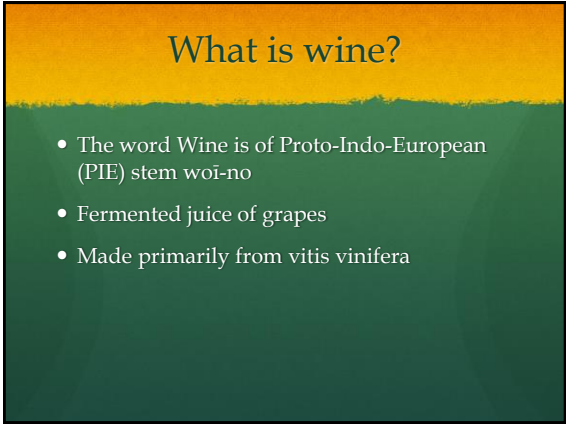


1



2



3

Grape genera and species

- 17 Genera?
- 60-70 species
 - Vitis Vinifera- hermaphrodite 5,000-10,000 varieties: i.e. Chardonnay
 - Vitis Riparia- America
 - Vitis Labrusca- America
 - Vitis Blandieri- America
 - Vitis Rupestris- America
 - Vitis Amunerensis -Asia
- Genus Muscadinia
 - Vitis rotundifolia- America
- Hybrids and Crosses - Seyval Blanc vs Pinotage or Chardonnay

4

Types of Wine

- Light (Still) Wines- White, Red, Rosé, Orange
- Sparkling Wines- ie Champagne, Cava, Crémants, Méthode Rurale, Pét Nat, Charmat method, Prosecco,
- Fortified Wines- ie Port, Madeira, Marsala, Sherry, VDN, Topaque
- Aromatized Wines- ie Vermouth, Lillet, Chinato, Byrrh

5

Schrödinger's Cat

- 500 million BCE Ampelopsis (peppervine or porcelain berry)



6

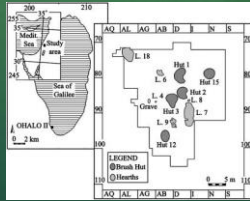
Pre-history

- 200 million BCE postulated appearance of *Vitis Vinifera Sylvestris*
- 50 million BCE Fossilized remains of *Vitis Vinifera Sylvestris*
- 200,000 BCE postulated appearance of white mutations

7

First Human Traces of *Vitis Vinifera* Use

- 21,000 BCE *Vitis Vinifera* at Ohalo II site in SE Galilee
- Other plants included
 - emmer wheat
 - wild almond
 - wild pistachio
 - wild olive
 - flowers



Proc Natl Acad Sci U S A. 2004 Apr 27; 101(17): 6821-6826.
Published online 2004 Apr 16. doi: [10.1073/pnas.0308557101](https://doi.org/10.1073/pnas.0308557101)

8

Wine and its determinant role

- Ethanol and interaction with other animal species 17 species including bonobos, chimps, birds, native Malay tree shrews
- The gene ADH4 - 10 million years ago
- Its key psychotropic aspect- (psychedelic peptides from monkey frogs, anyone?)
- The discovery of wine vs beer vs chicha etc
- pre-Neolithic and Neolithic 10,000-13,000 years
- 13,000BCE Traces of Calcium oxalate in Raqefet Israel
- Wine as a sacred object. What do we mean by sacred? Taboo
- Its role in the evolution of religion

9

The Magic of Wine from Eurasia to China

- Grapes naturally ferment via *saccharomyces cerevisiae*
- Fermentation - role of yeast-not understood until 1860's by Louis Pasteur
- Wine would spoil -> vulnerable to *acetobacter* ->vinegar
- The blending of hawthorn, wine with honey and rice in Jiahu China in 7000BCE. Similar evidence in Near East/ Mesopotamia. Why?
- Drinking tubes depicted from Jiahu (China) to Godin Tepe (Zagros Mts in Iran), Egypt, Crete, Ancient Greece
- Associated with funerary and sacred acts- the first buzz?

10

Wine as a perishable product

- Figuring out how to slow down or prevent it from turning into VINEGAR
- Adding ingredients to retard the process, sealing it, temperature control
- Selecting higher acid varieties
- Leaving residual sugar - a preservative
- Later fortification

11

From the Sacred to Consumer Good

- 6000 BCE -5000 BCE Georgia, Iran and Sumeria
- 4000 BCE- 3100 BCE - Wine in Canaan (later Phoenicia)
- 3200 BCE -2700 BCE Ancient Egypt mostly imported
- 1700 BCE - 1500 BCE Earliest Sanskrit wine references
- 1600 BCE Wine in Ancient Greece via Crete
- Wine in Graecia Magna and Etrusca and Ancient Rome
- Wine in Judaism- the Kiddush at Shabbat
- Wine in Christianity - Communion
- Wine and Islam

12

The Juicy Part of the Wine Story begins

- 8500 BCE Armenia, Azerbaijan, Georgia, Turkey grapes and distinct varieties develop. Why?
- 7000-6600 BCE First known 'wine' in Neolithic village of Jiahu, China- Patrick McGovern



13

Wine and Religion

Noah and the Flood- The Gilgamesh Flood Myth (5600BCE)



14

Noah

- Mt Ararat
- What was the first thing Noah did after his sacrificial offering to YHWH?
- He planted a VINEYARD! (And then got very DRUNK!)
- Curse upon the children of his son (O)ham- Canaanites (Phoenicians)



15

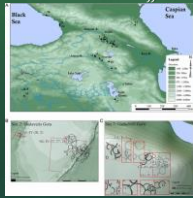
MAP



16

Georgia The Cradle of Wine

- 6000 BCE Prof. Patrick McGovern verifies Gora Shulveri 30 miles south of Tbilisi as oldest wine artifact
- 5400 BCE Hajji Firuz Tepe in Zagros Mts



17

Georgian traditions

- Qvevri wines
- 400-600 indigenous varieties: Rkatsiteli, Saperavi, Goruli, Mtsvane
- Orange wine- 'Natural wines'
- (Taste Qvevri or Orange wine now!)
- Read Lisa Granik's MW

Wines



18

Armenia

4000 BCE Oldest discovered winery at Areni



19

Land of Canaan

- Canaan was ideal for viticulture- Land of Eschol. Why?
- 1800 BCE Canaan referred to in Ancient Egypt's The Tale of Sinuhe - 'land of more wine than water'
- 'The (2 of 12) spies brought back a cluster of grapes which required the two to carry upon a lever'. Numbers 13:23
- The wine source for the earliest Pharoanic dynasties
- Area ruled by Pharaohs after battle of Meggido 1456 BCE till the Late Bronze Age collapse the seafaring people @ 1200 BCE -1177 BCE

20

Oldest Wine Cellar (to date) in the land of Canaan/ Israel

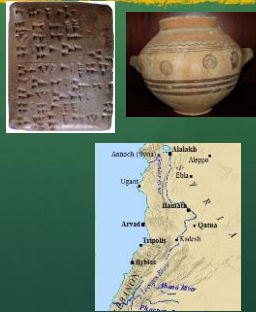
- 1700 BCE
- 40 jars with 50 liter capacity
- Recipe included:
 - pistachio tree resin
 - Mint
 - Cinnamon bark
 - Juniper berries



21

Land of Canaan

- 3000 BCE Wine and viticulture to Cyprus and Crete
- Canaanite jars - precursors to amphorae
- 1500 BCE Ugarit (Northern Syria) as a wine export center- origin of the 30 character alphabet
- Libations to deities and their influence on other cultures- Baal



22

Land of Canaan

- Wine referenced 280 times in the Bible more than any other food or beverage
- Wine as a gift from YHWH
- Israel as the vineyard and YHWH as the vintner
- Garden of Eden myth and the fruit of knowledge- Apple translation -but really fruit or grape (serpents venerated by Canaanites)
- Indigenous varieties include Jandali (w) and Hamdani (w) perhaps called Godali and Haldali in 4th Century

23

Ancient Phoenicia



By --DooFi (talk) 02:09, 18 May 2009 (UTC) - Routes_commerciales_des_Phéniiciens-fr.svgPhoenicianTrade.png, CC BY-SA 3.0, <https://commons.wikimedia.org/w/index.php?curid=6807626>

24

Ancient Phoenicia

- Wine brought to the Mediterranean coasts and isles
- 800 BCE viticulture brought to France, Portugal, Spain
- 750 BCE Tunisia - Carthage
- 600 BCE Wine introduced to the Gauls - Casks
- 500 BCE Algeria

25

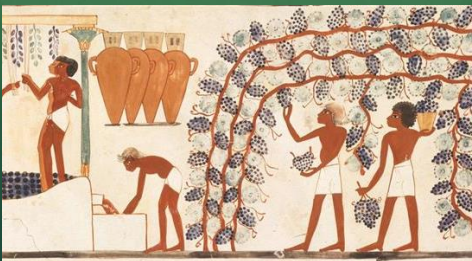
Ancient Egypt

- Irp - ancient Egyptian word for wine
- Religious significance - sacred aspect (Semez)
- Wine used as Medicine -> Aromatized wine tradition
- 3150 BCE 700 wine jars from Caanan buried at Scorpion I. Wine is laced with pine resin, figs, herbs, coriander, mint, sage

26

Ancient Egypt

Pergola trellis system



27

Ancient Egypt

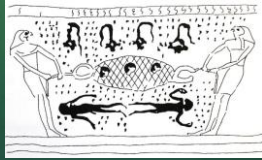
- Vinification
- Wine 'labels' include variety, vintage, producer and vineyard
- Cork usage @ 2500 BCE?



28

Ancient Egypt

- Shezmu - god of the wine press
- Offered wine to Osiris to facilitate resurrection



29

Ancient Egypt

Osiris receiving the grapevine



30

Ancient Mycenaean Greece

- Wine introduced to Cycladic civilization- libations to the gods
- Crete and Minoan Culture ends in 1646 BCE with Thira explosion
- Mycenae 1600 BCE - 1177 BCE?
- Sacred quality and offerings of libations to the gods



Krater

31

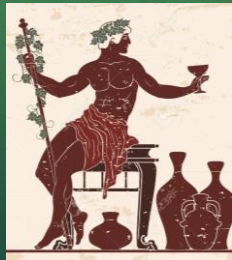
Mycenaean Greece

- Water's potability- origins in Phoenicia
- Limited Water resources in Land of Canaan
- Krater and krosis - mixing wine with water
- Pure wine used for medication and embalming fluid
- 'Water first then wine-' Xenophanes 6th C BCE
- Barbarians in part defined by drinking habits

32

Archaic Greece 800 BCE - 480 BCE

- Mainland Greece's topography, soil and climate
- Olive oil and wine trade as a basis for wealth and power
- Evolution and Roles of Dionysos - resurrected god; the intermediary between the gods and men
- Symposia and bacchanalia



Dionysos with thyrsos

33

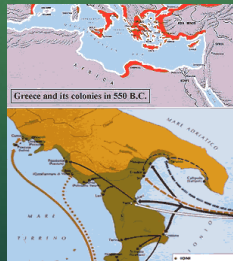
Archaic Greece 800 BCE - 480 BCE



34

Archaic Greece

- Varieties
- Vine training and spacing
- Different pruning methods
- Sweet Wine
- The 'white flower' - Jéréz
- Magna Graecia and Sicily
- 650 BCE First Wine laws introduced
 - Zaleucus and pure wine
 - Draco's law- grape stealing
 - 1st wine laws for quality & harvest date



35

Sweet Wine

- Sweet Wines- Advantages
- Methods described by Hesiod in the 7th Century BCE
 - Liastra
 - Bythinian technique of drying grapes on the vine
 - Vin cuit/ vino cotto
- Sweet wines exist to this day in the Cyclades- ie: Samos, Rhodes, Chios, Limnos, Paros, Santorini
- Spread throughout the Mediterranean



36

Ancient Greek Wine artifacts

- Pithoi – large container to store wine –buried for temperature control
- Amphora – used to transport
- Krater – for krasis
- Arytaina- ladle with a cup like a venencia
- Phiale – a wine drinking bowl



37

Greek Wine Artifact

- Skyphos – two handled cup-like a mug
- Kylix – stemmed cup for symposia
- Oinochoe – pitcher to transfer wine from a krater
- Kanthoroi – two handled deep cup
- Psykter- wine cooler
- Cyceon – first cocktail (used in the Eleusinian Mysteries)



38

Ancient Rome and Oenotria

- Etruscan vs Magna Graecia
- Wine becomes a consumer good- Why?
- Rome's Population exceeds 1 million -> dependence on wines of Gaul & Iberia
- 121 BCE legendary vintage – Opimiam
 - Falernum
 - Aglianico, Greco di Tufo
 - Mastroberardino vineyard in Pompei
- Casks as primary mode of transportation and sulfur use (Pliny)



39

Pompeii-130 wine bars



40

Western Europe

- Romans had planted everywhere they had conquered
- 65 CE Columella's De Re Rustica - 12 volumes
- 81- 96 CE Emperor Domitian decreed prohibition on grape growing outside 'Italy'
- 325 -350 CE Speyer Römerwein in Pfalz



Found in 1867

41

Wine in Christendom

- Emperor Constantine's Edict of Milan 313 CE
- Monks were the main driving force in expansion of vineyards till the French Revolution
- Benedictine and Cistercians established famous vineyards in Burgundy, Loire, Bordeaux, and Rhône
- Expanded land acquisitions by the Church

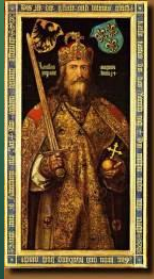


Clos de Vougeot

42

Western Europe

- 802 AD Charlemagne bans leded wine; selection of Rudesheim Corton (red beard)
- 1001 AD Leif Ericson and Vinland
- 1086 AD Domesday Book -40 significant vineyards in England
- 1141 AD 1st known Chianti Ricasoli family



43

Malvasia in Byzantine Empire

- Malvasia derived from Monemvasia on the tip of the Peloponnese
- Dominant wine in trade from 11th to 17th century
- Venetian Empire and corruption to Malvasia
- Malmsey in Madeira
- (Taste Mediterranean sweet unfortified wine)



44

Western Europe

- 1152 AD Marriage of Henry II to Eleanor of Aquitaine
- 1224 AD "Battle of Wines" in poem by Henri d'Andell Apostolus Commandaria
- 1299 Arnaldus de Villanova and wines made from mutage



45

Western World

- 1455 AD Madeira wine
- 1487 AD Use of Sulfur sticks decreed for wine production in Prussia
- 1524 AD first plantings in the Americas -Mexico
- 1548 AD first plantings in Chile by Pizarro
- 1554 Argentina at Santiago del Estero by Fr. Cidron
- Pais/ Criolla / Mission = Listan Negro from the Canary Islands



46

Western World

- 1590 1st written record of botrytized wine in Tokaj? Or 1606? King of Wines and Wine of Kings
- 1615 Ban on charcoal in England- development of coal industry. Heavy glass and Cork use
- 1638 1st Port house - trade with British since Treaty of Methuen (Treaty of Windsor 1386)



47

Wine enters the Modern Age

- 1655 Wine planted in South Africa- victualing station
- 1662 Christopher Merret and deliberate production of sparkling wine (**Champagne**)
- **Heavy glass use-** control of fermentation
- 1663 Samuel Pepys and "Ho-Bryon" - Branding



Stellenbosch South Africa

48

Fortification & the British Empire

Why the spread of Fortified Wine?

British consumer demand

- Jerez-Xerez-Sherry
- Madeira
- Port
- South African wine (Jerepigo)
- Australian -Port now Topaque
- Marsala



Madeira

Taste your fortified wine now !!!

49

Wine enters the Modern Age

- 1699 King Carlos II bans wines in colonies except for church use
- 1788 1st vineyard planted in Australia
- 1790-1800 Constantia wine achieves legendary status
- 1800s Attempts to plant vinifera in the colonies fail
- Madeira or fortifies Azorean wine dominates in the 13 colonies
- PHYLLOXERA



50

Wine enters the Modern Age

- 1789 French Revolution and two consequences:
 - Church loses its lands- the rise of négociants
 - Napoleonic Code of inheritance
- 1801 Chaptalization
- 1824 1st precise measurement of alcohol



51

Wine enters the Modern Age



Library at the Abbey of Cîteaux

52

Wine enters the Modern Age

- 1845-47 Oidium Tuckerei- Powdery mildew -disaster
 - Sulfur
- 1855 Exposition Universelle and the Bordeaux classification
- Dominance of French wines till the late 20th Century
- But continued dominance of French varieties



53

Wine in the US

- Native varieties - Concord/ Scuppernon/ Norton
- Beer and rum -> whiskey drinking culture
- 1769 First vines planted in California Junipero Serra
- Viewed as an elite beverage
- Inability to plant vinifera because of phylloxera
- Jefferson and Monticello



54

Wine in the US

- 1830 First mention of Zinfandel (Tribidrag/Crijenak Kastelanski)
- 1852 Agoston Haraszthy-Zinfandel introduction to California
- 1849- California Gold Rush
 - 1862 Vines number over 8 million in California
 - 1870-1880's Phylloxera strikes California
 - 1906 San Francisco Earthquake and Fire



Agoston Haraszthy

55

Wine enters the Modern Age

- 1851 Echazarreta brings vine cuttings from France to Chile- pre-phylloxera
- 1862 Phylloxera strikes and wipes out all the vineyards of Europe and beyond (continues) exceptions- Chile, Washington State, Australia (not all) a select few vineyards in Europe
- 1878 Peronospera Downy mildew 1st appears in Europe- Bordeaux mixture

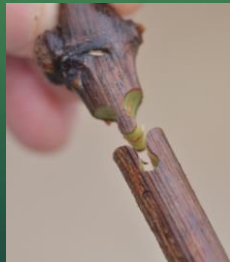


Taste your Pais wine

56

Modern era

- 1880- Grafting solutions and replanting
- 1887 Munson awarded Legion of Honor in Dennison
- 1892 1st vinifera taken to China- Marselan and Cabernet Gemischt
- 1903 167,000 acres to 1500 sq miles of vines in Algeria -> threat to French wine industry



57

Modern Era

- 9 gal spirits avg/person + cider /beer
- 1920-1933 Prohibition - grape production increases
- 1936 - AOC laws - why?
- 1948 - Supertuscans -Sassicaia
- 1954 1st mechanical harvester used (US)
- 1950's **Stainless Steel Fermentation** use
- 1956 Winter Freeze in Bordeaux



58

Modern Era

- 1957 Zellerbach (Hanzell) and Fr Oak & Dr. Konstantin Frank
- 1958- AxRI rootstock approved leading to future calamity in CA
- 1959 - screw cap for wines- Stelvin closure invented for wine use - TCA
- 1966- Robert Mondavi- Christie's wine department and wine auctions- wine becomes an "investment"
- 1971 Varietal labeling in US- Why?
- 1976 **The Judgment of Paris**
- 1978-79 Wine Advocate and Robert Parker + Wine Spectator
- 1981- Napa Valley - 2nd AVA (now 257)

59

Modern era

- Cloudy Bay Sauvignon Tasting in 1980's/ Oregon's Tualatin's Best of Show in London 1984
- 1985- "Anti-freeze" -diethylene glycol scandal in Austria ↑
- 1991 - 60 Minutes and "The French Wine Paradox" -40% red wine
- 1997- Phylloxera attacks 90% of Napa & Sonoma vineyards
- 2004 Sideways movie- Pinot Noir in US sees exponential growth
- 2006 Fraud becomes prevalent- Bill Koch sues Hardy Rodenstock (Meinhart Görke) later Kurniawan

60

Present and Future

- CLIMATE -
 - Fires in Australia and California
 - Changes in varieties grown in traditional regions*
 - Changes to viticulture & vinification techniques
(Read Roger Bohmrich's brilliant analysis of impact of climate change)
- Homogenization and Industrialization of wine
 - No excuse today for a bad wine -added ingredients
 - Reaction to the last 60 years
 - Expression of Terroir - explosion of choices
 - Natural wine - vs Organic vs Biodynamic wine
 - Orange wine
 - Rosé craze
 - Disappearance of sweet wine traditions

61

Old Vines



62

Coming Full Circle
we started with and end
with.....

63

China as a potential power house



Burying vines in Ningxia Province to prevent winter kill

64

A sampling of relevant books to read

- Kevin Begos: Tasting the Past
- Oz Clarke: The History of Wine in 100 bottles
- Arthur George: The Mythology of Wine
- Patrick McGovern: Ancient Wine & Uncorking the Past
- Hugh Johnson's: Story of Wine
- Stavoula Kourakou Malvasia: Vine and Wine in the Ancient Greek World & The renowned wine, Yesterday and Today
- Mark A. Matthews: Terroir and other Myths
- Rod Phillips: Short Story of Wine & French Wine: A History
- Ian Tattersall & Rob Desalle: A Natural History of Wine
- Tim Unwin: Wine and Vine: An historical Geography of Viticulture and the Wine Trade
- Jason Wilson: Godforsaken Grapes

65

Thank you

66
