983; Darby et al. 1977; Lucas, 1962; Lutz, 1922; Ricci, 1924), numerous works on the origin of wine, its geographical dispersals, and social uses (Allen, 1932, 1961; Charpentier, 1981; Christoffel, 1957; Lucia, 1963; Stanislawski, 1970; Todhunter, 1979; Younger, 1966), and abundant pictorial evidence for wine drinking through the ages (Dali, 1978; Editoriale Domus, 1981; Hyams, 1965; Jung, 1961; Lungarotti et al., 1986; Troche, n.d.; Troche, 1968; V.N.A., 1984).

Literature on the medical and dietary attributes and various roles of wine also is rich and diffuse. The medical-nutritional praise of wine may be read in English (Anstie, 1877; Lucia, 1954, 1971; Maury, 1976), French (Constant, 1935; Eylaud, 1960), German (Cornelssen and Albath, 1984; Held, 1984; Kliewe, 1981; Köhnlechner, 1978), Italian (Fiorant and Fedecostante, 1981), Portuguese (Leal, 1944), and a host of other languages.

Wine as a component or essential ingredient in cooking is widely praised (Ballard, 1981; Chase, 1960; C.W.A.B., 1978; Lucia, 1974; McConnell and McConnell, 1987; McDouall, 1968; Sarvis, 1973). Completing this vast medical-dietary literature are numerous symposia volumes and papers on wine and fermented beverages (Darby, 1981; Gastineau et al., 1979; Lucia, 1969a, 1969b; Symposium, 1981; W.A.B., 1975).

A complementary body of published work produced by detractors from antiquity through the modern era decry intoxication and any use of wine. Temperance organizations have been especially vociferous in condemnation of wine and the "social evils" that accompany its use, even in moderation (Bechtel, 1893; C.E.S.R.F., 1976; Eddy, 1887; Ellis, 1882; Erickson, 1988; Kerr, 1881; Lees, 1970; Samuelson, 1878; Turnbull, 1950). These data, too, have been review, summarized, and included where appropriate.

Setting the Stage: Nutritional Content of Wine

Is wine medically and nutritionally important to human health and diet, or is it the bane of humanity and the path to individual and social destruction? Before reviewing the numerous ancient texts that comment upon the medical and dietary uses of wine and its reputed nutritional benefits, it is appropriate to document wine's relative energy, mineral, and vitamin composition. Table 1 presents the nutritional composition of 3.5 fluid ounces of generic red and white wines (Pennington, 1989). The compositional data for wine are compared to the American Recommended Dietary Allowances (S.T.E., 1989), then set against compositional data for 12 fluid ounces of beer (generic, generic light, Budweiser,[®] Stroh's Lager,[®]) milk, coffee and tea (S.T.E., 1989).

While numerous publications since the mid-1950's have presented the nutritional composition of various wines (Leake and Silverman, 1966; Lucia, 1971; W.A.B., 1975), it is difficult to identify and evaluate the contribution to diet of various wine nutrients. Values published are rarely compared to composition values of other foods, nor set against overall human nutritional requirements. Most texts present only compositional data that catalogue individual constituents of wine; when specific vitamins and minerals are identified and values presented, the impression given is that wine is "nutritious," not merely empty carbohydrate calories. Nutritionists hold, however, that specific foods are not "nutritious" or "junk." Sound nutrition is not based upon specific foods, but determined by overall daily, weekly, monthly, and seasonal food selections and the respective energy balance and nutrient composition of these foods.

One cannot live by drinking only wine. Wine may be a "soul" food, but should not be a sole food, the only source of nutrients. Table 2 presents the percentage of the U.S. Recommended Dietary Allowances for men and women age 25-50, and values for 1 glass, 3 glasses, and 1 bottle (calculated at 10 glasses). One glass of generic red or white wine provides less than 5% of the RDA for any nutrient; when three glasses are drunk the range of values improves to a maximum of 13.9% of the female RDA for manganese; after consuming a bottle of generic red wine, 44% of the male and 29% of the female RDA for iron is met, 37% of the male and 46% of the female RDA for manganese is met, and 25% and 33% of the male and female requirement for energy.

One does not live only by drinking wine. Most wine consumed throughout the world is accompanied with food. Table 3 presents the energy and nutrient composition of a representative southern Mediterranean meal. The values are calculated with and without three classes of generic red wine. The addition of wine to the meal increases the caloric value by 10%, improves the B₂ (riboflavin) composition from 58% to 63% in men, and from 75% to 82% in women, increases the B₆ composition 8% in women, sharply increases the manganese value of diet from 45% to 59% in women. Drinking three glasses of generic red wine with this representative Mediterranean meal allows women to meet their RDA for iron. Drinking red wine at these levels had zero to minimal impact on meeting the RDA for protein, vitamin A, vitamin C, folic acid, B₁ (thiamine), niacin, B₁₂, calcium, and zinc.

Recitation of "sterile" numbers reveals that wine, as part of a balanced dietary program, clearly provides carbohydrate kilocalories and modest complementary quantities of specific vitamins and minerals. Such a quantified approach to wine in nutrition and diet does not, however, reflect the ancillary medical-nutritional benefits contributed by wine, its roles in socialization, or the sensory pleasure of dining and drinking wine in moderation. Both ancient and modern medical-dietary literature reveal a prominent place for wine in therapeutics and human diet, and it is to this vast, rich literature that we now turn.

Wine. Ancient India, China, and Egypt.

The geographical region bounded on the west by Egypt and on the east by China is an area rich in archaeology and literature associated with the production and human use of wine. In this review accounts from ancient India and China are considered, then the rich Mediterranean legacy starting with ancient Egypt and subsequent Greek, Roman, and Byzantine texts.

India

While medicinal roles of wine clearly are identified in numerous ancient Egyptian texts, the earliest written document that specifically assigns a nutritional-dietary use of wine stems from ancient India (Grivetti, 1991a). The Caraka-Samhita: Sutrasthana chapter, written c. 1500, is the earliest Indian text to describe appropriate diet and its role during winter, spring, and rainy seasons:

"During winter, one should use the unctuous, sour, and salted juice of the meat of dominantly fatty aquatic and marshy animals and also meat of burrow-dwelling and prasaha [who eat by snatching] types of animals. After this, the person should drink wine, vinegar, and honey (Caraka-Samhita: Sutrasthana. 6:9-18)."

"During spring, one should eat meat of sarabha [wapiti], sasa [rabbit], ena [antelope], lava [common quail] and kapinjala [grey partridge] and drink harmless vinegars and wines. Thereafter, he should enjoy the blossoming beauty of women and forests (Caraka-Samhita: Sutrasthana. 6:22-26)."

"[During the rainy season] wine or other types of fermented liquor mixed with honey and in a little quantity, rain water or water from [a] well or tank, boiled¹, and cooled, should be used (Caraka-Samhita: Sutrasthana. 6:33-40)."

Positive attributes were attached to wine in the Indian tradition, with specific importance given to its role on the gastro-intestinal system, mental functions and human behavior:

"Roasted grain flour mixed with wine, honey, and sugar makes a saturating drink which is carminative for wind, stool, and urine (Caraka-Samhita: Sutrasthana. 24:31-38)."

"Wine is exhilarating, nourishing, removes fear, grief and fatigue, provides boldness, energy, imagination, satisfaction, corpulence, and strength (Caraka-Samhita: Sutrasthana. 27:193-195)."

Countering these positive wine attributes, however, were negative statements presented by the author(s) of the Caraka-Samhita text:

"One who saturates himself excessively with -- fresh wine -- and at the same times abstains from physical movements including day-sleep, suffer from diseases caused by over-saturation such as diabetic boils, urticarial patches, itching, anemia, fever, leprosy, anorexia, drowsiness, impotency, over-obesity, disorders of consciousness, sleepiness, swelling, and other disorders (Caraka-Samhita: Sutrasthana. 23:3-7)."

Ancient Indian Ayurvedic physicians wrote that wine provided body bulk (mass) and prescribed wine to counter emaciation, excessive muscle wasting, and leanness. Obese patients, in contrast, were prescribed honey-water. Patients who experienced limited appetite and showed anxiety, fear, or exhaustion, were instructed to drink wine after dinner (Caraka-Samhita: Sutrasthana. 27:319-324).

The ancient Indian texts reported grapes alleviated thirst, burning sensation [stomach?], reduced fever and internal hemorrhage, cough, and mouth bitterness. Grapes also were

identified as aphrodisiac, and eating fresh grapes, reportedly, reduced immoderate wine use (Caraka-Samhita: Sutrasthana. 27:125).

Despite such positive medical-dietary statements, wine held a dual position in India. Texts collectively called the Dharma-Sutra, written nearly 1,000 years later than the Caraka-Samhita appeared initially in the 6th century B.C. and regulated Hindu dietary codes. One component of the Dharma-Sutra contains a passage that forbids consumption of all intoxicating beverages, and wine by inference (Apastamba. 1:5:17:21).

It should be noted, however, that practitioners of Indian Ayurvedic medicine in the 20th century use wine to treat emaciated patients. Those afflicted are encouraged to:

"Sleep, [find] happiness, [a] comfortable bed, [not] worry... [eat] freshly harvested cereals and pulses, freshly prepared wine, soup of the meat of domesticated, marshy, and aquatic animals, meat cooked with oil and ghee (Dash and Kashyap, 1987, p. 316)."

Today in the southern Indian state of Tamil Nadu grapes (*Vitis* spp.) are avoided during pregnancy and early post-partum lactation periods by traditional mothers (Eichinger Ferro-Luzzi, 1974).

China

Production of wine from *Vitis vinifera* reached China late, more than two millennia after the vine initially was cultivated in the eastern Mediterranean (Simoons, 1991, p. 252). Chinese literature is difficult to evaluate, since the generic Chinese term for wine does not specifically mean wine produced from grapes, but includes "wine" from cereals. Grape wine, however, was made in China from at least Han times until present (Hulsewe, 1979, p. 52, 135-136). Marco Polo (1904, p. 92), writing in the 11th-12th century A.D. reported that varieties of wine were produced in the province of Kotan where grapevines were plentiful. Various Chinese processes for manufacturing grape wine are known and

illustrations of Medieval Chinese wine presses have been published (Laufer, 1919, p. 234).

One of the earliest Chinese medical-dietary texts, Nei Ching, dates to the Han dynasty, perhaps to the 2nd century B.C. This important document is the first Chinese text to adopt and expand earlier Indian allopathic medical practices, and classify foods into male-female, hot-cold, dry-wet, light-dark attributes (Anderson, 1980; Grivetti, 1991c). Included in the Nei-Ching are observations on human longevity, human behavior, and use of alcoholic beverages. The term wine as used in the Nei-Ching may or may not be that wine from Vitis vinifera, nonetheless, the passage clearly instructs the reader on the impact of immoderate alcohol consumption on longevity:

"In ancient times people who understood Tao patterned themselves upon the Yin and the Yang and they lived in harmony with the arts of divination... There was temperance in eating and drinking. Their hours of rising and retiring were regular and not disorderly and wild. By these means the ancients kept their bodies united with their souls, so as to fulfill their allotted span completely, measuring unto a hundred years before they passed away. Nowadays people are not like this; they use wine as beverage and they adopt recklessness as usual behavior. They enter the chamber of love in an intoxicated condition; their passions exhaust their vital forces; their cravings dissipate their true essence; they do not know how to find contentment within themselves; they are not skilled in the control of their spirits. They devote all their attention to the amusement of their minds, thus cutting themselves off from the joys of long life. Their rising and retiring is without regularity. For these reasons they reach only one half of the hundred years and then they degenerate (Nei Ching. 1966, pp. 97-98)."

A number of Chinese axioms identified and reviewed by cultural geographers document both positive and negative aspects of wine and alcohol use, and provide descriptions and rules for moral behavior:

"Let those who desire to break off drinking habits observe when sober a drunken man;

Medicine may heal imagined sickness but wine can never dispel real sorrow;

Three cups of wine will settle everything; a drinking bout will dissipate a thousand cares;

Wine doesn't intoxicate men; [men] intoxicate themselves;

The first glass, the man drinks the wine; the second glass, the wine drinks the wine; the third glass the wine drinks the man (Hahn, 1976, pp. 142-143; Simoons, 1991)."

Chinese poets who drank to excess were called "Drunken Dragons." The 8th century poet, Li Po, considered the "Dragon of Dragons," wrote: "The rapture of drinking and wine's dizzy joy, no man who is sober deserves." According to tradition, Li Po went sailing one night, full of alcoholic cheer, and attempted to embrace the reflection of the moon; he fell overboard and drowned. Another tradition states that Confucius drank wine but deprecated intoxication when he wrote: "There is no limit in wine-drinking, but one must not get drunk" (Hahn, 1976, p. 145; Simoons, 1991).

Egypt

Egyptian hieroglyphs differentiated grapes (irp), raisins (wnsy), grapevines (i3rr.t), and winepress (smu), while the Egyptian deity, Rnwt.t/Rnn.t, one goddess of harvest, often is depicted presiding over vines and vineyards (Darby et al, 1977, Vol. 2, pp. 551, 594). Numerous examples of grapes (long since dried into raisins) and faience grape clusters have been found in ancient Egyptian tombs.

Writing begins in Egypt, c. 3200 B.C. and early accounts specify wine and link it with the falcon-headed deity, Horus. King Khasekhemui, last king of the 2nd dynasty (c. B.C. 2800), named his vineyard "Praised by the Souls of Horus;" king Zoser of the 3rd Dynasty (c. B.C. 2780) called his vineyard "Praise Horus Who Is In the Front of Heaven" (A.R. 1906, Vol. 1, p. 173). Sealed jars of wine, long since evaporated, have been found that date to c. 3000 B.C. (Emery, 1962).

Best known to layman and scholar alike are the magnificent depictions of wine production found in ancient Egyptian tombs. Grapes were treaded or squeezed, the activity sometimes accompanied by musicians and the clapping from onlookers. Papyrus documents date to the Greek period of ancient Egyptian history and present many accounts of the role of wine. Below is presented a contract for a musician to provide entertainment to wine workers:

"I acknowledge that I have contracted and agreed with you the landlord to present myself at the vintage of the vineyards which are there, along with the appointed grape treaders, and without fault assist the grape treaders and the other workers by my flute playing, and not leave the grape treaders until the completion of the vintage (Hunt and Edgar, 1932. S.P. Vol. 1: 22)."

Expressed juice was strained, the fluid sometimes decanted into containers. When fermentation was completed, wine vessels were sealed, officials stamped the wine jars with the year of the king's rule, wine district, name of the wine, and sometimes the name of the gardener (Kees, 1961). Safety holes drilled in the neck of the amphora prevented bursting (Lucas, 1962). Sometime during the process, wines were tasted, evaluated, and graded (Darby et al., 1977, Vol. 2, p. 561-566).

Ancient Egyptians used wine medicinally; both internal and external applications are known. Externally, wine lees were a common ingredient as suggested by one ointment that consisted of: "dregs of wine, grease of ox, onion, soot, terebinth [Pistacia

terebinthus], and myrrh" (Ebers Papyrus. 1937, 82:657). Wine was drunk, medicinally, to regulate urine, and to kill tapeworm; medicated wines were sometimes administered during childbirth (Ebers Papyrus. 1937, 10:27, 22:81, 94:799). Wine also had non dietary roles as evidenced by its inclusion with various ingredients to make medicated enemas: "[To cool the anus take] wine, brain of a fat ox, honey, strain and inject into the anus," or as a vaginal douche that contained onion mixed with wine (Ebers Papyrus. 1936, 33:156 and 96:828).

Consumption of wine was specifically encouraged in instances of loss of appetite or anorexia: eight of ten prescriptions for anorexia identified in the Ebers Papyrus include alcohol. Of these, wine is the single ingredient in three, beer mixed with wine is the recipe of one, while beer is the single ingredient in four prescriptions. A second regular use of wine in medical practice was to alleviate cough (Darby et al. 1977, Vol. 2, p. 578).

Temperance and use of wine in moderation is a theme encountered throughout ancient Egyptian texts. From the Old Kingdom is a document entitled Instruction of Ka-Gem-Ni that dates to c. B.C. 2350. This document, perhaps the first account of table manners, contains the following observation:

"If thou sittest with a greedy person, eat thou only when his meal is over, and if thou sittest with a drunkard, take thou only when his desire is satisfied (Erman, 1966, p. 66)."

Nearly 1,000 years after Ka-Gem-Ni another warning entitled Admonition to Schoolboys, examined wine, intoxication, and social behavior:

"[In your drunkenness] Thou art like a broken steering-oar in a ship, that is obedient on neither side. Thou art like a shrine without its god;, and like a house without bread. Thou art encountered climbing a wall and breaking the --[??]--; men run away from before thee, for thou inflictest wounds on

them. Would that thou knewest that wine is an abomination..... (Erman 1966, pp. 190-191)."

Egyptian tomb art of all periods depicts delightful scenes of banquets where wine flowed and played important social roles. Paintings from the tomb of Paheri (reign of King Thutmose II, c. 1520-1484 B.C.) depict a scene where a butler is presented an empty wine cup by an elegantly dressed lady who says:

"Give me eighteen measures of wine, behold I should love to drink to drunkenness, my inside is as dry as straw."

The butler offers encouragement to the lady and says:

"Drink; do not refuse [?]; behold, I am not going to leave you. Drink, do not spoil the entertainment; and let the cup come to me (Darby et al. 1977, Vol. 2, p. 584)."

Also of interest are depictions in Egyptian tomb art that illustrate the dichotomy between acceptable, proper social behavior at banquets, and unseemingly behavior linked with intoxication. Several paintings depict inebriation and vomiting; another painting may depict injured wrestlers being carried away or an inebriated guest being carried home (Ghalioungui and el-Dawakhly, 1963, p. 21, plate 9; Darby et al. 1977, Vol. 2, pp. 585-586).

Wine. Post-Egyptian Mediterranean Documentation

The Mediterranean -- the sea between two lands -- links three continents: Africa, Asia, and Europe. It was here that Eastern and Western civilizations developed, mingled, and fused -- sometimes in peace, more often through conflict. In no other world area are medical, nutritional, and dietary accounts of wine, its production and use, more rich and varied.

Accounts by Physicians

The mythological origins of Greek medical-nutritional practices stem from Aesklepios, his physician-sons, Machaon and Podalirus, and daughter Hygeia. According to Greek mythology, Aesklepios, son of Apollo, sailed on Jason's ship, Argo, during the quest for the golden fleece, while Machaon and Podalirus fought at Troy as recorded by Homer (Wright, 1963). Among the first Greek physicians to emerge from the mythological cloak of Aesklepios was Hippocrates.

Hippocrates of Cos (B.C. 460-377)

Hippocrates, considered the "father of European medicine," was the first Mediterranean physician to integrate the physiological constructs of elements, humors, and temperature-moisture attributes into a comprehensive healing system. The corpus of medical writings attributed to Hippocrates is vast; scholars continue to debate the "genuine" Hippocratic texts from "later" texts. General consensus holds that some of these works can be attributed to Hippocrates, himself, others to later Greek physicians also named Hippocrates, while other texts were written by "unnamed" eastern Mediterranean physicians, perhaps the lesser known physician Ctesias, who had traveled to India and Persia, and others who may have "lost authorship" because of plagiarism (Grivetti, 1991b).

Selections from Hippocratic texts that consider wine may be grouped into four general categories: 1) wine in health maintenance, 2) selection of specific therapeutic wines, 3) wine and treatment of specific diseases, and 4) contra-indications for wine use.

Wine in Health Maintenance

Hippocrates wrote how wine consumption should be linked with seasonality, that wine had specific contributions to make to diet, and how regular wine drinking in moderation protected against specific diseases and medical conditions:

"When spring comes....at that time [the patient] will be taking the greatest quantity of the most diluted wine, taking care that the change is neither violent nor sudden but that it is made gradually (Regimen for Health. 1)."

"Transition from summer to winter diet....In Autumn the quantity of [wine] taken should be decreased and taken less diluted so that he will have a good winter... He takes the smallest quantity of the least diluted drink and the largest quantity of cereals of the driest kind (Regimen for Health. 1)."

"Infants should be bathed for long periods in warm water and given their wine diluted and not at all cold. The wine should be of a kind which is least likely to cause distension of the stomach and wind. This should be done to prevent the occurrence of convulsions and to make the children grow and get good complexions (Regimen for Health. 6)."

"It is better to be full of drink than full of food (Aphorisms. 2:11)."

"Hunger is alleviated by the drinking of neat wine (Aphorisms. 2:21)."

Selection of Therapeutic Wines

Hippocrates argued the relative benefits of wine to patients, and commented upon difficulties encountered by physicians who faced a variety of choices when prescribing wines for specific disorders:

"If the disease is drier than one would like, the patient should be given a drink of either hydromel [honey-water mixture] or wine -- whichever is appropriate (Regimen in Acute Disease. 12)."

"Sweet wine is less likely to produce headache than is heavy wine, it makes less effect upon the mind and, as regards the internal organs, it is more easily passed than the other but causes enlargement of the spleen and liver. It is most unsuitable for those with bitter bile for it makes them thirsty. It may cause wind in the upper part of the intestine, but it does not trouble the lower part in this way. Wind caused by sweet wine does not easily escape but lingers about the hypochondrium [upper lateral abdominal region]. It is also, generally speaking, less easy to pass in the urine than is strong white wine. Sweet wine produces more sputum than the other kind. If one finds that drinking sweet wine causes thirst, it does not produce so much sputum as the other kind of wine; if it does not cause thirst, the opposite is true (Regimen in Acute Disease. 50)."

"The main points in favour of... white strong wine.... it passes more easily to the bladder than the other kind and is diuretic and purgative, it is always very beneficial in acute diseases. For even though it is less suitable than the sweet in other respects, yet the cleansing through the bladder which it causes is beneficial so long as it is administered correctly. These are good points to note about the beneficial and harmful properties of wine; they were unknown to my predecessors (Regimen in Acute Disease. 51)."

"Tawny wine and bitter red wine should be employed.... in this way. If there is neither headache nor affection of the mind, if there is no retention of sputum or urine, and if the stools are rather too loose and full of shreds, it is desirable to change from white or such wines to these. It should also be understood that the more [wine] is diluted, the less harm it will [cause]

to the upper organs and to the bladder, while the less it is diluted, the greater is the benefit to the intestines (Regimen in Acute Disease. 52)."

Wine and Treatment of Disease

The therapeutic role of wine is identified in numerous passages. Hippocrates identified and described various foods that were complementary with wine, and commented on aggressive therapy used to treat a wide range of eastern Mediterranean diseases and medical complaints:

"[Abdominal distension].... those who vomit their food the day after it has been taken and suffer from distension of the hypochondrium [upper lateral abdominal region] showing that the food remains undigested, should... drink more wine and take it less diluted and also, at this time, reduce the amount of food (Regimen for Health. 7)."

"[Anorexia (?), chronic fatigue and exhaustion].... those who eat only once a day become exhausted and weak, and pass warm urine on account of their abnormal emptiness...With their food, let them drink wine in a reasonable amount and quite dilute, and after dinner walk a little until urine runs down and is passed (Regimen in Acute Disease Appendix. 44)."

"[Constipation].... those who benefit from vomiting and those who have difficulty with passing stools should eat several times a day and take all varieties of food and their meat cooked in every different way and drink two or three kinds of wine (Regimen for Health. 5)."

"[Emaciation].... thinner and weaker people should take emetics after food in the following way. A hot bath should be followed by drinking half a pint of neat wine after which a meal of any kind of food should be taken, but no drink is taken with the meal or after it. Wait as long as it takes to

walk [approximately a mile] and then administer a mixture of three wines, a bitter, a sweet, and an acid one, at first neat in small doses at long intervals and then more diluted in larger doses and more frequently (Regimen for Health. 5)."

"[Exercise/stress-related diarrhoea].... those who find that exercise causes diarrhoea and who pass undigested stools resembling food... the diet in such cases should consist of bread baked as well as possible crumbled in wine, together with the smallest quantity of practically undiluted wine... [such individuals] should not walk after meals (Regimen for Health. 7)."

"[Fever].... give the following cooling agents to drink in ardent fevers whenever you wish; they have many effects: some are diuretic, others laxative, others both, and others neither, merely cooling as if someone were to pour cold water over a vessel of boiling water... Give different ones to different patients, for the sweet ones do not benefit everyone, nor do the astringent ones, nor are all patients able to drink the same things... [the list follows and includes] Dilute white raisin wine... Dilute wine made from pressed grapes... Old Thasian wine [from the northern Aegean island of Thasos]; give twenty-five parts water and one part wine... Boil three pinches of pennyroyal and twice that amount of celery in wine mixed with water, and give. This is diuretic, and draws bile through the cavity. (Diseases. 3:17)."

"[Hemorrhoids].... he must avoid running, drunkenness, and all sharp [foods] except marjoram. Have the patient vomit every seven days, or three times a month, for thus will his body be in the best condition. Have him drink dry light-colored wine, diluted with water, and little of it (Regimen in Acute Disease Appendix. 62)."

"[Hepatitis?]. . . the urine passed is like the juice of roasted beef. . . This disease arises from dark bile, when it collects in the vessels extending to the kidney. . . clean the cavity downwards with [?] root and give the patient to drink. . . boiled meal as a gruel. . . let him drink white Mendean [from the town of Mendes in the northern Egyptian Nile delta region] wine sweetened with honey, or some other very pleasant one, well mixed with water (Internal Affections. 16)."

"[Jaundice]. . . this comes on in winter from drunkenness and chills. . . after seven days have passed have the patient drink hellebore. . . Give blister-beetles, too, with their wings and heads removed: grind four, dissolve in a half-cotyle [cup] of white wine, immediately add a little honey, and give thus to drink. . . Let the patient eat whatever he will accept, and drink dry white wine (Internal Affections. 36)."

"[Obesity]. . . fat people who want to reduce should take their exercise on an empty stomach and sit down to their food out of breath. . . They should before eating drink some diluted wine, not too cold, and their meat should be dished up with sesame seeds or seasoning and such-like things. . . Those who are fat. . . should vomit on an empty stomach after a run or a brisk walk about the middle of the day (Regimen for Health. 4-5)."

"[Obesity: another treatment]. . . fat melts, from the burning heat of the phlegm, and becomes water. . . It benefits this patient if you dry out his cavity by giving him fresh warm dark whole-wheat bread, and as main dish the meat of ass, mature dog, swine and sheep, these very fat and boiled, or meat of fowl, roasted and warm; also let him eat polyp boiled in dry dark wine; let him drink dark wine that is very thick and sour (Internal Affections. 22)."

"[Pneumonia]... fever is present for between fourteen and eighteen days, and during this period the patient coughs violently... On the first days administer to this patient dilute sweet white wine frequently a little at a time; as gruel give barley-water with honey three times a day, until eighteen days have passed and the fever has stopped...Avoid sharp vegetables, beef, mutton, and pork (Diseases. 2:47)."

"[Spleen inflammation?]... on the second and third days, give a small loaf of bread, and let the patient employ as main dish lentil-soup with boiled ground mutton in it; let him drink dark dry wine, quite unmixed with water, a little at a time, and rest on these days except for walking a little inside in the shade (Internal Affections. 30)."

"[Tetanus]... his jaws are fixed, and he is unable to open his mouth... Grind wormwood [Artemisia absinthium], bay leaves, or henbane seed with frankincense; soak this in white wine, and pour it into a new pot; add an amount of oil equal to the wine, warm, and anoint the patient's body copiously with the warm fluid, and also his head... also give him very sweet white wine to drink in large quantities (Internal Affections. 52)."

"[Typhus]... this disease comes on in summer, when the Dog Star [Sirius] rises, because of bile being set in motion through the body... On the first days do not allow [the patient] to bathe, but anoint him at bedtime with warm wine and oil... Keep him away from food, but give thin chilled gruels; let him drink dry dark wine, if it benefits him; if this wine does not benefit him, let him drink very dilute dry white [wine] (Internal Affections. 39)."

Contra-Indications for Wine Use

Hippocrates also identified specific conditions when wine should not be drunk or employed therapeutically:

"If there is any suspicion of a violent headache or derangement of the mind in these diseases, wine must be completely avoided (Regimen in Acute Disease. 63)."

Celsus of Verona (B.C. 27 - 37 A.D.)

This prominent Roman wrote extensively on nutrition and the role of diet in medical therapeutics. In his classic text, On Medicine, Celsus commented on both positive and negative roles played by wine. Celsus classified foods known to him into specific dietary categories, based upon their perceived strength-giving properties. Beverages belonging to the strongest food category were milk and fermented drinks made from grain, honey (mead), and grapes. Celsus highly recommended wine, whether sweet, still fermenting, or aged (On Medicine. 2:18:11).

Regarding nutritious, strengthening, and warming properties of wine Celsus wrote:

"[Wine] coming from a good soil is more nutritious than from a poor one, that from a temperate climate more nutritious than from an extreme one, whether too wet or too dry, whether excessively cold or hot (On Medicine. 2:18:11-12)."

"[Foods] best suited to the stomach.... dry wine is allowable even although it may have become harsh, also that [wine] doctored with resin (On Medicine. 2:24:3)."

"Heating foods are.... wine, and the stronger this is, the more heating it is
(On Medicine. 2:27:1)."

Celsus identified diuretic properties of "thin wine," and as well as its laxative and constipative attributes:

"Bowels are moved by: fresh grapes.... [as well as] sweet or salted wine
(On Medicine. 2:29:1-2)."

"Bowels are confined by: wine resinated or harsh, and that undiluted,
vinegar, mead which has been heated, also must boiled down, raisin wine
(On Medicine. 2:30:3)."

"These [foods] increase urine [output]: thin wine (On Medicine. 2:31:1)."

Celsus defined a variety of wine categories and used distinctive terminology for properties of taste and consistency (asperum, austerum, dulce, leve, tenuē) or color (album, fulvum, nigrum, rubrum). He identified five primary wine districts within the Roman empire: 1) vinum albuele (near the Tiber River), 2) vinum allobrogicum (near modern Burgundy), 3) vinum aminaeum (from the district of Aminaëa in Apulia), 4) vinum rhaeticum (from the Rhaetian Alps near Verona), and 5) vinum signinum (from Segni in Latium). He deprecated Greek wines and noted that the Greeks doctored their wine with salt (vinum salsum), resin (vinum resinatum), or myrrh (vinum myrrhinum) to better withstand the rigors of transport and export. Celsus also described flavored wines used commonly or medicinally: vinum absinthium (wine flavored with wormwood [Artemisia absinthium]), vinum acetum or vinum posca (sour wine, nearly vinegar, diluted with water; commonly drunk), vinum mulsum (a honeyed beverage), vinum mustum (new, unfermented wine; boiled then used as an astringent), vinum passum (raisin wine; prescribed for invalids), and vinum siliatum (flavored wines commonly drunk at midday) (Spencer, 1935 (in) Celsus, 1935, Vol. 1 pp. 497-498).

Galen of Pergamum (A.D. 131-201)

Another great physician of the Greek and Roman world was Galen. He was a doctor to gladiators, the author of many medical texts, and practiced his art at Pergamum in modern Turkey. Regarding wine, Galen was intrigued by the process of rapid intoxication, the effects of wine once it entered the human physiological system, and how wine compared to and differed from water:

"[Regarding people who readily drink wine] the fluid which they have drunk is rapidly absorbed through the body and almost the whole of it is passed by the kidneys within a very short time. For here, too, the rapidity with which the fluid is absorbed depends on appropriateness of quality, on the thinness of the fluid, on the width of the vessels and their mouths, and on the efficiency of the attractive faculty. The parts situated near the alimentary-canal, by virtue of their appropriateness of quality, draw in the imbibed food for their own purposes, then the parts next to them in their turn snatch it away, then those next again take it from these, until it reaches the vena cava [major heart vein], whence finally the kidneys attract that part of it which is proper to them. Thus it is in no way surprising that wine is taken up more rapidly than water, owing to its appropriateness of quality, and, further, that the white clear kind of wine is absorbed more rapidly owing to its thinness, while black turbid wine is checked on the way and retarded because of its thickness (On the Natural Faculties. 3:15:213-214)."

Galen also investigated an especially interesting use of wine in healing and its role in human protection. Throughout the eastern Mediterranean wine frequently was mixed with terra sigillata, or clay tablets embossed with the image or icon of Ge, the ancient Mediterranean earth mother (Halsted, 1968). Galen visited the Greek island of Lemnos where clay used to make terra sigillata was dug. He reports that he observed the manufacture of the tablets. In his medical text entitled On Simple Drugs, Galen wrote that

terra sigillata mixed with wine and sour vinegar, if applied to a dog bite, cured rabies (Cited by Brock, 1929, p. 194).

Elsewhere in the same text Galen described how terra sigillata tablets taken with different varieties of wine were used in medical treatment:

"[The tablets should be] Dissolved in sweet wine, boiled wine, mead, or one of the white, tawny, or yellow wines as required; some are dissolved in vinegar, or in wine, water, vinegar-and-honey (oxymel), sour wine and water, and honey-mixture. [Such] Lemnian earth dissolved in any of the above makes a suitable application to promote the closure of recent wounds, and to cure [patients who] are chronic, slow to [heal], or [are] malignant (On Simple Drugs. 9:2; cited by Brock, 1929, p. 195)."

Later Greek and Roman Physicians

Caelius Aurelianus of Sicca, physician of the 5th century A.D., cited medical techniques used by Herophilus of Chalcedon (B.C. 335-280), an important physician at Alexandria, Egypt. One treatment for heart disease known to Herophilus and recommended by Caelius was to produce intoxication in patients using wine:

"Most of the ancients remained silent about the treatment of patients with cardiac diseases, but some did mention it, like the followers of Herophilus [and others].... They used phlebotomy [blood-letting] and applied very harsh clysters; and to warm up the patient's chilled limbs they applied warm rags and wool that has been steeped in olive-oil and smoked with sulphur. And they used acrid and pungent foods: garlic, salted and pickled food, and silphium. And throughout the entire day and night they filled the patient with wine to the point of intoxication. Others, however, [immersed] their patients in cold water (Caelius Aurelianus: cited by von Staden, 1989, p. 468-469)."

Accounts by Geographers, Historians, Naturalists, and Philosophers

A wide range of ancient Greek and Latin texts produced by non-physicians commented upon social and medical roles played by wine. Numerous accounts are found throughout the writings of Herodotus of Halicarnassus (B.C. 484-408), Socrates of Athens (B.C. 469-399), Plato of Athens (B.C. 430-347), Aristotle of Stageira (B.C. 383-321), Strabo of Amasia (B.C. 66-25), Diodorus of Agyrum (B.C. 60-8), Pliny of Verona (A.D. 23-79), Plutarchus of Chaeronea (A.D. 46-127), Athenaeus of Naucratis (A.D. 170-230), Porphyry of Tyre (A.D. 232-306) and others. Selections from three are presented before examining in detail the important contribution by Athenaeus on wine.

Plato of Athens (B.C. 430-347)

In addition to his philosophical works, Plato commented upon social responsibility associated with drinking wine. In a text frequently cited after his death by both ancient and 20th century authors, Plato described the proper and improper ages for wine-drinking. He made a case that wine was wasted on youth and should be reserved for the elderly:

"Boys under eighteen shall not taste wine at all; for one should not conduct fire to fire; wine in moderation may be tasted until one is thirty years old, but the young man should abstain entirely from drunkenness and excessive drinking; but when a man is entering upon his fortieth year he, after a feast at the public mess, may summon the other gods and particularly call upon Dionysus to join the old men's holy rite, and their mirth as well, which the god has given to men to lighten their burden -- wine, that is, the cure for the crabbedness of old age, whereby we may renew our youth and enjoy forgetfulness of despair (Laws. 2:666:A-B)."

Pliny of Verona (A.D. 23-79)

Pliny, recalled by many in the 20th century for his attraction to unusual biological and natural phenomena (and because he died during the eruption of Mt. Vesuvius), was a master compiler of natural history facts and trivia, some correct, other data fanciful. Wine, loved by Pliny, is mentioned extensively throughout his work, Natural History. This early account presents both the dark and light sides to wine pleasures, and reveals a sharp dichotomy regarding male and female use of wine use by Romans of his time:

"At Rome women were not allowed to drink [wine]. Among various instances we find that the wife of Egnatius Maetennus was clubbed to death by her husband for drinking wine from the vat, and [he was] acquitted... A matron was starved to death by her relatives for having broken open the casket containing the keys of the wine-cellar; and Cato says that the reason why women are kissed by their male relations is to know whether they smell of 'tipple' (Natural History. 14:14:89)."

"There are two liquids that are specially agreeable to the human body, wine inside and oil outside (Natural History. 19:29:150)."

Plutarchus of Chaeronea (A.D. 46-127)

Plutarchus observed social behavior and commented frequently on both the positive and negative roles of wine, especially the results of intoxication. He described the relative capacity of some individuals to "hold" their wine whereas others became intoxicated quickly. As a social critic he shot barbs at playwrights thought to have composed their works while drunk. In other passages Plutarchus instructed consumers how to prepare for drinking bouts, and how to thwart speedy intoxication. He observed and wrote on differences in intoxication rates between men and women. In a delightful passage he explained that music was invented to bring order to riotous, drunken banquets:

"[While] the drunkard is insolent and rude... on the other hand, the complete teetotaler is disagreeable and more fit for tending children than for presiding over a drinking-party (Table Talk. 1:620:C)."

"Just as the mixtures of wine and water vary with different waters.... so does toleration for wine vary from person to person (Table Talk. 1:620:E)."

"Aeschylus allegedly wrote his tragedies while drinking, indeed thoroughly heated with wine (Table Talk. 1:622:D-E)."

"Song, laughter, and dancing are characteristic of men who drink wine in moderation; but babbling and talking about what is better left in silence is at once the work of actual intoxication and drunkenness (Table Talk. 3:644:F)."

"There is no way of getting to know a man who eats and drinks in silence.... drinking leads to talk, and talking involves laying bare.... that [which] is otherwise hidden.... Wine reveals... and displays us by not allowing us to keep quiet; on the contrary, it destroys our artificial patterns of behavior, taking us completely away from convention's tutorship (Table Talk. 3:645:B-C)."

"Pure wine, when it attacks the head and severs body from mind's control.... the exhalations of flowers are a wonderful help against this and protects the head against drunkenness as walls protect a citadel against attack.... for warm flowers by their gentle relaxing action open the body's duct and give wine a vent.... garland[s] made of violets and roses... diminish and restrain headaches (Table Talk. 3:647:C-D)."

"Aristotle [said] people who drink [wine] all in one gulp.... are the people least apt to fall into a state of intoxication, since the wine does not linger in them, but proceeds through the body and is pushed out by the force of the draught... we usually see women drinking in this fashion (Table Talk. 3:650:B-C)."

"When [old men] drink, it is likely that the wine is soaked up, for their bodies because of dryness are like sponges; and then the wine lies there and afflicts them with its heaviness. For just as flood-waters run off from compact soils and do not make mud, but are soaked up in greater degree by soils of loose texture, so in the bodies of old men wine lingers on, attracted by the dryness there (Table Talk. 3:650:D)."

"For most men drunkenness ends in a paralysis, when wine has completely beaten out and quenched heat. The bodily distress of those who get drunk and have a terrible hangover is cured, it seems, by immediately putting them to bed, well covered and warmed, and the next day giving them a bath, a rub-down, and such food as does not irritate the system but restores the heat scattered and dissipated from the body by the wine (Table Talk. 3:652:E-F)."

"Wine-lovers.... get bald at an early age and their hair turns gray before their prime -- and all this seems to afflict such men because of a deficiency of heat. Further, some wine possesses the characteristic and the property of vinegar, and there is no extinguisher more deadly to fire [body heat] than vinegar; it masters and smothers the male best of all because of its excessive coldness (Table Talk. 3:652:F)."

"Sweet new wine is least intoxicating (Table Talk. 3:655:E-F)."

"Sweet new wine mixed with other wine stops intoxication.... those who drink too much, first vomit and then, when they are about to go to bed, soak bread in honey and eat it (Table Talk. 3:656:A)."

"It is through conversation that wine channels from the body and distributes through the character a generous influence that permeates the whole man. Otherwise the wine, circulating uncontrolled in the body, produces nothing better than mere repletion.... Conversation steadies those who drink adding through relaxation an element of gaiety and kindly sociability... since the wine makes the company pliable and ready to take an impression... from the seal of friendship (Table Talk. 3:660:B-C)."

"When a number of divergent qualities in food are united, essentially opposed and clashing... they encounter each other prematurely and are destroyed.... Wine offers a clear proof: the mixture of several wines together, the so-called aloinia, quickly intoxicates, and intoxication is like a kind of indigestion with respect to wine. Drinkers, for this reason, avoid a mixture of wines, and those who mix wines try to conceal the wily practice (Table Talk. 4:661:C-D)."

"Wine is stronger unfiltered... [but yes] so is a madman stronger in his frenzy.... clarifying removes the violent, insane element and brings the wine into a gentle, wholesome state (Table Talk. 6:693:A-B)."

"Milk ought not be used as a beverage but as a food [one that] possesses solid and nourishing power; wine is the most beneficial of beverages. In the course of the daily routine [one should drink] two or three glasses of water (Advice About Keeping Well. 132:B-D)."

"For it is a fact that music was introduced [at feasts] for its efficacy in counteracting and soothing the heat latent in wine... music was introduced

forasmuch as wine makes the bodies and minds of those who overindulge in it disorderly, while music by its order and balance brings us to the opposite condition and soothes us (On Music. 1146:F-1147A)."

Athenaeus of Naucratis (A.D. 170-230)

Athenaeus was a Greek from the Egyptian delta village of Naucratis, southeast of Alexandria. In his classic work, Deipnosophists (Philosophers at Dinner), he documented and discussed the geographical distribution and regional dietetics and food practices of Mediterranean societies. His text is perhaps the most important food-related work to survive from antiquity. It is especially important and used by food geographers and historians for two reasons. First, Athenaeus identified common, everyday, and festival foods used by different Mediterranean peoples. Second, he documented his sources and credited specific ancient authors for their remarks. So doing, Athenaeus provided modern scholars with the names of more than 1,000 ancient authors who wrote on food-related topics -- with the names of their texts. Within this vast compilation are found numerous references to wine, both positive and negative attributes, coupled with insightful, philosophical comments on the social roles of wine, the food with two faces.

Athenaeus claimed the civilized world consisted of three types of people: philoinos (wine-lovers), those always ready to drink wine, philopotes (drink-lovers), persons eager to engage in drinking-bouts that ended in intoxication, and kothonist (cup-addicts), others who regularly drank to intoxication (Deipnosophists. 10:433:B). More telling, however, was his conclusion that no human need was more intense, than the desire to drink wine (Deipnosophists.10:433:E).

Positive Effects of Drinking Wine

Using the literary mechanism of a banquet discourse, Athenaeus had his dinner guests review the true joy and essence of drinking wine. The banqueters agreed that wine possessed the power to forge friendships, through a process that warmed and fused the

human soul (Deipnosophists. 5:185:C), and they agreed that autumn was the best time of year, when one looked forward to eating meat from she-goats and swine, and could anticipate harvest, treading grapes, and wine production (Deipnosophists. 7:282:B). In an eloquent mood after eating and drinking, the dinner philosophers recalled the famous playwright Aeschylus of Eleusis (born. B.C. 525 B.C.), then quoted his famous turn of phrase: "Bronze is the mirror of the outward form; wine the mirror of the mind" (Deipnosophists.10:427:E). They agreed with the poet, Panyasis, who had said:

"Wine is as great a boon to earthly creatures as fire. It is loyal, a defender from evil, a companion to solace every pain. Yea, wine is the desired portion of the feast and of merry-making, of the tripping dance and of yearning love. Therefore, thou shouldst receive and drink it at the feast with glad heart, and when satisfied with food thou shouldst not sit still like a child, filled to over-flowing, oblivious of the mirth (Deipnosophists. 2:36:F-2:37:A)."

"Wine is the best gift of gods to men, sparkling wine; every song, every dance, every passionate love, goes with wine. It drives all sorrows from men's hearts when drunk in due measure, but when taken immoderately it is a bane (Deipnosophists. 2:37:A-B)."

Beneficial attributes of wine were thought by some of the dinner philosophers to improve creativity in artists and writers. Athenaeus, himself, cautioned would-be writers and stated that wine contributed to poetry, that water should be avoided as a beverage if a person wanted to "produce anything good" (Deipnosophists. 2:39:C). He recalled the words of Antiphanes of Athens (B.C. 404-311) who said: "If a man fill himself too continually he loses thought, but if he drink moderately he becomes full of ideas (Deipnosophists. 2:40:B-C). The banqueters then remembered that:

"Aeschylus....was drunk when he wrote his tragedies (Deipnosophists. 10:428:F)."

"Alcaeus the lyric poet and Aristophanes the comic poet also were drunk when they composed their works, and many other persons have contended in battle more gloriously when in a state of inebriaty (Deipnosophists. 10:429:A)."

"[Attributed to Pindar of Thebes, B.C. 521-435].... The time passed in drinking-parties expands, nourishes, and enlarges the soul; it rekindles and awakens, with the exercise of wisdom, every man's senses (Deipnosophists. 11:782:D)."

The appropriate social and beneficial roles of wine and its use by the elderly were reviewed:

"[Attributed to Aristotle of Stagira, B.C. 384-322].... Older men.... become intoxicated soonest because of the slightness and weakness of the natural heat contained within them (Deipnosophists. 10:429:C)."

"[And the diners recalled that]....Wine bids an old man to dance even against his will (Deipnosophists. 10:428:A)."

"[Attributed to Theophrastus of Eresus, B.C. 372-287].... Wine consoles even the despondency of old age (Deipnosophists. 11:463:C)."

A creative, interesting rationale for the positive attributes of drinking wine to excess stressed civil, community spirit, and the need to maintain economic support for local wine shops:

"[Attributed to Baton]....You are a dead loss to the community if you drink water; for you wrong the farmer and the merchant. But I, when I drink wine to the full, make their profits good (Deipnosophists. 4:163:B-C)."

The dietary patterns of athletes was discussed and the example of Olympic champion, Milo of Croton (c. B.C. 300) used to illustrate the important role of beef and wine:

"[Attributed to Theodorus of Hierapolis]... Milo of Croton used to eat twenty pounds of meat and as many of bread, and he drank three pitchers of wine [c. 8 1/2 quarts]... at Olympia he put a four-year old bull on his shoulders and carried it around the stadium; after which he cut it up and ate it all alone in a single day (Deipnosophists. 10:412:E-F)."

A wide range of medical views towards wine were expressed by Athenaeus who was curious about the consequences of temperance and intemperance, and effect the effect of each on the human body, both positive and negative:

"[According to Homer of Chios, c. 900 B.C.]... Wine relaxes and enervates bodily vigor (Deipnosophists. 1:10:B)."

"[According to Aristotle of Stagira, B.C. 384-322]... Men who have been intoxicated with wine fall down face foremost, whereas they who have drunk barley beer lie outstretched on their backs; for wine makes one top-heavy, but beer stupefies (Deipnosophists.1:34:B)."

"And the deipnosophists agreed that]... The man who laughs and drinks the most, and holds fast to Aphrodite, during the time he is set free, and to such gifts as Fortune offers, after he has had a most pleasant holiday can depart for home (Deipnosophists. 11:463:D-E)."

"[According to Mnesitheus of Athens, a physician who wrote the text entitled On Hard Drinking]... Wine [was revealed] to mortals, to be the greatest blessing for those who use it right, but for those who use it without measure, the reverse. For it gives food to them that take it, and

strength in mind and body. In medicine it is most beneficial; it can be mixed with liquid drugs and it brings aid to the wounded. In daily intercourse, to those who mix and drink it moderately, it gives good cheer; but if you overstep the bounds, it brings violence. Mix it half and half, and you get madness; unmixed, bodily collapse. Wherefore Dionysus is everywhere called physician (Deipnosophists. 2:36:A-B)."

"[And further from Mnesitheus].... The result of people drinking large quantities of unmixed wine at social gatherings is considerable injury done to body and to mind. And yet hard drinking after several days' interval seems to me to produce a kind of purgation of the body and a relaxation of the mind. For certain superficial manifestations of acidity are caused in our systems by daily attendance at symposia; now the most appropriate outlet for them is by means of urination, while among the purgative processes that which is brought about by hard drinking is the most natural. For the body is thoroughly washed out by wine, since wine is both liquid and warm; the urine which is filtered out of us is acrid... Observe three points when you indulge in hard drinking. First, do not drink poor wine or neat wine, or chew nuts and raisins while drinking. Secondly, when you have had enough of it, do not lie down until you have vomited.... Thirdly, when you have vomited sufficiently, go to bed after a light shower-bath; but if you have not been able to empty yourself sufficiently, take a more extended bath, lying in a tub of very warm water (Deipnosophists. 11:483:F-11:484:A-B)."

Negative Effects of Drinking Wine

The banqueters discussed the difficulty of managing the proper quantity of to drink, how to balance dining with pleasure, how to reduce intoxication, regulate its impact, then agreed it was important to remain aware of one's surroundings. Throughout, they commented on the negative attributes of wine:

"[Attributed to Eubulus of Athens].... Three bowls [of wine] only do I mix for the temperate.... one to health, which they empty first, the second to love and pleasure, the third to sleep. When this is drunk up wise guests go home. The fourth bowl is ours no longer, but belongs to violence; the fifth to uproar, the sixth to drunken revel, the seventh to black eyes. The eighth is the policeman's, the ninth belongs to biliousness, and the tenth to madness and hurling the furniture. Too much wine, poured into one little vessel, easily knocks the legs from under the drinkers (Deipnosophists. 2:36:B-C)."

"[According to Philochorus who died, c. 222 B.C.].... Drinkers not only reveal what they are, but also disclose the secrets of everybody else in their outspokenness. Hence the saying, 'wine is truth also,' and 'wine revealeth the heart of man' (Deipnosophists. 2:37:E-F)."

"[According to Antiphanes of Athens, B.C. 404-311].... One may hide all else.... but not these two things.... that he is drinking wine, and that he has fallen in love. Both.... betray him through his eyes and through his words, so that the more he denies, the more they make it plain (Deipnosophists. 2:38:B-C)."

"[Attributed to Plutarchus of Chaeronea, A.D. 46-120]....A physician at the house of Drusus, son of Tiberius Caesar, beat all the others in drinking, until he was detected in the act of eating five or six bitter almonds before the symposium began; when prevented from taking them he could not hold out in the drinking contest in the slightest degree. The cause, therefore, was to be found in the bitterness, which produces dryness and consumes moisture (Deipnosophists. 2:52:C-E)."

"[Attributed to Heracleides of Tarentum, a contemporary of Philip of Macedon].... A moderate quantity of food should be eaten before drinking, and chiefly the dishes which form the ordinary courses at the beginning of a feast. For when foods are served after an interval of drinking, they counteract what settles on the stomach from the effects of wine and becomes the cause of gnawing pangs (Deipnosophists. 3:120:B-C)."

"[Attributed to Homer of Chios, c. 900 B.C.].... Among the ancients it was neither customary to.... drink to intoxication, but when they had poured libations and drunk all that heart desired, they went each to his own house (Deipnosophists. 8:363:F)."

"[Attributed to Ariston of Chios].... Polemon the Academic advised all who went out to dinner to consider how they should indulge in their drinking so that it should be pleasant, not merely for the moment, but also on the day after (Deipnosophists. 10:419:C-D)."

"[And the diners remembered that].... Men of old did not get drunk (Deipnosophists. 10:427:E)."

"[Attributed to Hesiod of Ascra, c. B.C. 900].... How hath Dionysus given unto men both joy and pain, when one drinketh abundantly; and wine hath come raging upon him and binds feet and hands together, tongue and reason in bonds unforeseen; then soft sleep embraces him (Deipnosophists. 10:428:B-C)."

"[Attributed to Theognis of Megara, c. B.C. 549].... I shall come even as the wine that is pleasantest to drink; I am neither sober nor am I too much in my cups. But he, whosoever he be, who exceedeth measure in drinking, hath no longer power over his own tongue or his reason; he babbles recklessly of things which in sober men's eyes are scandalous; he scruples

not to do anything when in his cups, though before he was discrete and gentle. Do thou not, then, knowing this, drink wine to excess but ere thou begin to be drunk, rise up and depart; let not thy belly do violence to thee as to some base day-labouring thrall (Deipnosophists. 10:428:C-D)."

Intoxication and associations between wine drinking, criminal and immoral behavior were examined by Athenaeus who recalled that:

"Wine is the [city] of all dread evils; from it comes intoxication, acts of madness, and drunken violence (Deipnosophists. 10:443:C-D)."

"[Attributed to Alexis of Thuri, c. B.C. 336].... And so, is not drunkenness the greatest bane in the world to mankind, and the most harmful....[and].... much wine causes the commission of many crimes (Deipnosophists.10:443:E-F)."

"[Attributed to Aristophanes of Athens, B.C. 455-375].... Wine, Anhrodite's milk, is pleasant to drink; quaffing too much of this, some conceive an appetite for illicit love (Deipnosophists. 10:444:D)."

Associations between wine, loss of reason, loss of sensory perception, social misjudgment, and alcohol-related marriage problems, provided diversions throughout the banquet:

"Attributed to Crobylus]....What pleasure....has continual drunkenness? It robs a [person of] reason when.... still alive, and reason is the greatest boon our human nature has acquired (Deipnosophists. 10:429:E)."

"[And Athenaeus of Naucratis, the host, said]....Drunkenness causes our perception to go wrong...false opinions occur to drunken men (Deipnosophists. 10:445:E-F)."

"[Attributed to Alcaeus of Lesbos, c. 600 B.C.]...Once a fellow-drinker saw the wife of Anacharsis at the drinking-bout and said to him, 'You have married an ugly woman, Anacharsis.' He answered, 'Yes, indeed, I think so too; come, slave, fill up a stronger cup, that I may make her good-looking' (Deipnosophists. 10:445:F)."

The banqueters sought support for their view that drinking wine to excess had an adverse effect on family life, and ultimately the children of drunkards suffered. To support their position they cited Plato of Athens, B.C. 430-347, who wrote:

"To drink to the point of intoxication is not proper to any other occasion except the festivals in honor of the god who gave the wine, and it is not safe; neither is it appropriate at the time when one is seriously engaged in the business of marriage, wherein, more than at any other time, bride and groom ought to be in their sound senses, since they are undergoing no little change in their lives; and at the same time, because their offspring ought in all cases to be born of sound-minded parents (Deipnosophists. 10:431:F-10:432:A)."

How wine was used and consumed captivated much of the conversation as the banqueters turned to a review of disgusting social customs associated with wine drinking as they deprecated various Mediterranean groups:

"[According to Poseidonius of Apamea, B.C. 135-50]... We should not drink like the Carmani [homeland between India and Persia]...These people, namely, eager to prove their friendship in their drinking bouts, open the veins of the forehead, and mixing the blood which streams down in their wine, they imbibe it, in the belief that to taste each other's blood is the highest proof of friendship (Deipnosophists. 2:45:F-2:46:A)."

Similarly, the alcoholic stupor and drinking behavior of Alexander the Great and his father Philip of Macedon were rationalized as characteristic of the Macedonian character, and the banqueters recalled that:

"The Macedonians.... never understood how to drink in moderation, but rather drank deep at the beginning of a feast. Hence they were drunk while the first courses were still being served and could not enjoy their food (Deipnosophists. 3:120:D-E)."

"[Attributed to Carystius of Pergamum, B.C. 2nd century].... Alexander [of Macedon] carried his carousing to such a point that he even went revelling in a chariot drawn by asses.... perhaps, therefore, it was for this reason that he had no appetite for sexual indulgence (Deipnosophists. 10:434:F)."

"[Attributed to Theopompus of Chios, B.C. 404-305].... Philip, Alexander's father, was another drink-lover... Philip was a madcap and inclined to rush headlong into danger, partly by nature and partly because of drink; for he was a deep drinker, and was often drunk when he sallied into battle (Deipnosophists. 10:435:A-B)."

The adverse effects of excessive wine intake on human eyesight was a concern to the banqueters, as they recalled instances of famous Mediterranean wine drinkers who had destroyed their vision after years of consuming wine immoderately:

"Dionysus the Younger, tyrant of Sicily....ruined his eyesight with wine. [And as] Aristotle [said].... Dionysus was [sometimes] drunk continuously for ninety days; hence his eyesight became rather dimmed (Deipnosophists. 10:435:E)."

They reviewed the tragic consequences of irresponsible behavior that resulted in accidental suicide after wine intoxication:

"Cleomenes of Lacedaemon [Sparta].... A drinker of unmixed wine... slashed himself to death [in B.C. 491] with a knife in a fit of intoxication (Deipnosophists. 10:436:E-F)."

A number of views were expressed by Athenaeus on the aftermath of intoxication:

"[Attributed to Alexis of Thurium, B.C. 394-288].... If the headache only came to us before we drink to intoxication, no one would ever indulge himself in wine immoderately (Deipnosophists. 10:429:E)."

"[Attributed to Clearchus of Athens, B.C. 3rd century].... If it so happened that people who get drunk every day had a headache before they drink the unmixed wine, not one of us would ever drink. But as it is, we take our pleasure too early, before the pain, and so arrive too late to get the good (Deipnosophists. 14:613:B)."

Wine and Social Commentary

Athenaeus and his fellow diners reminisced and attempted to out-do each other in identifying texts that demonstrated how drinking and intoxication were levelers of social status, whereby the intemperate rich were not so different from the intoxicated poor:

"[Attributed to Bacchylides of Ceos, born B.C. 507].... sweet compelling impulse issues from the cups and warms the heart; and hope of love fulfilled speeds through the brain when mingled with the gifts of Dionysus, sending the thoughts of men to topmost heights. Soon it breaks down even the battlements of cities, and every man dreams of being a monarch. With gold, yes, and with ivory, his house glitters; wheat-laden ships carry over the shining sea mighty wealth from Egypt. Thus does the drinker's heart leap with fancies (Deipnosophists. 2:39:F)."

"[Wine], the only blessing which all men have in common, nature's own cure to bring gladness. Hence come mirth, children dear, friendly greetings, dancing bands; of these blessings King Wine hath shown us the true nature. For that, father Dionysus, hail!... Grant long life, thou helper to glorious deeds, to drink and sport, and have just thoughts (Deipnosophists. 10:447:E-F)."

"[Attributed to Aristophanes of Athens, B.C. 455-375].... But you can see that when men drink, then are they rich, they succeed, they win law-suits, they are happy, they help their friends (Deipnosophists. 11:782:C)."

"[Attributed to Pindar of Thebes, B.C. 521-435].... When the wearisome cares of men have vanished from their bosoms, and as on a sea of golden wealth, we all swim together to the shore of illusion; he that hath no wealth is then rich, while they that are wealthy... expand their hearts, overmastered by the arrows of the vine (Deipnosophists. 11:782:D)."

The use of food tasters was described by Athenaeus. He confirmed that this unenviable, dangerous position sometimes was assigned to elderly women beyond childbearing years:

"[Attributed to Xenophon of Athens, B.C. 450-354].... The tyrant lives in distrust even of food and drink; why, instead of being the first to offer the gods the consecrating morsel, they bid their serving-men take a taste first because of their suspicion that even in this rite they may eat or drink something harmful (Deipnosophists. 4:171:E-F)."

"[Attributed to Anaxilas, birth place and date unknown].... First, the old woman will [be] the foretaster of your wine (Deipnosophists. 4:171:F)."

Athenaeus and his colleagues criticized the "state of affairs" in the eastern Mediterranean, how society had "gone to the dogs," and they recalled that other Greeks had reported similar views earlier. Athenaeus recalled a passage by Apollodorus of Athens B.C. 180-144, who lived more than 300 years earlier than the banqueters:

"How much pleasanter things would be in our communities than they are today, if we completely changed our mode of living: every Athenian up to thirty years engaged in drinking; the Knights, wreathed and perfumed before the dawn, marching forth to revel in Corinth for ten days; the cabbage-vending Megarians boiling [cabbages] undisturbed... the Euboeans mixing wine. That would be luxury and real life! But we are slaves to an uncivilized fate (Deipnosophists. 7:281:A)."

Legal aspects of drinking behavior captivated the diners, especially Mediterranean customs that enforced the death penalty. As men, they held the view in common that women were especially fond of wine (Deipnosophists. 10:440:E), then they examined various Mediterranean legal and social institutions that regulated drink and noted that:

"Among the Western Locrians, if anyone drank unmixed wine without a physician's prescription to effect a cure, the penalty was death under the code instituted by Zaleucus (Deipnosophists. 10:429:A)."

"Among the people of Massilia, there was another law compelling women to drink only water. In Miletus, also, Theophrastus says, that this is customary even today (Deipnosophists. 10:429:A-B)."

"Among the Romans neither a slave nor a free-born woman could drink wine, neither could the young men of the free class up to thirty years of age. (Deipnosophists. 10:429:B)."

"[According to Polybius of Megalopolis, B.C. 206-120].... Among the Romans women are forbidden to drink wine; but they drink what is called passum. This is made of raisins, and when drunk it tastes like the sweet wine of Aegosthena, or like the Cretan; hence they use it to counteract the urgency of thirst. But it is impossible for a woman to drink wine undetected; for, in the first place, the woman has no control over the store of wine; besides this, she must kiss her own and her husband's relations down to cousins' children, and do this every day as soon as she sees them. Finally, since the chances of meeting make it uncertain whom she will encounter, she is on her guard; for the situation is such that if she but take a small taste, nothing more need be said by way of accusation (Deipnosophists. 10:440:E-F/10:441:A)."

They argued that wine-drinkers should pay attention to one's surroundings and special care given to matching the behavior of influential guests, by not appearing to be different:

"[Attributed to Antiphanes of Athens, B.C. 404-311]....When a man is sober he ought never to rage like a drunkard... not yet when drinking is called for, ought he to be too serious (Deipnosophists. 10:444:B)."

In a passage that strikes a literary chord similar to the phrase "eat drink and be merry," the banqueters pondered death and the ultimate fate of humans, and how the joys of wine facilitated and eased life on earth:

"[Attributed to Amphis of Athens, a contemporary of Plato].... Drink! play! Life is mortal, short is our time on earth (Deipnosophists. 8:336:C)."

"[Attributed to Sotion of Alexandria, A.D. 1st century and teacher of Seneca].... Let's drink, and drink our fill... Let's have a good time while we may still keep the life in our bodies... There's nothing nicer than the belly... Ethics, embassies, army tactics -- fine pretences that sound hollow, like

dreams. Fate will snuff you out at the appointed time. You will have only what you eat and drink. All the rest is dust (Deipnosophists. 8:336:F)."

Towards the end of their banquet Athenaeus and his fellow dinner philosophers considered the origins and the social role of music:

"[Attributed to Homer of Chios, c. 900 B.C.]... The [music] art is beneficial also to those who feast. And this was the accepted custom, it is plain, first in order that every one who felt impelled to get drunk and stuff himself might have music to cure his violence and intemperance, and secondly, because music appeases surliness; for, by stripping off a man's gloominess, it produces good-temper and gladness becoming to a gentleman (Deipnosophists. 14:627:E)."

Then, after after all had been said about food, music, and wine, Athenaeus and his colleagues wrote the words to a song that they performed at dinner:

"Drink with me, sport with me, love with me, wear wreaths with me, rage with me when I am raging, be sober when I am sober (Deipnosophists. 15:695:D)."

Wine in Later Mediterranean Greek and Latin Sources

The period after Athenaeus is rich in references to medical and social roles of wine. The period is characterized by Jewish, Christian, and Muslim texts that consider ethical, moral, and social behavior, as well as medical-dietary considerations. Before turning to wine-related texts with a decisively religious content, let us first examine wine as reported through the eyes of one of the great 7th century compilers of medical information.

Paulus Aegineta (A.D. 625-690)

One author that bridged the period between ancient/classical Greek and Roman medical works and the rise of Islam was Paul, from the Greek island of Aegina west of Athens. He compiled information from Arabic, Greek, Hebrew, and Latin medical texts, then arranged and formulated these passages into a useable work that was widely used throughout the eastern Mediterranean, well into the Medieval period. His references to wine are found extensively in part one of his text entitled, Epitome. Here, he identified and described medical uses of wine, and the dual role played by this beverage.

According to Paulus, wine was therapeutic against gout, kidney stone, and seasickness. He wrote that wine improved appetite if the patient was excessively thin, and argued that white wines were least nourishing and could reduce obesity. He noted that wine salves, used externally, were effective in reducing wrinkled skin. He cautioned that drinking wine should be avoided by any who suffered dim eyesight. Paulus concluded that wine "caused the soul to communicate gladness and pleasure," but that immoderate drinking produced deleterious changes to mind and body. He supported the view that occasional intoxication was good, since this promoted urine and perspiration; he offered the standard view, noted by many in antiquity, that consumption of almonds and boiled cabbage prior to drinking mitigated complications of intoxication and reduced hangover and headache the next day:

"I do not forbid [the elderly] to use wines prepared with honey, particularly such persons as are suspected of being threatened with stone or gout.... in that case, a little parsley may be added (Epitome. 1:23)."

"A wrinkled state of the body may be removed by farina [flour] of bitter tares, mixed with white wine (Epitome. 1:24)."

"Let [those afflicted with dim sight] avoid wine that is thick and sweet... and foods that ascend upwards, whatever is of difficult digestion and engenders crude and thick humors (Epitome. 1:31)"

"[On the regimen of persons aboard ship] after vomiting [due to seasickness] one ought not to partake of much nor of ordinary food, but [eat] either lentils, dried and boiled with a small quantity of pennyroyal, or bread pounded in a weak and fragrant wine. One ought also to use but little drink... [only] that containing a weak watery wine, or vinegar with honey.... When severe vomiting lasts for a long time, one should resolutely abstain from all kinds of food, and take only a little drink, which ought to be vinegar and honey with water, containing thyme infused in it, or pennyroyal water with some fine polenta², or some fragrant weak wine with fine polenta also (Epitome. 1:56)."

"Thin white wines ought to be used [to reduce obesity]; dry rubbing with thick towels [also] is calculated to reduce the fat (Epitome. 1:57)."

"When we wish to [medically treat] those who are reduced in flesh, we must give them thick wine and food containing thick juices, and prescribe slow exercise and moderate friction (Epitome. 1:58)."

Paulus described the types and kinds of wines and their various medical attributes, then identified both nutritious and deleterious aspects of immoderate wine use:

"Wine in general is nutritious, but that which is red and thick is more particularly so; but its juices are not good. The sweet also is nutritious, but not stomachic [strengthening-stimulating to stomach]. The astringent is stomachic, but is distributed with difficulty to the parts of the body, and nourishes less. The white nourishes less still. Wine of a yellow color is the best of all. That which is old is more heating and desiccant than the new...

Wine in general resuscitates the natural heat within us, and therefore it improves digestion, and forms good blood... being of a penetrating nature, it diffuses the nourishment all over the body, and therefore it recruits those who are emaciated by disease, for it gives them an appetite for food. It attenuates phlegm, clears away the bile by urine, and imparts a good color. To the soul also it communicates gladness and pleasure, and improves the strength. Such are the good effect of the moderate use of wine. But its immoderate use produces just the reverse; wherefore, those who are drunk become changed, are delirious, and disposed to heavy sleep. On that account, such an immoderate use of wine ought to be avoided; but at greater intervals it may be drunk liberally, for it promotes the discharges by urine and perspiration.... When one has drunk [excessively], it is not proper to take much of any other food; but while drinking, one should eat boiled cabbage, and taste some sweetmeat, particularly almonds. These things relieve headache, and are not difficult to vomit. It is also very proper to take the infusion of wormwood [*Artemisia absinthium*] before drinking, for of all things it is the best preservative from surfeit. If one experience any painful effects from wine, one should drink cold water, and the next day again the infusion of wormwood; and by using exercise, friction, the bath, and restricted food, in this way get restored to health (Epitome. 1:95)."

Wine: Mediterranean Religious Perspectives

Among the more interesting references to wine in ancient and Medieval Mediterranean literature are found in religious texts. Jewish, Christian, and Muslim physicians generally had more positive views towards wine than their theologian counterparts, since theological issues tended to focus upon the evils of intoxication and the role of wine in producing unseemingly social behavior.

Judaism

Wine is central to Jewish religious traditions. Examination of a standard Old Testament concordance reveals more than 230 references to wine (Goodrick and Kohlenberger, 1981). Wine is respected throughout Judaism for its religious, medical, and social uses, yet it is a beverage surrounded by specific ethical and moral behavior codes, with specific admonitions regarding intoxication that date to earliest Jewish texts.

Positive Jewish attitudes towards wine and its medical-social uses are extensive. Without being comprehensive, these include references to wine from the Torah (Books of Moses), other Old Testament texts, Talmud literature of the 6th century A.D., and Medieval commentaries that include a wide range of views:

"Wine gladdens the heart (Bible. Psalms. 104:15);

Eat thy bread with joy, and drink thy wine with a merry heart (Bible. Ecclesiastics. 9:7);

Wine taken in moderation induces appetite and is beneficial to health...
Wine is the greatest of all medicines. Where wine is lacking, drugs are necessary (Talmud: Tractate Berachoth. 35b and 58b);

Wheat and wine are the food for children (Talmud: Nedarilm. 8:7); and

When wine flows like water the house is prosperous (Talmud: Erubin. 65a)."

Conversely, numerous passages identify and comment upon the negative aspects of wine use, especially intemperance:

"Late morning sleep, wine at midday, chatting with children, and sitting in the meeting houses of the ignorant drive a man from this world...Eight things are beneficial in small amounts but harmful in excess: bloodletting, business, cohabitation, sleep, warm water, wealth, wine, and work (Talmud: Aboth de Rabbi Nathan. 37:5);

When wine enters the body, understanding leaves...Wine was created for the punishment of evil people, so that they cannot acquire eternal bliss (Talmud: Numbers Rabbah. 10:3 and 10:8);

Nothing brings lamentation to man other than wine (Talmud: Sanhedrin. 70b); and

Red wine is especially dangerous to women (Talmud: Kathuboth. 65)."

Musa Ibn Maymun of Cordova (A.D. 1135-1208)

The medical therapeutic role of wine is well documented by Jewish physicians. Perhaps the most prominent Jewish physician-philosopher who commented upon wine was Musa Ibn Maymun, known in the West as Maimonides. In a wide range of works he described the dichotomy of wine, and noted both positive and negative attributes of this beverage. In Jewish therapeutics wine was prescribed for fainting, liver disease, migraine headache, to improve appetite, strengthen, the body, and as a diuretic:

"Wine mixed with cold water will sometimes tranquilize a fainting spell (Aphorisms. 8:34)."

"People who are suffering from a strong mid-line headache or the like, secondary to thick blood, or coldness of the face, will be overtly benefited by drinking undiluted wine either after a meal or during the meal. Their pain will be alleviated by the warming effect of the wine and its thinning [effect on the blood] (Aphorisms. 9:4)."

"We possess nothing more appropriate than wine for strengthening one who is weak and enfeebled. The same applies for one whose body is completely cooled, or whose appearance is abnormal (Aphorisms. 20:26)."

"Wine is one of the most appropriate things for someone who has a liver affliction without inflammation, or a bad warm constitution, because it purifies, cooks, strengthens, wards off putrefaction, and counteracts it (Aphorisms. 20:31)."

"Wine usually ripens the liquids whose [digestion] is not complete. It is also diuretic and helps to induce sleep (Aphorisms. 21:4)."

"Wine is a nutrient.... It is a very good nutrient... it generates praiseworthy blood... [it] will generate flatus, and possibly tremor... nevertheless if mixed and left for twelve hours or more and then drunk, it is very good... and the temperament improves (On the Causes of Symptoms. 134r:5-15 and 134v:1-6)."

"A small quantity, some 3 or 4 glasses of wine taken at the time the food is digested and out of the stomach [in the intestines] is quite useful in the diet of the healthy and an excellent cure for many disorders (Treatise on Asthma. 7:1)."

Of special interest to Maimonides was the role of wine in matters of human reproduction and cohabitation:

"Of greater benefit than any food or medicine for [male erection] is wine. There is no substitute for it in this respect, because the blood that is produced [by wine] is warm and moist and rejoices the soul, and strongly incites to sexual intercourse because of its special characteristic... This is

especially so if one takes some [wine] after the meal, and when one leaves the bath, for its effect in this regard is far greater than anything else (Treatise on Cohabitation. 4)."

Elsewhere Maimonides considered the role of wine and its medical role in treating stings and bites from various Mediterranean poisonous animals:

"[Scorpion].... He should choose from those remedies which are taken in wine. If wine is forbidden to a person, they should be taken in a decoction of anise... Emeralds well pulverized and consumed in wine or in cold water (Treatise on Poisons. 1:3)."

"[Spider].... take five drachmas of asparagus root and cook it in [approximately 6 ounces] of wine and drink it (Treatise on Poisons. 1:5)."

"[Mad dog].... [if done before onset of hydrophobia, otherwise patients always die].... flour of bitter vetch kneaded in wine and applied as a poultice (Treatise on Poisons. 1:5)."

Negative properties ascribed to wine by Maimonides included both behavioral and physiological effects of intoxication and immoderate wine use:

"It is not good for a person to drink more than a reasonable amount of wine. This is because it rapidly brings this person to anger, disgrace, and shame, and corrupts the thoughts of his psyche, and undermines the sharpness and clarity of his intellect (Aphorisms. 17:26)."

"Wine that is diluted and watery moistens the stomach, and weakens it, and produces gases in the intestines due to the coldness and fluidity of the water. Undiluted wine causes quivering of the temporal arteries, a

heaviness in the head, and thirst, because of its warmth (Aphorisms. 20:25)."

"Beware of [wine] that is intensely red, or thick of essence, or altered in odor, or old and intensely bitter (On the Cause of Symptoms. 150r: 8-12)."

"Too much [wine] corrupts the soul and body of people of all ages, from the day of their birth until the end of their lives (Treatise on Asthma. 7:1)."

Selections from The Book of God's Deeds

More than 500 years after Maimonides subsequent Jewish physicians used wine to treat a wide range of medical disorders, ranging from diarrhoea, eye disorders, heart disease, hiccough, and kidney stones. These prescriptions from Sefer Mif'alot Elokim (The Book of God's Deeds), reveal a range of traditional and non-traditional Mediterranean cures:

"To prevent diarrhea, whether with blood or not: eat sour pomegranates; the peel of sour pomegranates when cooked in wine prevents diarrhea (Ba'al Shem and Katz, 1936, p. 306)."

"For pain of the eye: make this liquid -- take rose-water bean-water, good wine, sugar, toçie [?], and the blue stone used for blinding horses. Mix together and put one or two drops in the eye at a time (Ba'al Shem and Katz, 1936, p. 309)."

"For hardening of the heart: give him the dung of rats in drink, or the dung of horses in wine, or the milk of a bitch in wine..... (Ba'al Shem and Katz, 1936, p. 314)."

"For hiccough: soak nine pieces of white bread in good wine, and let him swallow them, one after the other (Ba'al Shem and Katz, 1936, p. 314)."

"Kidney stone: for a pain in the loins, which sometimes is due to a stone, take the herb called whitlow, put into a new pot, place on the fire until the herb is reduced to ashes in the pot. Take the ashes, add wine, and drink. The wine must be strong. Or take malva, alta, romain, violets, of each one a handful. Root of alta, one-quarter [weight]; fenugrec, one and a quarter [weight]; linseed, one-eighth [weight]. Cook in wine or good beer until the herbs are soft. Also pound well until soft, and lay warm on the pain... (Ba'al Shem and Katz, 1936, pp. 314-315)."

The Book of God's Deeds also identified two methods, known from antiquity, for countering the effects of wine intoxication:

"To drive off drunkenness, dip a cloth into good vinegar and apply to the testicles, and the intoxication will depart (Ba'al Shem and Katz, 1936, p. 314)."

"If, before drinking, a man eats five bitter almonds and drinks warm water, he will not become intoxicated (Ba'al Shem and Katz, 1936, p. 314)."

Christianity

Within Christianity, wine and bread are symbolic of the blood and body of Christ (Child and Colles, 1971; Murray, 1975). Sacramental wine is viewed by many Mediterranean faithful as having curative properties, it may be poured over the body of Catholic believers thought to be possessed. Among Greek Orthodox faithful wine is used to cleanse and wash the body of the deceased, and to make an offering linking the deceased with Christ's resurrection (Danforth, 1982). Vines, grapes, and wine have served as symbolic icons throughout the centuries of Christian art.

Wine has served Christianity as a healing beverage throughout the centuries and has presented a classical dilemma to past and present sects who forbid alcohol consumption. Indeed, a large body of literature from the 19th and 20th centuries debated whether or not biblical wine was fermented (Cole, 1913; Ellis, 1882; Fenton, 1907; Kerr, 1881; Patton, 1881; Wilson, 1877). Christian temperance organizations decried the evils of alcohol in general and wine specifically:

"[Attributed to D.L. Moody]... May the dear children be kept from ever touching wine, or any drink that will intoxicate, so that they will be in no danger of the terrible consequences that follow those who 'tarry long at the wine" (Bechtel, 1893, pp. 19-20)."

"[Attributed to M.K. Dallas].... What has wine brought to woman? Nothing but tears and pain. It has torn from her heart her lover, and proven her prayers in vain; And her household goods, all scattered, lie tangled up in vine (Bechtel, 1893, p. 34)."

Despite the dual attitude towards wine expressed historically throughout Christian literature, early Christian physicians recommended wine for therapeutic properties. Perhaps the most important, influential early Christian doctor was Ibn Ishaq.

Hunayn Ibn Ishaq of al-Hira (A.D. 809-873)

Known in the west as Johannitus Onan or Hunainus, Hunayn Ibn Ishaq was a member of the Nestorian (Diophysite) Christian sect. It is to him and other Nestorians of his era that 20th scholars owe an enormous debt because they translated many classical Greek and Latin texts into Arabic, and thus preserved for posterity ancient manuscripts that otherwise may have been lost forever (O'Leary, 1951; Smith and Grivetti, 1989).

Ibn Ishaq's major medical text, Questions on Medicine for Scholars, defined types of beverages prescribed by physicians, presented an unusually clear view of physiology,

debated the medical properties of wine, how it warmed the body. He then described the effects of intoxication:

"How many are the kinds of beverages [are there]? Three: some like water, serve only as drinks; some, like fermented beverages and wine, serve as nutrients; and others.... serve in the same way as the preceding two and, in addition, as medicines (Questions on Medicine for Scholars. 8:36)."

"Why does wine heat if administered internally, but does not if applied externally? Wine heats the body if administered internally because it becomes a nutrient if the body alters it into its likeness. It does not heat it if it comes into contact with the body externally, because the body does not alter it... [since]...innate heat does not come into contact with it to alter it into the likeness of the body (Questions on Medicine for Scholars. 6:89)."

"Wine does not heat the body every time it reaches its interior; it does so only if the amount taken is moderate. In this, [wine] acts like food. For exactly as food in moderate amount raises natural heat and increases its substance, while in excess it chokes the heat and extinguishes it, behaving like too much charcoal on a small fire; so does wine: if drunk in moderation, it heats by virtue of its being an aliment but, if drunk in excess, it cools the body (Questions on Medicine for Scholars. 6:90)."

Wine in the Works of Early Christian Theologians

Other early Christians (non-physicians) wrote on wine, and took ethical-moral viewpoints. One of these, Gregory of Nyssa (later St. Gregory), a religious scholar of the 4th century A.D., stated that feverish patients should consume no food. He argued that such patients craved wine [and] but if the craving was met, fever would increase and

health would be compromised (Keenan, 1944, p. 156). Elsewhere, Gregory wrote that wine should be prohibited to persons with diseased eyes, and that the dietary basis for Christian diet should be bread with water as beverage so internal body heat could form blood (Keenan, 1944, p. 156).

In another moral tract Gregory condemned Christians who over-indulged in wine and became drunk. He wrote that wine, taken to excess, was the drug of madness, that it poisoned the soul, that wine consumption led to the destruction of the mind and the ruin of nature; taken to excess wine was "the danger of youth, the disgrace of old age, and the shame of women" (Keenan, 1944, p. 157).

A contemporary of Gregory, the north African priest Augustine of Tagaste (later St. Augustine), A.D. 345-407, argued a different path for Christian avoidance of wine as food:

"It is clear to me why we ought to abstain from meat and wine. Their purpose is threefold: to check the sensual delight ordinarily aroused by this sort of food and drink, and which all too frequently leads to drunkenness, to protect the weak from those things which are sacrificed and offered in libation, and what is most praise-worthy of all, to refrain for the sake of charity (The Way of Life of the Manichaeans 14:35)."

Islam

Islam, third of the three great monotheistic faiths that developed in the eastern Mediterranean, shares some prohibited foods in common with Judaism and Christianity: each forbids consumption of blood, meats strangled, and foods offered to idols (Grivetti and Pangborn, 1974). Islam is unique among the three, however, for forbidding khmr, usually translated as wine (Kassis, 1983). Specifically prohibited to believers is wine: "O believers, wine and arrow-shuffling, idols and diving-arrows are an abomination, some of Satan's work (Koran: The Table. 5:90)." While the specific Arabic term used in the

Koran is khmr, the prohibition generally has been extended to include alcoholic beverages in general. Some Muslims, however, argue just the opposite and because the term is so specifically defined, it is not uncommon to encounter other devout Muslims who drink wine, who consume a wide range of potentially intoxicating beverages (Grivetti, 1975; 1977).

A number of Islamic traditions identify the reasoning why wine was prohibited to the faithful. One common version was cited by Darby et al. (1977):

"When Adam first planted the vine, Satan came and killed a peacock over it, and the vine drank its blood. When the vine grew and put forth its leaves Satan came again and killed an ape over it, and the vine drank the blood of the ape also. When grapes first formed on the vine he killed a lion over it, and the vine drank up the blood of the lion. When the fruit was fully ripe Satan came again once more and killed pig over it, and the vine drank up that blood," and...

He who drinks of the fruit of the vine imbibes these four qualities. When he first tastes the wine, and it begins to crawl in his limbs, the color blooms in his face, and he becomes gay as a peacock. When the first signs of drunkenness come upon him he plays, claps hands, and dances like an ape. When the wine grows stronger within him he grows violent like the lion, and challenges every one else. At last he wallows like a pig in the mire, desiring only to sleep, and his strength is gone."

Islamic Medical Accounts

Positive, therapeutic uses of wine abound in texts attributed to devout Medieval Muslim physicians. Despite the Koran ban on wine, the great Muslim physicians of the Middle Ages, among them Abu al-Qasim (Alzaharavius), Muhammad Ibn Zahariya (er-Rhazes),

Ali Ibn al-Abbas (Haly Abbas), Ibn Sina (Avicenna), and Ibn Ridwan, each prescribed wine and wrote on its positive and negative attributes.

Abu al-Qasim al-Zahrawi of el-Zahra (born c. A.D. 936)

Known to Westerners as Alzaharavius, Abu al-Qasim was among the earliest Muslim physicians who wrote on the medical role of wine. In one passage he recommended that old persons drink strong diuretic wines (Cited by Adams, 1844, Vol. 1, p. 37). Alzaharavius stated in a second medical tract that wine should be forbidden when the stomach was empty, and should not be drunk after dining. He agreed that drinking wine in season improved appetite, increased vital body heat, nourished the body, and cleared the senses (Cited by Adams, 1844, Vol. 1, p. 176).

Muhammad Ibn Zahariya Abu Bakr of Ray (A.D. 850-923)

This eminent Muslim physician, known to Westerners as Rhazes, wrote widely on the dietary role of foods in medical treatment. In one passage Rhazes stated that patients were forbidden thick wine (Cited by Adams, 1844, Vol. 1, p. 41). In other texts he commented on obesity and recommended that overweight patients should avoid meat, wine, milk, and sweet foods (Cited by Adams, 1844, Vol. 1, p. 81). Elsewhere, he praised wine and its ability to eliminate emaciation and stated, thin patients should eat fatty meat, wheat, legumes, and drink red wines that were especially thick and sweet (Cited by Adams, 1844, Vol. 1, pp. 82-83). He wrote that wine warmed internal organs, facilitated elimination of intestinal gas, promoted digestion and urination, and "gladdened" the mind (Cited by Adams, 1844, Vol. 1, p. 176). Despite the Muslim prohibition towards wine instituted in the Koran, Rhazes encouraged drinking hot wine during winter, especially before embarking on a long journey (Cited by Adams, 1844, Vol. 1, p. 78).

Ali Ibn al-Abbas al-Majusi of Ahwaz (died c. A.D. 994)

Ibn al-Abbas, known to Westerners as Haly Abbas, wrote on the therapeutic role of wine, which he did not consider it to be especially nourishing:

"In summer, wine is either not to be drunk at all, or much diluted with water and cooled in snow; in winter wine is to be taken moderately; wine should be strong and heating to counteract the cold of winter, but not much taken because it dilutes and moistens the body which needs desiccation at this time. Wine possesses little nourishment, whereas the system requires much support in winter (Cited by Adams, 1844, Vol. 1, pp. 74-75)."

Abu Ali Husayn Ibn Abdulah Ibn Sina of Afshena (A.D. 937-1037)

Ibn Sina, known in the West as Avicenna, is perhaps the eminent Muslim physician of the Medieval period. He wrote extensively on the medical-dietary role of wine. In regard to its positive attributes Ibn Sina said:

"The advantage of wine is that it excites the secretion of urine, thus removing the bilious humor with it, and that it moistens the joints (Canon. 735)."

"White light wine is best for those who are in a heated state, for it does not cause headache.... Instead of a light white wine, one may use a wine which has been clarified by infusing honey or bread in it, especially if this is done two hours before the wine is required. Heavy wine, if it is sweet, is best for a person who wants to put on weight and become strong.... Old red wine is best for a person of cold phlegmatic constitution (Canon. 800)."

"Wine is beneficial for persons with a predominance of bilious humor, because [it] gets rid of the excess by provoking the urine. It is good for persons of humid temperament because it brings humidities to maturity. The better its aroma and taste, the more beneficial. Wine is also very efficient in causing the products of digestion to become disseminated through the body. It 'cuts' phlegm and disperses it. It separates off the bilious humor and draws it into the urine (Canon. 802)."

"The best wine to take is that which is clear, white, tending to a red tinge, of good bouquet, and neither tart nor sweet in taste, neither old nor new (Canon. 806)."

"The wine which is best for elderly persons is old, red, with warming effect, and diuretic. New and white sweet wine should be avoided, unless a bath is taken after a meal at which such wine is taken, and unless there is thirst. In that case it is allowable to take white wine which is light without much body in it, thus taking the place of plain water. Elderly persons must shun sweet wines (Canon. 860)."

"When wine is taken in moderation, it gives rise to a large amount of breath, whose character is balanced, and whose luminosity is strong and brilliant. Hence wine disposes greatly to gladness, and the person is subject to quite trivial exciting agents (Canon. 1105):

Despite these positive attributes, Ibn Sina also commented upon the negative properties of wine and the effect of immoderation on the human body:

"[At the age of six years] wine must not be allowed. This is specially true if the temperament is hot and moist, because the injurious effect of wine.... namely the generation of bilious humor.... readily influences the child....

He should therefore be allowed as much sweet limpid water to drink as he wishes (Canon. 735)."

"To take wine after a meal is very unsatisfactory, for it is rapidly digested and enters the blood quickly and carries food on into the blood before it is properly digested (Canon. 782)."

"It is bad to drink wine after [eating]... It should not be taken till after digestion, the food having passed into the small intestine. To drink wine upon food... is bad. The same is true if wine is taken after fruit, especially melon. It is better to begin with a small amount [of wine] than a large one. (Canon. 801)."

"If wine has an injurious effect on the body and is heating to the liver, the diet should include some dish containing for instance the juice of sour unripe grapes, and the like.... The articles of food which are generally served with the wine after the end of a meal should include such as pomegranate, and tart things like citron. If the wine is liable to go to the head, one should take less and take it dilute and clarified. After the meal, [the person] should take such as quince with his wine. If the harmful effects of wine consists in being heating to the stomach, the dessert should include toasted myrtle-seeds; and one should suck a few camphor lozenges and other astringent and acrid things (Canon. 805)."

"Old wine is.... only feebly nutritious. New wine clogs the liver and produces a hepatic 'dysentery' by giving rise to much gas (Canon. 806)."

"Diluted wine intoxicates quickly because the watery constituent takes it quickly into the blood (Canon. 807)."

"The wise person will avoid drinking wine when fasting or before the limbs have been refreshed in warm water, or after vigorous exercise; for both these entail a strain on the brain and nerves, and render a person liable to develop cramp[s] (Canon. 808)."

"The most detrimental of the effects of wine is that upon the brain... If called to [treat] a person who has drunk wine to excess, emesis [vomiting] should be procured as speedily as possible. Failing that he may drink a considerable quantity of water, with or without honey. When emesis has been procured, he should bathe in a full length bath. Then he should be thoroughly rubbed with oil, and left to go to sleep (Canon. 809)."

Given that drinking wine is forbidden to Muslims by religious dictate, a number of passages from Ibn Sina cited above are especially interesting. He mirrored the classical Greek view that serving wine to youths was a waste and medically improper, offered his patients techniques on how to avoid intoxication, and provided a recipe for "knock-out drops":

"To give wine to youths is like adding fire to a fire already prepared with matchwood. Young adults should take it in moderation. But elderly persons may take as much as they can tolerate. Wine is borne better in a cold country than in a hot one (Canon. 810)."

"If a person wishes deliberately to take his fill of wine, he must take no food, or anything sweet... He should avoid physical labor or exercise. Then after the meal, when he wishes to drink, he should accompany it with almonds, salted lentils, and a condiment prepared with salted capers. It is an advantage to include in the menu cabbage boiled with meat; olives boiled in water, and the like. For this conduces to drinking more wine. Anything which lightens the fumes of the wine is also helpful for instance the seeds of Syrian beet, cumin, dry rue, pennyroyal, Nabathean

salt, cardamom, and more particularly, any aliments which are viscous and glutinous, for they aggregate the fumes and prevent inebriaty in spite of drinking so much wine, by restraining the rapidity with which the wine enters the blood (Canon. 811)."

"If it is desirable to get a person unconscious quickly, without being harmed, add sweet-smelling moss to wine (Canon. 814)."

Elsewhere, Ibn Sina wrote on the use and abuse of wine, moderation and intoxication, and identified the foods that should accompany wine drinking:

"As regards drinking, do not misuse wine. Be content with a small amount and, then, not every day, nor with fasting, nor after a light or acid food. Do not get intoxicated incessantly. If that happens to you, let it be only once a month. Wine taken in small quantities is useful; in large amounts it is dangerous... [Give to the person who stuns easily] aromatics and let him eat sour pomegranates, quince, cucumbers at the same time; dilute his wine with water... The best wine is the strong yellow kind; it is proper to drink it with salty meats. During the summer, it is better to drink a light and thin white wine; mix it with water, eat acid meats and, then, eat astringent meats (Poem. pp. 56-57)."

Abu al-Hasan Ali Ibn Ridwan of al-Giza (A.D. 998-1068)

This eminent Muslim physician, whose name is remembered in Western literature as Ibn Ridwan, lived and worked in Egypt during the 11th century. He was a keen observer on the interplay between disease, diet, and the environment. Despite the Koran ban on wine he encouraged moderate use by his patients. He described types of wines produced in Egypt and compared them to other Egyptian alcoholic beverages. Ibn Ridwan commented that one wine variety, ash-shamsi (Arabic: = sun) was expensive and fermented in sunlight:

"It is rare that honey is not added [to wine after grapes are pressed].... Because wine [is] pressed from the native [Egyptian] grapes, [it] resembles their temperament.... the [wines] are bad because of the swiftness of their transformation and the rottenness of their essence, such as date wine, cooked wine, and beer made from wheat (On the Prevention of Bodily Ills in Egypt. 11a)."

Regarding Egyptian diet, he recommended consumption of cold foods to counter the oppressive heat of Egypt, specifically:

"Drink sour milk and the juice of unripe and sour grapes...Drink pure white wine and acrid fresh wine (On the Prevention of Bodily Ills in Egypt 40a)."

Ibn Ridwan wrote extensively on the role of wine as a beverage that stimulated appetite, strengthened the liver and stomach, and protected consumers from plague:

"[To.... arouse appetite] Take two ratls [a measure of weight] of Syrian apples and soak them in a similar amount of acrid wine for two days. Boil it until it is well cooked. Then, grind it and add ginger, cardamom, cinnamon bark, and narmashak [small pomegranate] from each a mithqual [a measure of weight]; cinnamon and aloes wood from each half a mithqual's weight]; saffron a dirham's weight; and musk a daniq's weight (On the Prevention of Bodily Ills in Egypt. 51a)."

"[To improve the stomach] Take one part each of quince juice, apple juice, and rose water, half a part each of sugar and honey, and six parts wine. Boil all of it until it thickens; then, remove it from the fire (On the Prevention of Bodily Ills in Egypt. 48a)."

"[To fortify the stomach] Take peeled quince and Syrian apples and boil them with wine until they are well cooked. Then, add foamless honey.... as needed. Cook all of it over a moderate fire until it thickens. Take it from the fire, and put ground ginger, long pepper, mastic, and saffron into it. The dosage is a mithqual (On the Prevention of Bodily Ills in Egypt. 51a)."

"[To preserve the body during times of pestilence] Take one part each of the following: rose water, sour quince juice, sour apple juice, sour citron juice, sweet and sour pomegranate juice; and white wine or sweet basil juice that is not very old like the rest. Boil all of it until it becomes the proper consistency for drinking. Drink it.... it is salutary (On the Prevention of Bodily Ills in Egypt. 48a)."

Wine in Medieval and Contemporary Islamic Literature

The dual role of wine within Islam is well illustrated by classical Arabic and Persian literature, as well as contemporary, modern Muslim poets. The merit of wine was discussed by Scheherezade on the 452nd night in the classical text, Alf Laylah wa Laylah (The Thousand and One Nights):

"Verily, wines... [are] an abomination of Satan's work; therefore avoid them that ye may prosper....In [wine] there is great sin and also some things of use unto men; but their sinfulness is grater than their use...As for the advantages that be [within wine], it disperseth stone and gravel from the kidneys and strengtheneth the viscera and banisheth care, and moveth to generosity and preserveth health and digestion; it conserveth the body, expelleth disease from the joints, purifieth the frame of corrupt humors, engendereth cheerfulness, gladdeneth the heart of man and keepeth up the natural heat; it contracteth the bladder, enforceth the liver, and removeth obstructions, reddeneth the cheeks, cleareth away maggots from the brain and deferreth grey hairs. In short, had not Allah [to Whom be honor and

glory!] forbidden it, there [would be nothing] on the face of the earth... fit to stand in its stead (Burton, 1897, Vol. 4, pp. 176-177)."

Omar Khayyam (1896) wrote his well-known Rubyaat in the 12th century and spoke of the joys and merits of beauty, love, and women, and especially the glory that was wine:

"Come, fill the Cup, and in the fire of Spring
Your Winter-garment of Repentance fling: (Rubyaat. 7)."

"Here with a little Bread beneath the Bough,
A Flask of Wine, a Book of Verse -- and Thou
Beside me singing in the Wilderness
Oh, Wilderness were Paradise enow (Rubyaat. 12)."

"For some we loved, the loveliest and the best
That from his Vintage rolling Time has prest,
Have drunk their Cup a Round or two before,
And one by one crept silently to rest (Rubyaat. 23)."

"Ah, make the most of what we yet may spend,
Before we too into the Dust descend;
Dust into Dust, and under Dust, to lie,
Sans Wine, Sans Song, sans Singer, and sans End (Rubyaat. 26)."

"Then to the Lip of this poor earthen Urn
I lean'd, the secret Well of Life to learn:
And Lip to Lip it murmur'd -- 'While you live,
Drink! -- for, once dead, you never shall return' (Rubyaat. 38)."

"Waste not your Hour, nor in the vain pursuit
Of This and That endeavor and dispute;

Better be merry with the fruitful Grape
Than sadden after none, or bitter, Fruit (Rubyaat. 56)."

"Why, be this Juice the growth of God, who dare
Blaspheme the twisted tendril as a Snare?
A Blessing, we should use it, should we not?
And if a Curse, why, then, Who set it there (Rubyaat. 63)?"

"Ah, with the Grape my fading Life provide,
And wash the Body whence the Life has died,
And lay me, shrouded in the living Leaf,
By some not unfrequented Garden-side (Rubyaat. 98)."

"And much as Wine has play'd the Infidel,
And robb'd me of my Robe of Honor, Well,
I often wonder what the Vintners buy
One half so precious as the ware they sell (Rubyaat. 103)."

"And when Yourself with silver Foot shall pass
Among the Guests Star-scatter'd on the Grass,
And in your joyous errand reach the spot
Where I made One -- turn down an empty Glass! (Rubyaat. 110)."

From the contemporary, modern era of Islamic poetry one finds praise heaped upon the vintages of Lebanon, Syria, and Mesopotamia, as translated and cited by Ghalioungui (1979):

"Come, pour it out, ye gentle boys
A vintage ten years old
That seems as though 'twere in the cup
A lake of liquid gold

(Alevi, 1924, p. 169)."

"Awake, sweet damsel...
bring me my morning draught;
nor hoard the rich wines of Enderein....
Your cup, Om Amr, passed me by,
though t'was going towards me....
But the least of us, Om Amr,
is not the friend you skipped,
for I have drunk a cup in Baalbek and
others in Damascus and Qaiserein
(Zawzani, 1972)."

Transition: Wine in Medieval Latin and Gaelic Texts

Towards the end of the first millennium of the Common Era, numerous Christian, Jewish, Muslim scholar-physicians were trained at the medical school of Salerno, located in modern Italy. Given terrible events such as the Crusades and Inquisition that would later ravage Europe and the eastern Mediterranean states and forever alter relationships among Christians, Jews, and Muslims, the medical school at Salerno stands as a remarkable institution characterized by religious tolerance and the mutual search to understand medicine and dietetics. Historians can identify a number of the famous physicians who contributed to the corpus of medical knowledge associated with Salerno, among them Constantine the African, Jacobus Nicamus, Maurus, and Urso (Kristeller, 1945).

In his presentation at the Wine, Health and Society Symposium, sponsored jointly by the University of California, San Francisco, the Society of Medical Friends of Wine, and the Wine Institute, San Francisco, William J. Darby, reviewed the place and role of wine in a wide range of Medieval medical documents (Darby, 1981). Two documents of critical importance to understanding the medical role of wine were reviewed by Professor Darby, Regimen Sanitatis (Salerno) and the Tacuinum Sanitatis (health handbooks). Because of his extensive treatment only representative samples from these documents are included here.

Regimen Sanitatis (Salerno Version)

This important middle 13th century A.D. document contains numerous reference to wine and its use in therapeutics. Other passages consider wine in diet while others caution about abuse and medical consequences. Expressed are attitudes towards immoderation, the suggestion that overuse causes obesity and a dull brain, while use of some wines is constipating. The concept of food combining also is mentioned, specifically the merit of wine drunk with pork or lamb. An association between wine lees and kidney stone is made in a passage that may refer to improper drinking of unfiltered wine heavy with sediment. The author argues there is a proper time for wine drinking, that it is sound to drink while dining, but dangerous afterwards. Wine is recommended for poor people who have not much to eat, and to those who suffer from pangs of hunger. Drinking wine is encouraged to clear the eyes and to whiten the teeth. The author recommended wine as part of therapeutic treatment for cancer and gout, and noted that drinking wine reduced undue vomiting associated with seasickness. Selections related to wine include:

"Nausea non poterit quemquam vexare marina,
Antea cum vino mixtam si sumpserit illam.
Salvia, sal, vinum, piper, allia, petroselinum,
Ex his fit salsa, nisi sit commixtio falsa.

Would not be sea-sicke when seas do rage,
Sage-water, drinke with wine before he goes.
Salt, garlicke, parsly, pepper, sage, and wine,
Make sawces for all meates both course and fine
(Harrington, 1957, p. 32)."

"Bis duo vippa facit, mundat dentes, dat acutum
Visum, quod minus est implet, minuit quod abundat.

Foure speciall vertues hath a sop in wine,
It maketh the teeth white, it cleares the eyne,
It addes unto an emptie stomack fulnesse,
And from a stomack fill'd, it takes the dulnesse
(Harrington, 1957, pp. 49-50)."

"De Cerifolio....

Suppositum cancris tritum cum melle medetur,
Cum vino potum poterit sedare dolorem.
Saepe solet vomitum ventremque tenere solutum.

With hony mixt, Cinquefoyle cures the Canker,
that eates out inward parts with cruell ranker.
But mixt with wine, it helps a grieved side,
And staies the vomit, and the lase beside
(Harrington, 1957, p. 59)."

"De Pulegio...

Cum vino choleram nigram potata repellit:
Sic dicunt veterem sumptum curare podagram.

Drinke Penny-royall steeped in their wine.
And some affirm that they have found by tryall,
The paine of Gowt is cur'd by Penny-royall
(Harrington, 1957, p. 60).:

Tacuinum Sanitatis (Health Handbooks)

A historical transition from the Salerno Regimen Sanitatis text and the frequent incorporation of earlier Greek, Latin, and Arabic prescriptions can be seen through examination of excerpts from other Medieval medical manuscripts that comment on wine

and its therapeutic-dietary role. The Tacuinum Sanitatis (Health Handbooks) date to the 14th century (c. 1380) and describe Mediterranean foods and beverages by their medical use, risk of consumption, their temperature and moisture properties, their geographical distribution and seasonality. These texts are profusely illuminated and frequently depict harvesting grapes and pressing wine. A series of plates in the Tacuinum considered the properties of grape juice (agresta), must (mustum), wine in general (vinum), old fragrant wine (vinum vetus odoriferum), yellow colored wine (vinum citrinum), and vinegar (acetum).

Grape juice was identified by cold and dry attributes, the fresh and clear fluid from grapes deemed optimum for human use. It was administered medically to patients with intestinal disorders. Grape juice, however, was perceived dangerous to the chest and nervous system unless consumed with sweet and fatty foods. Must was warm and humid, the recently pressed considered optimum. Consumption was said to "fatten the body," whereas it engendered flatulence unless countered with sour pomegranate wine mixed with fennel (Arano, 1976, plates 54 and 55).

Passages in the Tacuinum containing reference to wine use have been reviewed by Darby (1981). In essence, wine, in general, was considered warm and dry; the best wine deemed yellow-colored and fragrant. It was prescribed to quench thirst, but identified dangerous when "drunk without measure." The dangerous effects of drinking wine, however, could be neutralized by eating food while drinking (Arano, 1976, plate 56). Old fragrant wine was identified warm and dry; the more fragrant, the better. It was prescribed by physicians to cure eye diseases. Its dangers were to the human senses, and children could be most seriously effected unless neutralized by eating sour apples and lettuce hearts (Arano, 1976, plate 57). Yellow wine was identified as warm and dry; the best variety was clear. It was prescribed to counter potential effects from poisoning. The drawback of yellow wine was that it reduced desire for coitus, but excitement would resume if the consumer drank yellow wine and ate sour quince at the same time (Arano, 1976, plate 58). Wine vinegar was identified cold and dry; the best made from good quality wine. Its medical use was to provide warmth to the gums and to increase appetite. Too much

dietary intake of vinegar, however, was considered damaging to the nerves unless diluted with water and sugar (Arano, 1976, plate 59).

Jehan le Levre's Account

Another important medical text dated to the 14th century A.D., is attributed to Jehan Le Levre, physician of Montpellier. Le Levre considered gout and the role of wine in both exacerbating and healing this painful affliction:

"Here is how you must conduct yourself against your gout...[amongst other things]... guard against drinking new wine until it be fermented and strained; and against all strong wines such as those made with spices and clarified, and sage wine, and other such spiced wines... likewise guard against drinking pure wines or too subtle wines, and against tasting vinegar too often...and drink red wine which is not too sweet, but let it be clarified and cleansed of all superfluties...likewise guard against drinking any wine unless it be diluted with water...likewise, bathe [your feet] in new wine, it comforts them very much [alternatively] bathe them in water in which the flesh of a fox has been cooked... And if these things do not help [the pain of gout] use a hot, burning iron, and put the burning iron four fingers below the ankle, on the outside, and also three fingers below the knee (Saye, 1934)."

Regimen Sanitatis (Gaelic Version)

A third document, the Regimen Sanitatis (Gaelic Version), dates to the early 15th century A.D. and presents a wealth of information on wine. This work and others of the era influenced not only Gaelic medicine, but the practice of British Isle physicians well into the 19th century A.D. Within this text are found a range of positive medical attributes and uses for wine:

"Give [wine] in moderation to the young men and to the old men in the quantity he wishes. I say that the quantity he may desire should be given to the old man because of the agedness (2: 5-6)."

"I say that in [the time of illness] it is right to give wine before the meal and after it (2: 7)."

"I say, briefly, that the wine may be given in small quantity after the meal and not in great quantity, and that it should be given to [persons] accustomed to it.... and not to [others] except in time of great thirst (2: 7)."

"[After blood-letting only] a little [wine] should be drunk... more of wine should be drunk in place of less food, because it is easier to satisfy with drink that it is with food (6: 21-22)."

"Ataid naoi socamhuil do beir in fion glan duit -- there are nine eases which the clean wine gives thee: that it increases strength and it relaxes the full intestines, that is, it strengthens the stomach and the brain, and it will give thee the light heart, and it will make [thee] boldness and it will call forth the perspiration, and it will sharpen the intellect, and it will give assistance to the friends. Yet let moderation be along with it so that its working may not be perverted, for all these good effects will be undone without the moderation (7: 26)."

In sharp contrast to these positive attributes and uses are dietary cautions contained in the text regarding the timing of drinking wine, and the belief that drinking wine caused indigestion:

"Wine upon the meal is not proper -- a drink should not be drunk until the food falls from the stomach (2: 6-7)."

"I say that it is not right to take wine before the meal in the time of health (2:7)."

Perhaps the most interesting reference in the Gaelic Regimen Sanitatis considers improper food combinations. Throughout the Islamic world the dietary combination of fish and milk is considered abominable, a practice said to lead to leprosy, syphilis, and various scabrous itchings (Grivetti, 1975). That this combination is mentioned further confirms the Islamic influence on Medieval northern European medicine. It is important, historically, that the passage on leprosy also mentions wine:

"It needs [to] be shown that milk and fish are not right on one table, nor wine and milk, for they predispose a person towards leprosy (3: 12)."

The Two Faces of Wine: A 4000 Year Perspective

The ancients knew that wine held the potential for joy and pleasure, as well as the potential for danger and disaster. From ancient Egypt, India, and China came both praise and admonishment to drinkers of wine; the texts of ancient Greeks and Romans extolled the vines virtues, but cautioned moderation; the writings of ancient and Medieval Jews, Christians, and Moslems expressed the duality of wine in religious and medical tracts and passages that have survived the centuries. That wine is the food of two faces may be seen by comparing its positive and negative attributes as recorded by by ancient and modern writers. Tables 4-7 contain specific citations for points raised in this discussion section.

Wine was considered healthful, nourishing, strength promoting, and wholesome (Table 4). The ancients believed that wine created blood, that it increased blood flow, and elevated body heat. Regarding positive digestive-excretory properties the ancients wrote that moderate use of wine induced salivation, increased appetite, improved digestion, relaxed the bowels, provided necessary excretory, diuretic and purgative functions. Wine in the ancient world was deemed a relaxant, a beverage that numbed physical pain, strengthened the brain, sharpened intellect, cleared sense organs, and allowed undisturbed

sleep. Its impact on the reproductive system were properties of increased socialization and reduced inhibition that preceded sexual arousal and excitement of passion.

When the ancients considered wine in a behavioral sense they observed that it allowed greater enjoyment of food, attracted friendship, brought gladness to the body, and controlled or countered grief and despondency. They also recognized that wine increased boldness and bravery and lessened fear. Because wine altered human perception the ancients also believed that moderate consumption increased creativity in the arts, that mental capacity and thinking were enhanced through wine use.

More than 50 medical and nutritional uses for wine identified in ancient literature appear on Table 4. Examination of this list reveals diseases and conditions where wine had a sedating, tranquilizing effect that aided recovery. Other identified instances include appetite improvement, roles in reducing diarrhoea, heart disease, insomnia, and treating obesity. Other therapeutic roles for wine identified on Table 4 are more problematical, but several clearly suggest that wine mitigated pain symptoms.

One may examine these positive attributes of wine mentioned in antiquity against the negative effects of immoderate consumption and intoxication from wine (Table 5). That immoderate wine drinking led to generalized body damage clearly was known to the ancients. Admonishments abound that overuse of wine damaged the brain and stomach, produced weak sperm, and led to impotence. Numerous negative effects of immoderate wine use on behavior were noted: it was said that creativity could be dulled, enjoyment of food lost, anger excited that resulted in criminal behavior, disgrace, shame, madness, violence, suicide, even murder. One telling incident of immoderation and intoxication, that led to murder was cited numerous times in antiquity, how Alexander of Macedon in a drunken stupor became enraged and murdered Cleitus, one of his best friends.

Other negative medical and nutritional effects of immoderate wine use noted by ancient authors included: anemia, apoplexy, delirium, diarrhoea, epilepsy, headache, hives, impotency, insomnia, liver disease, miscarriage, stupor, and tumors. Too much wine, the

ancients said, led to premature baldness and premature grey hair in men, and hemorrhoids in both genders. Having examined both the positive and negative attributes of wine mentioned in the ancient literature correct, a basic question may be posed: are these statements correct? Scientific evaluation and assessment of medical and nutritional roles of wine is recent. The philosophy and approach to medicine practiced in modern California dates only to the 19th century A.D., after adoption of germ-theory and mechanistic approaches to disease and abandonment of long held allopathic-humoral approaches that characterized medicine from B.C. 1500 through the middle 19th century A.D. (Grivetti, 1991a-d). The field of nutrition science, too, is recent and dates specifically to the pioneering work of the French chemist, Lavoisier (Lusk, 1933). One may conclude, therefore, that scientific medicine and nutrition is at most several centuries old. Given the current mechanistic approach to medicine and nutrition, what positive attributes given wine in past centuries also are identified in contemporary social science and scientific literature? Conversely, what negative effects of immoderation in alcohol and wine are identified and confirmed in the social science and scientific literature?

Positive effects of moderate wine and alcohol use identified by contemporary physicians and nutritionists are listed here (Table 6). When positive attributes identified in antiquity are compared to 19th-20th century views, a wide range of commonality appears. Through the centuries wine has been deemed healthful and wholesome when consumed in moderation. While the ancients stated that wine increased blood flow and raised body heat, scientists have documented that drinking wine elevates body temperature, it functions as a vaso-dilator, and has a specific therapeutic role in some diseases of the peripheral circulatory system. Both ancient and modern workers agree upon the sedating-tranquilizing effects of wine. While the tranquilizing effect of wine causes consumers to perceive that their intellect is sharpened, the reality, however, is different; wine and alcohol in general do not strengthen the brain, sharpen intellect, or clear sense organs. That wine enhances the pleasures of dining, however, has been recognized throughout the centuries, just as its positive effect on personal self-esteem, socialization, social inhibition, and sensual-sexual intimacy have been documented for centuries. The ancients noted that wine use reduced heart disease, while contemporary scientists have found wine

valuable in reducing angina pain, and have examined more carefully the role of moderate wine consumption as a potential factor in reducing heart attack, hypertension, and stroke.

But positive effects are overturned if the other face of wine is revealed, the face of immoderation and intoxication. The negative effects of wine and alcohol abuse identified in 19th and 20th century social science and scientific literature are likewise listed here (Table 7). Wine and alcohol abuse adversely effects seven body systems: circulatory, digestive-excretory, endocrine, nervous, reproductive, respiratory, and skeletal/muscular systems. Immoderate use of wine and alcohol have been implicated in cirrhosis of the heart and liver, hypertension (especially when wine is mixed incautiously with prescription drugs), gastritis, pancreatic dysfunction, intestinal malabsorption and accompanying diarrhea. Also identified are conditions of generalized neurological impairment, poor reproductive performance, respiratory disorders, and atrophy/wasting of skeletal muscle. Behavioral aspects of immoderate wine and alcohol abuse have been documented for aggression, automobile accidents, child abuse, elevated crime statistics, family instability, murder, and suicide (sometimes accidental as when wine has been consumed incautiously with a prescription drug).

Medical conditions that result from immoderate wine and alcohol intake include alcoholism and its related physiological characteristics of ataxia/imbalance, confusion, deafness, delirium, memory loss, vertigo, and vision disorders. Other specific wine-alcohol related medical conditions that result from abuse include: allergic reactions, anemia, anorexia, asthma, cancer, fetal alcohol syndrome, growth inhibition in children, headache-migraine, hypoglycemia, poisoning, shock, and ulcers.

Immoderate wine-alcohol intake and abuse lead to general and specific malnutrition categories related to insufficient intake of energy, protein, minerals, and vitamins. Deficiencies of magnesium, potassium, selenium, and zinc have been reported in wine and alcohol abusers; documentation is extensive for deficiencies of folic acid, niacin, pantothenic acid, pyridoxine, riboflavin, thiamine, B₁₂, vitamin C, and vitamin E.

Both ancient and contemporary physicians agreed that immoderate use of wine and alcohol produced serious medical-dietary problems. The human body was damaged by abuse, the stomach attacked, and diarrhea resulted. Immoderate wine intake was thought to have an adverse impact on reproduction, whether from impotence or negative impact on the neonate. While modern terminology associated alcoholism is well documented in the contemporary literature, the term "alcoholic," to my knowledge, is not found in the ancient literature. Nevertheless, the ancient physicians and social commentators agreed that immoderate, regular use led to anger, loss of creativity, criminal behavior, madness, and violence. While modern physicians and nutritionists characterize alcoholism on the basis of physiological and behavioral components, it is certain that the condition existed in antiquity, and caused family shame and social disgust.

Both ancient and contemporary physicians-nutritionists recognized that abuse of wine and alcohol in general led to anemia, cancer/tumors, teratogenic effects during pregnancy, insomnia, and generalized malnutrition. Modern physicians-nutritionists, have identified a range of wine-alcohol related problems for which documentation in antiquity would be lacking: fatty liver, wine-prescription drug combinations leading to shock and/or death, specific energy-vitamin-mineral malnutrition determinations, and human poisoning by herbicide, pesticide, and radioactive fallout residues incorporated into wine during the agricultural, processing, fermentation, bottling process.

This essay began with the observation that wine was the food with two faces. It is with the positive face that we now conclude. Humans drink the "gift of Dionysus" for its numerous pleasurable attributes and some for its medical-nutritional properties. Many years ago my colleague J.A. De Luca, of the San Francisco Wine Institute cited a passage from Clifton Fadiman that explains why wine is drunk: "... To take wine into our mouths is to save a droplet of the river of human history..." (De Luca, 1979).

It is correct to say that together, wine and humans have indeed traveled and "flowed" down the river of human history. That the two faces of Dionysus may be traced historically for more than 4,000 years, nearly 5,000 years, should reveal a critical fact to

drinker or abstainer, to oenophile or oenophobe: wine is more than "the dispenser of joy," more than "the milk of old age," more than "captured sunshine," it is truly more than "a gift from God" (Becker, 1979).

In writing this essay I embarked upon a journey not just through the dusty stacks and shelves of major research libraries, but took an enjoyable trip through time. In the process I experienced the discovery of new works and references to wine; I re-read and re-examine ancient texts that I previously had known, works that had become "old friends," that were a joy to revisit. And in the process I discovered imbedded in the text of Dali's, The Wines of Gaia, a likeable passage that captured the essence of why this literary search was so enjoyable. I conclude with this passage from Dali, words that describe the process of wine, from its production to drinking:

"To make a great wine, one needs: -- a madman to grow the vine; -- a wise man to watch over it; -- a lucid poet to make the wine; [and] -- a lover to drink it. If you call, the local wine grower will see you. He is the St. Peter of this mini-paradise, but he will never ask you if you have sinned before allowing you into his heaven! [His] is the cry of a nation of wine growers. If you have heard it, you will no longer drink wine: you will taste a mystery." (Dali, 1978. p. 283).

That wine has intrigued humans for so long assures me that humans always will continue to do so. Wine... the food with two faces ever will be a joy through time --

*Until the rivers west of Babylon cease their flow,
Until the mountains east of Ararat have ground to dust.
If vines stand shriveled never more to bear this gift,
Of purple wine that once man longed to drink and share,
Our golden cups once filled with sweet wine red and white,
Will fill with tears from our despair.*